

INDUSTRIAL FIRM RELOCATION:  
THE CASE OF GEBZE ORGANIZED INDUSTRIAL ZONE

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**I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.**

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## **ABSTRACT**

### **INDUSTRIAL FIRM RELOCATION: THE CASE OF GEBZE ORGANIZED INDUSTRIAL ZONE**

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It is an indisputable fact that cities have experienced a process of economic and spatial restructuring accompanied by the globalization of economy throughout the world since the 1980s. In line with this process, industrial sector has also witnessed economic and social restructuring process. Research in regional planning marks this process as a consequence of emerging industrial dynamics such as new technologies, new markets, and lower labor costs under new spatial divisions of labor. Such industrial dynamics brought spatial restructuring as well. Therefore, industrial firms are willing to relocate production activities to the new areas where they maintain the spatial margins of profitability. In this respect, today, one of the main discussion arenas of industrial geography is to explain the reasons of the industrial relocation.

Within this context, this thesis focuses on the main push and pull factors that underlie the relocation process of industrial activities towards outside of Istanbul as well as beyond the provincial boundaries. In order to show this, a case study was conducted in Gebze Organized Industrial Zone (GOIZ) because 1/100.000 scale Environmental Management Plan of Istanbul has determined GOIZ as the potential area where the firms can relocate.

The case study covered 37 firms which constitute the total number of firms relocated from Istanbul. Results of the thesis show that traditional location factors such as transport, site and premises are the most important factors that motivate firms to relocate from Istanbul to the GOIZ. However, contemporary factors are not much explanatory in case of the GOIZ.

**Keywords:** Firm Industrial Relocation, Push and Pull Relocation Factors, Gebze Organized Industrial Zone.

# ÖZ

## **SANAYİNİN YENİDEN YER SEÇİMİ: GEBZE ORGANİZE SANAYİ BÖLGESİ ÖRNEĞİ**

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1980’li yıllardan beri dünyanın her yerinde ekonomik aktivitelerin küreselleşmesi ile birlikte kentlerin ekonomik ve mekansal bir yeniden yapılandırma süreci içerisinde oldukları tartışılmaz bir gerçektir. Bununla birlikte, sanayi sektörü de ekonomik ve sosyal bir yeniden yapılandırma süreci içerisine girmiştir. Bölge planlama literatürü kapsamında yapılan çalışmalar sanayideki bu yeniden yapılandırma sürecini yeni teknolojiler, yeni pazarlar ve düşük maliyete dayanan yeni mekansal iş bölümü gibi dinamiklere dayandırmaktadır. Bu dinamikler sanayi sektörü için mekansal bir yeniden yapılandırmayı da beraberinde getirmektedir. Bu nedenle, sanayiye dayalı aktivitelerin kent dışına çıkma eğiliminde buldukları iddia edilebilir. Bu durum, bugün sanayi coğrafyasının temel tartışma alanlarından birisini oluşturmakta ve sanayinin yeniden yer seçiminin tanımlanmasına ve bu yer seçimin nedenlerini açıklamaya yönelik pek çok çalışma yapılmaktadır.

Bu kapsamda, tez İstanbul dışına çıkan sanayiler üzerinde yoğunlaşacak ve bu sanayilerin dışarı çıkma eğilimlerinin altındaki itici ve çekici nedenleri anlamaya çalışacaktır. Çalışma alanı olarak Gebze Organize Sanayi Bölgesine (GOSB) odaklanılacaktır. GOSB’un seçilmesinin arkasındaki temel neden bu bölgenin İstanbul 1/100.000 ölçekli Çevre

Düzeni Planında sanayinin potansiyel gelişim alanı ve İstanbul'da bulunan firmaların faaliyetlerini taşıyabilecekleri bir alan olarak belirlenmesidir.

Bu çerçevede, saha araştırması İstanbul'dan GOSB'a taşınan 37<sup>1</sup> firmayı kapsamaktadır. Bu kapsamda yapılan çalışmanın sonucunda görülmektedir ki ulaşım, arazi ve bina gibi geleneksel yer seçim faktörleri firmaların İstanbul'dan GOSB'a taşınmalarında etkin olan en önemli nedenlerdir. Ancak, çağdaş yer seçim kuramlarının GOSB örneği bağlamında fazla bir açıklayıcılığa sahip olmadığı görülmektedir.

**Anahtar kelimeler:** Sanayinin Yeniden Yer Seçimi, İtici ve Çekici Yeniden Yer Seçim Faktörleri, Gebze Organize Sanayi Bölgesi

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<sup>1</sup> Bu firma sayısı İstanbul'dan GOSB'a taşınan bütün firmaları kapsamaktadır.

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# CHAPTER I

## INTRODUCTION

This chapter intends to summarize the main points of the research. To this end, the gist of thesis is formulated by clarifying the aim, research questions, hypotheses and methodology. Firstly, the aim of the study and research questions will be noted. Afterwards, the framework of the methodology will be explained. Lastly in order to provide a brief informative basis for the chapters, the contents of the thesis will be specified.

### 1.1 AIM OF THE STUDY AND RESEARCH QUESTIONS

In this study, it is aimed to reveal the industrial firm relocation in the case of Gebze Organized Industrial Zone (GOIZ) with respect to push and pull reasons to relocate.

In that sense, it is worth clarifying the concept of *firm relocation*. Firm relocation is known as *a particular form of locational adjustment that implies a spatial reallocation of economic activities* (Pellenbarg *et al.*2002 cited in Mariotti, 2005, p.14). Although the concept is not new and has been elaborated from the 1940s, there has been an increasing emphasis on firm relocation from the mid-1980s onwards. This situation is clearly linked to the restructuring process of industrial sector that is triggered by the penetration of global economy into the economy of cities. The restructuring process provides key dynamics for the transformation and development of industrial structures. In fact, restructuring can be conceptualized by product and/or process innovations including the creation of new products, technological improvements and relocation of industry. Among them, relocation of industry is a crucial aspect of restructuring. Within this context, this study focuses on

the relocation of industrial activities from Istanbul towards the GOIZ. The case study is not selected arbitrarily. Istanbul, the economic heart of Turkey, is prone to be affected from changes that have occurred in economic and political system throughout the world from the 1980s. In this context, the sectoral composition of the city has gone through changes that imply a significant increase in the service sector while industrial sector has a decreasing trend in terms of employment. In line with this trend, planning authorities of Istanbul put a high emphasis on promoting of service sector that is known as having more competitive power than the industrial sector in the world market. Therefore, the idea of substituting the industrial sector with the service sector has increasingly gained prevalence in Istanbul. Within this context, GOIZ has risen as a region where firms from the inner parts of Istanbul are desired to relocate. That is why GOIZ is selected as the case study.

The thesis aims at providing an answer to the following three research questions:

- What are the characteristics of the firms that are relocated in the GOIZ?
- Which pull and push factors have led the firms, once located in the inner city of Istanbul, to relocate in the GOIZ?
- How do the characteristics of the firms contribute to the reasons that push the firms from their previous locations and pull the firms to Gebze Organized Industrial District?

Questions will be addressed by testing research hypothesis, whose basis is briefly described below:

**Hypothesis 1:** Firm's mobility is expected to decrease with the size of the firm.

**Hypothesis 2:** Firms that have certain networks with international markets are expected to be more mobile.

**Hypothesis 3:** Although 'contemporary' factors (i.e. internal, institutional and external etc.) which have become important by the 1980s seem to have played a more important role in firm relocation, traditional location oriented relocation factors are expected to be significantly important determinants in firm relocation.

**Hypothesis 4:** The reasons that push the relocated firms in GOIZ from the previous locations and pull the firms to Gebze Organized Industrial Zone are expected to differentiate according to the firm size, sector and previous locations.

With the help of these hypotheses, industrial firm relocation from Istanbul to the GOIZ will be examined in detail.

## 1.2 METHOD OF THE STUDY

The methodology is designed to explain industrial firm relocation in terms of previously mentioned research questions and hypotheses. In this context, the first step of this research is to discuss different approaches on firm relocation in order to properly formulate a theoretical basis. Thus, the first two chapters constitute an informative background for industrial firm relocation. Then, a set of hypotheses are put considering different approaches in firm industrial relocation literature as well as the local context.

At the final stage, compatibility of hypotheses with GOIZ case is tested through research design scheme demonstrated in Table 1.1.

**Table 1.1 Research Design**

Research Questions	Hypotheses	Research Approaches	Variables	Data Gathering Methods	Data Analysis
What are the characteristics of the firm that are relocated in GOIZ?	H1: Firm's mobility is expected to decrease with the size of the firm  H2: Firms that have certain networks with international markets are expected to be more mobile.	Descriptive	Type of relocation	Questionnaire	Descriptive Statistics
			Establishment Year-		
			Relocation period		
			Sector		
			Labor		
Which pull and push factors have led the firms, once located in the inner city of Istanbul, to relocate in the GOIZ?	H3: Although 'contemporary' factors (i.e. internal, institutional and external etc.) which have become important by 1980s seem to have played more important role in firm relocation, traditional location oriented relocation factors are expected to be significantly important determinants in firm relocation.	Descriptive	Market characteristics	Questionnaire	Descriptive Statistics
			Site		
How the characteristics of the firm contribute to the reasons that push the relocated firms from Istanbul and pull the firms to the GOIZ?	H4: The reasons that push the relocated firms in GOIZ from the previous locations and pull the firms to Gebze Organized Industrial Zone are expected to differentiate according to the firm size, sector and previous locations.	Explanatory	Push Factors	Questionnaire	Cross Tabulation
			Pull Factors		
			Push factors, Pull factors and Firm characteristics		

### *Research Approaches conducted in the study*

As illustrated in the research design scheme, first two research questions and related hypotheses will be conducted by the *Descriptive Research Approach*. Descriptive

research, also known as statistical research, is defined as an approach that *describes data and characteristics about the population or phenomenon being studied* (Web Center for Social Research Methods). Descriptive research answers the questions of who, what, where, when and how. The reason behind the choice of Descriptive Research is to describe the characteristics of the firms relocated in the GOIZ and to identify reasons to relocate.

In terms of the last research question and hypothesis, discovering causal relationships is the key issue. After defining firm characteristics and push and pull reasons to relocate in GOIZ, the causal relationship between them will be explained. In this context, the factors determining the attractiveness of a site for firm relocation is defined as pull factors; while the action from the current location to a new one when the first one is no longer inside the spatial margins of profitability is defined as push factors. By doing so, the study provides a comprehensive perspective that is helpful to analyse the relocation process based on firm characteristics. The research question will be conducted by *Explanatory Research Approach* because it is a continuation of descriptive research and discover causal relations among the variables.

#### *Variables*

In terms of the first research question and hypotheses, the variables that describe the characteristics of firms can be listed as;

- type of relocation
- date of foundation and relocation in GOIZ
- sector
- labor
- market characteristics
- site

Moreover, in order to identify reasons to relocate considering second research question and hypothesis, push and pull factors are introduced based on different relocation approaches in the literature. In this context, the factors can be listed as;



**Table 1.2 Push Factors**

PUSH FACTORS	
<b>Site and Premises</b>	<b>Market</b>
•Smallness of the former site	•Entering new geographical markets
•Smallness of the former premise	•Entering new product markets
•Lack of choice alternative site or premise	•Far away from customers
•High maintainance cost	•Far away from suppliers
•Premises' old/outdate/obsolete	•Far away from the firms in the same sector
•Expiration of rental contract	•Far away from sub contractors
•Existing site or premises constrained by planning regulations	•High production cost
•High cost of site or premises	<b>Local and National Governments</b>
<b>Factors related to Labor Supply</b>	•Deindustrialization policy
•Shortage of workers	•Policies on environmental awareness and protection
•Shortage of skilled workers	<b>Availability of Financial Assistance and Incentives</b>
•High cost of labor	•Tax treatment not favorable to the firm
•Low productivity of labor	•Inefficiency of public administration
•Low productivity of labor power	•Difficulty in borrowing from banks credit
<b>Transportation and Infrastructure</b>	•Lack of financial or other incentives
•Transport/congestion problems	<b>Quality of Life</b>
•Lack of car parking	•High cost of living in Istanbul
•High cost of services	•High cost of housing in Istanbul

**Table 1.3 Pull Factors**

PULL FACTORS	
<b>Site and Premises</b>	<b>Market &amp; Networking</b>
•Accessibility of site or premises	•Exploiting new or wider markets
•Low cost of site/premises	•Proximity to suppliers
•The tenure of premises	•Proximity to customers
•Flexibility (spatial expansion) of the premises	•Proximity to firms in the same sector
<b>Transportation and Infrastructure</b>	•Proximity to the subcontractor
•Good road link	•Initiating collaboration with foreign firms in GOIZ
•Good rail link	•Relocation of firms that is already collaborated
•Proximity to the Sabiha Gökçen airport	•Existence of GOIZ technopark
•Proximity to the sea port (Gebze-Hereke)	•New technology and information transfer provided by GOIZ
•More and better car parking	<b>Labor Supply</b>
•Low cost of services	•Availability of labor
•Less transport congestion	•Skills of labor
<b>Local and National Governments</b>	•Low cost of labor compared to Istanbul
•Determination of GOIZ as the proposed area for industrial development	•Availability of labor
•Co-operative attitude of local government	<b>Incentives</b>
	• Availability of incentives

The variables are determined based on the empirical studies on relocation of industry<sup>2</sup>. It is expected that those variables help to understand characteristics of firms that are relocated in GOIZ.

<sup>2</sup> These studies are Mariotti, I. (2005); Pellenbarg, P. H., Van Wissen, L.J.G, Van Dijk, J. (2002); Ünverdi, L. (2004) and Brouwer A. E., Mariotti I., van Ommeren J. N. (2004)

### *Data Gathering Method*

Questionnaire is decided as the appropriate tool to gather the data about firm characteristics, pull and push factors to relocate in GOIZ. The questionnaire which was made in May, 2009 covered 37 firms that constitute the total number of firms relocated from Istanbul to the GOIZ and was designed according to the aforementioned research questions and hypotheses. Considering there are 116 firms in operation within GOIZ, the interviewed firms (37 firms) constitute nearly one third of all firms in the GOIZ. In order to scale the variables, *Likert Scaling* method is used. According to this method, the items will be rated based on 1-to-3 rating scale where:

1= important

2= rather important

3= not important

### *Data Analysis*

In terms of the first and second research questions and related hypotheses, the gathered data is handled through *descriptive statistics* that are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures and simply describe what is or what the data shows (Friedman, 1998, p.40). Since there are different variables to analyse the firm characteristics, push and pull factors, *descriptive statistics* is an appropriate tool to present quantitative descriptions in a manageable form and help to analyse large amounts of data in a sensible way.

After analyzing data related to firm characteristics and reasons to relocate (push and pull factors), *Cross Tabulation* is used to investigate whether pull and push factors variables differentiate based on firm characteristics. Thereby, the pull and push factors could be classified based on firm characteristics.

## **1.3 CONTENTS**

This thesis has been organized around four extensive chapters apart from *Introduction* and *Conclusion*. By the *Introduction* part of the thesis, it is formulated the gist of the thesis by

clarifying points in terms of research questions, hypotheses and methodology. In the *Conclusion*, a general evaluation on the findings of the local survey is realized.

*Chapter 2* constitutes conceptual formulation of the research. In this concept, the main theories about the location and relocation of firms: neo-classical, behavioural, institutional and evolutionary are explained. Following the theories, a conceptual scheme is outlined in order to present theoretical points for the thesis. *Chapter 3* intends to state an overview of the studies on firm relocation in two periods comprising the studies between 1945-1970s and 1980s to the present.

*Chapter 4* aims to provide information on historical review of firm relocation in Istanbul City Region. Therefore, a brief review on industrial development is mentioned through different plans prepared for Istanbul. *Chapter 5* deals with the case study that is Gebze Organized Industrial Zone (GOIZ) and reports the main findings of the questionnaire. In this respect, characteristics of relocated firms to the GOIZ and the main reasons to relocate are explained around major push and pull relocation factors. These explanations enable thesis to infer conclusive remarks.

## CHAPTER 2

### THEORETICAL FRAMEWORK

#### 2.1 DEFINING FIRM RELOCATION


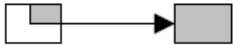
In this section, the main aim is to present a review of (re)location theories in order to layout different approaches about the industrial relocation. It is expected that these approaches will shed light on and provide a deeper understanding about the relocation factors of the firms invested in the Gebze Organized Industrial Zone that is the case study of this research.

This thesis focuses on both relocation theories and the theories of location. However, it should be noted that relocation theories are different from location theories because *the former ones explicitly take account of the fact that one location is substituted for another. The firm has a history, and this history is likely to have an influence on the locational outcome of the process. The specific nature of these conditional effects is important for any theory of firm relocation* (Pellenberg, 2000, p.3). Following this distinction, a basic definition of firm relocation can be introduced as a *particular form of locational adjustment of the firm*. On the other hand, there are also extensive definitions that are based on spatial moves of firms. According to spatial moves of firms, three categories of firm relocation can be defined: *intra-regional, interregional and international* (Pellenberg, et al, 2000, p.98).

The main concern of *intra-regional* moves is the industrial suburbanization around the larger urban agglomerations. However, *inter-regional* relocation occurs as a result of industrial decentralization from the economic core areas to peripheral and/or development

areas. The last type of relocation that is *international relocation* is about utilizing the locations outside the home country (Mariotti, 2005, p.14). Considering three types of relocations, it can be said that *intra and inter regional* relocations were observed in mostly 1950s and 1960s due to the lack of adequate space to grow and labor problems in the core regions. However, in case of *international relocation*, it should be highlighted that this type of relocation is becoming more and more popular with the growing internationalization process of small and medium sized firms due to the change in the mode of production after 1970s crisis (Mariotti, 2005, p.14).

In addition to the previous categorization, most studies introduce firm relocation based on a categorization that comprises two types of relocation namely *integral relocation (complete relocation)* and *partial relocation* (Figure 2.1). The former relocation refers to *the movement of an establishment from one location to another* while the latter implies locating in a new local unit linked with a pre existing unit (Brouwer et all, 2004, p.336).

Types	Spatial scale		
	INTRA-REGIONAL	INTERREGIONAL	INTERNATIONAL
<b>Integral relocation</b> 	✓	✓	✓
<b>Partial relocation or delocalisation</b> <i>(branch movement)</i> 	✓	✓	

**Figure 2.1: Types of firm relocation (Source: Adopted from Mariotti, 2005, p.15)**

In this thesis, firm relocation will refer to a change of address of a firm from location A (that is in inner parts of İstanbul) to location B (that is Gebze Organized Industrial Zone). Moreover, firm relocation process will be analyzed into two sequential steps: first push factors that motivate to move and second pull factors that motivate the decision to relocate to Gebze Organized Industrial Zone.

According to the scholars, the (re)location theory has witnessed a proliferation of theories and approaches in the last two decades, however, none of which seems to dominate the field at present (Scott, 2000, p.484). Therefore, the main factors that underlie the

relocation process of industrial activities towards Gebze OIZ can only be analyzed by giving an overview of several approaches which seem to be useful to get more insight in firm relocation. Therefore, following section is allocated to the classification of (re)location theories on firm relocation in terms of two main groups; traditional and contemporary approaches (Table 2.1)<sup>3</sup>.

**Table 2.1: Different Approaches on Firm Relocation**

	TRADITIONAL APPROACH		CONTEMPORARY APPROACH	
	(Neo) Classical (Before 1960s)	Behavioural (1960s-1970s)	Institutional (1970s)	Evolutionary (1990s)
<b>Founders and well known writers</b>	Alfred Weber (1929), Von Thünen, Lösch, Vernon&Hover, Krumme	Allan Pred (1979; 1969), Townroe, Simon, Cyert&March, Dicken	Caves, Amin, Martin, Taylor, Storper	Camagni (1991), Amin and Thrift, Storper
<b>Key concepts</b>	Homo-economicus/ institutional rationality, perfect information	Satisfactory, limited information, bounded rationality	Technostructure, strategy, power	Path dependence, selection
<b>Academic field</b>	Micro and basic economy	Sociology and psychology	Management	Economic geography
<b>Key components</b>	Minimum cost, maximum profit, perfect competition	Informed, perception, cognitive map	Social institutions, networks, trust and loyalty	Innovation, competition and routines
<b>Analysis</b>	Macro, statistics, modelling	Micro land studies, behavioural matrix and description	Firm data bases, explaining spatial interaction	Demographic techniques
<b>Decision making type</b>	Economic person	Satisfier person	Technostructure, manager	Suboptimal person
<b>Decision making capabilities</b>	Perfect rationality, information	Bounded rationality, information	Strategy, structure, power	Learning by doing
<b>Goal(s)</b>	Minimum costs, maximum profit	Aspiration levels or better	Growth, security, profit	Eliminating unknown risks
<b>Nature of economic landscape</b>	Cost and revenue surfaces	Information space, action space	Big business, big labor, big government	Localised knowledge
<b>Location decision making</b>	Automatic, instantaneous	Learning process	Bargaining process	Historically bound concentration
<b>Location change</b>	Adapt/adopt to economic forces	Learn, adapt to economic forces	Political economy and technology	Path dependent
<b>Method</b>	Structural models	Interviews and questionnaire	Case studies	Quantitative analysis
<b>Main criticism</b>	Unrealistic assumptions, over emphasis on quantitative techniques and firm as a black box acting completely rationale way	Largely descriptive, exploratory, too much attention on internal factors	Difficult to apply, bad abstractions	Not delivered statements
<b>Current interest</b>	Krugman's New Economic Geography	Mental maps	Cluster externalities, industrial districts	
<b>Medium of the interest</b>	Increased interest	Minor interest	Popular and top	Early stage of development

<sup>3</sup> The classification is adopted from following the studies of Mariotti (2005), Hayter (1997) , Machlup (1967), Pellenberg, Van Wissen and Van Dijk (2000).

## **2.2 DIFFERENT APPROACHES ON FIRM (RE)LOCATION**

This chapter aims to state different approaches on firm relocation. In this context, approaches are elaborated under two main headings mainly traditional and contemporary relocation approaches.

### **2.2.1 Traditional Approaches**

#### **2.2.1.1 Classical and Neo-classical Approaches**

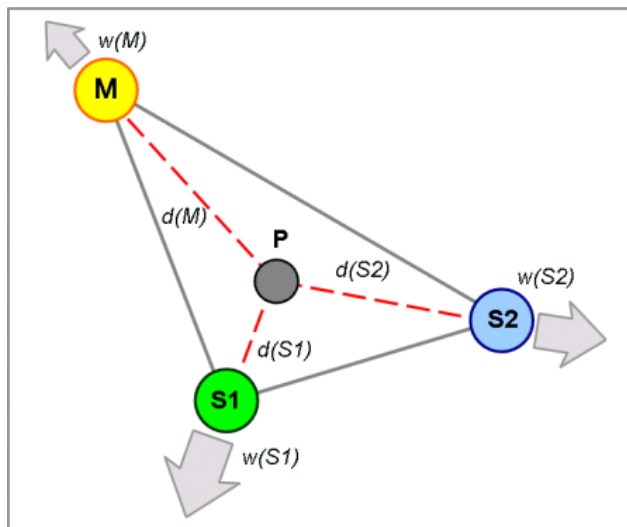
The basic idea in classical location theory is cost minimization or profit maximization. In this respect, classical location theory is defined as a form of economic determinism in which economic forces dictate the location of firms (Hayter, 1997, p.111). Although, Isard (1956) provides general principles of the classical location theory, which goes back to Adam Smith, Von Thunen is regarded as the pioneer of classical location theory. Even though the Von Thunen model was created in a time before factories, highways, and even railroads were established, model is accepted as an excellent illustration of the balance between land cost and transportation costs depending on profit maximization principle (Pellenberg, et al, 2000, p.3). According to the model, as one gets closer to a city, the price of land increases and transport costs decrease, and this determines the location choice. However, the critical thing in that model is that in the real world, the firms are not located in an abstract space as it is assumed.

The neo-classical industrial location approach, which is derived from standard classical economic theory, *interprets the firm as an Economic Man (Homo Economicus) who has perfect information and perfect rationality necessary to determine an optimal location* based on cost minimizing and profit maximizing principles (Brouwer, et al, 2004, p.336). In this respect, Alfred Weber (1929) is accepted as the pioneer in determining the general principle of industrial location theory. Although Alfred Weber's Location Triangle is too well known to require a detailed explanation here, it is appropriate to define the central features of the model.

First of all, the model is based on a series of assumptions. One of his core assumptions is that firms will choose a location in view to minimize their costs. In this respect, Weberian approach states that three main factors influence industrial location; *transport costs, labor*

*costs and agglomeration economies*. A set of simplifications are also considered in the model. The first is that location takes place in an *isolated region* composed of one market. Secondly, space is *isotropic* which means that there are not variations in transport costs except a simple function of distance. Finally, markets are located in a specific number of centers. Apart from the simplifications in the space, the model also assumes perfect competition and a perfect knowledge of market conditions both for the buyers and suppliers.

Essentially, Weber uses *location triangle* to show how the optimum location can be found in such a simple situation. Figure 2.2 illustrates the issue of minimizing transport costs. Considering a product  $w(M)$  tons to be offered at a single market that is M,  $w(S1)$  and  $w(S2)$  tons of materials coming from two different sources that are S1 and S2. Weber states that the optimal factory location P locates at the *least cost location* which is the respective distances of  $d(M)$ ,  $d(S1)$  and  $d(S2)$ .



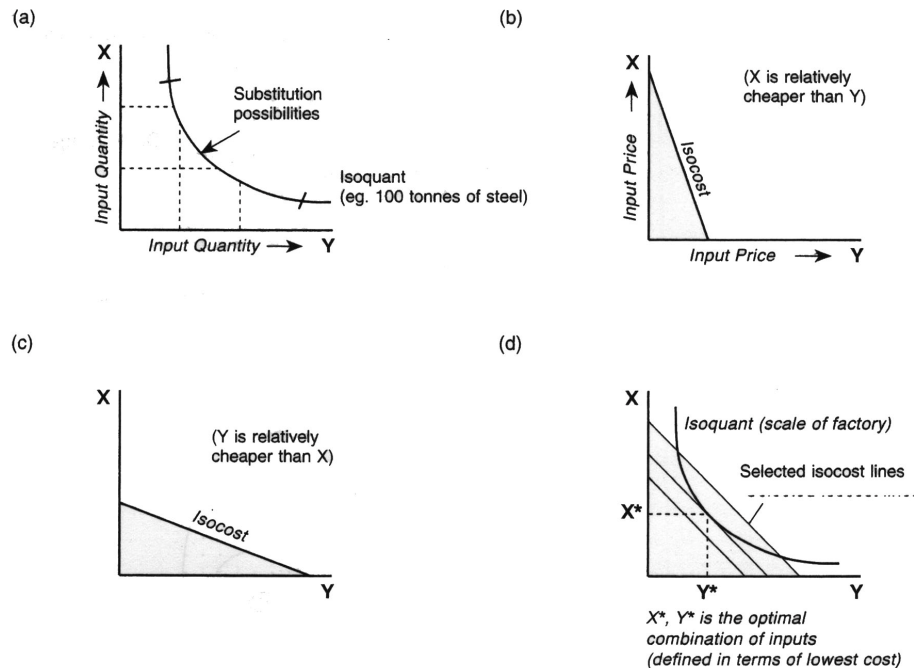
**Figure 2.2: Weber's Location Triangle (Source: Personal Archive of Dr. Jean-Paul Rodrigue, Department of Global Studies and Geography, Hofstra University.)**

Following the location triangle, the main finding of the Weber's model is that activities having a high level of use of raw materials tend to locate near supply sources; however activities using ubiquitous raw materials, such as water, tend to locate close to market. However, Weber's model only provides a proper basis for the location of heavy



industries. Therefore, it was popular particularly from the industrial revolution until the mid twentieth century.

According to Hayter (1997, p.118), Hoover (1948), Greenhut (1952), Moses (1958) and Beckmann (1968) made contributions to neo-classical location approach similar to Weberian approach. Among them, Moses' study (1958) increased theoretical understanding of optimal location by taking into consideration the possibility of substitution between input sources. In his study, location is *incorporated scale (or size) and technology*. Thus, for a factory of a given size, it is possible to combine (i.e. to substitute among) the factors of production, in different ways. This argument is demonstrated in production theory terms (Figure 2.3).



**Figure 2.3: Mose's Selection of Optimal Input Combinations (Source: Hayter, 1997, p.119.)**

The figure comprises of four graphs. The graph (a) implies the situation as related to the production function of the firm that shows how a factory can utilize different combinations of two inputs, X and Y, within certain limits of substitution. In other words, the factory can substitute X for Y and choose the optimal combination revealed by

isocosts lines which are demonstrated in graph (b) and (c). The slopes of the isocosts lines vary depending on whether X is relatively cheaper than Y (b) or Y is relatively cheaper than X (c) (Hayter, 1997, p.118). In this respect, the best combination of inputs for a given size of factory is defined as the intersection of X\* and Y\* (Graph d). As a matter of fact, the approaches discussed so far including classical theory prioritize cost as an important element in the determination of location.

In addition, the *Incubation theory*, which is developed as the result of study of Vernon and Hoover (1959), can be introduced in the framework of neo-classical approach. In their studies, Vernon and Hoover analysed the location factors of the firms in New York City between the years 1899 and 1954. The results of the study provide a basis for *Incubation Theory* claiming that firms polarized in the city core have a tendency to relocate their activities towards outskirts of cities after reaching a satisfactory growth level in order to upgrade their technology and the means of production as well as to consume a larger space compared to inner city firms (Scott, 1990). Following this argument, it can be claimed that the substitution based explanation is extended with contribution of core-periphery dimension to the relocation.

In terms of early location theory, one of the major criticisms is about its abstraction from demand. At this point, it is worthwhile to introduce the idea of August Losch (1954). In his study, he tried to develop a profit oriented perspective that implied the place of maximum profits instead of determining alternative location (Smith 1981 cited in Mariotti, 2005, p.27).

Although the well known neo-classical approaches explained so far have an attempt to explain relocation dynamics of the firms, not too many studies are conducted. The following neo-classical theories define under which conditions firms prefer to relocate as substitution of one location by another location. In this respect, it can be stated that neo-classical contributions are not only about location factors but also about reasons to relocate the firms.

The first theoretical framework about reasons to relocate of the firms belongs to Krumme (1969). Krumme elaborates relocation of firms in terms of *adaptation* and *adjustment possibilities*. According to Krumme (1969, p.33), there are three dimensions in adjustment possibilities of the firms namely *space*, *organization* and *time*.

In terms of *space* dimension, firms prefer to adjust their operations in three ways comprising *on site*, *change them between sites (inter site adjustments)* or *develop new sites*. Adjustment *on site* generally refers to location decisions in order to reinforce or qualify past location decisions. Therefore, the main expectation with on site adjustment is to expand, modernize the technology, market or input pattern. The second way of adjustment that is *inter site changes* occurs when firms reorganize their production among a set of existing locations. Finally, in terms of *new site adjustments* firms prefer to relocate or establish branch plants. It should be said that economic condition has a deterministic effect on spatial adjustment decision of the firm.

In respect of *organizational* dimension, Krumme (1969 cited in Hayter, 1997, p.124) makes a distinction between the small single plant firms and large multi plant firms. Based on the distinction, the small plant firms have greater discretion in responding to on site change in comparison to large firms. On the other hand, the multi plant firm has more tendencies to inter site adjustment which is unavailable to the small firm.

With respect to *time* dimension, short, medium and long term planning periods are introduced by Krumme (1969). In the short term period, it is not possible to make spatial adjustments for single plant firms because there would be deficiencies to use plant more intensively by hiring more labour or using more inputs. However a multi plant firm can make spatial adjustments among its plants by shifting an order from one plant to another. The medium term planning period is again more suitable for multi plant firms in order to make expansion. Finally, long term plans for locational adjustment are dominated by new site location options that provide large firms to spatially expand their operation (Hayter, 1997, p.124).

Krumme's study is followed by Nakosteen and Zimmer (1987). The distinction of Nakosteen and Zimmer is similar to Krumme's (1969) division in spatial adjustments. If the firm chooses to relocate, it is not driven by the traditional location factors, but by the need to adjust to internal dynamics. In this regard, they explain the relationship between firm relocation and profit (Pellenberg, et al, 2000, p.4). The theory states that *firms continuously monitor their profits relative to a fixed target threshold*. As long as a firm exceeds its profit rate, it will most likely stay at the present location and will not try to move to the 'optimal' location, for three reasons (Nakosteen & Zimmer, 1987, p.357):

First reason is related to the relocation cost. Although relocation cost generally refer to *direct costs of moving*, it also comprises indirect costs such as *search and information costs of finding new markets, labour, suppliers and deliverers, etc.* However, these types of indirect costs are generally not taken into consideration in the simple neoclassical framework because the theory is based on the emphasis of full information and rational behaviour (Pellenberg et al, 2000, p.4).

Second, there may be a *substantial amount of capital inertia*. For instance, in many cases *existing buildings and other equipment at the old location may already be written off, and still be operational at low costs* (Auty, 1975 cited in Pellenberg, et al, 2000, p.5). This situation enables firms to make a profit at a sub-optimal location.

Third, the cost of any of the location factors is in general low. In other words, *locational choice is often not a decisive factor in determining profit or loss. The firm may choose between many sites that are almost equally profitable. Only when at another location the profits are much higher the firm may decide to relocate in spite of the fact that also at the present location they make a profit* (Brouwer, et al, 2004, p.338).

Furthermore, according to Pellenberg et al (2000, p.5), many empirical studies highlighted the need for expansion as one of the most important factor driving firm relocation<sup>4</sup>. It is also possible to state the spatial adjustment process to firm growth is one of the key factors of firm relocation. However, basis of the neo-classical approach states that external factors are the results of the internal dynamics of the firm. Nevertheless, it has not received much attention in the neo-classical location theory with its focus on external location (pull) factors until the beginning of the nineties.

Since the beginning of the nineties, neo classical approach gained external location dimension with the new way of thinking in industrial relocation. Mainstream economists

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<sup>4</sup> The empirical studies can be found in the following papers; Louw, E. (1996) *Kantoorgebouw en vestigingsplaats*. Stedelijke en regionale verkenningen 12, Delftse Universitaire Pers (PhD thesis Technical University Delft), Pellenberg, P.H. (1985) *Bedrijfsrelokatie en ruimtelijke cognitie* (Firm relocation and spatial cognition), Sociaal-geografische Reeks 33, FRW/RUG, Groningen. (PhD thesis University of Groningen) and Pellenberg, P.H. (1995) *Lokale Dynamik in den Niederlanden. Motive, Ursprünge und Ziele von Firmenwanderungen und deren Beitrag zur Veränderung der niederländischen Wirtschaftslandschaft*. In : *Jahrbuch 1994/95*, Zentrum für Niederlande-Studien, Verlag Regensberg Münster, p. 263-288.

have shown a renewed interest on the ‘neo-classical’ approach and labelled it *New Economic Geography (NEG)* (Krugman 1995 cited in Brouwer, et al, 2004, p.337; Fujita et al. 1999).

NEG geography literature shows how *the centrifugal and centripetal forces of the backwards and forwards linkages due to the entry or exit of firms in industries with increasing returns can lead to agglomeration and concentration of such industries* (Krugman, 1991, p.483). Thus, the crucial element in modelling geographical economic activities is based on the principle of increasing returns to scale of spatial concentration.

#### *The Basic NEG Model Framework*

The basis of the model considers two regions and there are assumed to be two kinds of sectors; A (agriculture) which is a constant returns sector tied to the land and M (manufacturing) which is an increasing returns to sector that can be located in either region. The other factors considered in the model are labor that is specific to each sector,  $L_A$  (farmers) and  $L_M$  (workers). In terms of production side, total labor force equals to  $L_A+L_M$ . Other factors considered in the model are transportation cost, wages, regional income and price.

In terms of demand side, the model introduces the demand for manufactured good, therefore consumption of a manufactures aggregate is defined as follow;

$$M = \left[ \sum_i m_i^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}$$

where  $\sigma$  is the elasticity of substitution among the products. The equation means that the cross elasticity of substitution between variants,  $\sigma$ , is assumed equal between any two variant. As a result, it should be larger than 1 as it is assumed that the varieties are substitutes (Krugman, 1991, p.488).

Followingly, the price factor is introduced in the model in order to have the true demand for a variety of the manufactured good.

$$m_i = \mu \left( \frac{p_i}{P} \right)^{-\sigma} \frac{Y}{P} \quad \text{where} \quad P^{1-\sigma} = \sum_j p_j^{1-\sigma}$$

The equation tells how much it costs to achieve one unit of utility (the ratio between consumption of agricultural output and elasticity of substitution of manufactured varieties) with minimum expenditure.

Apart from the demand side, the model also considers the transportation cost that is thought to be an important factor of relocation. Essentially, there are two strong assumptions that imply the structure of transportation costs between the two regions (Krugman, 1991, p.488). First, transportation of agricultural output will be assumed to be costless<sup>5</sup>. This assumption ensures that the price of agricultural output and earnings of each peasant are the same in both regions. Second assumption says that the transportation costs for manufacturing goods are incurred in the good transported. This assumption is also known as *iceberg transport cost* that saves the model from explicitly introducing the transport sector so transport is assumed to use the same resources as the manufacturing sector.

With transport costs the true price index of the manufacturing goods offered at location j is given by:

$$P_j = \left[ \sum_k n_k (p_k T_{jk})^{1-\sigma} \right]^{\frac{1}{\sigma-1}} = \left[ \frac{1}{\mu} \sum_k \lambda_k (W_k T_{jk})^{1-\sigma} \right]^{\frac{1}{\sigma-1}}$$

where  $W_k$  is the price charged by a producer in region k, T is the transportation cost,  $\phi$  is the fraction  $n_k$  of all varieties coming from region k.

According to Krugman (1991, p.490), this equation gives a weighted of the price of all varieties of manufacturing goods. In addition, the model defines three more equations as follow;

Aggregate income for location j;

$$Y_j = (1 - \mu)\phi_j + \mu\lambda_j W_j$$

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<sup>5</sup> Krugman explains the main reason behind the costless exercise of agricultural output as follow; *since agricultural products are assumed to be homogeneous; each region is either exporting or importing them, never both. But if agricultural goods are costly to transport, this would introduce a "cliff" at the point at which the two regions have equal numbers of workers and thus at which neither had to import food. This is evidently an artifact of the two region case: if peasants were spread uniformly across a featureless plain, there would be no discontinuity.*

Equilibrium nominal wage rates;

$$w_j = \left( \frac{\sigma - 1}{\sigma c} \right) \left[ \frac{\mu}{q^*} \sum_k Y_k (T_{jk}^{1-\sigma}) P_k^{\sigma-1} \right]^{1/\sigma} = \left[ \sum_k Y_k (T_{jk}^{1-\sigma}) P_k^{\sigma-1} \right]^{1/\sigma}$$

Real wages;

$$\omega_j = \frac{w_j}{P_j^\mu}$$

Equilibrium wage rates are those wage rates that make it possible for producers to break even. Therefore, these nominal wage rates are measured in terms of agricultural goods. However, workers will be interested in the real wage which also depends on the price of manufactured goods, thus real wage is introduced in the model. According to NEG model, the short run situation of relocation can be found by simultaneous solving four equations above.

Essentially, the real wages differentials between locations decide the incentive for workers to migrate between these locations. This situation may lead to a concentration of manufacturing workers in one or more regions.

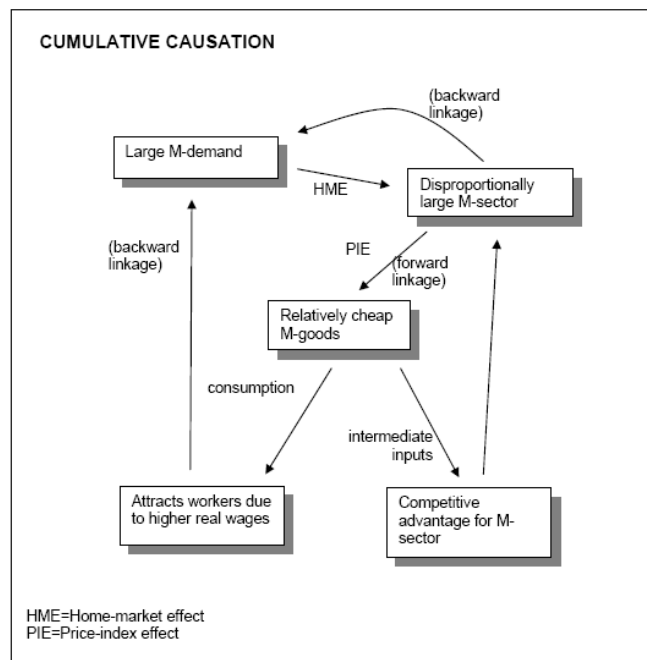
This concludes the basic model framework of NEG. More recently NEG model has been adopted international labor mobility studies. In order to show how the NEG can be used in such issues, it is appropriate to explain price index and home market effects on manufacturing sector.

Following the explanation of Mikkelsen (2004, p.10), *the price index effect* on manufactured goods depends on the size of the manufacturing sector. Therefore, the region with the larger manufacturing sector will have a lower price index for manufactured goods. The main reason behind this issue is that *the region with large manufacturing sector bears transport costs on a smaller portion of the manufactured goods consumed there*. In terms of *home market effect*, it is stated that the region with the larger demand/home market will have a disproportionately larger manufacturing sector.

Combining the price-index effect of the size of the manufacturing sector with the home-market effect, two things can be said (Mikkelsen, 2004, p.11);

- regions with a large demand for manufactures tend to have a larger than proportional manufacturing sector due to the home market effect.
- regions with large manufacturing sectors tend to have relatively cheap manufacturing goods due to the price index effect.

To sum up, the effects of price index and home market on manufacturing sector can be thought as the negotiators of a cumulative process of agglomeration, as in the figure below. According to the Figure 2.4, the price-index effect is a forward linkage, while the demand-increase due to both more workers attracted and more firms attracted because low prices of manufacturing goods represents a backwards linkage. This may eventually lead to a manufacturing “core” and an agricultural “periphery”. In other words, it can be said that a firm moves from the current location to a new one when the first is no longer inside the spatial margins to profitability (push factors) and the second might be a profitable one (pull factor) (Brouwer, et al, 2004, p.337).



**Figure 2.4: Cumulative Causation (Source: Mikkelsen, 2004, p.12.)**

The main contribution of the *New Economic Geography* literature is about how pecuniary externalities can influence trade and location of industries.



Although *New Economic Geography* introduced a new perspective to understand relocation of the firms, limitations and shortcomings with the model have been pointed out by several authors. Neary (2001, p.536) who has the most serious critics on NEG has the following critics on the approach; *The key contribution of the new economic geography is a framework in which standard building blocks of mainstream economics (especially rational decision making and simple general equilibrium models) are used to model the trade between dispersal and centripetal forces.* Although mobility of economic activities is a crucial adjustment mechanism in these models to explain agglomeration, Neary (2001, pp.549-550) argues that *the model has almost nothing to say about individual firms. Except for the fact that it incorporates increasing returns, the new economic geography has industrial organisation underpinnings which are very rudimentary.*

Following the critic above, it is clear that no single model can capture the complexities of a real world situation. Further, it cannot be expected to always find analytical solutions to descriptions of real world phenomena.

Within the lights of things mentioned above, one may conclude that neo-classical relocation theory not only focuses on location factors that are well covered in location theory, and could be denoted as locational pull factors, but also covers the factors triggering relocation, the push factors. However, changes in firm areas may not be sufficient in explaining why firms want to move (the push factors). In addition, it would be necessary to look for internal processes within the firm.

To sum up, the main critic of neo classical approach can be explained. Firstly, as a common critic, it can be argued that neo-classical relocation theories are growth oriented. In this respect, the theories explain the relocation of firms with high order abstraction logic dominated by economic determinants rather than characteristics of the firms. Therefore, the question of where to relocate is answered in a deductive way. Furthermore, the simple neo-classical theory is useful to define the “optimal” behaviour of the firm in economic terms, under the assumptions of rationality and perfect information. However, it does not take into account the internal dynamics of firms in a context with imperfect information and uncertainty that are discussed in the framework of contemporary approaches.

## 2.2.2 Contemporary Approaches

### 2.2.2.1 Behavioral Approach

The *behavioural approach* explains firm relocation in terms of decision makers' preferences and focuses on decision making process of a single firm. Contrary to the neo classical theory, firms do not respond to changes in market condition in the character of Homo Economicus, but make choices as if a satisfier character who has limited information and limited rationality therefore collecting, coding and evaluating information and learning are certainly important in decision making process of satisfier firm (Hayter, 1997, p.137). Within this context, pioneers of the approach believe that it is crucial to investigate the decision making process of the firms in order to explain the relocation of firms (Tekeli, 1991, p.31). From this perspective, behavioural theory can be defined as more realistic than neoclassical theory.

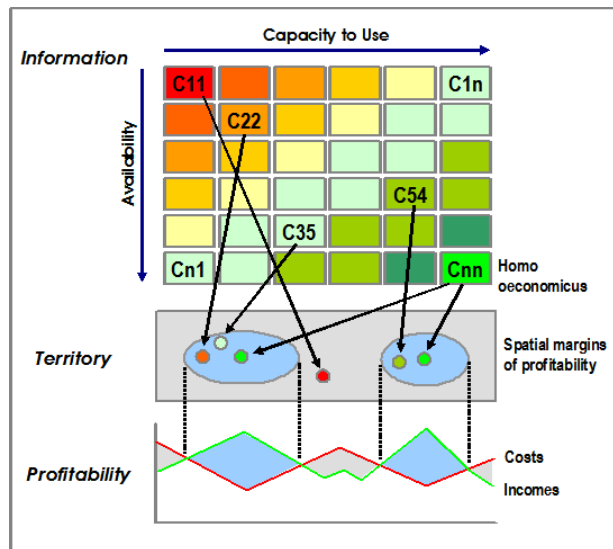
Simon (1955, 1957) and Cyert and March (1963), who are the pioneers of the theory, develop a behavioural theory of the firm, which is based on notions of limited information and bounded rationality (Brouwer, et all, 2004, p.337). In this respect, Simon provided a realistic idea that replaces traditional Economic Person or Black Box with learning, estimating, searching and information oriented one (Simon, 1959, p.269). Therefore, it can be noted that homo economicus is replaced by *satisfier* behaviour who represents a character of real world decision maker. In this regard, decision making process of a satisfier person is expected to include sequential steps below (Hayter, 1997, p.138);

- (a) *consider a limited number of choices;*
- (b) *search and evaluate alternatives in a strongly sequential way;*
- (c) *choose the first solution that is satisfactory.*

Moreover, according to Pellenberg, et all (2000, p.7) the theory *explores 'internal' factors (e.g., age and size) that are important in the decision-making process of the firm, and that lead to a particular location.* Behavioural location theories regard *the location of factories as a decision-making process* (Hayter, 1997, p.139). Therefore, the behavioural theory seeks to understand actual behaviour of entrepreneurs and focuses on the decision making process, that may lead to relocation. In this regard, behavioural theory takes path-dependency and relocation costs into account different from the neo-classical theory.

In the context of behavioural theories, Pred (1967, 1969) can be introduced as the one who successfully introduced the behavioural approach in location theory (Pellenberg, et al, 2000, p.7). In Pred's (1967) classic study, a behavioural matrix is developed in order to represent how firms process information and make locational choices (Figure 2.5). According to the matrix, the locational choice of firms is based upon interplay between factors influencing the available information and the capacity to use it. This takes into consideration that even if information may be available, it may not be necessarily used properly or could even be analyzed incorrectly. Some decision makers are thus better than others. This representation assumes that most locational decisions are not optimal, but acceptable, that is profitable.

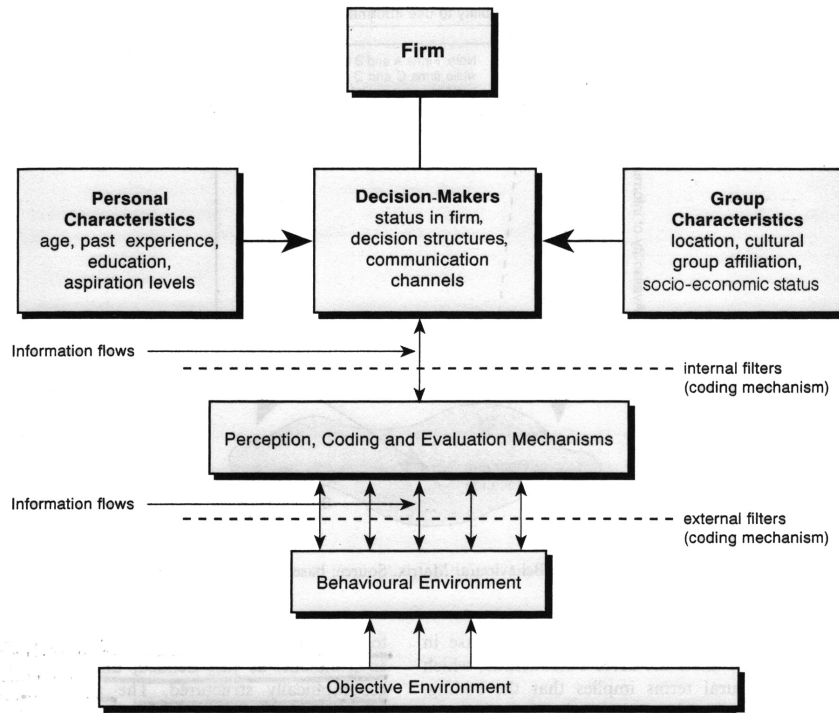
The below behavioural matrix is composed of a series of potential outcomes in regard to a locational decision. Within the context of the matrix, two main polar types of behaviour can be described. One of these polars covers the firms with high abilities and information. Therefore, cell Cnn in the matrix is regarded as "Homo economicus" that is a perfectly informed individual and the locational decisions of such an individual are optimal so can choose a location that has the highest profit. Second polar is the places of the firms with poor abilities and information levels (C11). As a result of this situation, the firms are expected to lie near the spatial margins of the profitability. In summary, decision makers having good capacity to use and good availability of information (C35 and C54) would make a locational decision within the margins of profitability. However, unexpected outcomes can also occur. Thus, another decision maker (C22) could even be "lucky" because in spite of poor capacity to use and availability of information, the locational choice turns out to be profitable.



**Figure 2.5: The Behavioural Matrix (Source: Adapted from Pred, 1967, p.92)**

Even if Pred's behavioural matrix is almost impossible to apply to the real world, it underlines the possibility of sub-optimal locational decisions, and therefore it can be regarded as a good reflection of reality. Even if all the necessary information was at hand, it is not guaranteed that the chosen location will be profitable. Despite its simplicity and popularity, it is criticized in the literature because behavioural matrix offers no more than a conceptual basis for constructing a behavioural location or relocation theory (McDermott, 1973 cited in Hayter, 1997, p.142).

Another study similar to Pred's and stresses the behavioural environment of firms is conducted by Dicken (1971). In his study, Dicken focuses on the relation between firm and information in order to reveal the process of perceiving, coding and evaluating information. In this view, environment is accepted as *information bed* and the links between firms and environment occur as information flows. Figure 2.6 shows how firm – environment relations occur in a behavioural landscape.



**Figure 2.6: Firm – Environment Relations in a Behavioural Landscape (Source: Hayter, 1997, p.119.)**

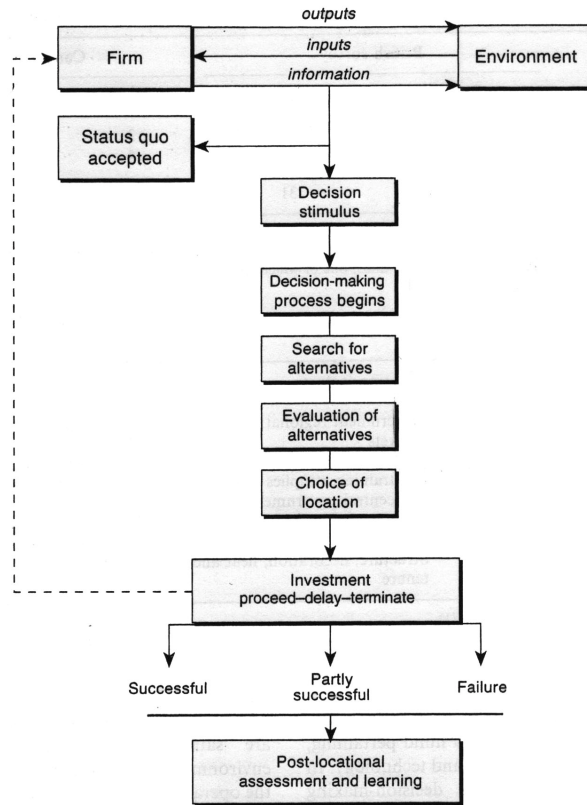
With the help of the figure, Dicken implies that there are two main factors affecting decision making process namely *behavioural environment* and *locational environment*. While the former concept refers to the various business connections that firms develop with suppliers, consumers and governments; the latter represents the total sum of information in the economy and firms receives and sends information flows and signals. However, it can be criticised that the model is so abstract to explain the variation in information flows and behavioural environment among small, single plant firms and multinational firms.

At this point, it can be stated that the behavioural approach is especially comply with firm relocation. As mentioned above, the key difference between location and relocation theory is that location theory is more concerned with locational pull factors, whereas relocation also deals with push-factors: the trigger to moving. Therefore, from the perspective of behavioural approach, locational pull factors and push factors provide a simplified description of the decision process of the firm.

A more detailed explanation about decision process of the firms is developed by Dicken and Lloyd (1977), Hayter, (1978, 1997) (Pellenberg, et al, 2000, p.7). They suggest the disaggregation of the decision making process into particular *stages*. The main reason behind the stages is to provide an integration of location factors within the overall investment decision making process. Therefore, decision making process is distinguished as follows;

- (1) *the decision whether to move or not;*
- (2) *the search for alternative locations;*
- (3) *the evaluation of alternative locations;*
- (4) *the choice of the new location.*

The integration of the decision making process with location factor and investment is firmly demonstrated in the figure below. As it is understood, there are two types of approaches to the disaggregation of the decision making stages. The first one is about the identification of the *distinct processes* and the second is based on *geographic scale* (Hayter, 1997, p.146). The first process comprises analysis in terms of decision stimuli, search, evaluation and choice processes and the second approach comprises investment go or not decisions and post locational assessment or learning.



**Figure 2.7: Stages in Locational Decision Making Based on the Decision Process (Source: Hayter, 1997, p147.)**

In view of Schmenner (1982), the decision to move is considered to be one step in a controversial issue because *relocation is one possible outcome of an adjustment to change process*. There may also be other alternatives of adjustment sought in *re-organization, or in other investment strategies*. Moreover, *spatial adjustments may be in the form of on-site change, in inter-site re-organization, and opening up of new sites*. At this point, it can be claimed that the decision to relocate is the outcome of a complicated decision process that may involve more than one stage and feedbacks between the various stages.

There are also relocation studies based on the perception of firms. According to the work of Pellenberg (1985) and Meester (1999), it is claimed that the firms that prefer to move will choose more frequently nearer places because they are more familiar or easier to imagine than distance places (*mental maps*) (Pellenberg, et al, 2000, p.8). In this respect, mental maps, the perception of the geographic configuration, are introduced as appropriate tools what people use in their spatial decision making.

Behavioural theory also tries to understand how limited information, limited ability, perception and uncertainty all lead to a spatial bias in relocation decision making. The bias in decision making is explained in four dimensions. *First, more distant locations are less well known and therefore it is likely that nearer locations are chosen more frequently. Second, distant locations are more difficult to imagine than nearer places. Third, there is a strong distance decay in mental maps, which is of course partly related to the amount of information, but also with the perceived attractiveness of the place. Finally, firms face uncertainty, not only because they have a knowledge gap or are not able to digest the available information, but also because investment decisions are based on anticipated future situations, which are by definition uncertain* (Pellenberg, et al, 2000, p.8). Following the biases, the perception based approach in behavioural theory makes a contribution that considers the effects of uncertainty factor in firm relocation decision. In this regard, it can be stated that the amount of uncertainty increases as distance of relocation increases. Therefore, on-site investments are much more certain than investments in a new site.

As a result of the behavioural approach to firm relocation, it seems that the main aim is to give detailed reasons for moving, both on the push and the pull sides of the firm relocation process. In this context, push reasons that are mentioned frequently are accepted as internal to the firm. The main internal reason that push the firm is related to firm growth: *limited capital stock, limited information about alternative production spaces, limited labour supply*. On the contrary, pull-factors are largely the opposite of the internal push factors: *accessibility to the labour market, and often also locational amenities, such as the housing market, environmental conditions* (Brouwer, et al, 2004, p.338). Therefore, the behavioural approach is helpful to understand firm relocation process in a descriptive way.

To sum up, the behavioural approach adds to the neo-classical view in terms of exploring internal factors that are important in the decision making process of the firm. Moreover, the approach seeks to understand actual behaviour of entrepreneurs, and focuses on the relocation decision making process. However, there are some common critics of this approach. First of all, although the theory provides very valuable information for understanding and policy making, the results of the studies are largely descriptive and explorative. Another drawback is that the behavioural approach focuses too much on *sociological, psychological and other soft variables often ignoring the (neo-classical) economic factors* (Scott, 2000, p.490). Therefore, an eclectic combination of the



behavioural and neo-classical approaches seems to be more meaningful to deal with relocation issues

#### **2.2.2.2 Institutional Approach**

The common view of the neo-classical and the behavioural approach is that *the firm is conceptualized as an active decision making agent in a static environment* and has to choose from a number of alternatives. In doing so, the firm acts as either *homo economicus* or *satisficer man*. In either view, *the environment is a surface of location factors, or a bed of information* that is processed by the firm (Hayter, 1997, p.161). In other words, firms manage relocation decision making process utterly. In the eighties, this view of locational behaviour of the firm was increasingly being questioned in a number of new research directions who pioneer the institutional approach<sup>6</sup>.

Institutional approach clearly points out the affect of structures including rules, norms and routines as authoritative guidelines on firm relocation (Scott, 2004, p.2). Therefore, the common belief about the theory is that economic processes in space are mainly shaped by societies', state's institutions and values (Storper and Salais 1997). In other words, taking into consideration the behaviour of firm as in behavioural approach is not solely enough. In addition to the behaviour of the firm, one should also consider the upper structures such as political, social and cultural context in which this behaviour is embedded. This is the most well known contribution of institutional approach to the relocation literature.

The institutional theory introduces institutional factors as influential in firm relocation process. Therefore, it is stated that institutional factors such as spatial adjustments including *expansion, merger, acquisition and take-over, but also trust, reciprocity, co-operation and convention play a key role at all levels in the economy, from the structure and functions of the firm, through the operation of markets, to the form of state intervention* (Mariotti, 2005, p.30). The main reason behind such a relation is that the learning process is claimed to be a key component of the institutional approach and this process can be strengthened through establishing or joining new networks. As a result, firms relocate in order to facilitate spatial adjustment required by the learning process. By

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<sup>6</sup> For these new research directions, see Thrift and Olds, 1996; see also the 'geography of enterprises' by Krumme 1969 and the 'industrial district literature' by Pike et al. 1990; Brusco and Paba 1997; Becattini 1990; 2002; Amin 2000 cited in Brouwer, et all, 2004, p.337.

doing so, firms also strengthen innovative capacities that is related to production, dissemination and application of knowledge. In line with these arguments, there are other key concepts encouraging firms to make spatial adjustments such as *network relationships*, *trust* and *loyalty* (Fukuyama 1995, Cooke and Morgan 1998) among firms that stresses the importance of the interaction in learning and innovation.

Following the discussion above, it is possible to claim that one of the main focuses in the institutional approach is on the interaction between firms instead of individual firms. Thus, factory relocation is interpreted as an expression of the investment strategies of the firms that refer to the concept of *the geography of enterprise* and those strategies are the outcome of a *firm's negotiation with suppliers, government, labour unions and other institutions about prices, wages, taxes, subsidies, infrastructure, and other key factors in the production process of the firm* (Hayter, 1997, p.168). Essentially, it is seen that the main emphasis is placed on interaction between geography of corporate strategies. According to Hayter (1997, p.161), these strategies are guided by certain factors; one is *internal long term motivations, accumulate expertise and established corporate structure*, the second one comprises *the external strategies and structures of other business organizations*, especially rivals, third group is composed of *other institutional forms and interest groups*, notably labour organization and governments and lastly, conventions of dialogue trust and reciprocity, and in some localised cases, a culture of social and civic solidarity.

At this point, it can be said that firms decide where to relocate based on rules, strategies and structures determined by different forms of institutions in the society. Therefore, the levels of interaction among firms determine the behaviour and performance of all agents relevant in relocation process. This situation implies the process of learning and innovation in different forms of institutions constituted by firms and other agents.

In the literature, there are studies which explore and conceptualise institutions mentioned above. In this regard, some terms such as *innovative milieu*, *new industrial spaces*, *learning regions*, etc were introduced in order to point out the importance of interaction among firms in the process of learning and innovation. Some examples of the studies can be listed as below;

- To begin with, one of the most well discussed examples is the *industrial district school* (Pyke *et al.*, 1990; Brusco and Paba, 1997; Becattini, 1990; 2002; Amin, 2000).

Since industrial districts had the dynamic collective learning processes in supporting innovation and growth within local milieu, the relationships between firms and the local community play a key role in economic development. Therefore, the richness of institutional support in a region has a crucial role in facilitating co-operation between SMEs (Amin, 2000 cited in Mariotti, 2005, p.31).

- According to *learning region* writings (Morgan, 1997; Cooke and Morgan, 1998), Cooke and Morgan (1998) emphasise the role of public institutions because these can act as ‘facilitator’ of local innovation systems. In this context, public institutions identify the points in the regional economy where knowledge creation and learning process can be activated and provide the underlying environment or infrastructure which facilitates the flow of knowledge, ideas and learning and promotes the creation of networks (Cooke and Morgan, 1998).
- In terms of the *innovative milieu* approach (Aydalot, 1986; GREMI, 1991; Camagni, 1991, 1995), the main focus is on the role of ‘collective learning’ through formal and informal relationships between firms and other economic actors. Thus, it is stated that innovative milieu develops from the interaction of numerous players such as businesses, political decision-makers, institutions and the labor (Strenberg, 2000, p.391).
- According to Scott (2000), regional systems such as Silicon Valley or Emilia-Romagna are important contexts for institutional approach because *these regions have a particular favourable entrepreneurial culture, in which key resources such as venture capital and knowledge are shared through intensive networks*. are important centers of new information, knowledge and ideas in their industries of specialization (Maiotti, 2005, p.31).

At this point, it is worthwhile to say that corporation and co-operation among different agents highly depend on the power to influence behaviour and performance of other agents. In reality, this power is exercised in various ways and for example is evident in bargaining processes with other firms, labour and governments. In this context, it is appropriated to mention the types of corporate strategy, corporate structure & landscape of counterveiling power and cluster externalities to corporate.

### 2.2.2.2.1 Corporate Strategy

Corporate strategy refers to the idea that firms grow by implementing strategies. Therefore, investment decisions of firms, the allocation of resources and selection of policies ultimately drive the strategies (Ansoff, 1965, p.35). In this respect, formulation of strategies can not be thought as independent from notions about the actual behaviour of other organizations in the economy. This reveals the importance of the corporate strategy in order to achieve long terms objectives of the firm.

In theory, although there are wide strategic choices for individual firms, these choices are restricted by accumulated know-how, assets, expertise and by competitive advantages with respect to production, marketing, technology, access to raw material or financing (Hayter, 1997, p.162). Thus, each firm's competitive advantage is firm specific, which is not shared with other firms. However, joint venture based on corporation is expected to eliminate such constrains and to provide firms to extend and share their accumulated know how, resources, skills, power and size.

According to Hayter (1997, p. 163), there are several classification schemes of corporate strategy. Figure 2.8 is the best well known scheme among classifications and implies the relationship between the industrial direction of growth and existing activities of firms.

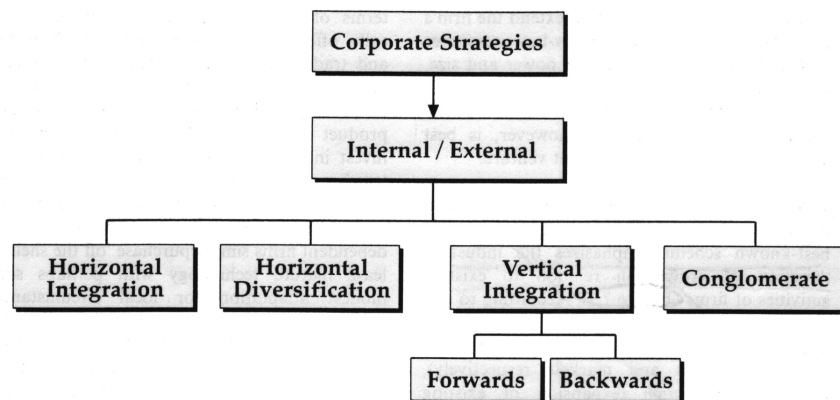


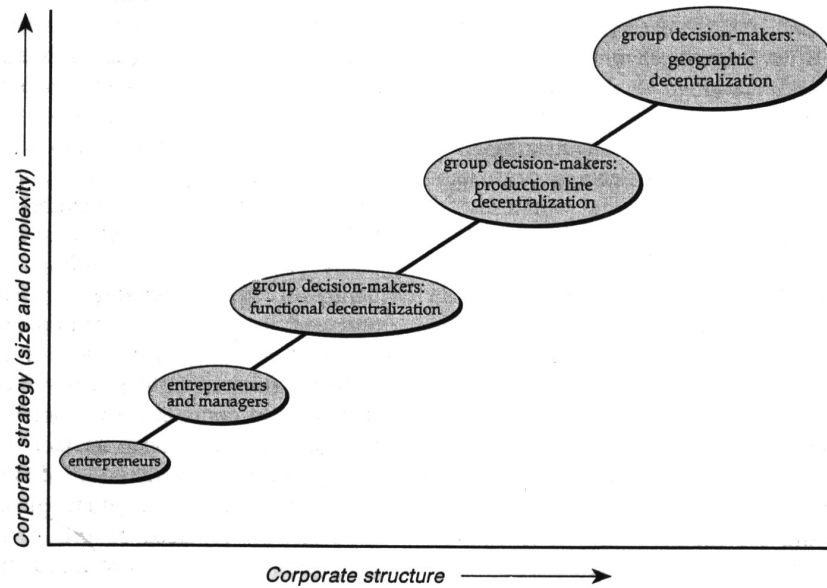
Figure 2.8: Types of Corporate Strategy (Source: Hayter, 1997, p164.)

With the help of Figure 2.8, one can understand that corporate strategies refer to four types of integration namely *vertical integration* which refers to expansion to internalize inputs and markets respectively, *horizontal integration* that is the expansion of existing products to increase market penetration, *horizontal diversification* which means entry into new products for the same market and lastly *conglomerate growth* that is the simultaneous diversification of the product, markets and technology.

Clearly, the classification of corporate strategies should consider a comprehensive perspective in order to be sufficient to explain the nature of industrial integration, technological innovativeness and interaction with other firms. At this point, explanation of corporate structure will be complementary for corporate strategies.

#### **2.2.2.2.2 Corporate Structure**

In general, Caves (1980, p.65) defines corporate structure as *the deployment of corporate physical and human assets among its various manufacturing plants and offices and the manner in which these operations are integrated and governed*. In reality, corporate strategies are closely intertwined with corporate structure because strategies emerge from structures and in turn modify them. The most well known study that explores the interdependence between structure and strategy is conducted by Chandler (1963). In his study, the core idea is *structure follows strategy* thus corporate structures are adapted following the implementation of corporate strategies (Figure 2.9).



**Figure 2.9: The Corporate Structure Follows Strategy Thesis (Source: Hayter, 1997, p164.)**

Chandler’s study is based on American experience and stresses that if a firm implements strategies that create larger scale and more complex operations, this in turn will require changes in the structures of the firm. Therefore, as some firms grow, entrepreneurial functions are decentralized and individual entrepreneurs are replaced by groups of specialised managers with supporting departments such as accounting, production, marketing, design or personnel. In tandem with the decentralization of decision making functions, firms develop new ways of integrating and coordinating diversified operations.

In summary, one can claim that (re)location decision of the firms is the outcome of the interaction between structure and strategy of the firms that consider several integrations. Following the structure and strategies, Hayter defines landscapes of counterveiling power in order to explain the nature of competition among firms.

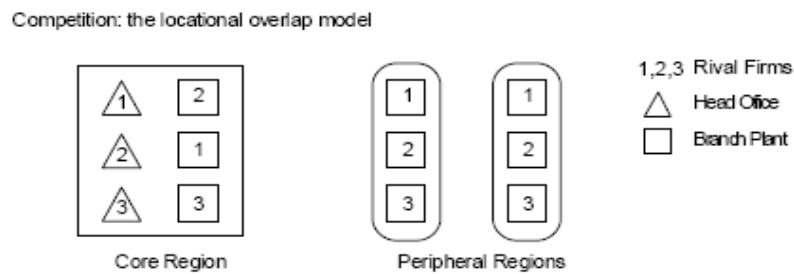
### **2.2.2.2.3 Counterveiling Power**

In institutional landscape, (re)location decision of firms is interdependent rather than independent. Therefore, a counterveiling landscape, dominated by a few big firms, occurs as a power to dominate investment decisions, product, process innovations, access to new

markets, resources. Hayter (1997, p.165) defines three model of landscapes of countervailing power; *the locational overlap model*, *the exchange of threats model* and *the spatial monopoly model*.

*The locational overlap model*

The model is based on equally large rivals among the firms. In such a situation, branch plant investments are expected to locationally overlap in order to gain a share of each market or a share of particular natural resources (Figure 2.10).



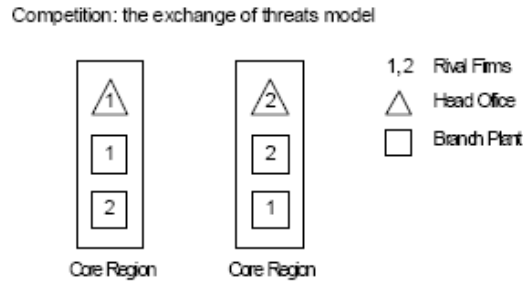
**Figure 2.10: Competition: the locational overlap model (Source: Hayter, 1997, p166.)**

The locational overlap of the firms can be thought as a response to risk and uncertainty because firms who do not match the locational initiatives of rivals potentially forfeit sales, profits in new markets and access to low cost resources in new supply areas (Vernon, 1985, pp.67-70).

*The exchange of threats model*

The locational overlap model is modified by the exchange of threats thesis (Vernon, 1985, p.70). The essence of the model is based on the observation that firms in the same industries but based in different core countries establish branch plants in the other country (Figure 2.11). This situation occurs when the leading firms in both countries are threatened by the establishment of foreign owned branch plants in their home market so firm prefer to establish branch plants in invading firms' market. To illustrate, US based

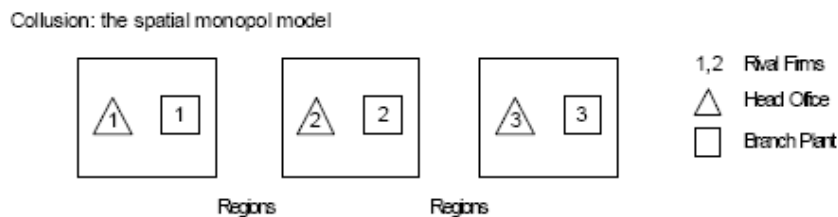
firms that established branch plants in Europe were similar industries to the European based firms in US. As a consequence of the model, a cross investment occurs.



**Figure 2.11: Competition: the exchange of threats model (Source: Hayter, 1997, p166.)**

*The spatial monopol model*

The core of the spatial monopol model is based on the collusion, although many forms of collusion are illegal and not easy to identify. According to the model, collusion may be observed in the form of shared participation that is based on the mutual agreement between rivals to invest in a region only if they do so together (Hayter, 1997, p.167). However, in reality this is not the case every time. Therefore, according to Hayter (1997, p.167), the most obvious examples of spatial collusion occur when firms agree to carve up markets among themselves to create market cartels and monopolies (Figure 2.12).



**Figure 2.12: Competition: the spatial monopol model (Source: Hayter (1997), p166.)**



It should be noted that (re)location choice of the firms, discussed in models above, is not only based on the bargaining among firms, but also depend on alternative bargains. In this regard, contracts, or deals with labour, suppliers and consumers, and discuss options with different levels of government on such matters as infrastructure provision, tariff levels, taxes, subsidies, zoning, energy supply and environmental impact analysis are other alternatives that are taken into consideration in bargaining process. At this point, cluster externalities can be introduced as an example of alternative bargain in collaboration of the firms.

#### **2.2.2.2.4 Cluster Externalities**

One of the most significant developments in economic geography during the past decade has been the emergence of ‘clusters’ as a focus of academic research and debate (Harrison, et al, 2003, p. 1045). As one of the focus of the economic geography, there are some studies conducted to explore the relationship between cluster externalities and industrial firm relocation<sup>7</sup>. Industry cluster policies are a current trend in economic development planning because it regards the focus on enhancing local economic development initiatives and promoting geographical clustering of firms (Le Veen, J., 1999, p. 1).

Clusters represent a new way of thinking about national, state, and local economies, and they necessitate new roles for companies, government, and other institutions in enhancing competitiveness. The so-called ‘cluster’ concept represents one of the most popular economic development approaches to addressing the tensions between globalisation and localization which has emerged in recent years. It is originally articulated in the works of Porter, Enright and others – though building on older traditions stemming from the work of Marshall and the ‘*innovative milieu*’ research by the GREMI group. Porter (2000, p.254) defines industrial clusters as *a geographically proximate group of inter-connected companies and associated institutions in a particular field, linked by commonalities and complementarities.*

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<sup>7</sup> The recent well known study about cluster externalities and firm relocation is Nijkamp, P., Medda, F. and Rietveld, P. (1998), *Urban Industrial Relocation: the theory of edge cities*, 38th Congress of the European Regional Science Association.

The cluster concept has rapidly attracted attention from governments, consultants, and academics since it was first proposed in 1990 by Michael Porter. Many governments and industry organizations across the globe have turned to this concept in recent years as a means to stimulate urban and regional economic growth. In this respect, Porter’s “Diamond of Advantage” which comprises four factors has been introduced as a tool of competitive advantage for firms. In the Porter’s diamond model, clusters advance through four dimensions (1) strong and sophisticated local demand; (2) a local base of related and supporting industries exist in the local economy to support the export industry; (3) favorable factor (resource) conditions; (4) a competitive climate driving firm productivity (Figure 2.13). This diamond determines which firms and industries had competitive advantages.

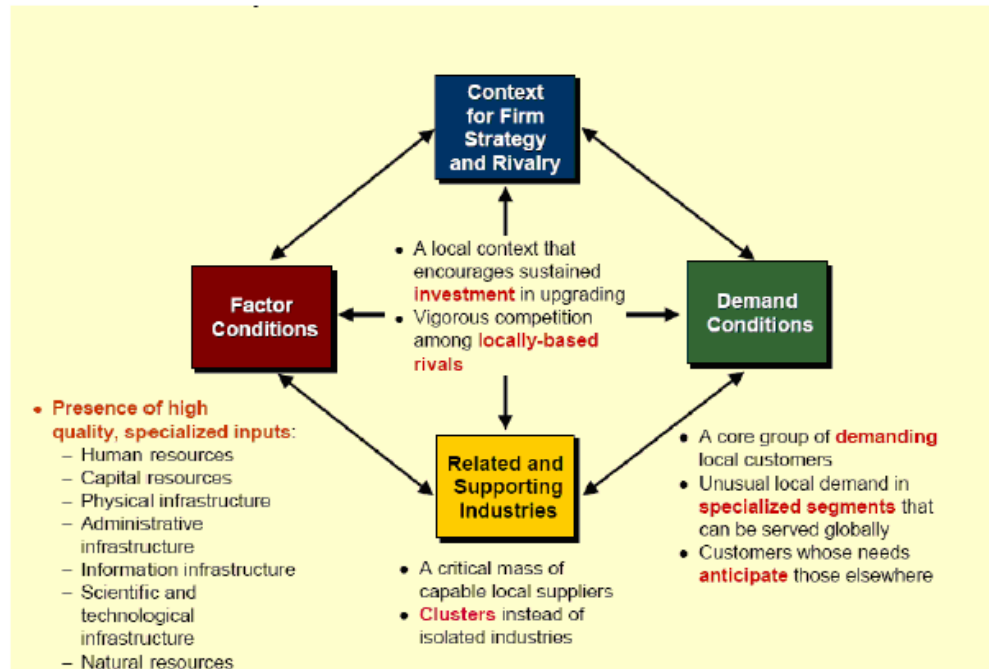


Figure 2.13: Porter’s ‘Diamond of Advantage’ (Source: Woodward, D., 2004, pp.8-9)

With its diamond model, Porter has argued that clusters should be central to any competitiveness agenda, including developing and developed countries and competition is a driving force behind cluster development. Clustering is a dynamic process, and as one competitive firm grows, it generates demand for other related industries. In this context,

cluster provides certain externalities for industrial firms that potentially act as pull factors of firm relocation (Woodward, p. 2004, p.4).

- Potentially, clusters will enhance local competition, productivity, new business formation, and innovation - leading to a virtuous cycle of development. Porter claims that clusters have the potential to affect competition in three ways; by increasing the productivity of the companies in the cluster, by driving innovation in the field and by stimulating new businesses in the field.

- Clusters also increase the productivity with which companies can compete in an increasingly more competitive global market. Clusters are industry led. Key private industry stakeholders examine the changes and improvements that need to occur within the cluster and then formulate a strategy that includes industry, government and educational institutions. The philosophy behind clusters is that large and small companies in a similar industry achieve more by working together than they would individually.

- Industrial clusters or geographical concentration of firms can generate various advantages for small firms, from agglomeration economies to joint action benefits. The cluster model emphasizes internal linkages, whereby cluster gains are furthered by local firm cooperation, local institutions and local social capital. The growing evidence on small firm clusters in developing countries competing in local and global markets has driven much of the policy enthusiasm on promoting clusters.<sup>8</sup>

- Clusters are also said to be marked by a strong sense of common social identity. This is often based on shared norms or common notions of community that lie in ethnic, religious, regional or cultural identities. This can result in local social capital that strengthens cluster ties, fosters trust between local actors and promotes local cooperation and support.

In the light of the contemporary relocation theories, cluster externalities provide spatial interrelationships between firms and provide firms to engage in different kind of bargains with labour, government, business and technology. Moreover, it is expected that firms

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<sup>8</sup> Industrial Clusters and Poverty Reduction, p.v, *Towards A Methodology For Poverty And Social Impact Assessment Of Cluster Development initiatives*, United Nations Industrial Development Organization Economy Environment Employment, Vienna, 2004

fully participate in information and research networks, supply chains, firm especially SME collaboration.

To sum up, it should be highlighted that the softer factors defined by institutional theory such as networking, collaboration are determined and directed by state implementation rules. In this respect, norms and rules such as planning regulations or OIZ laws are the most important tools that are influential in locational choice of local industrial agglomerations. Thus, from the scope of institutional theory, it can be stated that relocation decision is externally determined based on the state policy, planning regulations, incentives or law of industrial zone. Moreover, neoclassical costs saving relocation factors were substitute by softer factors such as trust, social capital, network and so on which are advocated by contemporary approaches such as behavioural, institutional and evolutionary theories

### **2.2.2.3 The evolutionary approach**

Evolutionary approach has not drawn major attention in economic geography as other approaches discussed so far because scholars have contextualized evolutionary approach as the same with institutional approach (Mariotti, 2005, p.31). Moreover, the application of evolutionary theory to firm industrial relocation studies is in early stage of development, therefore this section aims to link between evolutionary approach and relocation.

Evolutionary approach explains firm relocation based on Darwinian biology which refers to certain spatial concepts such as *variation*, *selection* and *path dependence*. In this context, the theory states that path dependence and routines that firms already experienced have deterrent effects on relocation activity due to the lack of experience in the field of activities (new products, new techniques and new markets) in new location. (Brons and Pellenbarg, 2003 cited in Mariotti, 2005).

In line with this argument, it is seen that firms eliminate unknown risks by maintaining the path on using knowledge and experience acquired in existing markets (Boschma, Frenken and Lambooy 2002; Brons and Pellenbarg 2003, p. 15). The main reason behind such an issue is that the knowledge is accumulated through constituted learning (i.e. learning by doing) that are built within particular environment and in firm's relationship

with other firms and other actors (Amin, 2000, p.151). Thus, firms are less willing to move out of their local context because *they compete on the basis of their knowledge, routines and competencies that are built up in the past* (Boschma and Frenken, 2004). As a result, evolutionary approach explains the reason behind spatial agglomerations of firm from a historically bound concentration of knowledge rather than individual firm rationality.

To sum up, although evolutionary approach has not provide certain statements on relocation yet, it proposes a link between relocation and path dependence; firms are less willing to relocate because of path dependence and inertia. This is the well known contribution of the approach to the relocation literature.

### **2.3 COMPARISONS and CONCLUSIONS**

The above-mentioned schools of thought (neo-classical, behavioural, institutional and evolutionary) on (re)location provide the theoretical background for studies of firm relocation. Before the 1960s, the neoclassical approach provided a conceptual framework of the relocation theories. In this respect, the goal of the theory is based on the search for optimal location based on location factors. However, the approach became less adequate to explain the growth of large enterprises. Therefore, the rapid growth of new manufacturing establishments provoked an academic interest based on decision making process of (re)location. Behavioural location theory, which focuses on the behaviour of the firm taking into consideration limited knowledge, control of the environment, irrtrationality of perception and behaviour, is the result of such a process. Particularly, in the 1960s most firm migration studies have used behavioural approach since neoclassical location theory has been criticised as being unrealistic and not reflecting real world circumstances (Mariotti, 2005, p.33).

In the 1970s-1980s, rules, norms, society's cultural institutions (trust, social capital), value system and innovation have become the rising concepts which constitute the main elements of the institutional approach. In this regard, the approach stated that the relocation decision of the firms is the result of the firm negotiations with a variety of actors in terms of local, regional, national or international.

In the 1990s, with the changing economic and political structure, regions and cities have become the key arenas for economic growth. The dominant approach on firm relocation studies in this era is based on evolutionary theory. The theory comes up with the idea that implies the affect of the routine behaviour of the firms on the decision making process of relocation. This theory has shown that firms are unwilling to to change location because they compete on the basis of their past experiences in terms of knowledge, routines and competencies (Mariotti, 2005, p.34).

After reviewing the (re)location theories, it might be possible to argue that neoclassical, behavioural, institutional and evolutionary approaches complement each other rather than exclude each other. This leads to a tendency to combine different approaches to explain a phenomenon. In this respect, a multidimensional approach can be introduced to explain the firm relocation phenomenon in GOIZ. In literature, there are empirical studies on firm migration, particularly conducted in Netherlands<sup>9</sup>, which explains the firm relocation with such a perspective. The stated preference of firms with regard to migration in those studies is related to a set of variables according to the subdivision in four categories:

- (i) location factors (site and situation);
- (ii) internal factors (information, abilities, labor);
- (iii) institutional factors (network, policy, trust)
- (iv) external factors (path dependence, routine).

The suggestion above is a combination of four school of thought that provide four main categories of factors influencing firm relocation that constitute the basis of a comprehensive approach.

Those main categories of factors influencing firm migration has been broadening by adding the pull and push factors classification to the study. In this context, the factors determining the attractiveness of a site for firm relocation is defined as pull factors; while the action from the current location to a new one when the first is no longer inside the spatial margins to profitability is defined as push factors. By doing so, the study provides a comprehensive perspective that is helpful to analyze the relocation process of the firms

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<sup>9</sup> The studies are conducted by P.H.Pellenberg, L.G van Wessen and L.van Dijk (2000) from University of Groningen, I. Mariotti (2005) from University of Groningen and Pen (2003).

**Table 2.2: Firm's factor influencing relocation**

Theoretical Framework	Key concepts/factors	Variables	Relocation costs
Neoclassical Theory	Market situation, cost-reduction	Firm size, Ownership pattern, Additional space to grow, Accessibility, Parking lot, Space quality, Cost of production, Rent contract, Maintainance cost	
	(Location factors)		X
Behavioural Theory	Information/abilities/perception/images	Firm decision on organization of production space, Information on alternative production spaces, Acquisition,Labor, Capital stock	
	(Internal factors)		√
Institutional Theory	Networks, rules, trust, social capital	The location of supplier of raw material, customer, firms in the same sector, Networks, State policy on	
	(Institutional factors)		√
Evolutionary Theory	Path dependence, routine	Proxy of knowledge spillover, entry and exit of the firms in a new market, age and parent company	
	(External factors)		√

## **CHAPTER 3**

### **A HISTORICAL REVIEW ON FIRM RELOCATION STUDIES**

#### **3.1 INTRODUCTION**

In this chapter, the main aim is to review studies on firm relocation from the end of World War II to the present. Studies on firm relocation can be explained based on two major periods; from 1945s to the 1980s and from 1980s to the present. In the former period, the studies on relocation of economic activities provided significant dimensions in the Northern and Western Europe and in the USA. In most of the studies, the analyses of locational processes and decentralization of production activities are matched with the analyses of industrial location policies (Ciciotti, 1998 cited in Mariotti, p.48, 2005). Therefore, the core interest of the research in this period can be summarized as to examine the impact of firm relocation processes on local and regional economic structures and the possible influence of local and regional policy instrument on firm relocation.

Different from the former one, the period from the 1980s to the present was characterized by a reduction of core-periphery relocation and by a diminishing interest in the role of regional policy on this phenomenon. Studies on core periphery relocation were substituted by international relocation because firms seeking to reduce production costs relocate activities to low-wage countries.

The present chapter deals with the processes of industrial decentralization and suburbanization in the period spanning 1945 to the 1970s, and firm migration literature from the 1980s to the present. Besides, new research interests are presented.



### 3.2 STUDIES BETWEEN YEARS 1945 – 1970s

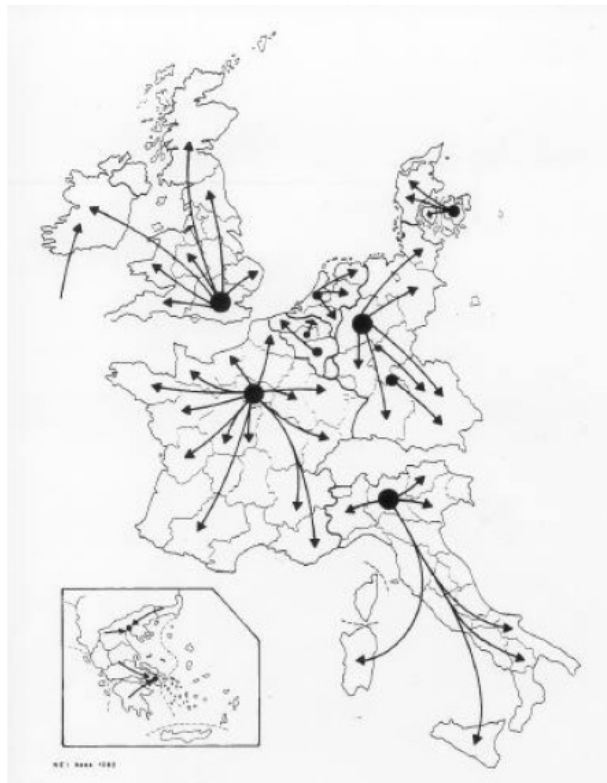
The first study on firm migration was published in 1949 by McLaughlin and Robock entitled *Why industry moves South*. The main focus of the book is on the movement of American manufacturing firms from the north-east to the southeastern states in the mid-century due to the low cost of labor and existence of less active trade unions in the southeastern states (Pellenbarg *et al.*, p. 11, 2002). In this respect, this study highlights the influence of high labor cost and militancy on firm relocation in the USA. Followingly, Garwood (1953) conducted a study that investigates influence of factors such as markets and materials on firm relocation to Colorado and Utah. There are also studies emphasising the importance of internal factors in firm migration. Those studies were undertaken by Mueller *et al.* (1961) in the state of Michigan, and the UK studies of Luttrell (1962), Cameron and Clarke (1966), Keeble (1968), Howard (1968) and Townroe (1972).

During the 1950s and 1960s, firm migration literature mainly refers to the USA and Great Britain. However, after 1970s other European countries entered firm migration literature such as Germany (Bade, 1983), the Netherlands (Molle, 1977, 1983; Kruyt, 1979; Pellenbarg, 1976; 1985), France (Aydalot, 1978; 1983), Italy, with a particular focus on the Mezzogiorno (Saraceno, 1980; Camagni, 1983), Sweden (Söderman, 1975) and Denmark (Christiansen, 1978).

Although the firm migration studies became more internationalized than previous periods, in the 1970s most international publications on firm migration still are UK based. According to Armstrong and Taylor (2000, p.370), the main reason of the UK dominance in the literature is about the regional policy in the 1960s and 1970s since UK regional policy relied heavily on steering manufacturing industry into assisted areas using the instruments of location controls, capital subsidies and labour subsidies. In fact, the British firm relocation studies are just part of the numerous studies in this period which attempted to estimate the effect of such policy instruments on the economy of the assisted areas.

In the 1980s, the book *Industrial mobility and migration in the European Community* by Klaassen and Molle (1983) presenting a collection of studies on firm migration in Europe in the period 1955-1975, including Belgium, Greece and Ireland was the milestone of firm migration studies. Through this book, firm migration is described for each country together with the influence of regional policy on firm migration. An interesting outcome of this European comparison is that all countries present the same bi-partition of firm

migration: “industrial decentralization” (long-distance moves, often involving the opening of new branches – partial relocation) and “industrial suburbanisation” around the larger urban agglomerations (short-distance moves, mostly total relocation). Figure 3.1 demonstrates the study’s generalized impression of the long distance decentralization processes in Europe (Pellenberg *et al.*, 2002, p.15).



**Figure 3.1: Industrial Migration Patterns in the European Community in 1955-1975 (Source: Klaassen and Molle, 1983)**

Industrial decentralisation and suburbanisation are indeed the results of two regional policies, adopted in most of the European countries from 1945 to the 1970s (Mariotti, 2005, p. 49). While the industrial decentralisation policy supported the redirection of growth from the central to peripheral regions that were lagging behind, the industrial suburbanization policy *promoted urban renewal and firm relocation to the outer zones of the cities and beyond in order to cope with the rapid demographic and economic growth of the core areas*. To sum up, in this period transfer work and prosperity to lagging

regions, easing congestion, labor market and space capacity problems were the main driving forces behind the firm relocation processes (Pellenbarg *et al.*, 2002, p.16).

It should be noted that the research projects on firm migration in this period are mostly concentrated on manufacturing industry since it is the most mobile sector and the main target sector for regional development. However, from the point of Mariotti (2005, p.49) those studies published have pointed out the lack of data on long-distance movements and the authors Klaassen and Molle complain about the absence of firm migration registration systems. The only countries owning firm migration databases at that time were the Netherlands and the UK, which allowed them to analyse long-distance moves.

### **3.2.1 Industrial decentralisation**

As mentioned in the previous paragraphs, industrial decentralisation and suburbanisation are two regional policies that constitute the considerable research of that period. The core studies on industrial decentralization, mainly in the UK, can basically be listed as Howard, 1968; Keeble, 1971, 1972; Spooner, 1972, 1974; Sant, 1975; Moore *et al.*, 1977, 1982, 1986; Townroe, 1979; Nunn, 1980; Forthergill and Guy, 1990 (Mariotti, 2005, p. 50). Actually, the presence of two databases managed by the Department of Industry-Board of Trade (later the Department of Industry and now the Department of Trade and Industry): Record of Movement (ROM) and Register of Openings and Closures (ROC) made those researches possible. While the former data provides the industrial movements (partial and complete) in the UK in the period 1945-1965, the latter, the more sophisticated one, was able to examine the vital issue of closure and survival to maturity based on its more comprehensive data in the period 1966-1980.

ROM and ROC series data were used in the following studies (Mariotti, 2005, p.50);

- Moore *et al.* (1977, 1982, 1986) which used movement data to explore the effectiveness of various forms of regional policy in creating employment.
- The work of Keeble (1971, 1972, 1976, 1978) was based to the debate on industrial movement during the 1970s. In one of his works (1976), Keeble *distinguished between the movement patterns of small and large firms, with the former moving much shorter distances than the latter – the so-called “dual population” hypothesis.*

- Sant (1975) explore the characteristic features of origins and destinations by using the data.
- *Spooner (1972, 1974) showed that in peripheral regions such as Cornwall, Devon and Wales more than a quarter of total employment in manufacturing was to be found in firms which immigrated there in the first post-war decades.*

Although the ROM and ROC series were influential in most of the researches conducted in that period, there were also the shortcomings; it seriously tend to under-record short-distance moves and moves of small plants (Townroe, 1983). Lloyd and Mason (1979) demonstrated this shortcoming in their own studies for North-West England.

Different from the previous studies, in the studies of Townroe (1973, 1975), Cooper (1975) and Luttrell (1962) the main focus was on the decision-making processes of manufacturing relocation activities. The most important contribution of those studies is the exploration of push and pull factors in the decision to move and in the choice of location.

Another research may be considered as florescence of industrial decentralisation research is conducted in the Netherlands. The research, SISWO Report, was published rather early (1967) but very comprehensive industrial migration report based on the company records of the provincial economic technological institutes. The report primarily focuses on the firm characteristics that migrate with more than 10 employees in the period 1950-1962. The most considerable result of the report is about the motivation behind the firm migration; industrial decentralisation was promoted by regional policy and physical planning (Mariotti, 2005, p.50).

Following the previous studies, Camagni and others (1976, 1983) published results of firm migration research in Italy. In the studies, the main aim was to describe the decentralization of large state-owned plants from the centre-north to the Mezzogiorno, the main target area for Italian regional policy, on the basis of the Cassa per il Mezzogiorno Reports and CESAN47 (1978) (Pellenbarg, 2002, p. 15).

To sum up, industrial decentralization in this period is mainly the result of the regional policies that aim to encourage new industrial settlements. Therefore, the studies mentioned above focused on the location choice of plants.

### 3.2.2 Industrial suburbanisation

In industrial suburbanization studies, the main focus is on short distance migration. The underlying causes can be related to the process of sub-urbanisation of firms, propelled by space shortage and increasing land prices in large cities, parking problems, and growing congestion on city roads and beltways.

The studies on industrial suburbanization are mainly conducted in the UK, the Netherlands and Italy. In industrial suburbanization studies, the dominance of the British studies is observed. The factor that explains the situation is the availability of complete and reliable data on firm relocation on a national basis. The most well known industrial suburbanization studies in UK can be listed as *Keeble, 1968, 1978; Gripiaios, 1977; Wood, 1974 for London; Cameron and Johnson, 1969 and Cameron, 1973 for Glasgow; Lloyd and Mason, 1978 for Manchester; Elias and Keogh, 1982; Forthegill and Gudgin, 1982; Forthegill et al., 1985 for the inner city areas of Great Britain* (Mariotti, 2005, p.51). These studies mainly deal with service activities and smaller firms. According to Mariotti (2005, p.52), there are mainly three groups of studies explaining suburbanization in UK.

The studies in the first group have a concern on general employment growth of the service sector across almost all cities and regions. The main reason behind this issue is the expansion of public sector consumer services while there is the decline in manufacturing employment.

In the second group, the studies focused on factors that motivate service sector location such as the decentralisation within urban regions.

Finally, studies in the third group focus on *the decentralisation of offices out of Central London subsidised by the Government in order to overcome London's problem of shortage of office space* (Hall, 1972; Daniels, 1969; Manner and Morris, 1986 cited in Mariotti, 2005, p.52).

To sum up, the studies conducted in UK find that migration of offices can be categorized as short distance spillover from the key conurbations and there is observed scarcely any movement towards other regions.

In the Netherlands, as mentioned previously the SISWO report (1967) can be regarded as the basis of firm moves from urban centres to municipalities or to rural places. Moreover, there are also studies based on macroeconomic analysis on the migration data and industrial overspill around some of the large urban agglomerations (Molle, 1977, 1983; Pellenbarg, 1985). Finally, Pellenberg (1976, 1985) provide a more realistic picture about industrial suburbanization and argued that *the gradual rise of income and education levels in the 1960s and 1970s, especially in the more peripheral parts of the country, effectively diminished the potential of such regions to attract industrial branch plants, many of which are routine production facilities looking for cheap and low skilled labour locations.* Following this statement, it can be stated that in the course of 1970s the importance of the labour market motive for long distance movements decreased. Due to the economic recession labour shortages rapidly disappeared around the world.

In Italy, on the other hand, Mariotti claims that industrial suburbanization has characterised most of the moves in Italy in the period 1945-1970s too. As Camagni (1983) stated, *“in the Italian experience, industrial migration has mainly been a short-distance phenomenon, being confined in most cases within a municipality or a metropolitan area, or a radial pattern”*. Other studies concern the metropolitan areas of Turin region (D’Agostini and Lisciandra, 1984) with a particular focus on the influence of local land use policy on industrial mobility. According to Pen (1999), those studies stands out because they combine government influence on firm relocation in the context of regional policy and other policy types such as environmental policy, urban renewal policy and local development policy in order to describe industrial suburbanization.

### **3.3 STUDIES FROM THE 1980s TO THE PRESENT**

In the 1980s, firm relocation studies concentrate more heavily on the urban level rather than focusing on the balance between central and peripheral regions in a national context. Therefore, one can claim that there is a shift from the regional to the urban level in firm relocation studies in that period. Furthermore, the core urban regions were viewed as the engine of economic growth and less attention was given to redistribution policies (Pellenbarg *et al.*, 2002, p.19).

In the period covering 1980 to the 1990s, the literature mainly refers to the policies such as urban renewal policy which promoted the short-medium relocation of offices from the

large metropolitan areas (i.e. London and Amsterdam). In Pellenberg's statements, the main reason behind the popular urban renewal policy is related to the outplacement of old industrial plants that motivate to create new space for urban development (2002, p.20). On the other hand, the research on international firm migration seems to substitute the core periphery literature. Moreover, as Mariotti (2005, p.53) classified, other two research interests were common in 1990s, *one focusing on the relocation decision-making process, the other testing the hypotheses derived from the location theories with the help of statistical methods.*

### **3.3.1 Intra-regional moves**

Intra regional moves conducted in the period between 1983 and 1992 mainly focus on the decentralization of offices from Central London (Jones *et al.*, 1990); the South-East region and London area (Murray, 1988; Prism Research and Liverpool University, 1992) and Amsterdam and Rotterdam (Ebels, 1997). The main finding of these reports is that short distance moves are the main character of office based intra regional moves (Mariotti, 2005, p.53).

In 1990, the public policy that gave priority to an even distribution of employment changed the pattern of office movements in London and as a result of the policy there was a decrease in office moves to the outer London while increase in relocation of government departments.

Apart from London, there are also studies conducted in the Netherlands and Italian countries. In case of the Netherlands, the study conducted by Ebels (1997) showed that urban renewal policy matters in terms of the firm migration in the cities of Amsterdam and Rotterdam. Moreover, a study that focused on relocation of the firms in Randstad showed that the main reasons behind relocations of the firms in study were mainly related to *physical constraints on the establishment's development (such as lack of space, better premises) rather than to deficiencies in the area* (Mariotti, 2005, p.53).

As another study, Milan metropolitan area and Central Veneto region are the cases where Bramezza and Gorla (1995) conducted their study about competitiveness. The main result of the study is that the relocation tendency differentiates based on the competitive power of the region. Milan where foreign firms which aim to penetrate the Italian market are

more likely to choose as their first location for their subsidiary is regarded as much more attractive high order business functions while firms located in Central Veneto region that has local firms are more willing to leave the area (Bramazza and Gorla, 1995 cited in Mariotti, 2005, p.53).

### **3.3.2 International moves**

Core periphery relocation studies have been substituted by the studies focused on the internationalization strategies of SMEs and integration to the global market strategies of local production system in the last decade.

In this part, international relocation studies will be explained based on the classification of the study by Mariotti. According to the author, the existing studies on international relocation can be grouped into the following three main categories:

- (i) studies which present a description of the process with reference to the sectors involved and analyses the internationalization strategies;

The other groups mainly focus on foreign direct investment and multinational enterprises. Moreover, analyses the affects of such foreign based investments on home and host countries.

- (ii) studies investigating the effects of the internationalisation process on the home country;
- (iii) studies investigating the effects on the host country.

(i) Studies in first group mainly focus on the globally integration strategies developed by the firms in Europe. In terms of the firms in the Netherlands, the main motivation behind the cross border migration is cost oriented<sup>10</sup>. Similarly, an enquiry in Germany in 2003 brought up that the cost saving issue is the substantial factor of the international relocation of the firms.

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<sup>10</sup> For further information about the firm relocation in the Netherlands; Deloitte & Touche (2002, 2003, 2004) Industry Group Manufacturing I, II, III Made in Holland. Pellenbarg and Van Steen, 2003, Spatial perspectives on firm dynamics in the Netheralnds. Tijdschrift Voor Economische en Sociale Geografie 94 (5), pp.620-630.



(ii) Studies in the second group firmly analyses the affects of foreign based investments on the local production system, or the industrial district. In this aspect, following issues are concerned in the studies (Mariotti, 2005, p. 55);

- *whether production by foreign affiliates of a home country's firm is a substitute or a complement to home-country production by the parent firm or by other home-country firms (i.e. Blömstrom and Kokko, 2000; Lipsey, 1994);*
- *the impact of foreign activities on domestic employment structure and on the wage differentials (i.e. Slaughter, 2000; Head and Ries, 2002; Brainard and Riker, 1997);*
- *the impact of foreign activities on the labour intensity of home production (i.e. Blömstrom et al., 1997; Fors and Kokko, 1999; Lipsey, 1999; Mariotti et al., 2003).*

As main results of the studies mentioned above, there are certain labor oriented differences between investing in less developed and advanced countries. According to Mariotti (2005, p.56), while firms prefer to invest in less developed countries tend to reduce the labor intensity of the home production because labour intensity activites are relocated abroad; firms invest in advanced countries expect to increase highly skilled workers in its production system.

(iii) Finally, the studies in the third group focus on the affects of FDI on the host countries. In this context, the main concern is to analyse whether there is a change in welfare in the host economies as a result of the *introduction of new technologies and innovation, new managerial techniques, skills (Caves, 1974; Perez, 1997), capitals, new jobs created/safeguarded and the establishment of local industrial sectors (Haddad and Harrison, 1993; Markusen and Venables, 1999)* (Mariotti et al., 2003).

### **3.3.3 New research interests**

In the nineties, the interest in firm relocation as a panacea for regional development has faded and instead, it is now felt that regions should create the conditions for innovation and creation of new economic activities (Pellenberg, 2002, p.20). In other words, firms are expected to develop their endogeneous potential that refer the contemporary tools of regional development such as regional agglomeration effects, endogenous growth, regional knowledge networks, and learning regions. In this process, developing endogenous potential in maturity or new and small firms to larger corporations is considered as a locational strategy for removing restrictions to firm growth.

The new viewpoints in relocation policy coincide with a new research theme which emerged in 1990s. The research in this period has focused on the process of firm decision making (Pellenbarg, 2002, p.23). Studies on decision making process of the firms investigate how relocation decisions are really made. Therefore, several stages in decision making process are described in the studies.

The first study that considers how decision processes regarding firm migration develop in detail is conducted by Townroe in 1970s. In chapter two, it is already indicated that the investigation on decision making process of the firms springs from the behavioural approach. Townroe, representing this approach, developed a model consisting of five successive decision stages: *a) stimulus; b) problem definition; c) search; d) formulation and comparison of alternatives; and e) choice and action*. The choice stage was further divided into eight subsequent steps (Townroe, 1973 cited in Pellenbarg, 2002, p.24). However, the knowledge about relocation decision process stayed descriptive and difficult to apply the empirical research.

A more practical application of decision making process of the firms is developed by Louw (1996) in his PhD thesis. In the thesis, Louw focused on the relocation choice of migrating firms in the Netherlands by dividing the process in three phases namely *an orientation phase, a selection phase and a negotiation phase* (Mariotti, 2005, p.56). The spatial factors (geographical position, accessibility, parking possibilities, proximity of facilities and public transport and the quality of the environment) play an important role on the first two phases of the decision making process (orientation and selection), whereas financial and contractual factors are getting more important in the third phase (Table 3.1)

**Table 3.1: Factors in the location search process, mentioned by managers**

Phase:	orientation	selection	negotiation	total
Factor:				
Building factors	15.3	12.3	7.1	11.9
Functional factors	19.4	18.4	7.1	16.1
Technical factors	3.1	4.2	2.0	3.4
Financial factors	12.2	14.2	52.5	22.5
Location factors	43.9	36.0	12.1	32.3
Other factors	0.1	14.0	19.2	13.8
Total	100%	100%	100%	100%

**Source:** Louw (1996) in Pellenbarg, 2005, p.25.

Pen (1999, 2000, 2002) who followed the approach of Louw conducted an extensive enquiry in order to apply a more comprehensive factor analysis. The main result of his study is that the relocation process is triggered by a combination of firm *internal* and *external* developments and not in the first place by lack of space for expansion and accessibility per se (Pellenbarg, 2002, p.26). However, similar to the previous studies mentioned above, this study also uses the tools of descriptive methods therefore the studies are criticised in terms of its descriptive nature.

The recent studies have a different character compared to the previous ones in terms of methodological issues. The studies by Van Dijk and Pellenbarg (2000) and Brouwer *et al.* (2004) use the tool of statistical methods. In their study, the affects of firms' factors, namely internal, external and location, on the probability to relocate by using data on firm relocation are investigated (Mariotti, 2005, p.57).

The main result of the study by Van Dijk and Pellenbarg (2000) is that the relocation decision of a firm is mainly determined by *firm's internal factors (i.e. economic sector, firm size and previous migration behaviour)* and to a lesser extent by *site-related factors (i.e. location, accessibility levels, ownership of the building)*.

Another study worthwhile to be mentioned concerns the research carried out by Brouwer *et al.* (2004). The result of the study stated that *the relocation factors can be linked to the neoclassical, behavioural and institutional theories*. In terms of neoclassical theory that implies the affect of location factors on firm relocation, the study find that location factors such as market size and region of location play a role in the decision to relocate. Therefore, firms that serve larger markets are more likely to relocate.

From the perspective of behavioural theory, the result shows that relocation propensities decrease with the firm's size and maybe also with the age of the firm. According to Mariotti (2005, p.56), *this result is plausible because larger firms have to incur higher sunk costs whereas older firms are more embedded in their spatial environment*.

Finally, in line with institutional theory and firm demography literature, results of the study states that changes in the number of employees, either positive or negative encourage firms to relocate. Moreover, findings of the study also imply the influence of external factors that is linked to evolutionary theory in firm relocation. In this respect, the

study states that firms that are involved in a merger or an acquisition activity are much more likely to relocate than other firms.

To sum up, the new research interest in the last decade has shifted from focusing on solely one relocation approach to promoting research based on eclectic perspective that comprises traditional and contemporary relocation approaches.

### 3.4 CONCLUSIONS

One can conclude from the firm relocation studies literature that the core interest in firm relocation studies differentiate based on the periods. It is possible to define three periods whose core interest of the relocation study differentiates (Table 3.2).

**Table 3.2: Core Interest in Relocation Studies in Different Periods**

	1945s-1970s	1980s	1990s-2000s
Core of the interest	The causes of firm migration in terms of core periphery relations	Migration of the firms at the urban level	Relocation decision making process by using comprehensive methods (a combination of relocation approaches), international scale of firm migration studies.

The first period comprises the period between 1945 and the 1970s. The main interest of the studies in this period is based on analysing the causes of firm migration in terms of core periphery relations. In this respect, the studies investigate which push and pull factors impact firm migration. As mentioned previously, there is UK dominance in firm migration studies in this period because of the fact that British regional policy relied heavily on steering the manufacturing industry into assisted areas using the instruments of location controls, capital subsidies, and labour (Armstrong and Taylor, 2000 cited in Mariotti, 2005, p.57).

In the second period which refers to the 1980s, the interest shifted from core periphery relocation studies to the studies concentrated more heavily on urban agglomerations. The main reason behind the change interest is about the change in the type of relocated firms. In the 1980s, firms that are relocated mainly perform in service sectors because of the business expansion in urban areas. Identifying the pull and push factors behind the relocation motivation of service firms is the core issue in that period.

Different from the core interest in the previous periods, in the 1990s-2000s, the new research interest has focused on the analysis and investigation of relocation decision-making process; and additionally a deductive method that is based on testing hypothesis derived from literature.

Particularly, Pellenbarg (2002) and Mariotti (2005) conducted deductive method based studies and the results of their studies revealed the fact that firm's decision making process can be explained comprehensively by focusing on the factors that are supported by different schools of relocation thought. Apart from decision making process, international scale of firm migration is another issue that keeps the attention of the authors. In this respect, the fact that the gradual replacement of domestic service firms with foreign ones coincides with the transfer of production activities abroad brings the questions to the minds; what will be the economic and social consequences of this replacement in the countries of origin and destination and whether it is a threat or an opportunity for the local production systems.

### **3.5 CONCLUDING HYPOTHESES**

In this section, hypotheses related to the firm's relocation decision are proposed on the basis of the theoretical firm relocation literature reviewed in the previous sections. The hypotheses are derived from the theories mentioned above and refer to specific observed variables influencing firm relocation which can be grouped into four categories: internal, external, institutional and location factors. These variables have been adopted in the empirical section.

**Hypothesis 1: *Firm's mobility is expected to decrease with the size of the firm.***

This hypothesis is formulated based on the arguments of behavioural theory, which states that firm size is influential in firm relocation decision making process. The main reason behind such an argument is that small size firms have a higher tendency to relocate compared to the large size firms because the cost of relocation is higher for large firms while in case of small size firms it is vice versa. The reasons of low relocation cost for small size firms can be listed as (Mason, 1980 cited in Brouwer et al, 2004, p.338):

- (1) they have less demanding premise requirements and less capital investment to write off;*
- (2) small firms make a series of small locational adjustments and select the first minimum requirement site which they find, while large firms make infrequent large locational changes;*
- (3) small firms are much more affected by redevelopment;*
- (4) large firms have more flexibility in accommodating expansion (Mason 1980).*

Furthermore, as the 'incubator theory' shows, in the first stage of their life, small firms tend to locate in the inner city of the metropolitan areas to benefit of the agglomeration economies (Hoover, Vernon, 1959; Lichtberg, 1960; Vernon, 1960). However, as they grow and need more space to expand their production, they tend to move out of the center, because of the increased cost of the central location (land and congestion costs) (Ciciotti, 1998).

**Hypothesis 2: *Firms that have certain networks with international markets are expected to be more mobile.***

Firms may experience structural changes in their life that can lead to firm relocation. Firms that experience either growth or decline need to find new premises. Changes such as merger, acquisition and takeover can modify company's structure and management. In particular, acquisition or merger with foreign firms and joining international networks are alternatives to new site location decisions because they provide for faster, large-scale and less-risky growth (Hayter 1997). In particular, the acquisition of foreign firms is the main strategy adopted by firms willing to relocate activities.

**Hypothesis 3:** *Although ‘contemporary’ factors (i.e. internal, institutional and external etc.) which have become important by the 1980s seem to have played more important role in firm relocation, traditional location oriented relocation factors are expected to be significantly important determinants in firm relocation.*

The traditional approach advocates cost-related measures (i.e. regional incentives) to speed the development of the depressed areas by inducing core-periphery relocation. As a consequence, the neoclassical location factors are mainly cost oriented (i.e. transportation cost, labour cost and market). Instead, the contemporary approach focuses on integrated development plans and strategies designed to and delivered by a partnership between regional and local players. It favours soft measures aiming to improve regional competitiveness and the business environment and those measures provide certain externalities that facilitate the clustering of firms based on complementarity rule focusing on different regimes such as technical similarity or geographical proximity.

The contemporary approach refers to behavioural, institutional and evolutionary theories according to which firm’s relocation determinants are associated to ‘internal’ (i.e. perception and images), ‘institutional’ (i.e. networks) and ‘external’ (i.e. path dependence) factors, respectively.

However, empirical evidence shows that boundaries between the traditional and the contemporary approaches are not so well defined and that the legacy of the old framework still survives. Even in contemporary-approach oriented factors, in fact, some of the tools typically labeled as “traditional”, such as land cost, are widely used.

**Hypothesis 4:** *The reasons that push the relocated firms in GOIZ from the previous locations and pull the firms to Gebze Organized Industrial Zone are expected to differentiate according to the firm size, sector and previous locations.*

With the hypothesis, it is expected that there are causal relationships between firm characteristics and pull/push factors to relocate. In this context, the factors determining the attractiveness of a site for firm relocation is defined as pull factors; while the action from the current location to a new one when the first is no longer inside the spatial margins to profitability is defined as push factors. By doing so, the study provide a comprehensive perspective that is helpful to analyze the relocation process based on firm characteristics.

## **CHAPTER 4**

### **THE RELOCATION OF INDUSTRY IN THE CONTEXT OF ISTANBUL CITY REGION**

#### **4.1 INTRODUCTION**

Istanbul, as one of the major dynamic cities both in urbanization and industrialization processes in Turkey has been living a rapid transformation and change in economic and social structure. Especially, during the last decade planning authorities of Istanbul put a high emphasis on the integration of Istanbul into the world market in order to facilitate the progress serving international financial service. In this respect, Istanbul has witnessed the flow of social and cultural movements, economic restructuring etc. In economic terms, the idea of substituting the industrial sector with the service sector has increasingly gained prevalence.

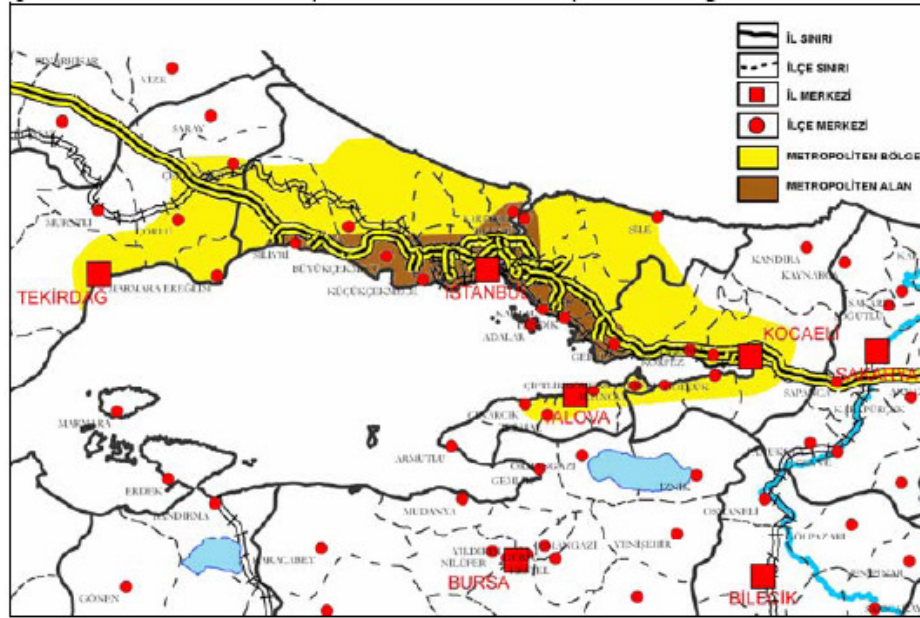
The relocation of industry to the peripheral areas of Istanbul, particularly to Gebze, Çorlu and Çerkezköy which are defined within the city region of Istanbul<sup>11</sup>, has led to the reshaping of not only Istanbul but also several cities and regions within the city-region of Istanbul (Figure 4.1). At this point, it is vital to examine the main factors which promote the relocation of the firms from Istanbul to the peripheral areas, namely in the study Gebze Organised Industrial Zone in order to understand and explain the industrial firm

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<sup>11</sup> Istanbul City Region has been defined on the basis of global and regional potential of the city at the central government level in the 8th Five-Year National Development Plan: Regional Development Report and The Greater Municipality of Istanbul set spatial development strategies based on this definition. In this context, Istanbul City Region is defined based on socio economic interdependencies and production-consumption linkages. Therefore, city region includes Kocaeli, Tekirdağ, Bursa, Yalova and Sakarya Provinces.



migration in a rational way. Before analysing the factors of firm relocation, this chapter presents a brief historical review on industrial development in Istanbul and in which context GOIZ has emerged as a new industrial development centre. Therefore, this chapter will remain as introductory for the case study and aims to shed light on industrial relocation in a historical context.



**Figure 4.1: Istanbul Metropolitan Area and Istanbul City Region (Source: Istanbul Metropolitan Planning Regional Planning Report, 2006, p.91)**

## **4.2 A BRIEF HISTORICAL REVIEW OF INDUSTRIAL DEVELOPMENT IN ISTANBUL AND ITS CITY CENTER**

### **4.2.1 Industrial Development in Istanbul City Center**

In this part, a brief history on the location of industrial sector in the Istanbul city center and how firms have relocated towards the peripheral parts of Istanbul city will be explained.

To start with, it is known that industrial sector was firstly concentrated in Historical Peninsula in 1930s-1940s when Istanbul has not witnessed the rapid urban development (Cengiz, 2005, p.2). In the following periods, firms in the industrial sector spread towards Eminönü and Fatih. However, in 1940s–1960s, the industry oriented character of Eminönü and Fatih have been transformed into a service sector oriented one. According to Yüzer (2002, p. 88), the main reasons behind the transformation are the increase in working places, easy transportation network and accessibility of the area to market.

In 2000s, those areas exhibit a Central Business District (CBD) character with the concentration of retail and commercial activities rather than an industrial one. Table 4.1 demonstrates how the industrial workplaces have reduced by half with the CBD oriented development of Historical Peninsula between the years 1987-2002.

**Table 4.1: The share of industrial workplaces in the CBD according to the years in Istanbul**

	31	32	33	34	35	36	37	38
<b>Eminönü 1987 (%)</b>	7,6	12,7	3,8	31,1	10,3	6,7	2,8	3,7
<b>Eminönü 2002 (%)</b>	6,1	6	1,3	7,7	5,2	1,4	1	3,4
<b>Fatih 1987 (%)</b>	2,9	2,8	1,6	2,3	2,8	3,3	0,5	1,6
<b>Fatih 2002 (%)</b>	1,4	0,6	0,6	0,3	0,5	1,4	0	0,5

(31: manufacturing of food, beverages and tobacco, 32: textile apparel and leather industries, 33: manufacture of wood and wood products including furniture, 34: manufacture of paper and paper products including printing and publishing, 35: manufacture of chemicals and chemical petroleum coal rubber and plastic products, 36: manufacture of nonmetallic organic products, 37: basic metal industries, 38: manufacture of fabricated metal products, machinery and equipment)

Source: Yüzer, A. Ş., 2002, p: 146.

In 1980s, the development of industry in the CBD of Istanbul can be analysed with reference of the 1/50.000 scale Istanbul Metropolitan Area Plan which was approved in 1980. The plan proposed vital decisions for the industrial firms which have already relocated in the inner side of the city. In this context, the plan defines three hierarchical centers, namely 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> degree centers, which differentiate in terms of division of functions and land uses.

The location of 1<sup>st</sup> degree sub centers were specified as Bakırköy and Kadıköy in the plan and those centers were expected to be speciliased in the service sector. Therefore, large industrial firms located in Kadıköy and Bakırköy were proposed to decentralize (Yüzer&Giritlioğlu, 2003, p.120). Table 4.2 shows that although there are significant increases in some sectors, the share of industrial workplaces have a tendency to decline between the years 1987-2002, except the textile and paper products sectors in Bakırköy.

**Table 4.2: Share of number of industrial workplaces in the 1<sup>st</sup> degree centers according to the years in Istanbul**

	31	32	33	34	35	36	37	38
<b>Bakırköy 1987 (%)</b>	17	18,8	18	20,2	14,2	12,4	15,9	13,5
<b>Bakırköy 2002 (%)</b>	12	31,1	6,3	23,6	12,3	6,7	5,1	8,2
<b>Kadıköy 1987 (%)</b>	3,4	2,4	4,8	1,9	1,2	3,9	2,8	2,6
<b>Kadıköy 2002 (%)</b>	5,4	1,6	6,3	1,7	3,1	6,3	2	3,6

(31: manufacturing of food, beverages and tobacco, 32: textile apparel and leather industries, 33: manufacture of wood and wood products including furniture, 34: manufacture of paper and paper products including printing and publishing, 35: manufacture of chemicals and chemical petroleum coal rubber and plastic products, 36: manufacture of nonmetallic organic products, 37: basic metal industries, 38: manufacture of fabricated metal products, machinery and equipment)

Source: Yüzer, A., Ş., 2002, p. 147.

For the location of the 2<sup>nd</sup> degree centers, the plan specified Kartal and Üsküdar on the Eastern side and Avcılar on the Western side. Among those centers, Üsküdar could be identified with its historical background while Kartal and Avcılar were the areas developed after 1950s with rapid migration. These settlements gained central characteristics with the location of industrial firms in the area and then the residential development was catalysed with the development of industry. The main reasons behind the location of large firms in Avcılar and Kartal can be listed as the transportation networks, availability of land and employment opportunities (BİNPB, 1980).

Moreover, it should be noted that the plan determined these areas as commercial and retail based centers rather than industrial development areas. However the figures in Table 4.3 prove that the shares of the number of industrial workplaces between the years 1987-2002 show significant increases (Yüzer, 2002, p.150).

**Table 4.3: Share of number of industrial workplaces in the 2<sup>nd</sup> degree centers according to the years in Istanbul**

	31	32	33	34	35	36	37	38
Üsküdar 1987(%)	2,1	1,2	5,3	0	1,9	3,3	3,1	2,6
Üsküdar 2002(%)	7,5	3,7	16,5	3,7	4,7	9,5	14,3	10,3
Kartal 1987(%)	10,2	1,6	13,8	4,8	9,7	15,8	14,2	12,5
Kartal 2002(%)	12,2	4,2	15,2	7,4	15	16,5	18,4	17
Avcılar 1987(%)	-	-	-	-	-	-	-	-
Avcılar 2002(%)	4	4	5,1	3,7	2,5	1,4	0	1,9

(31: manufacturing of food, beverages and tobacco, 32: textile apparel and leather industries, 33: manufacture of wood and wood products including furniture, 34: manufacture of paper and paper products including printing and publishing, 35: manufacture of chemicals and chemical petroleum coal rubber and plastic products, 36: manufacture of nonmetallic organic products, 37: basic metal industries, 38: manufacture of fabricated metal products, machinery and equipment)

Source: Yüzer, A., Ş., p. 150.

3<sup>rd</sup> degree centers were specified to be located in Maltepe, Kartal, Pendik and Ümraniye on the Anatolian side, Bağcılar and Büyükçekmece on European side. It is understood that these areas were settled parallel to industrial developments in time. For example, Ümraniye has developed after 1970s with the increase of industries and residential areas. Maltepe and Pendik also have developed similarly. Bağcılar on the western part can be characterized with its labor-intensive industry; and in Büyükçekmece existence of machine and labor-intensive large scale industries make this area a 3<sup>rd</sup> degree center (Ak, 2008, p.49).

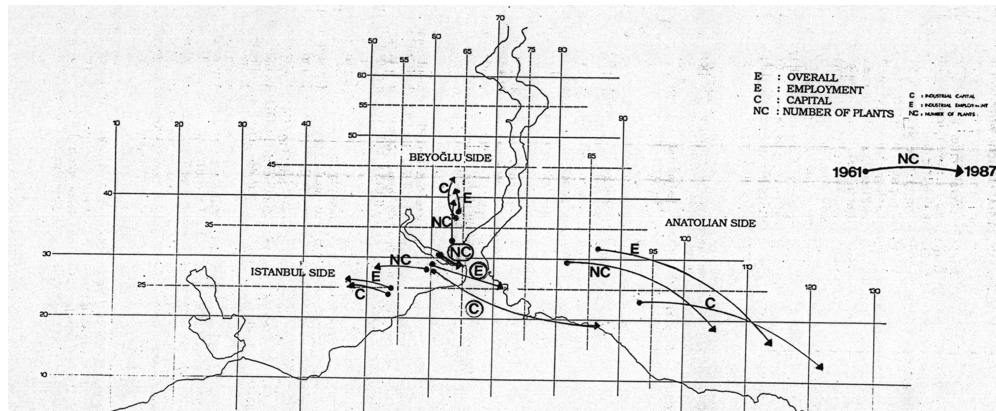
To sum up, it can be stated that the industrial development which started in the Historical Peninsula in the 1930s has a relocation shift towards the 3<sup>rd</sup> degree city centers of Istanbul. Therefore, it should be said that industry leaves city centers and relocate towards the peripheral areas of Istanbul and its city region. In the next part this process will be discussed in detail.

#### 4.2.2 Development and Relocation of the Industry in Different Planning Periods

Development and relocation of industry in Istanbul and in its city region can be understood by examining planning decisions in each period. Therefore, in this part five different planning periods will be introduced in terms of proposals for industrial development. Before explaining plans, it will be appropriate to give very brief information about the periods that led to the both development and relocation of industry in Istanbul.

Between the years 1940s-1980s, there were certain factors that have promoted the expansion of industrial firms. According to Yüzer (2002, p.155), in 1940s, the adoption of “highway oriented transportation” policies with American aids right after the 2<sup>nd</sup> world war was the first initiator of the industrial development. In this regard, as industry and transportation have a close relationship, the new transportation network within the city had a great impact on locational decisions of industries. In the 1960s, under these circumstances, industries could locate and disperse over wide areas rather than locating near the rail stations or around the ports. For this reason industrial areas were out of the plan boundaries. At the end of 1960s, Istanbul has grown towards the east and located in Maltepe, Kartal, Pendik and Gebze and this growth has continued in 1980s as well and affected the industrial geography that had eastern oriented locational shifts in this period.

Güvenç’s study also supports the locational shift between the years 1960s-1980s. The study on movements of firm taken place in the industrial geography of Istanbul Metropolitan Area emphasised that *the rapid industrial development on the Anatolian Side led İstanbul and Beyoğlu sides to loose their importance in industrial production factors* (Güvenç et al, p.120, 1992). The figures also demonstrates that there is a decrease down to 49.8% in the year 1987 from %62 in 1961 in industrial capital and a dramatic decrease down to %52.8 in 1987 from %66 in 1961 in industrial employment on the European side. In other words, the major part of employment and capital that had concentrated on the European side and Beyoğlu sides is found to be located on the Anatolian side. Figure 4.1 and 4.2 show this locational shift between the years 1961-1987.



**Figure 4.2: Locational Shifts of the Centers of Gravity of Industrial Capital, Employment and of the number of Plants in the Period 1961-1987 (Source: Güvenç, M., 1992, p.121)**



**Figure 4.3: Movement of One firm in the Period 1969-1987 (Source: Güvenç, M., 1992, p.125)**

In 1990s, while the planning authorities dedicated efforts in order to transform the heart of the city which is desired to be a safer, more attractive and an ordered space; the peripheral parts of the city sustained the growth in an uncontrolled way. Particularly, the new infrastructure investments like TEM and E-5 Highway have had great effects on the uncontrolled growth of the city and unplanned development of industrial areas in the

periphery of Istanbul because the investments facilitated to reach to the cheap land (Yüzer & Giritliođlu, 2003, p.122).

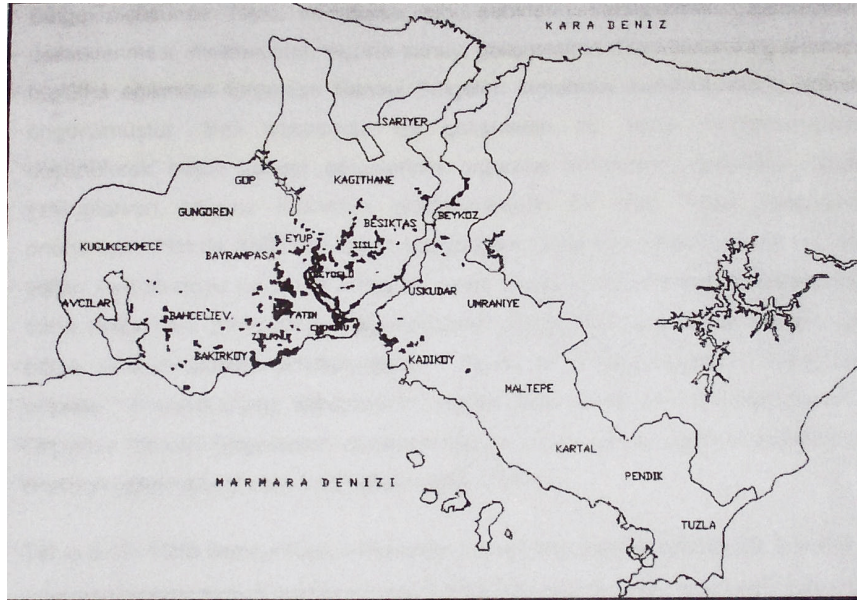
In 2000s, large scale industries are forced to decentralize from the inner side of the city. The reasons behind this are that the city center has been subjected to the some new regulations, to market condition and also to developers' demand that is based on maximum return to the investments. Therefore, the shaping up the built environment in the form of mixed uses comprising housing, as well as culture, recreation and service oriented establishments has become a much more preferable approach than setting up industrial areas (İBB, 2007).

As a result of this phenomenon, a relocation process of industrial firms towards the peripheral parts of the city as well as outside the borders of Istanbul has been observed. In general, Eminönü, Kadıköy, Beyođlu, Mecidiyeköy, Şişli and Maslak were defined as the areas where there is a high concentration of the administration units whereas Gebze, Çorlu, Çerkezköy, İkitelli, Çayırova and İzmit band are designed as the new areas where industrial firms are expected to relocate (İBB, 2007).

#### **4.2.2.1 1933-1960 Planning Period and Industry**

The first planning study on Istanbul City was conducted by a team headed by Prof. Henry Prost in 1933. The team prepared different plans for the Historical Peninsula, Beyođlu and Anatolia. As a common point, the plans proposed a monocentric macroform developed around Historical Peninsula. This plan proposed the development of industry along Haliç while restricting the industry in Bosphorus (see Appendix B, Figure B.1).

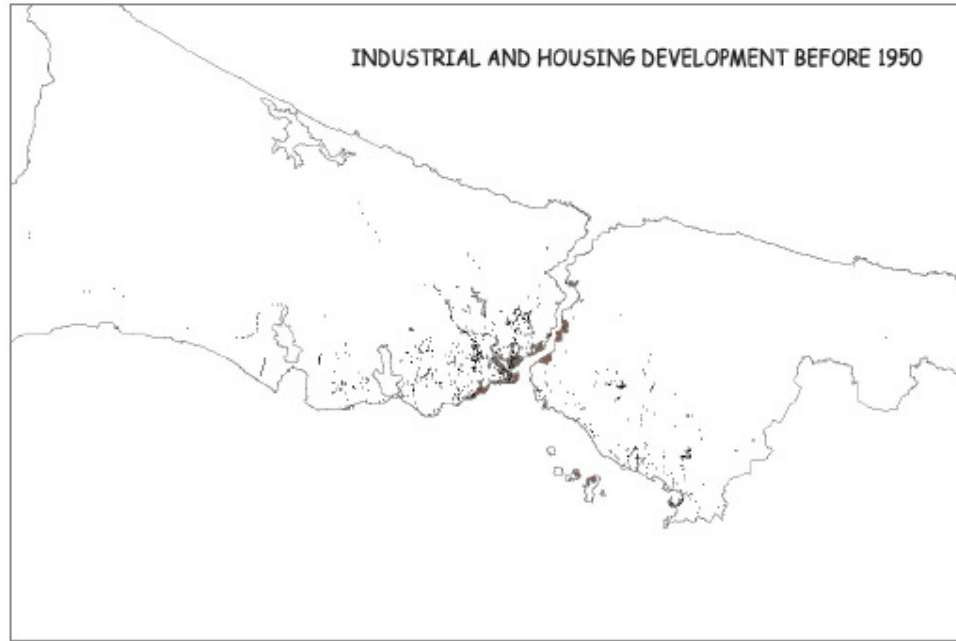
In 1951, the plan on "İstanbul Sanayi Bölgeleri" was prepared and the main aim of the plan was to increase the industry investment in the region and create new areas for the industrial development (Figure 4.3).



**Figure 4.4: 1933-1966 period, Industrial areas in Istanbul (Source: Yüzer, A., Ş., 2002, p. 136)**

However, industrial plans failed to be implemented properly in that period. Yüzer (2002) explains the reasons behind the failure as related to the rapid industrialization, important rates of migrations fostered by fast urbanization and as a result uncontrolled expansion of the city. Figure 4.4 demonstrates the urbanization and industrialization patterns. In that period, 65 % of industry was small scale and mostly frail consumption goods and it can be stated that industries located through motorways, anywhere in the city randomly and city expanded through these areas (Yüzer, A., 2002, p 76).





**Figure 4.5: Industry and urban development in Istanbul Metropolitan Area before 1950s (Source: Ak, B., 2008, p.52)**

The last plan in that period is Piccinato Master Plan prepared in 1960. Different from the previous ones, this plan aimed to solve the problems in regional scale. In terms of industry, the plan proposed the deindustrialization towards eastern side of Istanbul comprising Gebze, İzmit, Gemlik and Adapazarı. By doing so, Istanbul was desired as culture and administration center (see Appendix B, Figure B.2). Actually, it is seen that the origin of deindustrialization policy is based on 1960s due to the rapid industrialization in Istanbul. However, this plan also failed to be implemented since it did not be approved by the planning authority.

#### **4.2.2.2 The 1966 Industry Master Plan**

In 1960s, there were certain changes in the industrial sector. Particularly, the boom in textile industry in that period is worthwhile to mention since it gave an impetus to the decentralization of industry as a result of relocation decisions of large scale textile industrial establishments in the peripheral areas of the city. However, small scale industry still stayed within the city (Ak, 2008, p.50).

In that period, the relocation process of the industrial sector towards the peripheral areas of the city has been one of the main determinants of the expansion of the city towards East-West direction. According to Yapıcı (1995), relocation of the industry in that period was very influential to determine new subcenters by decentralizing some urban functions and enlarging CBD functions towards residential areas. Apart from relocation of the industry, the provision of transportation networks (e.g. building of Bosphorus bridges), technological developments, employment and services can be listed as the other factors which affected the city macroform.

The Industry Development Plan, approved in 1966, was introduced as a result of the planning need of the rapid industrial development in inner as well as outer parts of the city. The main proposal of the plan was that the outer parts of the metropolitan area like East-Marmara together with Trakya district should have the priority for industrial development rather than focusing on the metropolitan area (Zaimoğlu, 1971, p.180) (see Appendix B, Figure B.3).

In general terms, The Industry Master Plan had an aim to provide a direction for the Istanbul manufacturing industry through the development strategies below (Yüzer&Giritlioğlu, 2003, p.121);

- In order to provide a balanced spatial development of the industry, the plan supports the industrial development in İzmit and Bursa at the regional level; on the other hand it promotes the establishment of new organised industrial districts to control the concentration tendency of industry on the Eastern side of the city.
- The plan proposed to control the industrial development on the Western side of the city in the network of industrial centres based on the complementary physical infrastructure;
- The plan envisioned a faster industrial development on the Eastern side when compared to the Western side of the city. In order to balance the industrial development between those sides, a second ring road on the West-East axis was proposed and it was also expected that the road would facilitate decentralization of industry towards Eastern Marmara.

- The plan also suggested a new spatial functional form for Istanbul Metropolitan Area. In this manner, industrialization of the peripheral areas with more favorable structure in terms of new industrial districts as well as using vacant areas in existing industrial districts was proposed (Table 4.4).

**Table 4.4: Areas allocated for the industrial development in 1966 Industry Master Plan**

Districts	Area (ha)	Vacant Area (ha)	Total Area of Industry (ha)
Rami Industrial District	43,5	167	210,5
Topkapı Industrial District	58,3	147	205,3
Halkalı Industrial District	43,9	225	268,9
Levent Industrial District	13	37	50
Bomonti Industrial District	6,6	15	21,6
Levent Auto Industrial District	4,7	4,5	9,2
Kurtköy	-	285	285
Ümraniye	-	63	63
<b>Total Area</b>	<b>170</b>	<b>885</b>	<b>1140,5</b>

Source: Yüzer&Giritlioğlu, 2003, p.121

To sum up, it can be stated that the 1966 Industrial Master Plan implied a balanced spatial development of industry. Therefore, it focused on developing new organised industrial districts at peripheral location of the Istanbul Metropolitan Area. However, in following periods, the plan failed to control the over projected development of industry and the developments occurred independent from the proposals of the plan. As a result, industrial areas developed in the areas that pose a threat both to the environmental and to the economical sustainability of the city.

In 1980s-1990s, planning authorities of Istanbul made an attempt to take under control the development of the city. Taking into consideration the necessity of such a control for the purpose of more efficient, better quality and more equal development of Istanbul as a whole; two important plans have been prepared; the 1980 and the 1995 master plans. In the following sections, those two plans will be explained in detail.

#### 4.2.2.3 1980 Metropolitan Master Plan and Industrial Decentralization

The 1/50.000 scale Metropolitan Master Plan, approved in 29.07.1980 and covers 1980-1995 periods. It aimed to control negative effects of rapid industrialization and urbanization on the city by setting strategic priorities.

The main points implied in the plan can be listed as; *cultural and natural heritage preservation, water zone protection, energy efficiency and industrial decentralization*. Essentially, in terms of industrial development, the plan proposed relocation of the industry from the inner areas of Istanbul and expects the substitution of large scale and polluting factories that were located at Haliç, Boğaziçi and coastal areas of the Marmara Sea with technology intensive ones (BİNPB, 1980).

In lines with this plan, it is understood that the priority is to activate industrial relocation, to promote deindustrialization of the inner parts of the city, due to negative effects of rapid industrialization on the city. According to Cengiz (2005), one of the main reasons behind the deindustrialization policy is about the boom in number of factories in the previous period. The problem has risen from the fact that the rapid increase in factories located inside residential areas as well as on water catchment areas of reservoirs caused environmental problems, such as water pollution, air pollution and soil pollution.

For the purpose of deindustrialization, the plan proposed industrial development in the peripheral parts of Istanbul such as Ümraniye, Kartal, Gebze, Bakırköy, Çatalca and Silivri and additional 2990 ha in those areas were allocated for the development of industry (see Appendix B, Figure B.4 and Table 4.5).

**Table 4.5: Areas Allocated for the Industrial Development in the 1980 İstanbul Metropolitan Master Plan**

<b>Districts</b>	<b>Vacant Area (ha)</b>	<b>Type of Industrial Area</b>
Dudullu (Ümraniye) Industrial District	265	Concerned OİD
Kurtköy (Kartal) Industrial District	400	Industrial Agglomeration
Gebze Industrial District	325	Concerned OİD
İkitelli (Bakırköy) Industrial District	425	Industrial Agglomeration
Firuzköy (Bakırköy) Industrial District	750	Industrial Agglomeration
Çakmalı (Çatalca) Industrial District	625	Industrial Agglomeration
Petekköy (Silivri)	200	Industrial Agglomeration
<b>Total Area</b>	<b>2990 ha</b>	

Source: Yüzer, A., Ş., 2002 p. 139.

In accordance with the plan, it should be pointed out that Gebze Industrial District is the only area located beyond the borders of İstanbul Province. In this sense, it is necessary to emphasise that Gebze has become gradually taken part in the deindustrialization process of İstanbul and intensified its cooperation in economic terms with İstanbul.

#### **4.2.2.4 The 1995 İstanbul Metropolitan Sub-Region Master Plan and Urban Transformation**

The 1/50.000 scale İstanbul Metropolitan Sub-Region Master Plan, approved in 1995, and covers the borders of the İstanbul Province in the West and the Gebze district in the East. The major task of the plan is dealing with strengthening the metropolitan character and prioritized sectors, such as culture, history, trade, service and high technology industry (Yüzer&Giritlioğlu, 2003, p.122). In this way, coherence in the development and integration of İstanbul with other metropolises in the world is expected outcomes of the plan.

On the other hand, the task of the plan is aimed at optimum use of valuable resources, values and potentials included in the territorial whole of the City. In this regard, the plan suggests linear and polycentric macroform so that the territorial assets and unused potentials could be used in an optimal manner (Çakılcıoğlu, 2004).

Since the basic general strategic goal of the plan is to improve the position of İstanbul Metropolitan Area in the world, the plan implies the necessity to improve general,

structural and spatial performances (characteristics) of its economy. In this respect, the basic goal is defined as to increase the value added generated in the city, which will call for increased investments in development, research, new knowledge creation, new technologies and new forms of business-making. At this point, the plan proposes certain changes in the industrial sector; rehabilitation, transformation and deindustrialization of industrial areas can be listed as strategies for industrial development (Yüzer&Giritlioğlu, 2003, p.122). The aforementioned decisions of industrial development would be achieved through the following areas; 2901ha on the western side and 1791ha on the eastern side, totally 4692ha industrial areas were allocated for industrial development (see Appendix B, Figure B.5 and Table 4.6).

**Table 4.6: Areas Allocated for the Industrial Development in the 1995 Istanbul Metropolitan Sub-Region Master Plan**

	Western Side (ha)		Eastern Side (ha)
Büyükçekmece	205	Kurtköy	555
Esenyurt	156	Tepeören	594
Firuzköy	101	Tuzla ODSB	642
Avcılar	274		
Kıraç	175		
İkitelli	765		
Hoşdere	825		
Ortaköy	400		
<b>Total</b>	<b>2901</b>	<b>Total</b>	<b>1791</b>
<b>Istanbul total</b>			<b>4692</b>

Source: Planning History of Istanbul Report, 2006, p.51

According to Ak (2008, p.52), in 1995 plan, the dominant three sectors namely “Textile”, “Metal fabrication” and “Chemicals” were decided to be decentralized. While “Textile” industry was expected to relocate towards west side that is near to its market area, “Metal fabrication” and “chemicals” were expected to relocate to eastern direction.

Particularly, Gebze in east direction was determined as an important industrial centre in the broader regional setting. In this respect, it can be stated that production activities are expected to shift to the periphery. In this sense, the small and medium scale firms already located in the inner side of the city are expected to relocate in the organized industrial areas such as those located in Tuzla Tepeören, Pendik Kurtköy in East; Hoşdere, Avcılar in West (Çakılcıoğlu, 2004).

On the other hand, rehabilitation and transformation by promoting technological based industry, management and control activities to locate in the inner areas of the city is a complementary proposal of the plan. In the context of transformation, Tuzla, Maltepe, Kartal and Pendik on the Eastern side; Bahçelievler, Bayrampaşa, Zeytinburnu and Bakırköy on the Western side are determined as the areas which transform its industry oriented structure into service oriented ones. Moreover, transformation of Eminönü into a district equipped with high-capacity trade, services, hotels, restaurants and recreational facilities is another principle of the plan (Yüzer&Giritlioğlu, 2003, p.123). Another decision of the plan was to decentralize the industries which were located in the city center or in the water catchment areas having polluting potential and exceeding 10000m<sup>2</sup> floor space of 500 employees.

To sum up, considering the plan decisions for industry of last two plans, it is clearly understood that plans promoted service sector and technology based qualified jobs while labour sense and standard technology used industries were aimed to be decentralized.

### **4.3 PERSPECTIVES ON INDUSTRIAL DEVELOPMENT AND RELOCATION IN 1/100.000 SCALE ISTANBUL ENVIRONMENTAL MANAGEMENT PLAN: INDUSTRIAL DECENTRALIZATION – PERIPHERAL INDUSTRIALIZATION**

This part presents key economic trends, the structure of the industrial sector and its restructuring in Istanbul. It will start by discussing Istanbul's economy from a functional perspective and explore the drives behind Istanbul's influence within Turkey and Marmara Region as the economic heart of the country and the largest concentration of the value added production. Then, the structural specialization of industrial sector is addressed. Finally, the part concludes with 1/100.000 Scale Istanbul Environmental Management Plan that provides possibilities of spatial restructuring for the firms and deindustrialization in Istanbul.

#### **4.3.1 Evaluating Istanbul Economy**

Istanbul, economic heart of Turkey, is going through a phase of enormous transformation characterized by significant changes in its economy. The changes were first triggered in

the 1980s with implication of more open and export oriented macroeconomic framework undertaken at the national level. Subsequently, liberalization and structural reforms continued and today deepened. As a result of such changes in the economy, Istanbul, that is likely to be mostly affected from ongoing economic reforms in the country, is designated as the core of value added activities in order to strengthen its economic position in the international arena. Considering that such changes are likely to be concentrated in Istanbul, the economic trends and assesses of Istanbul both in Marmara Region and Turkey is evaluated in this part.

Istanbul's economic position is scrutinized in terms of certain variables reflecting population, employment, GDP, export and sectoral distribution. To begin with, the variables of population and employment are investigated in order to explain the position of Istanbul in Marmara and Turkey. As illustrated in Table 4.7, it is seen that Istanbul represents nearly 21 % of Turkey's urban population and in term of Marmara Region this share increases to nearly 32%. Additionally, Istanbul is a big population magnet in the level of Marmara Region since 60% of urban population and 66% of total population of the region agglomerate in Istanbul. As a matter of such figures, Istanbul is the demographic heart of the country with respect to population density.

In addition to population, Istanbul is also pioneer city in terms of employment as 13.4% of total employment of Turkey works in Istanbul. On the other hand, in term of Marmara Region, it is seen that Istanbul is the primary city that is serving the whole region in terms of economic activity since Istanbul comprises 51% of the total employment in the Marmara Region. In detail, service sector in Istanbul engages 21.2% employees in national level and 63.7% employees in regional level while industrial sector comprises 33.1 % of total employment in the nation and 64.6 % of total employment in the region (Table 4.7). Therefore, it can be stated that Istanbul has a dominant position in service and industrial sectors both in national and regional levels.



**Table 4.7: Comparisons of population and employment indicators in year 2000 between Turkey, Marmara Region and Istanbul.**

	<b>Istanbul</b>	<b>Marmara</b>	<b>Turkey</b>
<b>Area (m<sup>2</sup>)</b>	5,313	74,681	785,347
<b>Population</b>	10.018.735	17.679.293	67.803.927
<b>Urban population</b>	9.085.599	13.861.594	44.006.274
<b>Employment</b>	3.471.400	6.806.927	25.997.141
<b>Employment in service sector</b>	1.851.030	2.904.289	8.719.693
<b>Employment in industry sector</b>	1.116.126	1.726.492	3.374.325
<b>Labor Force</b>	3.977.241	7.560.458	28.544.359

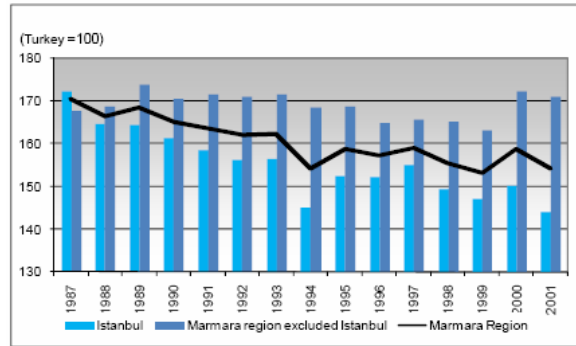
Source: Istanbul Metropolitan Planning Center Analysis Report, 2006, p.21

Another indicator that points to the economic position of Istanbul is Gross Domestic Product (GDP). Although there are vulnerabilities in some years, in general Istanbul achieves an increasing trend in the share of GDP values both in national and regional level. The increase in GDP shares is evident regarding the change in the shares from 20.7 % GDP in 1987 to 21.48 % GDP in 2001 in national level and 35.26 % GDP in 1987 to 37.23 % GDP in 2001 in regional level (Table 4.8). However, based on the data that presents the GDP per capita growth (Figure 4.5), it is obvious that whilst GDP per capita growth exceeds the Turkey's average by 70% in 1987, after the year 1989 this growth has slowed down due to the economic vulnerabilities.

**Table 4.8: Istanbul's share in GDP values of Marmara Region and Turkey**

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>In Turkey</b>	20,7	20,24	20,68	20,74	20,83	20,99	21,44	20,28	21,75	21,81	22,49	22,09	22,13	22,12	21,48
<b>In Marmara Region</b>	35,26	35	35,98	35,86	36,13	36,35	36,94	35,63	37,21	37,38	38,14	37,78	37,72	37,98	37,23

Source: Ak, B., 2008, p.39.



**Figure 4.6: Evolution of GDP per capita in Istanbul and the Marmara Region (1987–2001) (Source: OECD, Territorial Review, p.48)**

In addition to the previously mentioned indicators, the export and import values are also two of the indicators showing the economic growth of Istanbul. In year 2008, it is obvious that Istanbul achieves more than half of the total export and import in the national level (Table 4.9). However, it should be noted that in the last decade export rate is in an increasing trend while import rate has been decreasing. Thus, it supports the statement that Istanbul is integrating with global trade in recent years (Ak, 2008, p.37).

**Table 4.9: Indicators of Foreign Trade in Istanbul and Turkey (Million Dollars)**

YEARS	TURKEY		ISTANBUL		%	
	EXPORT	IMPORT	EXPORT	IMPORT	EXPORT	IMPORT
1995	21.637	35.709	10.305	13.733	47,6	38,5
1996	23.224	43.627	10.745	17.132	46,3	39,3
1997	26.245	48.585	11.679	18.383	44,5	37,8
1998	26.974	45.921	12.054	18.517	44,7	40,3
1999	26.588	40.691	11.551	16.561	43,4	40,7
2000	27.775	54.503	13.596	22.608	49,0	41,5
2001	31.334	41.339	14.781	16.821	47,2	40,7
2002	36.059	51.554	20.970	28.928	58,2	56,1
2003	47.252	69.339	27.599	41.401	58,4	59,7
2004	63.167	97.539	36.834	60.816	58,3	62,4
2005	73.476	116.774	41.716	70.136	56,8	60,1
2006	85.534	139.576	47.012	81.264	55,0	58,2
2007	107.271	170.062	59.278	98.538	55,3	57,9
2008	132.001	201.960	73.127	111.270	55,4	55,1

Source: Gathered from Turkish Statistical Institute, <http://www.turkstat.gov.tr/>, last accessed data: 14<sup>th</sup> June, 2009.

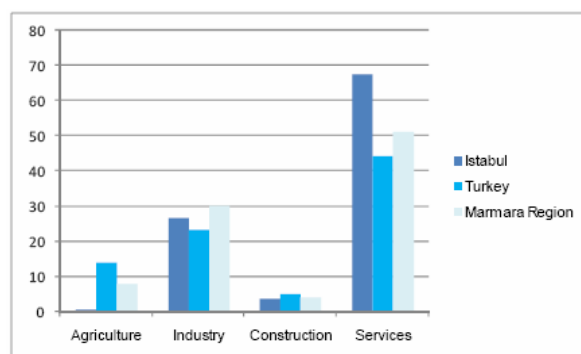
Apart from the main indicators reflecting economic position of Istanbul, it is appropriate to focus on sectoral analysis in terms of income and employment. Firstly, if the change of sectors' contribution to Turkey is taken into consideration, sectors namely finance, trade and industry come to the fore. However, it should be noted that the change in the

contribution of industrial sector is from 26% to 25 % that is quite stable, while there is a considerably significant change in the contribution of service sector. In detail, between the years 1995 and 2004, the share of finance sector has changed from 40.4 % to 45 % and in the case of trade there is a rise in its share from 28.7 to 35.5 (Table 4.10 and Figure 4.6). Following the result, it might be possible to argue that there is a structural change in the economy of Istanbul. Although industrial sector has still significant values compared to other sectors and achieves more GDP than the national average, service sector develops at a fast pace in Istanbul. Thus, it is important to question whether Istanbul leaves its industrial oriented character and give way to service sector or not.

**Table 4.10: Sectoral GDP contributions to Istanbul’s economy**

	1995	1999	2001	2004
Agriculture	1,8	0,8	1,2	1
Industry	26,2	26,4	24	25
Construction	16,3	18,6	17,1	18
Trade	28,7	34,8	34,1	35,5
Communication and Transport	22,9	22,9	21,1	21
Finance	40,4	47,6	46	45
Housing ownership	30,9	32,7	31,5	32
Self employed	39,3	41,4	41	41
Banking	48,8	53,3	49,9	50
Total	21,9	23,3	22,4	24

Source: Ak, B., 2008, p.38



**Figure 4.7: Sectoral composition of GDP in year 2000 (Source: OECD, p.53)**

In addition to contribution of the sectors to the economy, the change in employment based on sectors gives a clue about the structure of economy in Istanbul. As Table 4.11 shows, between the years 1980-2006, service sector has engaged more than half of the total

employment and has had an increasing trend. However, in terms of industry, there is a decreasing trend in terms of employment, except for the year 2006, due to the fact that construction is included in the employment of industry.

**Table 4.11: Sectoral employment change between the years 1980-2006 in Istanbul**

	1980		1985		1990		2000		2006	
	Count	%	Count	%	Count	%	Count	%	Count	%
Agriculture	85.730	5,5	97.439	5,2	130.322	5,1	282.317	8,1	19.000	0,5
Industry	538.440	34,4	652.044	34,8	853.625	33,6	1.116.126	32,2	1.539.000*	41,9
Construction	111.690	7,1	122.936	6,6	224.126	8,8	215.925	6,2		
Services	800.930	51,2	973.118	51,9	1.289.447	50,8	1.851.030	53,3	2.119.000	57,6
Others	27.149	1,7	28.060	1,5	42.443	1,7	6.002	0,2		
<b>TOTAL</b>	<b>1.563.939</b>	<b>100,0</b>	<b>1.873.597</b>	<b>100,0</b>	<b>2.539.963</b>	<b>100,0</b>	<b>3.471.400</b>	<b>100,0</b>	<b>3.677.000</b>	<b>100,0</b>

\*Construction is included

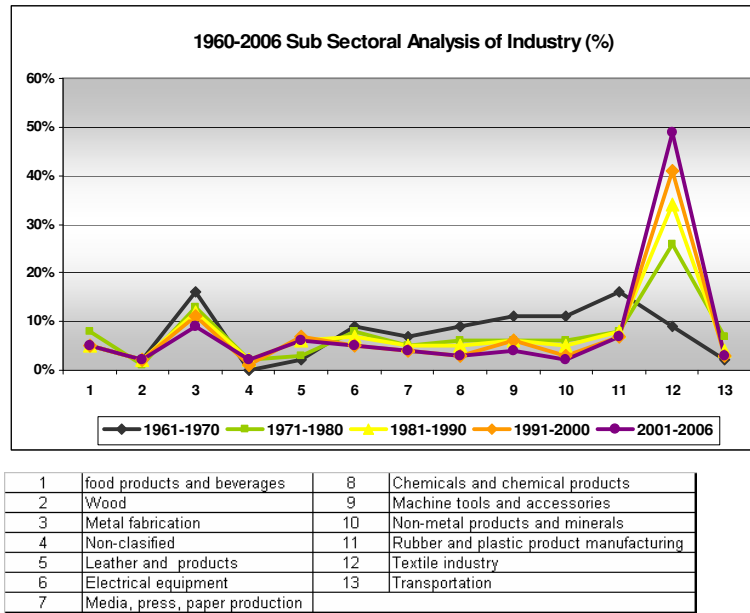
Source: Gathered from Istanbul Metropolitan Planning Center, 1/100.000 Plan Report, 2006, p68; TurkStat, Turkey's Statistical Yearbook, 2008, p.168

To sum up, it is obvious that the industrial sector that formerly generated the main economic contribution for the country is not the dominant sector in recent years since Istanbul has increased its service sector's share in its industrial mix. In line with this result, scholars stated that this is a typical trend occurred in large metropolitan areas which tend to have a more diversified economic basis (OECD, 2008, p.52). However, in case of Istanbul the industrial sector still has important shares in economic composition. Therefore, at this point, it is important to analyze the trend in industrial sector in detail in order to investigate whether there is a structural change in sub sectoral level.

#### **4.3.2 Evaluating Existing Industrial Sector of Istanbul**

Beyond recent macroeconomic trends, industrial sector is analyzed based on sub sectoral characteristics. In this regard, the share, value added and employment of sub sectors are determined as indicators in order to understand the structure of industrial sector in Istanbul. After those analyses, the technological context of sub sectors is evaluated to reveal whether there is an ongoing shift towards a higher value added and more service oriented structure and the external factors such as competition with the world trade system has had an impact on industry of Istanbul or not.

First of all, if shares of industrial sub sectors are examined, from 1970s onwards, a significant increase in the shares of Metal Industry and Textile Industry is observed. However, between the period 1961 and 1970, the dominant sub sectors differentiated from the existing situation since machine, rubber & plastic and metal fabrication had the highest shares (Figure 4.7). Here, it should be noted that the expressed sub sectoral trends in industrial development point to the development of directions.



**Figure 4.8: Sub-sectoral analysis of industry in Istanbul between the years 1961 and 2006 (Source: Ak, B., 2008, p.42).**

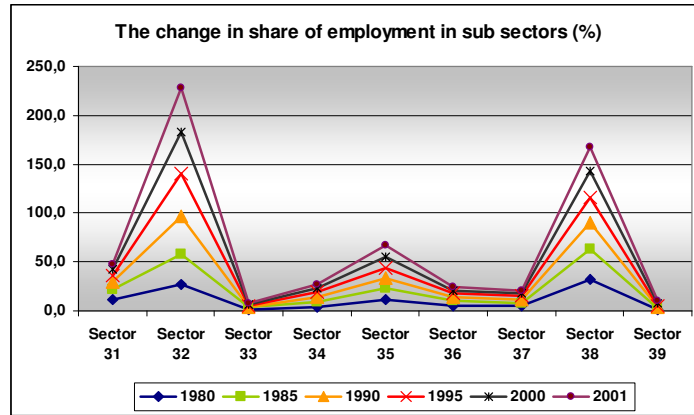
In terms of employment and value added values in industrial sub sectors of Istanbul, a decreasing trend that is illustrated in Table 4.12 is apparent since the 1980s. Although, the decrease in those values is not so sharp that supports a deindustrialization scenario, it is worthwhile to examine those variables in detail.

**Table 4.12: Changing ratio of “industrial workers of Istanbul / Turkey” and “value added of Istanbul /Turkey” between the years 1980-2002**

Years	Employment	Value added
	Istanbul/Turkey	Istanbul/Turkey
1980	30	27
1990	30	27
2002	27	23

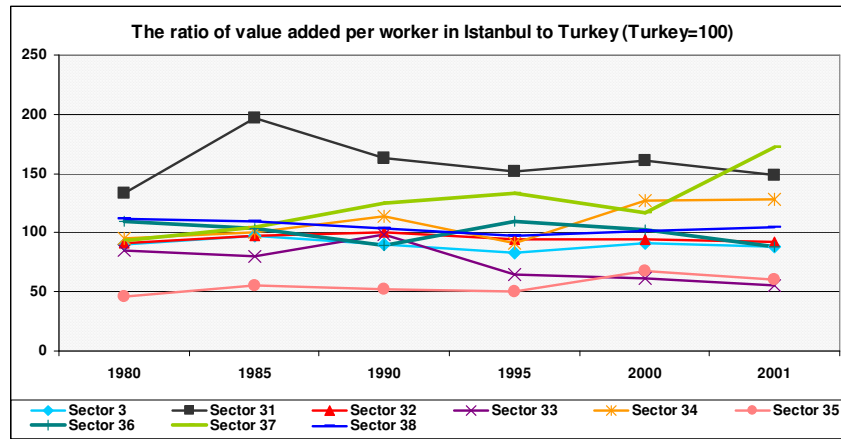
**Source:** Ak, B., 2008, p.44

Firstly, if the change in employment of industrial sub sectors is taken into consideration, it is seen that textile and machinery industries have significantly highest employment shares that do not change in time between the years 1980 and 2001 (Figure 4.8). Especially, textile industry has a dominant position that might be related with its labor intensive structure since apparel and knitted fabrics, which intensively use low technologies, need large employment. However, the sector does not have the same trend achieved in employment regarding the figure of value added per worker. As it is demonstrated in Figure 4.9, although there are fluctuations in value added due to the investment or economic crisis, food, beverages & tobacco industry and metal industry have the highest ratios of value added per worker that is above the Turkey’s average.



31: manufacturing of food, beverages and tobacco	33: manufacture of wood and wood products including furniture	35: manufacture of chemicals and chemical petroleum coal rubber and plastic products	37: basic metal industries
32: textile apparel and leather industries	34: manufacture of paper and paper products including printing and publishing	36: manufacture of nonmetallic organic products	38: manufacture of fabricated metal products, machinery and equipment

Figure 4.9: The change in the share of employment in sub sectors<sup>12</sup> (Source: Turkish Statistical Institute, <http://www.turkstat.gov.tr/>, last accessed data: 14<sup>th</sup> June, 2009).



31: manufacturing of food, beverages and tobacco	33: manufacture of wood and wood products including furniture	35: manufacture of chemicals and chemical petroleum coal rubber and plastic products	37: basic metal industries
32: textile apparel and leather industries	34: manufacture of paper and paper products including printing and publishing	36: manufacture of nonmetallic organic products	38: manufacture of fabricated metal products, machinery and equipment

Figure 4.10: The ratio of value added per worker in Istanbul to Turkey (Turkey=100)<sup>13</sup> (Source: Turkish Statistical Institute, <http://www.turkstat.gov.tr/>, last accessed data: 14<sup>th</sup> June, 2009).

<sup>12</sup> For the values, see Appendix A, Table A.1.

Following the expressed trends in industrial sub sectors, it should be highlighted that metal fabrication and food, beverages & tobacco achieving highest ratio of value added per worker (Istanbul/Turkey) and textile industry having the highest employment share are the sectors that come to the fore. Besides, it is important to notice that metal fabrication and textile industry differentiate from each other based on their structures. While the former is capital intensive and use the technology intensively, the latter is labor intensive and use generally low technology. Thus, it is required to analyze dominant sub sectors based on technology use differentiation.

From a technology use perspective, the economic performance of sub sectors is scrutinized based on the classification adopted by the OECD. The activities are classified according to the intensity with which technology is used such as high tech sectors, medium high tech sectors, medium low tech sectors and low tech sectors. The economic performance of those groups reveals that the most technologically advanced sectors in Istanbul account for more than 18% of the total value added whilst medium-high technology sectors account for only about 11%. Thus, high-tech activities have emerged as promising sectors with the highest increase both in the share of employment and in specialization. On the other hand, low tech activities are the most important clusters in terms of the share of value added in 2000, accounting for 26, 46 % of Istanbul's total value added. Furthermore, regarding the percentage of imports (52 %), the activity in this group can be characterized as relatively self sufficient compared to the activities in other groups (Table 4.13). This result shows that Istanbul maintains a sizeable manufacturing sector, specialized in relatively labor-intensive, low technology activities, *i.e.*, mainly in the textile cluster rather than in high tech sectors such as metal fabrication or electronics.

**Table 4.13: Specializations of the manufacturing industry in Istanbul (2000)**

	Share in Istanbul value added (%)	Number of firms (2000)	Share in Istanbul exports (%)	Ratio of imports covered by exports
<b>High-tech sectors (electronics, chemical and medical)</b>	18,25	100	3,48	8,75
<b>Medium-high tech sectors (machine building, metal equipment and other electronics)</b>	11,28	340	5,46	25,22
<b>Medium-low tech sectors (other machine building and metal equipment)</b>	5,45	399	4,62	64,72
<b>Low-tech sectors (textile)</b>	26,46	1524	75,96	52,39

Source: OECD, Territorial Review, 2008, pp. 56, 57 & 58

<sup>13</sup> For the values, see Appendix A, Table A.2.



To sum up, the expressed trends in Istanbul's economy point out that the service sector continually grows in recent years while the activities of the production sector are consequently continue to drop. Such trends are accompanied by the changes in the employees' structure especially in the industrial sector. However, as mentioned previously the industrial sector has still a significant share in Istanbul's economy. Thus, it is important to understand the character of industry in Istanbul. Particularly, it is seen that although there is a decreasing trend in the share of the sector, industrial structure of Istanbul does not fully represent a restructuring process, since the textile sector which intensively use low technologies, still displays largest share of employment in Istanbul. On the other hand, technology intensive sectors such as metal fabrication or food have also significant shares in value added figures. As a matter of fact, policy makers expect a gradual restructuring (supporting activities having high value added production while implying the upgrade of the textile and related labor intensive sectors) and shrinking of the industrial sector and support relocation of industry towards peripheral areas of Istanbul while supporting service oriented activities in the core city. In the next part, the policies and spatial strategies based on relocation of the industrial sector are explained in detail in the framework of the latest macro plan in Istanbul.

#### **4.3.3 1/100.000 Scale Istanbul Environmental Management Plan and Industrial Relocation**

In the last part of this section, the concrete priorities established for the industrial sector are identified based on the 1/100.000 scale Istanbul Environmental Management Plan that is approved in 22.08.2006 by the Greater Municipality of Istanbul. Development trends expressed through globalization lead to investing in sectors that can easily adapt to global markets such as knowledge & technology intensive industries, leisure & creative sectors, finance etc. and these trends have notable effects on Istanbul within the national context. Therefore, certain policy makers adopt such externally motivated urban policy agendas and desire to modify the role of Istanbul through supporting restructuring that can strengthen the position and role of Istanbul in global markets.

In line with this argument, the Istanbul Environmental Management Plan determined main guidelines of Istanbul for achievement a "world city vision" by 2023. The vision of the plan is to transform the city into a global central node for finance, logistics and

tourism and culture between Europe, Asia, the Middle East and the former East European countries (IMP Plan Report, 2006, p.19).

In this sense, the main policy of the plan is reducing high share of the industrial sector in its economy by promoting restructuring and relocation of industrial firms towards peripheral parts of Istanbul in favour of strengthening the service sector in inner parts of the city. In detail, innovation and knowledge based activities generating high value added are given priority in order to create a more dynamic economy to compete with other metropolitan areas in the world. The proposed shares of the sectors in the economy of Istanbul aim to support this policy; the decrease in production activities is accompanied by the decreasing role of industry in the city from about 31% to about 15-20% share in employment while the share for service sector is proposed to increase from 59% to 80-85% between the years 2006-2023 (Table 4.14). As a result of this situation, it is clearly seen that the plan highly prioritized the growth of the service sector.

**Table 4.14: The share of industrial and service sector in 2006 and 2023 in total employment**

	2006	2023
Industry Sector	31%	15-20%
Service Sector	59%	80-85%

Source: IMP, 1/100.000 Environment Plan Report, p.95.

At this point, it is appropriate to explain the suggestions of the plan for industrial development in detail. According to the plan, the strategic goal of industrial development is based on deindustrialization policy that supports relocation of the firms towards outer zones of Istanbul and to neighbouring cities. In this respect, relocation is proposed particularly for the firms having labour intense production (clothing industry, yarn and textile industry) in inner district of the city. On the other hand, plan promotes restructuring towards higher technology and value added content of industry in order to foster competitiveness of the sector (Baz, 2008, p.9)

Achievement of the stated goal for the industrial sector implies following spatial development strategies (IMP Plan Report, p.16);

1. Rehabilitation of industry
2. Transformation of industry
3. Utilization of the potential and capacities of existing organized industrial zones located within the Istanbul provincial border.
4. Utilization of the potential and capacities of existing organized industrial zones located in nearby cities.

With above mentioned spatial strategies for industrial development, total employment in the sector is proposed as 1.710.100 by 2023. Moreover, it is seen that additional 374.000 employments proposed is expected to work in organized industrial zones located in Gebze, Çorlu and Çerkezköy. On the other hand, the plan does not propose any additional employment within the provincial borders of Istanbul (Table 4.15). This is obviously related to deindustrialization policies since the plan promotes industries to relocate in peripheral districts such as Gebze, Çorlu and Çerkezköy.

**Table 4.15: Spatial strategies for industrial development and employment in 2006 and 2023.**

	Employment in 2006	Additional employment	Total Employment (2023)
Areas proposed to be rehabilitated (Dudullu, Kiraç, Bahçeşehir, Gürpınar, Büyükçekmece)	854.900	X	854.900
Areas proposed to be transformed (İkitelli, Zeytinburnu, Bayrampaşa, Kartal, Samandıra, Sarıgazi, Sultanbeyli, Silivri, Gaziosmanpaşa, Maltepe, Kadıköy)	223.000	X	X
Organized Industrial Zones (OIZ) whose potential capacities are utilized in provincial border (İkitelli OIZ, Tuzla OIZ, Dudullu OIZ, Beylikdüzü OIZ, Tekstilkent)	172.100	223.000	395.100
<b>Istanbul Metropolitan Area Total</b>	<b>1.250.000</b>		<b>1.250.000</b>
Organized Industrial Zones (OIZ) whose potential capacities are utilized located in close provinces (Gebze, Çorlu, Çerkezköy)	86.100	374.000	460.100
<b>TOTAL</b>	<b>1.336.100</b>		<b>1.710.100</b>

Source: IMP, Plan Report, 2006, p.22

Now, it is important to examine spatial strategies for industrial development in detail. In the first group of strategies, the main aim is to rehabilitate the areas that are subject to

pollution due to the process of industrialization. Particularly areas located in the water basin such as Ümraniye-Dudullu and Hadımköy (see Appendix B, Figure B.6) are the environmentally most jeopardised areas since great concentrations of population and industry caused pollution of water. Thus, industrial development in those areas is restricted in the plan (IMP, Plan Report, p.23).

Apart from environmental concerns, the plan also considers transformation of certain areas from industry to mainly service sector. Thus, the second group of strategies focus on mainly inner city areas where the inherited industry has been located from earlier periods (see Appendix B, Figure B.6). In detail, Kağıthane, Eyüp, Bayrampaşa, Güngören, Zeytinburnu and Sarıyer in Western Side; Kadıköy, Maltepe and Kartal in Eastern Side are the districts that are expected to transform into service sector (see Appendix B, Figures B.7 & B.8). As a matter of fact, the firms in those areas occupy the most attractive locations and development of production activities is not sustainable due to environmental and spatial issues. In this regard, relocation becomes an important concept for industry. This process may be regarded as dislocating production from those areas and change of the use and function of such units into the service sector. The plan also proposes that the firms dislocated from those areas would relocate in existing organised industrial zones in Istanbul.

Finally, different from the previous ones, the last two groups of strategies point to the development of additional employment in the industrial sector. In this sense, utilization of existing capacities of organized industrial zones is the main aim regarding potentials of the industrial zones located in Gebze, Çorlu and Çerkezköy (see Appendix B, Figure B.6). If the existing capacities of the zones are fully utilized, total employment figures are worthwhile to say; as 41.000 employment in Gebze Organized Industrial Zone (GOIZ), 7.000 employment in Çorlu Organized Industrial Zone and 70.000 employments in Çerkezköy Organized Industrial Zone (IMP, Plan Report, p.22).

Following the last strategy, it is clearly seen that in the spatial functional structure of Istanbul, industrial activities are expected to relocate to organized industrial zones. In terms of site and development potentials, Gebze and Çorlu OIZs are the most prominent ones to where 111.000 of the industrial employment would be transferred. As a result, such a process implies industrialization of peripheral areas with more favourable structure and factors in terms of location and development.

In conclusion, it is obvious that the main priority of the 1/100.000 Istanbul Environment Plan for industrial development is to shrink this sector as a result of relocation to organized industrial zones mainly to industrial zones in the Istanbul Province and in nearby provinces. In this respect, Gebze OIZ rises as one of the most important area where firms located in Istanbul can relocate their activities. However, it is still a question mark that any firms located in Istanbul would like to relocate their activities in GOIZ. Actually, in order to evaluate the proposition of the plan in a rational way and investigate whether GOIZ is the most attractive location encouraging further relocation activities, the next part focuses on relocated firms to GOIZ in order to identify characteristics of the firm and the reasons to relocate to GOIZ.

## CHAPTER 5

### CASE STUDY: RELOCATION OF INDUSTRY IN GEBZE ORGANIZED INDUSTRIAL ZONE

This section aims to investigate the role of push and pull factors in promoting core-periphery relocation through a micro-analysis of relocated firms that were invested in the Gebze Organized Industrial Zone (GOIZ).

Before micro analysis, brief information about Gebze Organized Industrial Zone (GOIZ) is given in the first section. Then, the results of the analysis are discussed in following sections.

The empirical analysis presented in this chapter focuses on the results of a survey on firms that were invested in the GOIZ. The survey was conducted via questionnaire <sup>14</sup> (see Appendix). The universe included 37 firms. Of those, 28 already relocated in GOIZ, while 9 of them will relocate in near future. The questions aimed to investigate the following patterns: (i) type of relocation (integral relocation or partial relocation) and the activities that have been transferred; (ii) establishment year and relocation period; (iii) characteristics of the market, sector, labor and site; (iv) push and pull factors driving firm relocation to GOIZ; (v) obstacles encountered in GOIZ.

The outcomes are quite informative to understand the firm rationality. However, it is important to emphasize that the sample is partially biased because it is made up of firms

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<sup>14</sup> The execution of interviews were undertaken by 'Veri-Araştırma A.Ş.', on contract with the Scientific Research Projects (BAP) of coordination unit of METU.

who have actually invested. Their opinion may sound as a justification ex-post of their decision. This is a typical response rationalizing decisions afterwards.

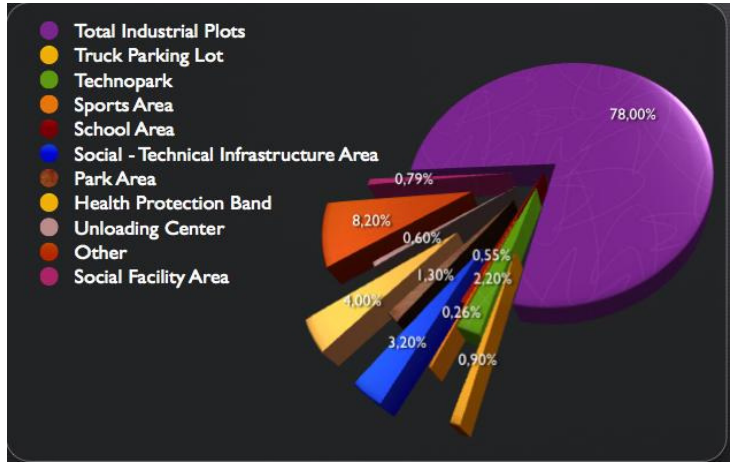
## **5.1 GEBZE ORGANIZED INDUSTRIAL ZONE (GOIZ)**

Gebze Organized Industrial Zone (GOIZ) that is the case of this research is located in the Kocaeli Province and close to the border of Istanbul Province (see Appendix B, Figure B.9). Since its close location to Istanbul, as mentioned in Chapter 4, the zone is determined as one of the areas where firms in Istanbul are expected to relocate their activities. The main reason behind such a deindustrialization policy is that the zone represents several advantages such as qualified personnel, raw material supply, proximity to market, easy transportation, convenient infrastructure including treatment of industrial waste and technopark that are attractive for the firms.

GOIZ that was established in 1986 to prevent environmental pollution due to uncontrolled industrial development is an example of industrial zone developed through public and private cooperation. In this respect, GOIZ is known as the first zone *without using credits but financed completely by participations* “Do not expect every thing from government ” principle (About GOIZ, GOIZ Home Page).

Besides, it should be mentioned that there are 116 plants making production on 200 plots of land in the zone. Apart from plants in production, there are also plants in construction and some firms are in the analysis process to decide investment (see Appendix B, Figure B.10). In this respect, it can be claimed that GOIZ is an appropriate case to analyze industrial firm relocation. Additionally, there are 35 foreign companies in GOIZ where approximately 13.000 employees are employed. Although at the beginning the planned area was 2.300.000 m<sup>2</sup> in the first stage, the current total area of GOIZ is 10.620.000 m<sup>2</sup> after two expansions as a result of firm migrations or new establishments in the zone (About GOIZ, GOIZ Home Page).

Production at GOIZ is mainly in the fields of machinery-chemistry-automotive and metal industries; as well as optics-electricity-plastics; industrial and medical gases; food and packaging industries and in information technology at the GOIZ Technopark. Except for the industrial lots there are also complementary facilities such as technopark, sports, school and park fields in the zone (Figure 5.1).



**Figure 5.1: The share of facilities in GOIZ (Source: GOIZ Presentation prepared by GOIZ Administration).**

Gebze Organized Industrial Zone is considered as a “role model” by many national and international enterprises due to its attempts to establish an industrial district abroad and to sell know-how and offer professional counseling to Industrial Parks in Turkey (GOIZ Technopark, GOIZ Home Page). Moreover, it is stated that GOIZ differentiate from other industrial zones in terms of its financing model, infrastructure services which comply with the standards of developed countries.

Furthermore, it should be pointed out that GOIZ is also known as the first Industrial Zone to establish a technopark within itself. It was founded in 2002 as a Technology Development Zone (GOSB Technopark Home Page); however the idea on the establishment of the Gebze OIZ Techno Park is based on the years 1995-96, even before the Technology Development District Law. The main motivation behind foundation of such a technopark is to encourage Research and Development (R&D) activities in Turkey (GOIZ Technopark, Kocaeli Chamber of Industry Home Page).

In the process of foundation of GOIZ Techno Park, combined efforts of foreign capital private enterprises, chambers, universities and industries have been witnessed. In detail, Sabancı University, Kocaeli Chamber of Industry, Gebze Chamber of Commerce and Kocaeli University are the main partners who are responsible for the administration of the zone.



Besides, GOIZ technopark has certain founding objectives that are similar to the examples in other parts of the world. Among the objectives, it is important to highlight that supporting the development and production of internationally competitive, high value added, advanced technology based goods and services by promoting cooperation and coordination with universities and industry is the prioritized one (GOIZ Technopark Home Page). In this respect, GOIZ provides certain externalities that firms can benefit in their production and marketing facilities.

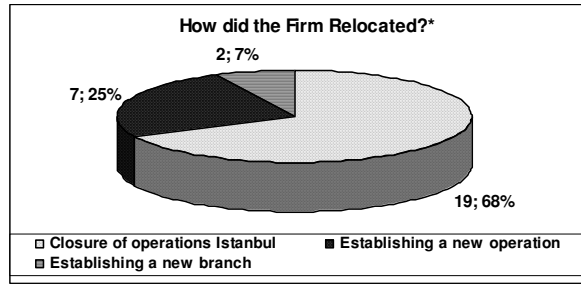
## **5.2 GENERAL CHARACTERISTICS OF THE RELOCATED FIRMS IN GOIZ**

This part of the study aims to give brief information about firms relocated in GOIZ. In this regard, the main focus is to evaluate characteristics of the firms with respect to the type of relocation, their sectors, firm size and market characteristics.

### **5.2.1 Type of Relocation and Business**

The first aspect analyzed was the type of relocation the firm chose. Dominantly, it is seen that nearly 70% of the firms relocated their activities in GOIZ by closing operations in Istanbul. On the other hand, rest of the firms relocated in GOIZ by either establishing a new branch or operation (Figure 5.2).

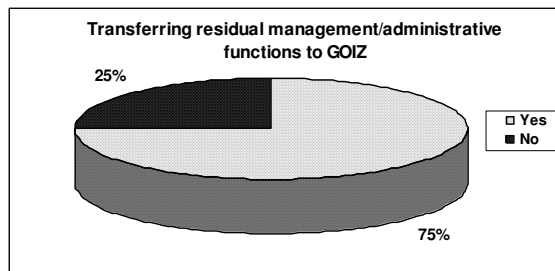
In line with the analyses, it is clear that *integral relocation* is the most preferred type of relocation in GOIZ. As mentioned in Chapter 2, this type of relocation is generally adopted by single site firms. Therefore, it is possible to say that firms relocated in GOIZ have a tendency to execute near Istanbul in order to keep their workforce and suppliers. However, for the rest of firms, a *partial relocation* is observed. Since this type of relocation concerns the opening of a new branch or operation, the main aim of these firms is to differentiate their production in GOIZ.



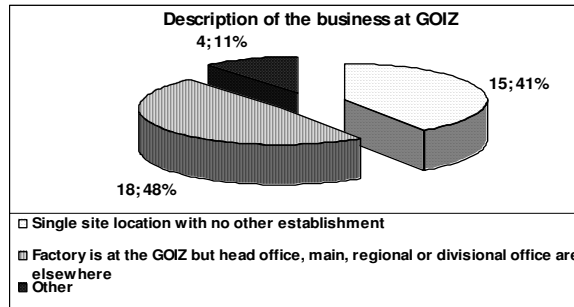
(\*) First number denotes the count of the firms

**Figure 5.2: The type of relocation of firms**

Another issue raised in this part is whether firms transferred administrative functions to GOIZ in relocation process or not. Figure 5.3 demonstrates that the vast majority of the firms (75 %) transferred their administrative functions to GOIZ. This means that firms did not concern to keep the advantages of their previous locations. In addition, if description of the business is considered, it is seen that among total number of the firms, 18 of them are the production units having head office elsewhere, while 15 firms defined themselves as single site location firms with no other establishments (Figure 5.4).



**Figure 5.3: Transferring residual management/administrative functions to GOIZ**



**Figure 5.4: Description of the business at GOIZ**

In brief, it is clearly seen that firms preferred to adopt integral relocation strategies in order to take certain advantages of GOIZ without taking into consideration to sustain locational advantages of their previous locations.

The last issue that has been addressed concerns the partnership with foreign firms. There are 14 firms having foreign partnership and more than half of those firms are foreign firms with Turkish partners.

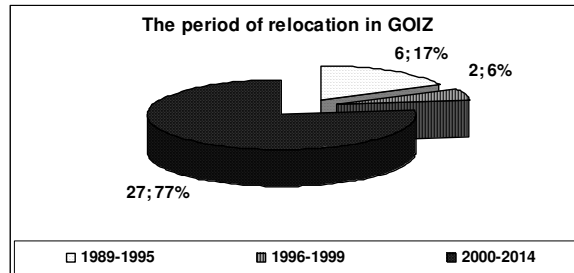
**Table 5.1: The partnership with foreign firms**

Does the firm has a partnership with a foreign firm?	Count	%	The share of capital of the foreign partner		
			Count	%	
Yes	14	37,8	0-25 %	2	14,3
			26-50 %	2	14,3
			51-99 %	2	14,3
			100%	8	57,1
No	23	62,2			
<b>TOTAL</b>	<b>37</b>	<b>100,0</b>	<b>TOTAL</b>	<b>14</b>	<b>100,0</b>

### 5.2.2 Establishment Year and Relocation Period

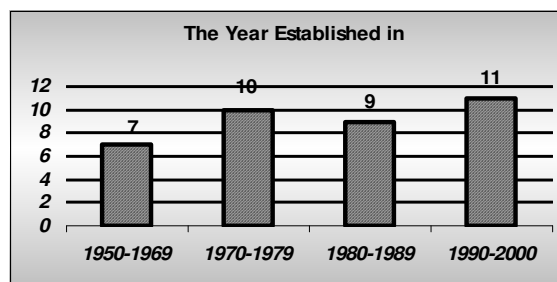
As far as the relocation period of the firms is analyzed, it is revealed that 77% of the firms in GOIZ have relocated by the year after 2000 (Figure 5.5). This result might be related to the year of establishment of GOIZ, which is 1985. Another explanation of this result could be about changing economic composition of Istanbul.

During this decade, the economic composition of Istanbul has been changing from industrial domination to service sector domination therefore, it can be said that relocation towards peripheral parts of Istanbul including GOIZ has accelerated.

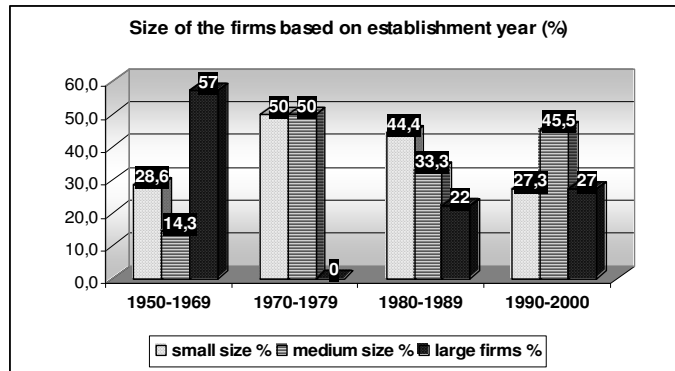


**Figure 5.5: Period of relocation in GOIZ**

Now, information is given about the age of the firms relocated in GOIZ. As illustrated in Figure 5.6, among 37 firms, 20 of them were established after 1980, which indicates young firm profile of the industrial zone. In addition to the age of the firms, if relationship between establishment year and firm size is investigated, it is worthwhile to say that firms established after 1980 are dominantly small or medium size enterprises (Figure 5.7). This result is not surprising because it coincides with the change in the mode of production, which is associated with vertical disintegration through which SMEs found opportunities to integrate industrial production processes after 1980.



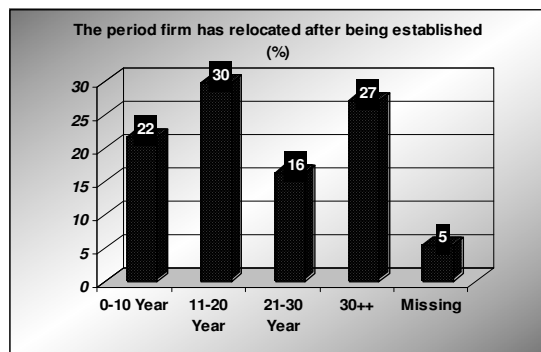
**Figure 5.6: The year established in**



**Figure 5.7: The relationship between establishment year and firm size**

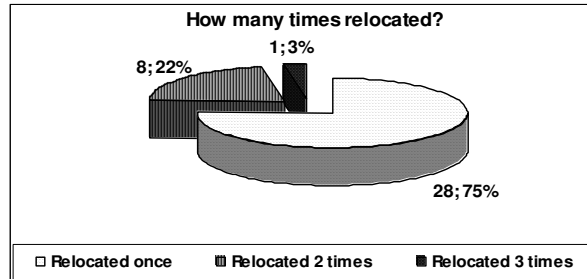
After analyzing the age of the firms, it is time to investigate the period spent after establishment in previous locations. Considering the institutional location theory pointing out that older firms are more embedded in the spatial environment; *they are embedded in networks that are established through long term trust-based relations which are likely to be facilitated by spatial proximity* (see among others, Granovetter 1973; Putnam 1993) it is expected that firms that are older are less mobile. The outcome partially supports the argument since more than half of the relocated firms are up to 20 years old (Figure 5.8).

However, actually 43% of the firms relocated after staying more than 20 years in their previous locations. In line with this result, it can be said that relocation process for older firms might be a compulsive result due to the unavailable space to grow in previous locations.



**Figure 5.8: Time periods that firms have relocated after being established**

Another indicator for the firm characteristics is the variable showing *previous migration*. As underlined in the study conducted by Pellenbarg et al. (2000), a move in the past may reduce the necessity to move again, but this does not imply that the longer a firm is at a location the higher the need to move. This research provides similar result with the study conducted by scholars. As it is seen from the figure below, the firms that have been relocated before moving to GOIZ constitute a very small part of the total (Figure 5.9).



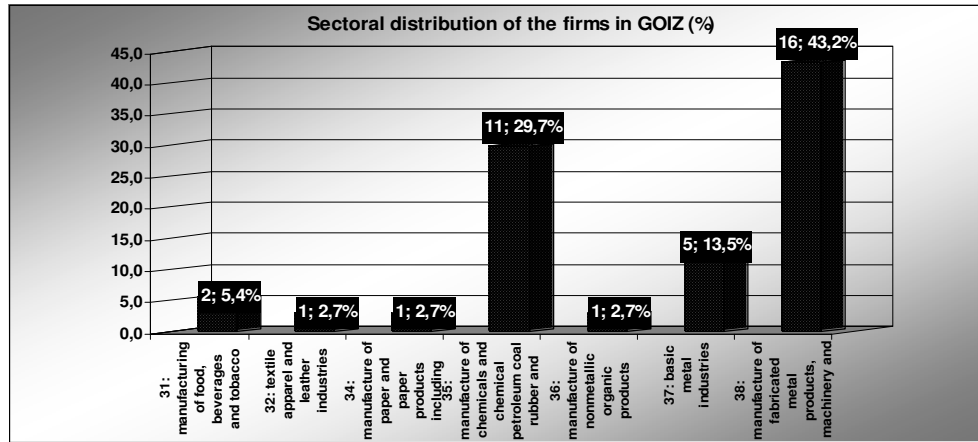
**Figure 5.9: How many times relocated?**

To sum up, it is possible to say that integral relocation activity dominated the relocation scenario of the firms, because they closed their previous premises after relocation. Such relocation might be necessary for the firms to overcome the diseconomies of Istanbul and they did not tend to keep their previous location so it can be speculated that they were not embedded in their previous spatial environment in Istanbul.

### 5.2.3 Sector

Since the research focused on the all firms relocated in GOIZ, there was no chance to choose sectors equally. Therefore, the business activities do not concern various sectors. Chemical and machinery sectors that are the dominant ones in the questionnaire have the highest ratios within the whole firms as can be seen in Figure 5.10.

Considering sectoral distribution of the firms in Eastern and Western side of Istanbul, the higher ratio of capital intensive sectors compared to labor intensive ones such as textile is not an unexpected result for the GOIZ case.



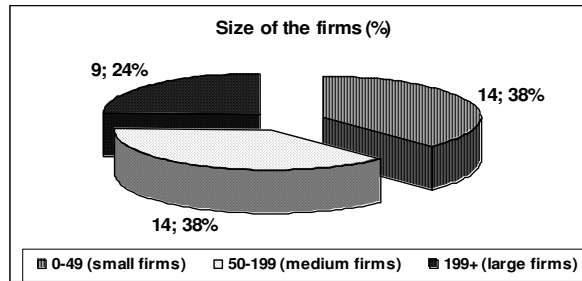
**Figure 5.10: Sectoral distribution of the relocated firms in GOIZ (%)**

### 5.2.4 Labor

As far as the characteristics of firms are concerned, one of the most important figures is firm size. In tandem with the numerical results, it is obvious that none of the firm size is dominant (Figure 5.11). This result is contradictory with the study conducted in Holland and England<sup>15</sup>, since it is found out that small firms, particularly having 10 or less employees, have a more tendency to relocate compared to other size firms.

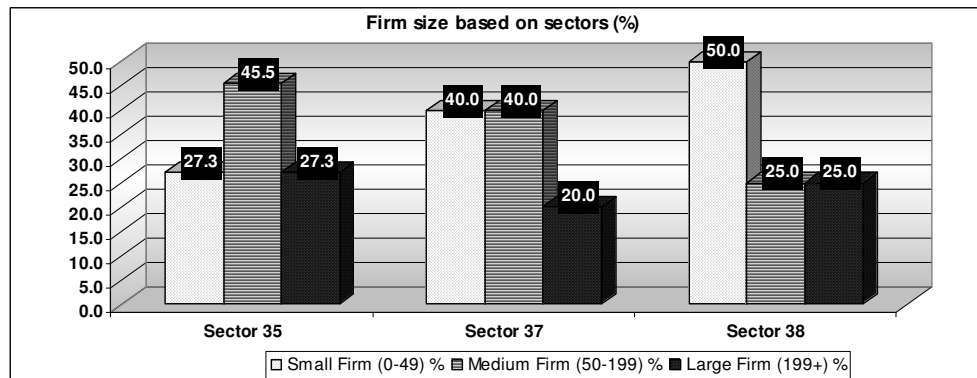
However, it should be noted that there might be contextual reasons behind such a result in GOIZ, since firms located in Istanbul are forced to relocate their activities in peripheral parts of Istanbul under the name of deindustrialization policies.

<sup>15</sup> The result of the study is in Pellenberg et. all (2000), Firm Relocation: state of the art and research prospects, SOM-theme D: Regional Science.



**Figure 5.11: The share of the relocated firms according to sizes (%)**

If the firm sizes are analyzed based on sectors, small firms are dominantly in sector 38 (manufacture of fabricated metal products, machinery and equipment) and sector 37 (basic metal industries). The medium size firms account for nearly % 46 of the total firms in sector 35 (manufacture of chemicals and chemical petroleum coal rubber and plastic products). In case of large firms, they constitute the smallest share of total number of firms regardless of sectoral differentiation (Figure 5.12).



**Figure 5.12: Firm size based on sectors (%)**

### 5.2.5 Market Characteristics

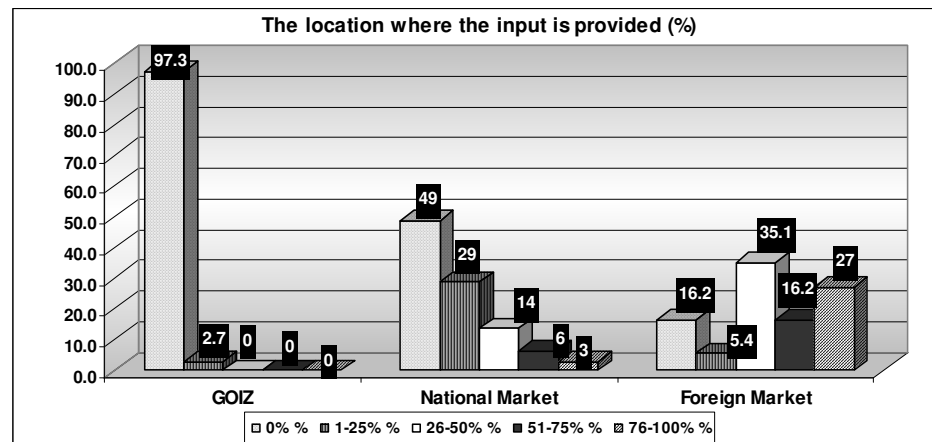
The market characteristics of the firms are eliminated based on input and output dimensions. The interviewed firms get more than half of their inputs from foreign markets, while 97.3 % of the firms indicated that none of their inputs are provided by



other firms in GOIZ (Table 5.2 and Figure 5.13). As far as the results are concerned, it can be stated that firms did not take into consideration the spatial proximity to input supplier firms in relocation decision making process.

**Table 5.2: The share of locations where the input is provided**

	0%		1-25%		26-50%		51-75%		76-100%		TOTAL	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
GOIZ	36	97,3	1	2,7	0	0	0	0	0	0	37	100
Kocaeli and its surrounding	20	54,1	9	24,3	4	10,8	3	8,1	1	3	37	100
Istanbul	19	51,4	7	18,9	8	21,6	2	5,4	1	3	37	100
Other Provinces in Turkey	15	40,5	16	43,2	3	8,1	2	5,4	1	3	37	100
Foreign Countries	6	16,2	2	5,4	13	35,1	6	16,2	10	27	37	100

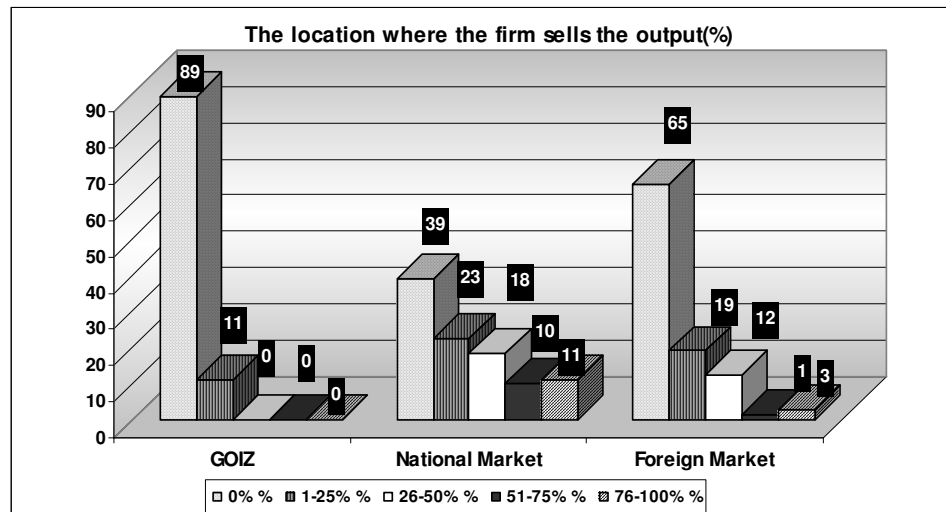


**Figure 5.13: The location where the input is provided (%)**

Another perspective about market characteristics is the locations where the firms sell their outputs. As it is demonstrated in Table 5.3 and Figure 5.14, firms are more willing to serve to the national market compared to GOIZ and Foreign market because there are significant number of firms that do not sell their outputs to other firms in GOIZ or to foreign markets. In this regard, it is seen that outputs of the firms mainly serve to the national market.

**Table 5.3: The share of locations where the output is sold**

	0%		1-25%		26-50%		51-75%		76-100%		TOTAL	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
GOIZ	33	89	4	11	0	0	0	0	0	0	37	100
Kocaeli and its surrounding	21	57	10	27,0	4	10,8	1	2,7	1	2,7	37	100
Istanbul	17	46	8	21,6	5	13,5	5	13,5	2	5,4	37	100
Other Provinces in Turkey	5	14	7	18,9	11	29,7	5	13,5	9	24,3	37	100
Foreign Countries	16	43	11	29,7	7	18,9	1	2,7	2	5,4	37	100
EU Countries	32	86	3	8,1	2	5,4	0	0,0	0	0,0	37	100

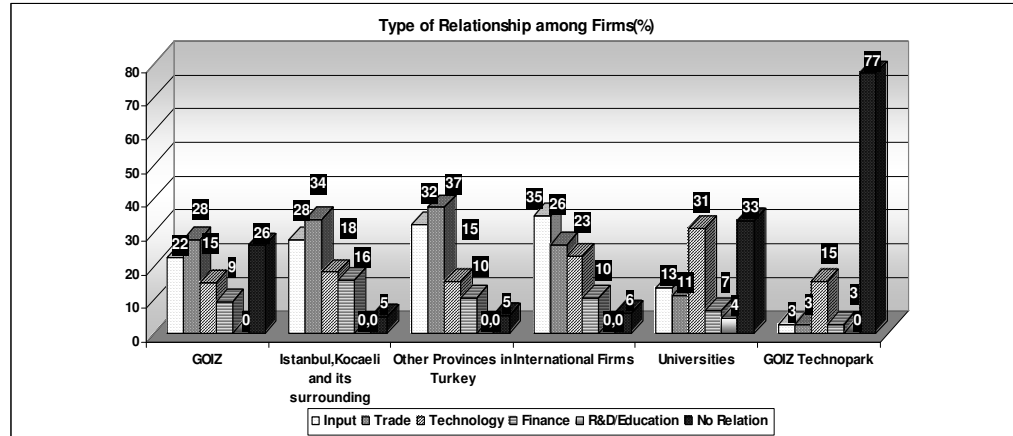


**Figure 5.14: The location where the firm sells the output (%)**

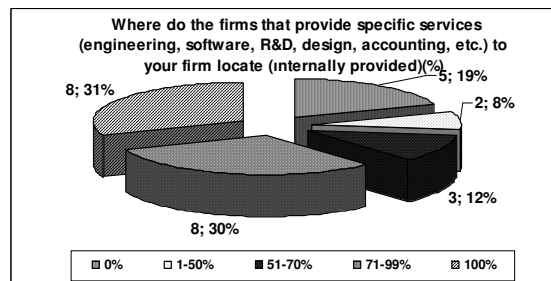
Finally, the last question asked to the firms to be answered is to indicate type of relations with other firms in different locations, as well as with universities and GOIZ technopark. The survey allowed one to interpret that relocated firms in GOIZ mostly have relationships with other firms based on input and trade regardless of locations (Figure 5.15). In detail, the highest share of relationship based on trade is apparent with the firms located in Turkey, while input based relationship is dominant with international firms. This result is parallel with the empirical data illustrated in Figure 5.13.

Moreover, it is necessary to point out that GOIZ technopark, universities and the firms in GOIZ have high shares concerning no relationship answers. This is important because firms did not take into consideration the networks opportunities with universities and technopark in GOIZ although it would be an advantage to have close relationships in

decision making process. Therefore, it is possible to say that firms are more willing to keep their existing networks with universities and technopark. Figure 5.16 supports this argument since more than half of the services including R&D, software, design..etc. are met internally.



**Figure 5.15: Type of relationships among firms**



**Figure 5.16: Share of the specific services that are internally provided**

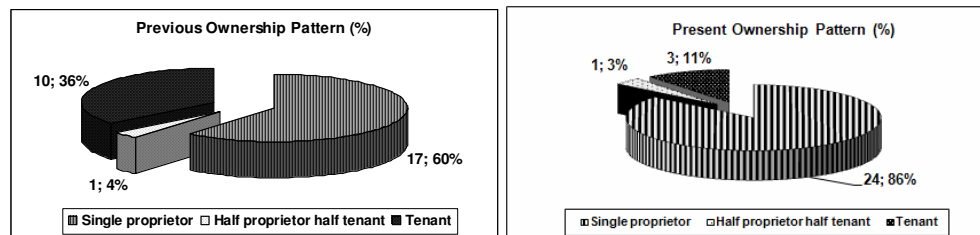
As a result, in terms of market characteristic of the firms, it is obvious that majority of the inputs are provided from foreign markets while national market dominates the output relations. As concerns the type of relationship, the effect of the knowledge based institutions such as universities and technopark is the weakest. However, this result might be subject to biases if it is interpreted as relocated firms do not take into

consideration innovation or networking because such services are already provided internally.

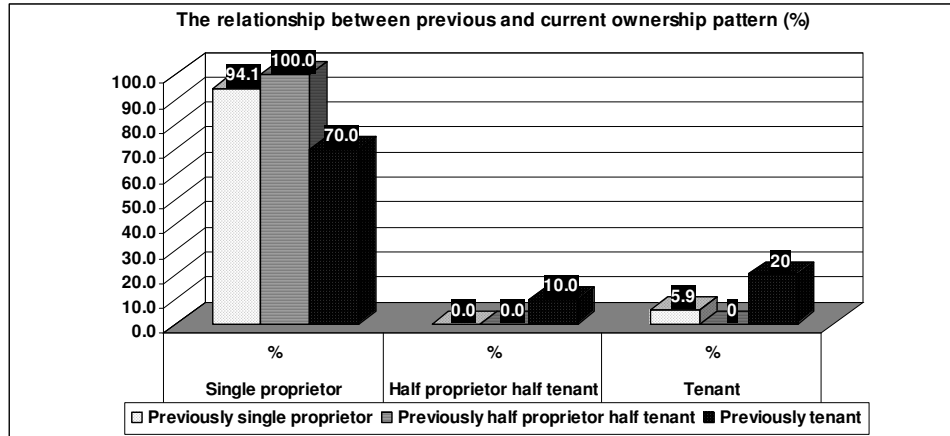
### 5.2.6 Site

The last investigated characteristic of the firm in this part is the site comprising ownership pattern, availability of space to expand and previous locations.

To begin with, the previous and current ownership patterns of the relocated firms are concerned. In the literature, the expectation is that owners of premises are less likely to move to another location than firms that are renters, because the cost of vacating the present building is much higher for owners. However, in case of GOIZ, this argument is not confirmed since a vast majority of the firms relocated in GOIZ were previously single proprietors (Figure 5.17). On the other hand, if the relationship between previous and current ownership is analyzed, it is seen that all previously tenant firms became single proprietor after relocated in GOIZ (Figure 5.18).

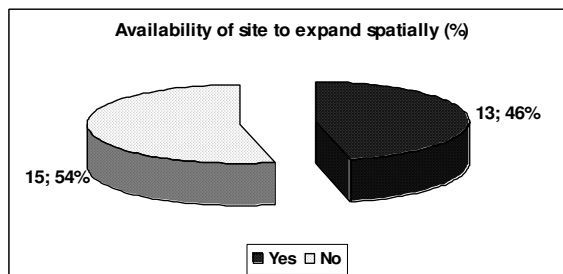


**Figure 5.17: Previous and present ownership pattern of the firms**



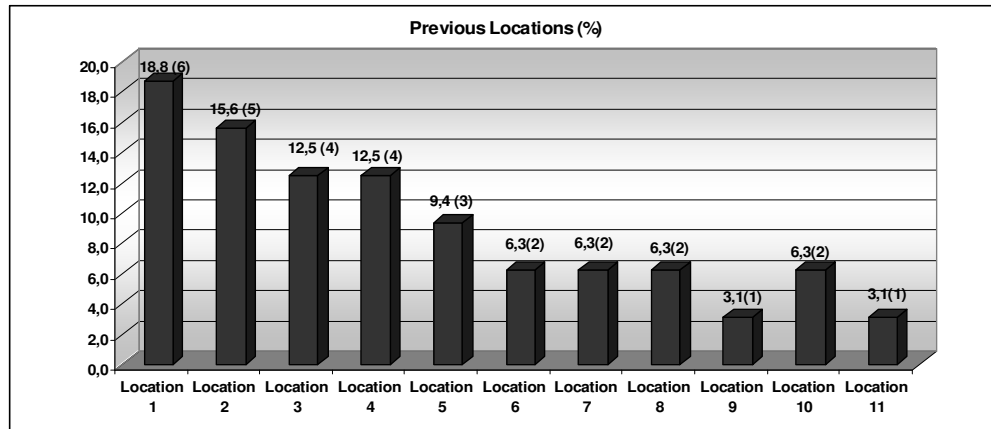
**Figure 5.18: The relationship between previous and current ownership pattern**

Another point to be raised related to site is the availability to expand in current location of the firm. This question is important in order to reveal the relocation tendency of the firms in the future. About 54% of the firms consider that there is not much space to expand in their current location, while the rest has just indicated as vice versa (Figure 5.19). The result represents the tendency of the firms to relocate one more in the future as a result of additional space required due to a change in the production capacity.



**Figure 5.19: Availability of site to expand spatially**

Lastly, previous locations of the firms are described. Figure 5.20 gives the result of the previous locations which are dominantly in the districts of Eastern side. Considering the location of GOIZ, it is normal for the firms to decide to relocate at GOIZ which is the closest industrial zone to their previous locations.



Location 1	Kartal_Tuzla
Location 2	Maltepe_Pendik
Location 3	Kadıköy
Location 4	Üsküdar_Ümraniye
Location 5	Şişli_Beşiktaş
Location 6	Bahçelievler_Zeytinburnu
Location 7	Eminönü
Location 8	Beyoğlu
Location 9	Şile
Location 10	Gebze
Location 11	Çerkezköy

**Figure 5.20: Previous locations of the firms**

As a result, the common firm characteristics in terms of site is that vast majority of firms are single proprietor, however, more than half of those firms found their current location as inadequate to expand spatially. Thus, regardless of being single proprietor those firms might desire to relocate one more in the future.

After describing the general characteristics of the firms, it is time to explain push and pull factors generating firm relocation and to reveal the relationship between those factors and firm characteristics which constitute the next part of this chapter.

### **5.3 PUSH and PULL FACTORS GENERATING RELOCATION of FIRMS**

This section is allocated to identify the main push factors that make firms move from Istanbul to GOIZ and pull factors that promote firms to relocate their activities in GOIZ. Therefore, the factors promoting Istanbul-GOIZ relocation are investigated in detail under two main sections.

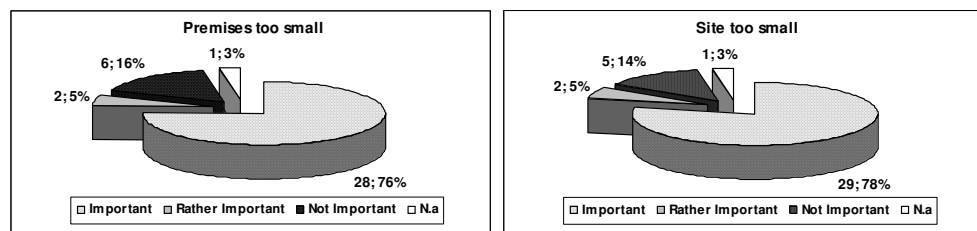
### 5.3.1 Push Factors

In the questionnaire, firms were asked to tell which following reasons prompted them to move their operations away from their former site through likert scale. The reasons are classified under 7 headings that constitute sub-headings of this section.

#### 5.3.1.1 Site and Premises

The first factor analyzed in the questionnaire is the site and premises that are introduced in Chapter 2 as the component of location factors. In order to reveal the role of site and premises on moving firms from Istanbul, eight questions were asked to the firms.

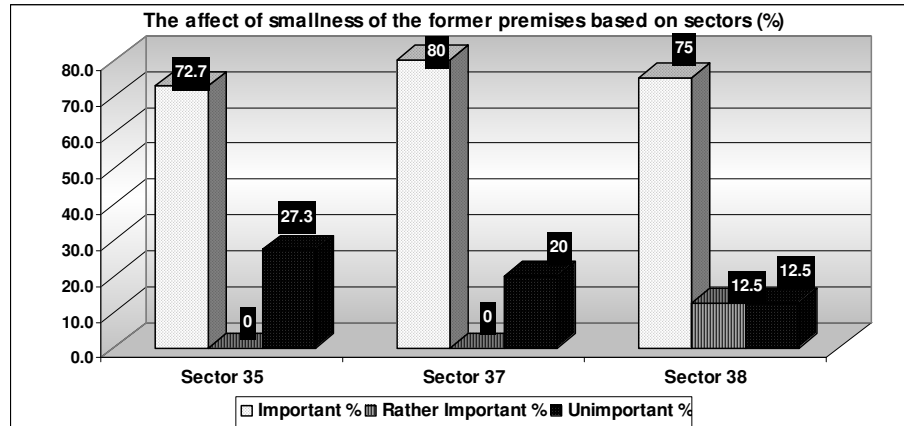
To begin with, the first question is about the affect of premise's small size on leaving the former site. 76 % of the firms found premise's small size as an important push factor; while 5.4 % of the firms stated as rather important and 16.2 % of the firms defined as unimportant factor in leaving previous locations. Similar to the first question, the role of small size of site in moving from Istanbul was asked to the firms as the second question. A very high percent of the firms, which is approximately 80% of them, indicated this factor as important; while 13.5 % of them found site size as an unimportant push factor (Figure 5.21).



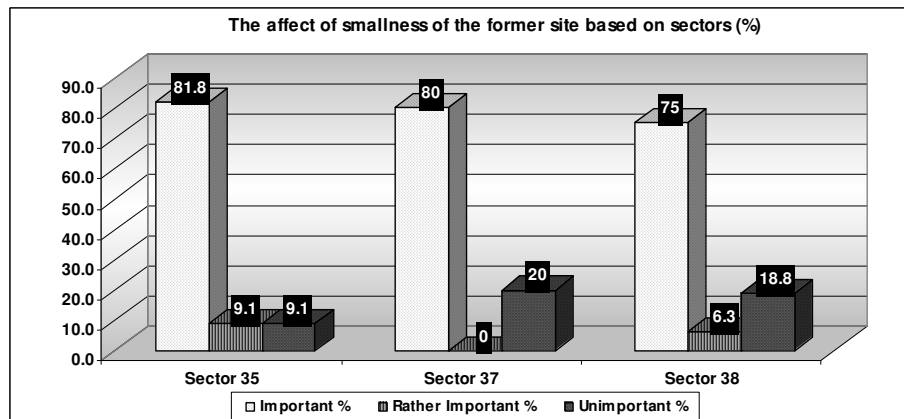
**Figure 5.21: The effect of smallness of the former premise and site on their move from the original location**

Now, it is important to discuss whether there is a differentiation among the firms who consider site and premises as an important push factor based on sector and firm size. Actually, there is no a significant sectoral difference among the firms since a high

percentage of the firms in each sector indicated that small premise's size played an important role for relocation decision. Similarly, most of the firms in each sector found site's small size as an important factor that push their activities from their original location (Figure 5.22 & 5.23).



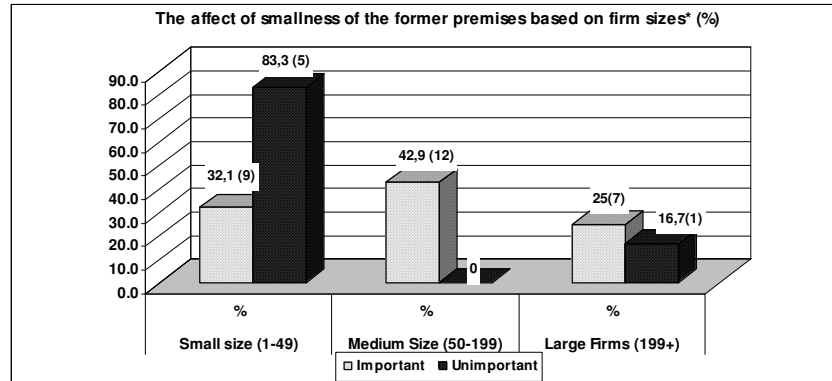
**Figure 5.22: The effect of smallness of the former premises on their move from the original location based on sectors (%)**



**Figure 5.23: The effect of smallness of the former site on their move from the original location based on sectors (%)**

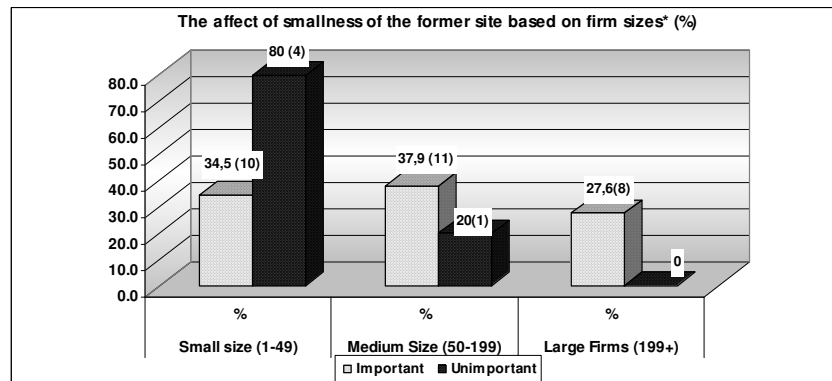


Different from the previous result, in terms of firm's size it is revealed that a high percentage of the small size firms found site and premise's small size as unimportant factor in moving from core to the periphery (Figure 5.24 & 5.25).



\* Horizontal summations of each category is equal to 100%

**Figure 5.24: The effect of smallness of the former premise on their move from the original location based on firm size (%)**

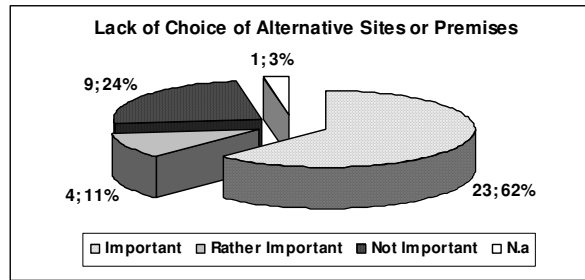


\* Horizontal summations of each category is equal to 100%

**Figure 5.25: The effect of smallness of the former site on their move from the original location based on firm size (%)**

The reasons behind classification of insufficient size of site and premises as important push factor might be related to a technological shift in production process or growth in firm capacity.

Related to the size of site and premises, as the third factor, lack of choice of alternative sites or premises was asked in order to understand whether it is an important factor in relocation. About 62% of the firms stated that lack of alternative site or premises played an important role in their relocation decision (Figure 5.26). In this respect, it is understood that previous locations of the firms were an influential obstacle that firms faced.



**Figure 5.26: The effect of lack of choice of alternative sites or premises on their move from the original location**

Another factor is the high maintenance cost at the previous location that 51% of the firms indicated as unimportant factor driving them to relocate from Istanbul (Figure 5.27). As concerns the firms finding this factor as important, it is revealed that sectoral differentiation does not play a significant role for indicating high maintenance cost as a push factor (Figure 5.28). However, in order of importance, the firm size based ranking shows that while the vast majority of small size firms defined high maintenance cost as unimportant in their relocation decisions, medium and large firms indicated as important this factor. Regarding maintenance cost typically includes the cost of labor and parts to perform repairs, the importance for high maintenance cost are expected to be low for small firms. The outcomes confirm this argument since more than half of the firms found this factor as unimportant is small firms (Figure 5.29).

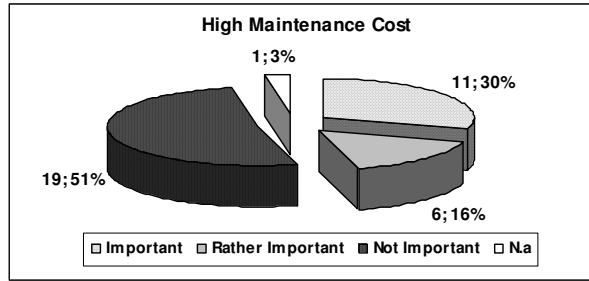


Figure 5.27: The effect of high maintenance cost on their move from the original location

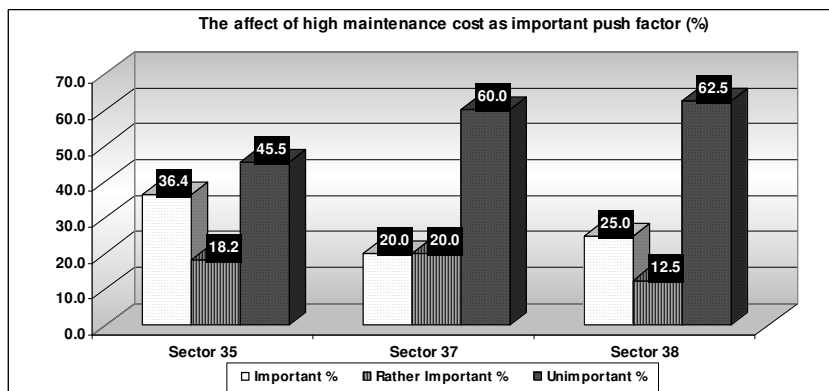
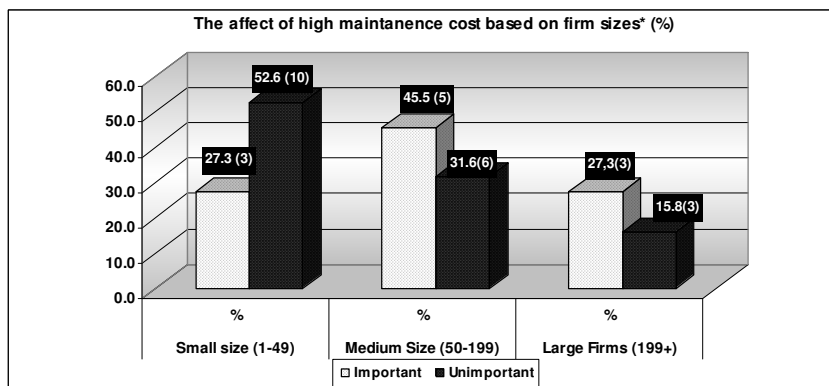


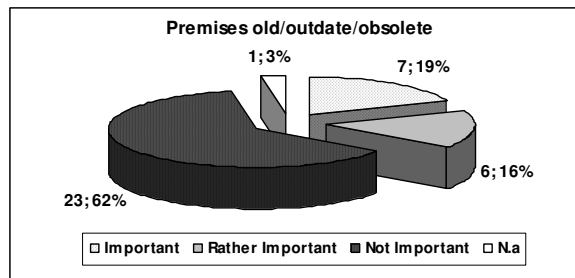
Figure 5.28: The effect of high maintenance cost on their move from the original location based on sectors (%)



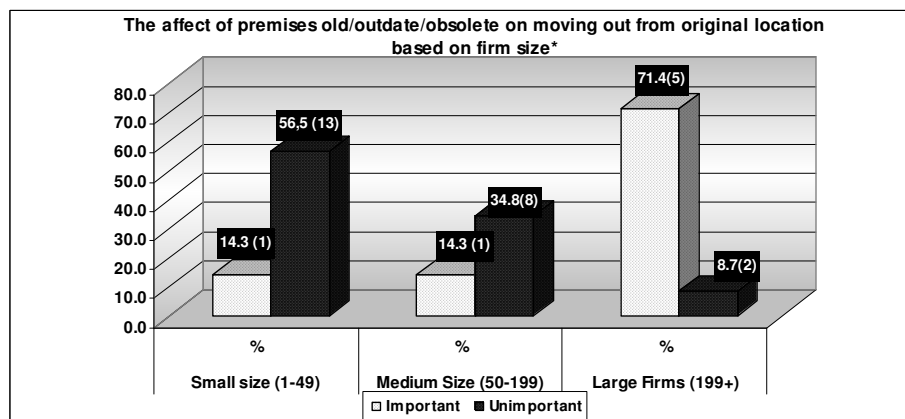
\* Horizontal summations of each category is equal to 100%

Figure 5.29: The effect of high maintenance cost on their move from the original location based on firm size (%)

Another factor that can be evaluated in relation with maintenance cost is premises old/outdate/obsolete. Considering order of importance demonstrated in Figure 5.30, this factor seem not important for the relocation of the firms since 62% of them found premises old/outdate or obsolete situation as unimportant. In terms of firm size, there is a significant difference that is large firms considered premises old as important however small firms found it as unimportant. It is also worth to mention that the vast majority of the firms (71%) indicated as important this factor is large firms (Figure 5.31). Considering the relationship between times spent in the previous location and the firm size, importance of old or obsolete situation of the premises is expected to be an important push factor for large firms. Figure 5.32 supports the argument since 50% of the firms spending more than 30 years in their previous location are large firms.

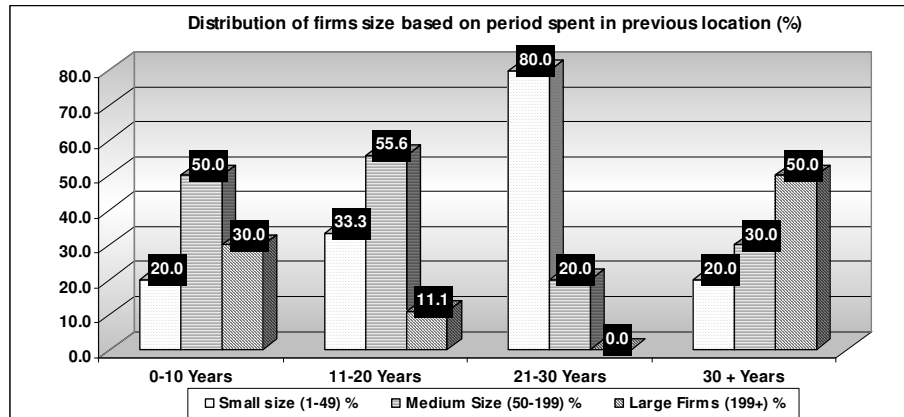


**Figure 5.30: The effect of premises' old/outdate/obsolete on their move from the original location**



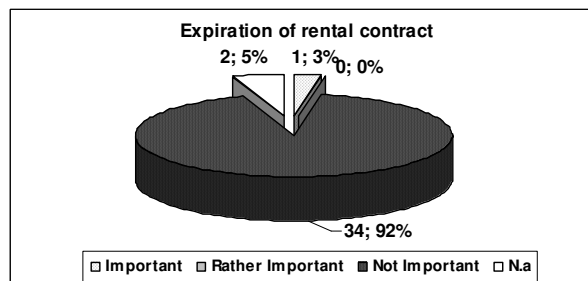
\* Horizontal summations of each category is equal to 100%

**Figure 5.31: The effect of premises' old/outdate/obsolete on their move from the original location based on firm size**



**Figure 5.32: The relationship between firm size and period spent in previous location**

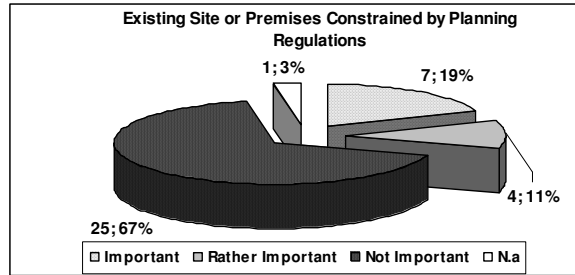
Apart from physical factors, expiration of rental contract is another factor asked to the firms. Actually, observing that 86% of the firms are single proprietors (Figure 5.17), majority of the firms are expected to find expiration of rental contract as unimportant in their relocation decision. The outcome confirms this argument since 92% of the firms stated expiration of rental contract as unimportant factor (Figure 5.33).



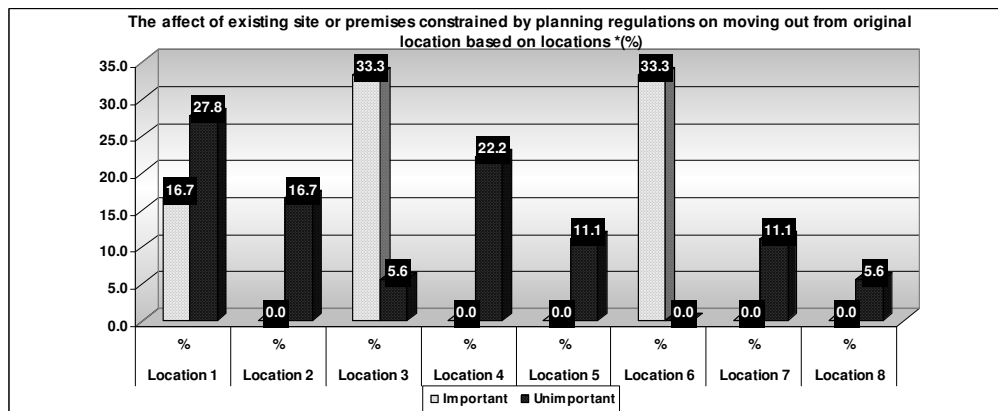
**Figure 5.33: The effect of expiration of rental contract on their move from the original location**

When it is asked to rank the importance of restrictive planning regulation on their existing site or premises, 67% of the firms mentioned that it is an unimportant push factor (Figure 5.34). As concerns the firms founding planning restrictions as important in their relocation decision, it is revealed that Kartal, Tuzla, Kadıköy, Bahçelievler and Zeytinburnu were the

previous locations of such firms (Figure 5.35). The reason behind this result could be identified on the basis of deindustrialization policies in those districts.



**Figure 5.34: The effect of existing site or premises constrained by planning regulations on their move from the original location**



<b>Location 1</b>	Kartal Tuzla
<b>Location 2</b>	Maltepe Pendik
<b>Location 3</b>	Kadıköy
<b>Location 4</b>	Üsküdar Ümraniye
<b>Location 5</b>	Şişli Beşiktaş
<b>Location 6</b>	Bahçelievler Zeytinburnu
<b>Location 7</b>	Eminönü
<b>Location 8</b>	Beyoğlu

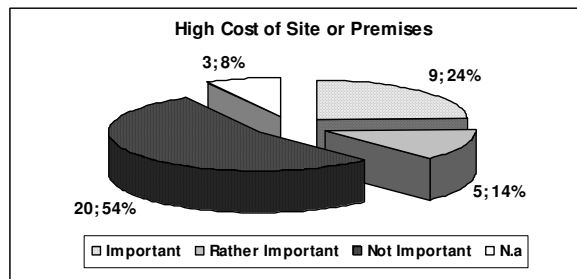
\* Horizontal summations of each category is equal to 100%

**Figure 5.35: The effect of existing site or premises constrained by planning regulations on their move from the original location**

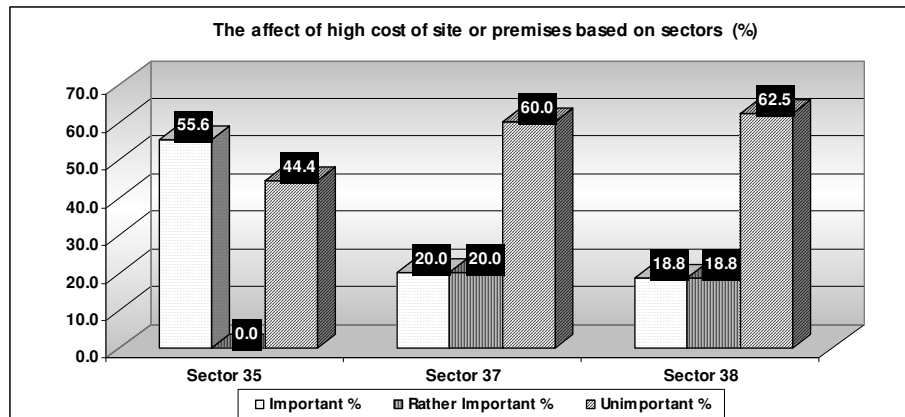
The last push factor in this category is high cost of site or premises. More than half of the respondents (54%) reported high cost of site or premises as unimportant push factor while

24% of them indicated this factor as important (Figure 5.36). The outcome can also be evaluated in relation to sectoral distribution. As Figure 5.37 demonstrates, although sectors in general found this factor as unimportant, more than half of the firms (%56) in chemical sector stated that high cost of site or premises played a key role in driving relocation from Istanbul.

Difficulty in choosing appropriate site owing to environmental and toxicological concerns, additional site requirement for both storage facilities of non environmental materials and diverse niche businesses can be listed as reasons that drive firms in chemical sector from Istanbul to GOIZ where land development cost is comparably lower.

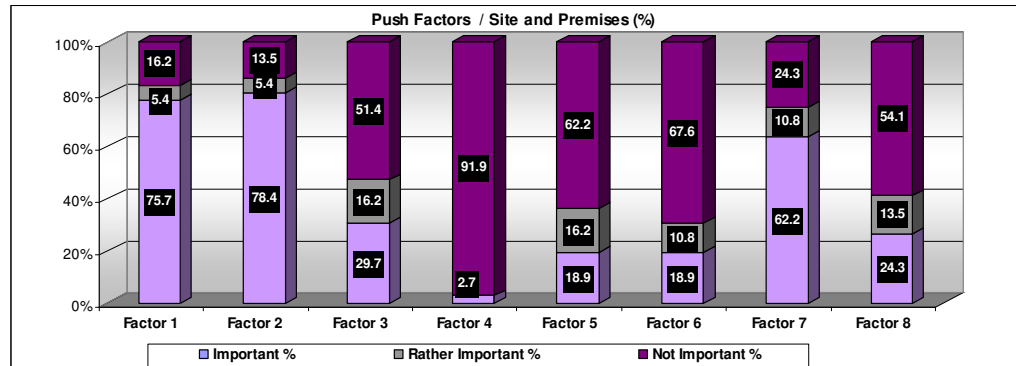


**Figure 5.36: The effect of high cost of site or premises on their move from the original location**



**Figure 5.37: The effect of high cost of site or premises on their move from the original location based on sectors**

As a result, it is clear that a large part of the firms concerned the inadequate size of site or premises as important push factors in their relocation decision (Figure 5.38). In other words, the most important push factors indicated by firms put forward physical limitations in Istanbul. In this respect, it is understood that important factors behind moving from Istanbul is similar to those described in classical *incubation theory*. Scott (1990) clearly explains that after reaching a satisfactory growth level firms need to upgrade their technology and means of production. Therefore, consuming a larger space compared to inner city rises as a dominant factor in firm relocation.



<b>Factor 1</b>	Premises too small
<b>Factor 2</b>	Site too small
<b>Factor 3</b>	High maintainance cost
<b>Factor 4</b>	Premises' lease expired
<b>Factor 5</b>	Premises old/outdate/obsolete
<b>Factor 6</b>	Existing site or premises constrained by planning regulations
<b>Factor 7</b>	Lack of choice of alternative sites or premises
<b>Factor 8</b>	High cost of site or premises

**Figure 5.38: The effect of factors related to site and premises on their move from the original location**

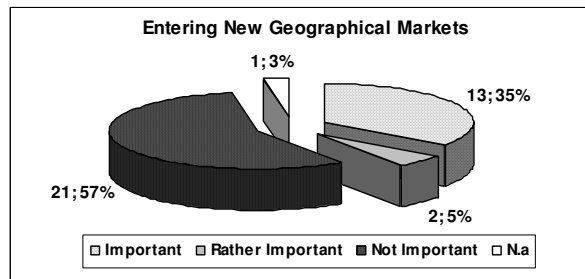
The possible contribution of such a result to the planning for industrial sector in Istanbul is that spatial pattern and size of industry should be taken into consideration in the process of deciding potential areas where industrial development might occur. Otherwise, the ongoing growth need of the firms might cause an uncontrolled spatial development that poses certain drawbacks in the future.



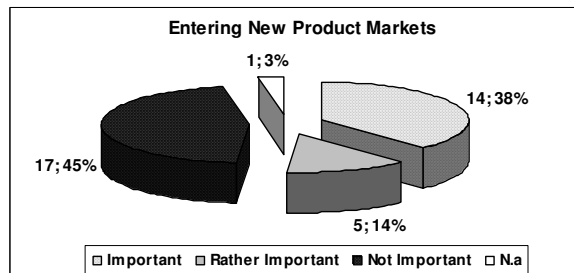
### 5.3.1.2 Market

The second group of questions that were asked to rank in order of importance as pushing factor is market conditions. As discussed earlier, the factors related to market conditions are defined in the framework of institutional and evolutionary theories. Therefore, in this section the importance of soft factors such as entering a new market or proximity to other firms as pushing factors are investigated. Under this group, seven factors are classified that is explained in detail.

The first two push factors are entering new geographical and product markets that are described as external factors in the literature. 57% of the firms found entering new geographical markets as unimportant, while 35% of the firms indicated as important (Figure 5.39). Similar to the previous results, entering new product markets were stated as unimportant by 45% of the firms and for 38% of them, this factor played a key role in their relocation activities (Figure 5.40).



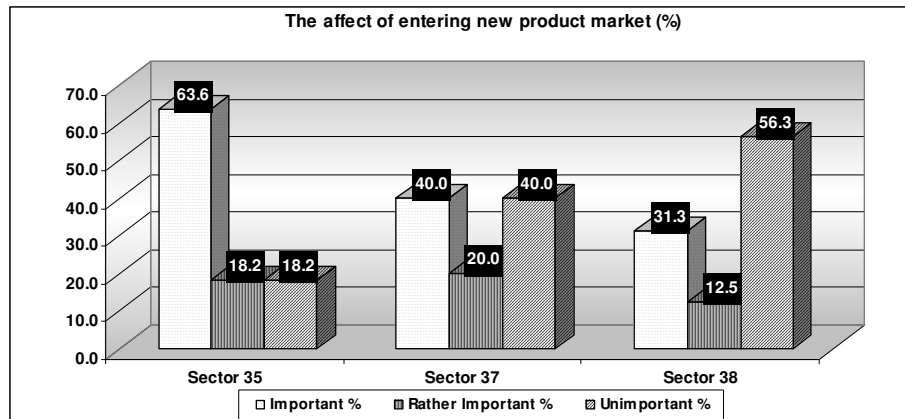
**Figure 5.39: The effect of entering new geographical markets on their move from the original location**



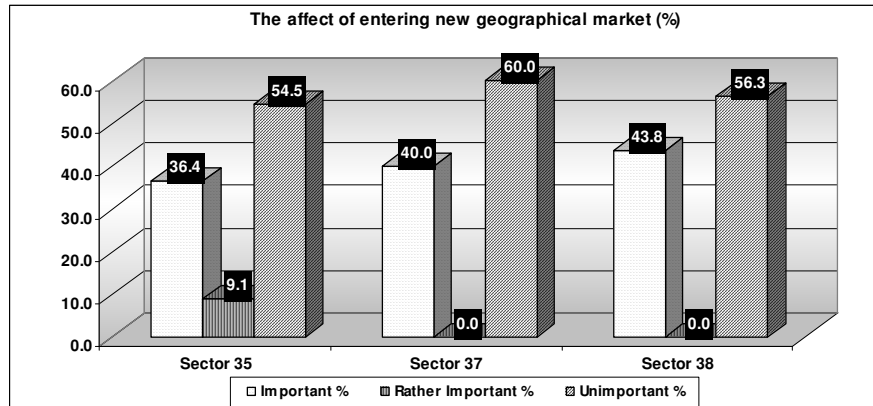
**Figure 5.40: The effect of entering new product markets on their move from the original location**

In addition to the frequency analysis, it is important to investigate whether there is an evident relationship between those two push factors and firm characteristics. Indeed, analysis shows that there is a relationship between entering new product markets and sectors. %64 of the firms in chemical sector found the factor as important in their relocation decision. For the rest of the sectors, there is not a certain differentiation in the importance ranking of the factor (Figure 5.41).

Different from previous results, in terms of entering new geographical market, it is obvious that there is not any sector based differentiation between the firms indicated the factor as important (Figure 5.42). As a result of sector based analysis, it is clear that firms except in chemical sector are unwilling to enter new product or geographical markets. For that reason, it can be stated that chemical sector have a tendency to develop new economic activities and new product-market combinations.

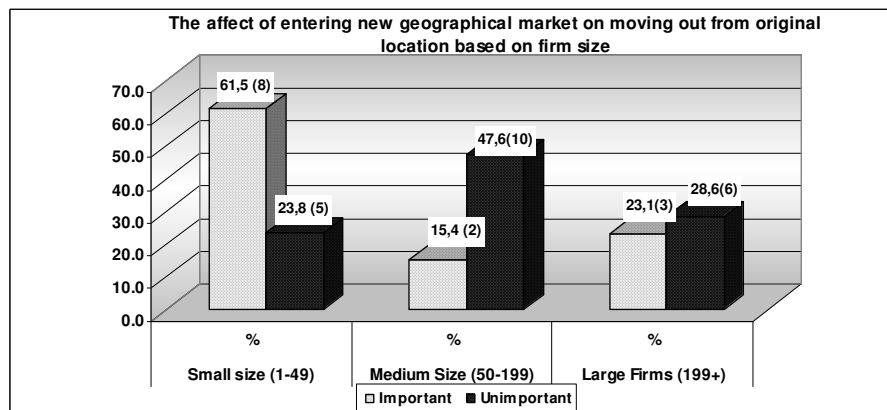


**Figure 5.41: The effect of entering new product markets on their move from the original location based on sectors**



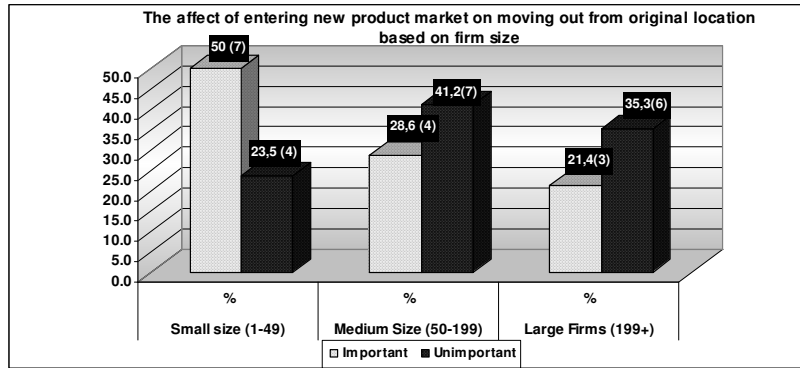
**Figure 5.42: The effect of entering new geographical markets on their move from the original location based on sectors**

Furthermore, the outcomes based on firm's size shows that entering new product or geographical market is comparatively more important push factor for small size firms (Figure 5.43 & 5.44). For medium and large firms, it is seen that entering new markets did not play a relevant role in their relocation decision. The main reason behind this result might be related to possible business risks of venturing into new territories and new markets which are often not under the control of the firm. At this point, compared to medium and large firms, small size firms are more adaptive to new market conditions. That means relocation decision of small size firms is motivated by participation in new markets that is expected to provide new networks fostering product innovation.



\* Horizontal summations of each category is equal to 100%

**Figure 5.43: The effect of entering new geographical markets on their move from the original location based on firm size**

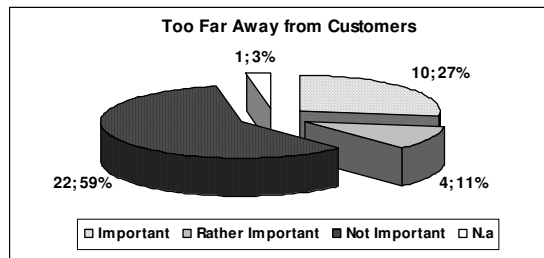


\* Horizontal summations of each category is equal to 100%

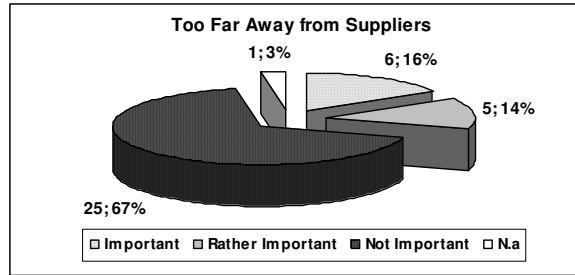
**Figure 5.44: The effect of entering new product markets on their move from the original location based on firm size**

After analyzing the effects of external factors on driving firms from Istanbul, institutional factors related to the market conditions are discussed. Four factors were asked to the respondents to be ranked in order of importance. The first factor is being far away from customers. As demonstrated in Figure 5.45, 59% of the firms indicated the first factor as unimportant, while 27% of them found it as important. Secondly, as a complementary question the importance of being away from suppliers in driving activities from Istanbul was asked. Similar to the previous result, a vast majority of the firms (67%) found this factor unimportant (Figure 5.46).

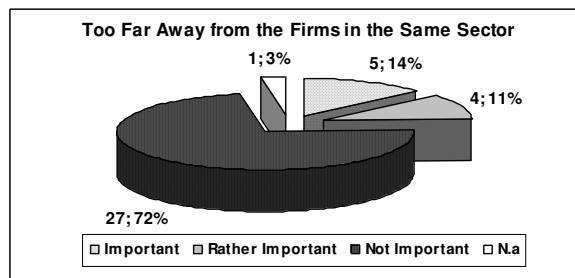
Apart from being far away from market and raw material, being far away from the firms in the same sector and sub contractors were also investigated in order to reveal the affect on relocation decision of the firms. The outcomes reveal that those two factors seem not important for the firms (Figure 5.47 & 5.48).



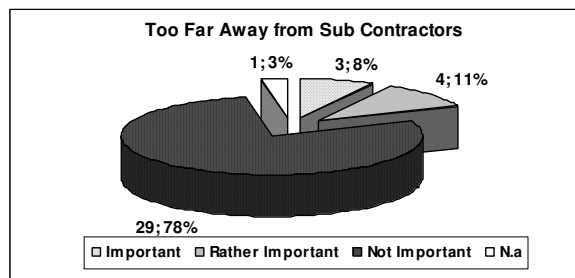
**Figure 5.45: The effect of being far away from customers on their move from the original location**



**Figure 5.46: The effect of being far away from suppliers on their move from the original location**



**Figure 5.47: The effect of being far away from the firms in the same sector on their move from the original location**

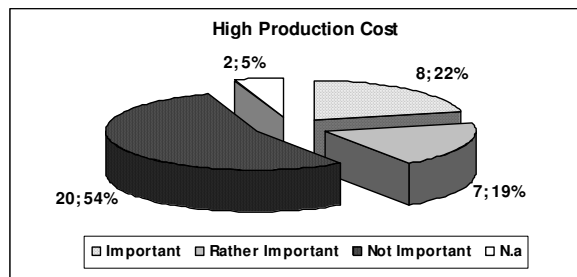


**Figure 5.48: The effect of being far away from sub contractors in the same sector on their move from the original location**

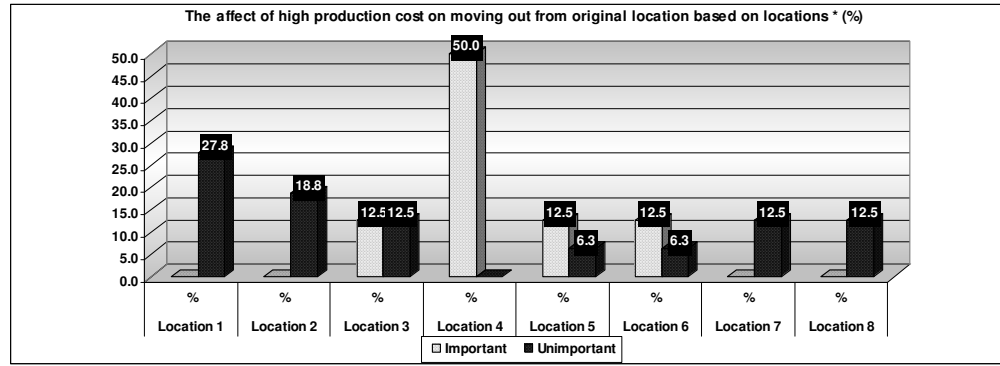
To sum up, it is clear that firms seem to not have many problems due to being far away from customer, supplier, and firms in the same sector and sub contractor. This result might be interpreted as contradicting with the institutional theory literature that put a high emphasis on spatial agglomeration of firms and relationships between firms in the forms

of industrial district, learning region or cluster (Pyke *et al.*, 1990; Brusco and Paba, 1997; Becattini, 1990; 2002; Amin, 2000). In this respect, it can be concluded that in previous locations of the firms, there was not agglomerations that provide certain externalities facilitating learning, innovation, collaboration in production or marketing process. At this point, it is important to ask that whether benefitting from cluster externalities have affect on deciding GOIZ to relocate for the firms. In next part, this question will be examined.

The last factor investigated in this group is high production cost. For 54% of the firms high production cost is important and for 22% this factor is important (Figure 5.49). That means high cost of production has not become a major impediment to the growth of industry except from the firms previously located in the central districts of Istanbul. Regarding the major elements of cost which are high raw material cost, labor and overheads are high in central districts and sub centers, therefore it is expected that previous locations of the firms indicating high production cost as important factor were in central and sub central districts in Istanbul. The outcome confirms the argument since previous location of the firms were the districts having relatively high rate of commercial activities such as Üsküdar, Ümraniye, Şişli, Beşiktaş, Kadıköy, Bahçelievler and Zeytinburnu (Figure 5.50).



**Figure 5.49: The effect of high production cost on their move from the original location**



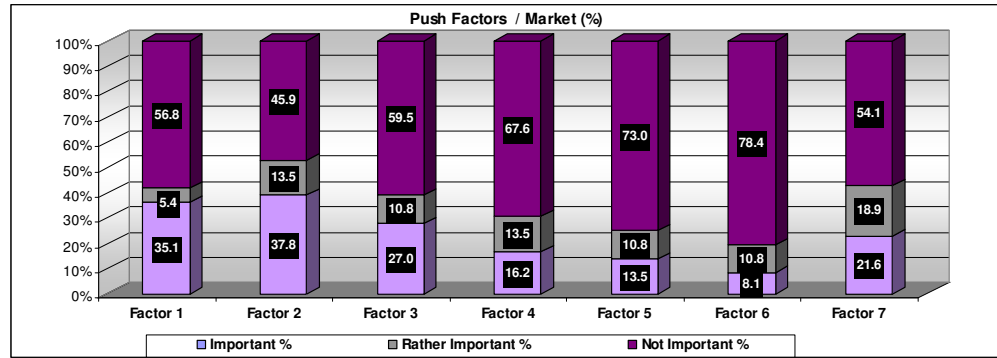
<b>Location 1</b>	Kartal_Tuzla
<b>Location 2</b>	Maltepe_Pendik
<b>Location 3</b>	Kadıköy
<b>Location 4</b>	Üsküdar Ümraniye
<b>Location 5</b>	Şişli Beşiktaş
<b>Location 6</b>	Bahçelievler Zeytinburnu
<b>Location 7</b>	Eminönü
<b>Location 8</b>	Beyoğlu

\* Horizontal summations of each category is equal to 100%

**Figure 5.50: The effect of high production cost on their move from the original location based on previous locations**

In brief, it is obvious that although entering new markets is comparatively more important than the other factors including institutional ones, in general firms except in chemical sector and small size ones are unwilling to develop new market networks (Figure 5.51). From the evolutionary theory perspective, it rises from path dependence and routines since they cause unwillingness of entrepreneurs to enter new fields of activities (new products, new techniques, and new markets) in which they lack experience (Brons and Pellenbarg, 2003 cited in Mariotti, 2005).

Besides, it is also apparent that institutional factors were found as unimportant push factor in driving firms from Istanbul. As mentioned earlier, it is seen that proximity did not matter in relocation process of the firms.



<b>Factor 1</b>	Entering new geographical markets
<b>Factor 2</b>	Entering new product markets
<b>Factor 3</b>	Too far away from customers
<b>Factor 4</b>	Too far away from suppliers
<b>Factor 5</b>	Too far away from the firms in the same sector
<b>Factor 6</b>	Too far away from sub contractors
<b>Factor 7</b>	High production cost

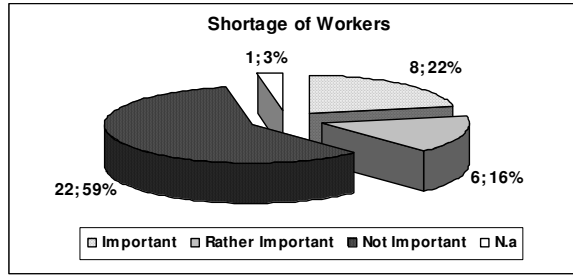
**Figure 5.51: The effect of factors related to market on their move from the original location**

### 5.3.1.3 Labor Supply

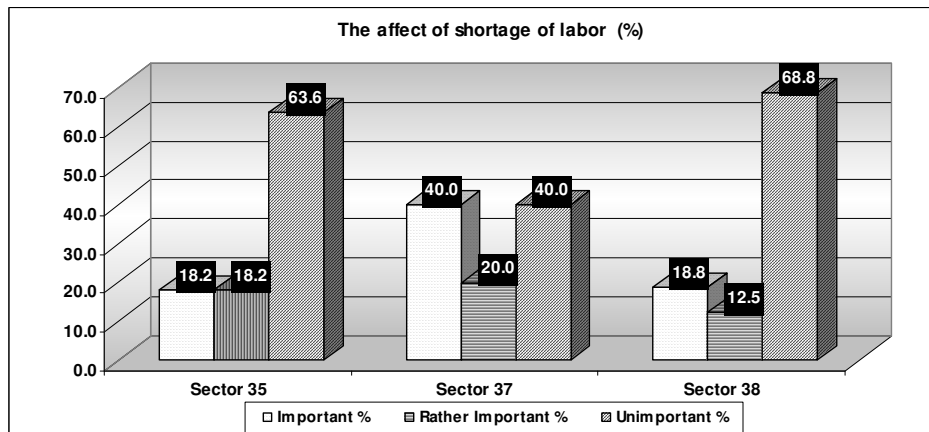
In this section, the questions addressed to the respondents concerning push factors are on labor supply. As discussed in Chapter 2, labor is considered as one of the internal factors defined in the framework of behavioral theory. In order to reveal the affect of internal factors on relocation decision of the firms, four questions were asked to the firms.

To begin with, the first factor is the shortage of workers. About 60% of the firms defined this factor as unimportant and if one puts answers important and rather important together, for 38% of the firm this factor played a role in driving them from Istanbul (Figure 5.52). In addition to this, it is also observable that the firms that found this push factor as important operate in the basic metal industry (Figure 5.53). It might be related to that basic metal industry requires more skilled labor force in the production process that includes cutting and molding in order to produce minute spare parts of larger equipments.



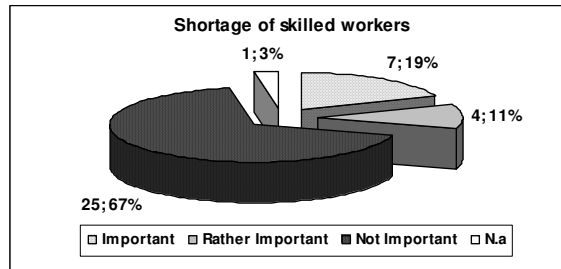


**Figure 5.52: The effect of shortage of workers on their move from the original location**

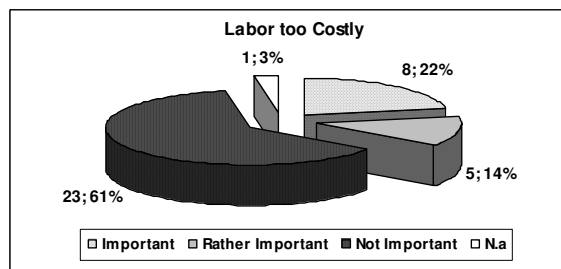


**Figure 5.53: The effect of shortage of workers on their move from the original location based on sectors**

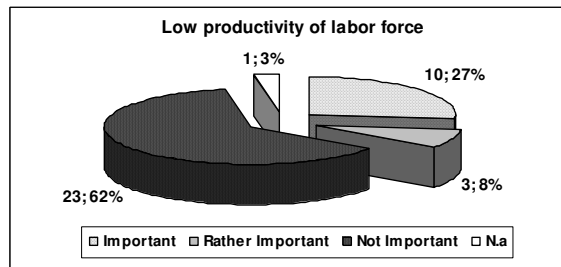
Similar to the previous question, shortage of skilled workers is another factor that was asked to the respondents. For 67% of the firms, the factor is not considered to be important while making relocation decision (Figure 5.54). The rest two analyses, comprising the factors of high cost of labor and low productivity of labor force, also reveal similar results with previously mentioned factors. Actually, in accordance with the ranking, for the vast majority of the firms those two factors did not play a role in their relocation decision (Figure 5.55 & 5.56). These results are not surprising since labor is still supplied within Istanbul city region.



**Figure 5.54: The effect of shortage of skilled workers on their move from the original location**

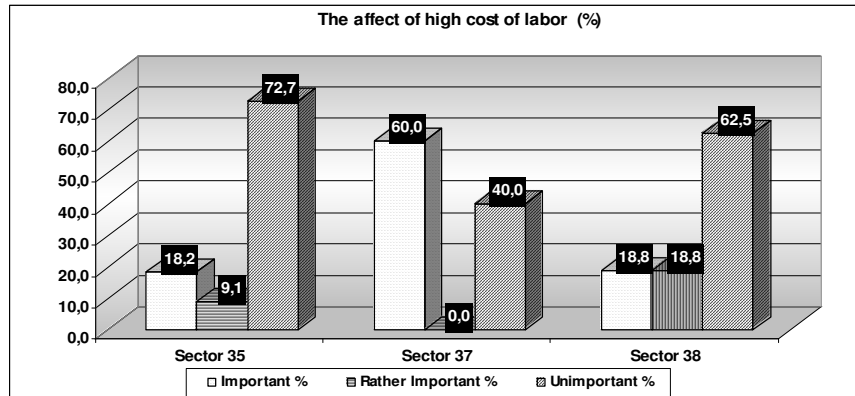


**Figure 5.55: The effect of high cost of labor on their move from the original location**



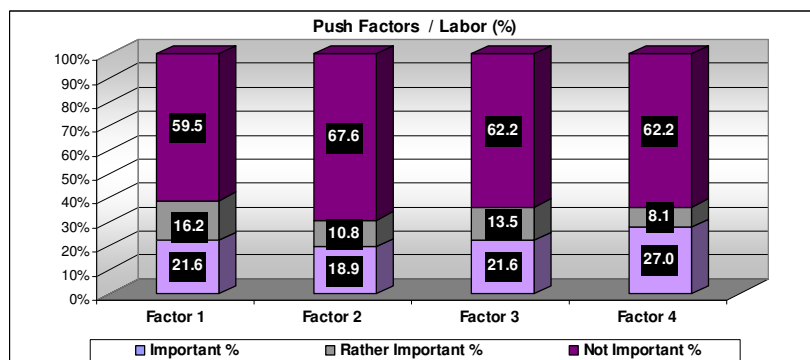
**Figure 5.56: The effect of low productivity of labor force on their move from the original location**

Now it is important to investigate whether there is a significant sectoral difference between the firms which found any labor oriented factors as important in their relocation decision making process. Indeed, a significant sectoral differentiation is only observed between the firms who found high cost of labor as important factor. As illustrated in Figure 5.57, more than half of the firms in the basic metal industry considered the factor as influential in leaving Istanbul.



**Figure 5.57: The effect of high cost of labor on their move from the original location based on sector**

As a result, it is clear that none of the factors related to labor are not decisive in relocation decisions of the firms (Figure 5.58). This is important since firms have not considered labor as an obstacle to the relocation decision. On the contrary, firms might think that it is easier to hire employees in GOIZ rather than making employees move there. Moreover, such an outcome may partly be explained by the characteristics of the firms relocated to GOIZ. Since it is determined that relocated firms are capital intensive and large scale firms in sectors such as machine and chemical industry, it is expected that they have little dependence on labour availability.



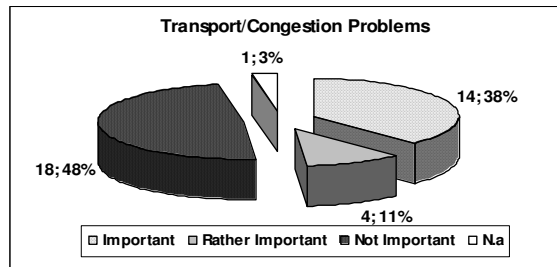
<b>Factor 1</b>	Shortage of workers
<b>Factor 2</b>	Shortage of suitability skilled workers
<b>Factor 3</b>	Labour too costly
<b>Factor 4</b>	Low productivity of labor force

**Figure 5.58: The effect of labor oriented factors on their move from the original location**

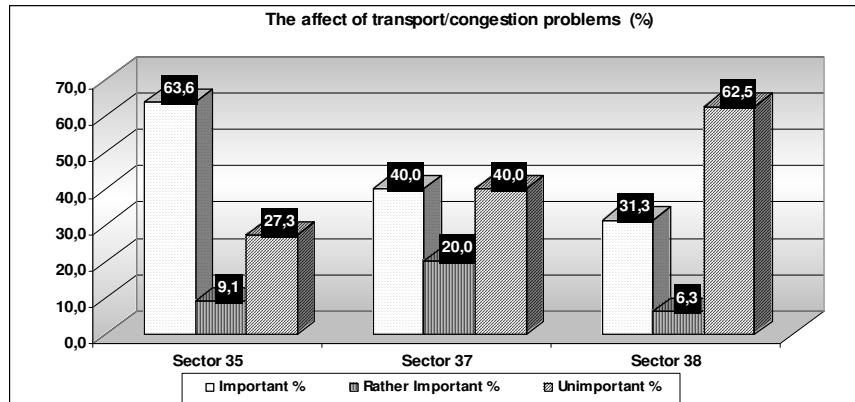
### 5.3.1.4 Transport and Infrastructure

In this section, the factors related to transport and infrastructures are investigated in order to reveal the importance in firm relocation. The factors in this group can also be defined as location factors since they are related to the firm's site and situation. Under this group, three factors were asked to the respondents to be ranked in order of importance.

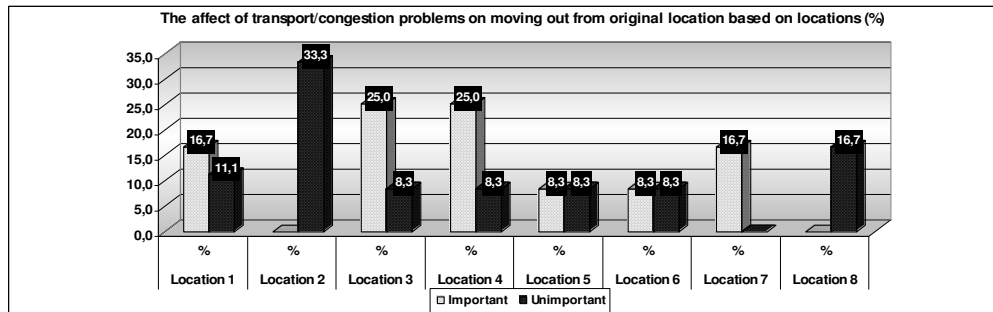
The first factor is transport and congestion problems in previous location. Nearly half of the firms, classifying important and rather important together, mentioned that this factor is important, while 48% of the respondents asserted that transport problems is not affective in their relocation decision (Figure 5.59). Additionally, in terms of sectoral differentiation, more than half of the firms in chemical industry mentioned transport problems as an important push factor which can be related as the previous locations of the firms (Figure 5.60). Such an outcome is confirmed with the help of Figure 5.61 that demonstrates previous locations of the firms. Since more than half of the firms previously located in central districts of Istanbul such as Kadıköy, Üsküdar, Ümraniye and Eminönü, definition of congestion problem as a push factor is an expected result.



**Figure 5.59: The effect of transport/congestion problems on their move from the original location**



**Figure 5.60: The effect of transport/congestion problems on their move from the original location based on sectors**

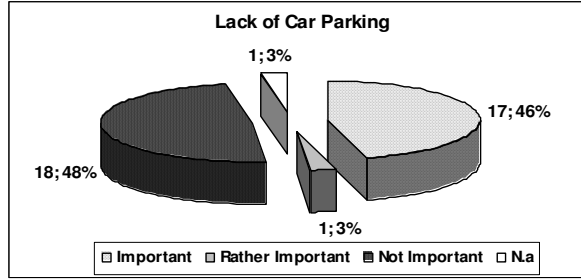


Location 1	Kartal Tuzla
Location 2	Maltepe Pendik
Location 3	Kadıköy
Location 4	Usküdar Ümraniye
Location 5	Şişli Beşiktaş
Location 6	Bahçelievler Zeytinburnu
Location 7	Erinönü
Location 8	Beyoğlu

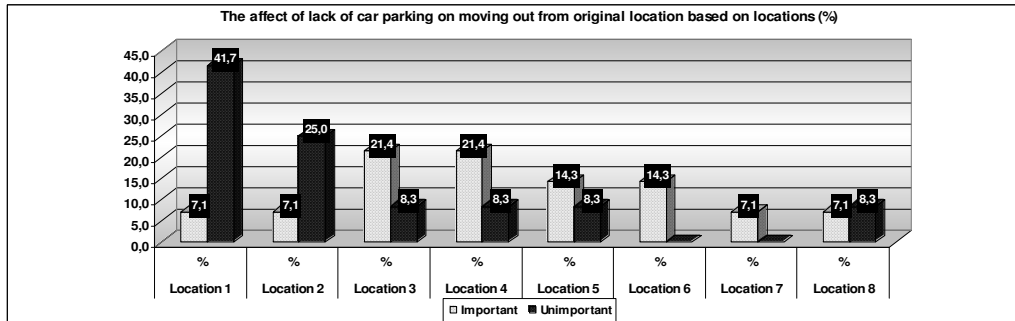
**Figure 5.61: The effect of transport/congestion problems on their move from the original location based on previous locations**

The second push factor asked to the respondents is lack of car parking. For 46% of the firms this factor is influential in their relocation decision making process, while other firms comprising nearly half of the all firms mentioned that lack of car parking did not play a key role in driving their activities from Istanbul to GOIZ (Figure 5.62). Considering the comparatively high ratio of the factor in order of importance, it is expected that the previous location of the firms was in central districts of Istanbul where congestion problem is known as to be high. The Figure 5.63 support the argument since previous

locations of the firms that found lack of car parking as important push factor are in central districts of Istanbul such as Kadıköy, Üsküdar, Ümraniye, Şişli and Beşiktaş.



**Figure 5.62: The effect of lack of car parking on their move from the original location**

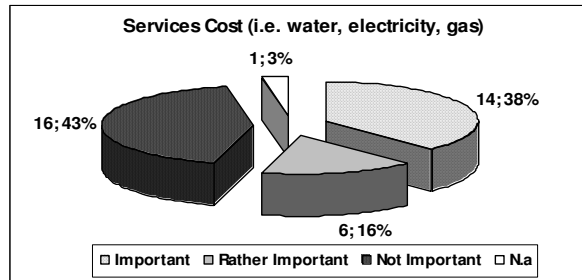


<b>Location 1</b>	Kartal Tuzla
<b>Location 2</b>	Maltepe Pendik
<b>Location 3</b>	Kadıköy
<b>Location 4</b>	Üsküdar Ümraniye
<b>Location 5</b>	Şişli Beşiktaş
<b>Location 6</b>	Bahçelievler Zeytinburnu
<b>Location 7</b>	Eminönü
<b>Location 8</b>	Beyoğlu

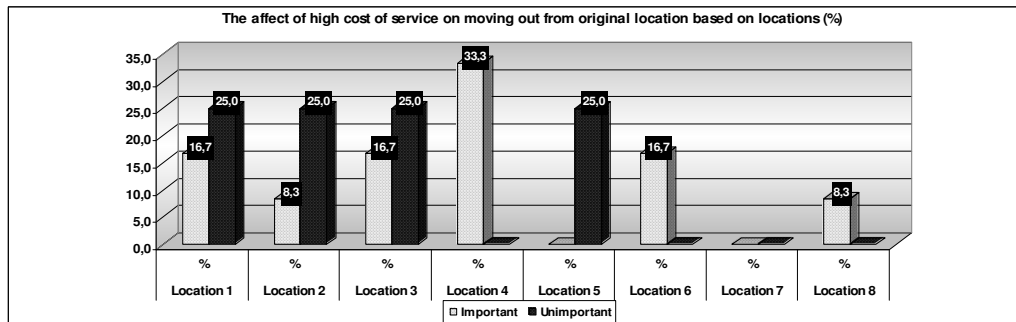
**Figure 5.63: The effect of lack of car parking on their move from the original location based on previous locations**

The last factor determined in this group is high cost of services including water, electricity, gas etc. Putting important and rather important together, about 55% of the firms pointed out that high cost of services mattered in driving firm relocation. On the other hand, for 43% of the firms, this factor seems not important (Figure 5.64). If the result is evaluated taking into consideration the previous locations, it is expected that firms indicated the high

cost of service as unimportant located in central district of Istanbul since they had the advantage to benefit from infrastructure facilities in a minimum cost compared to peripheral areas of the city. However, the outcome does not confirm the argument since previous locations of the firms indicated the factor as unimportant did not differentiate based on characteristics of the districts (Figure 5.65).



**Figure 5.64: The effect of high cost of services on their move from the original location**

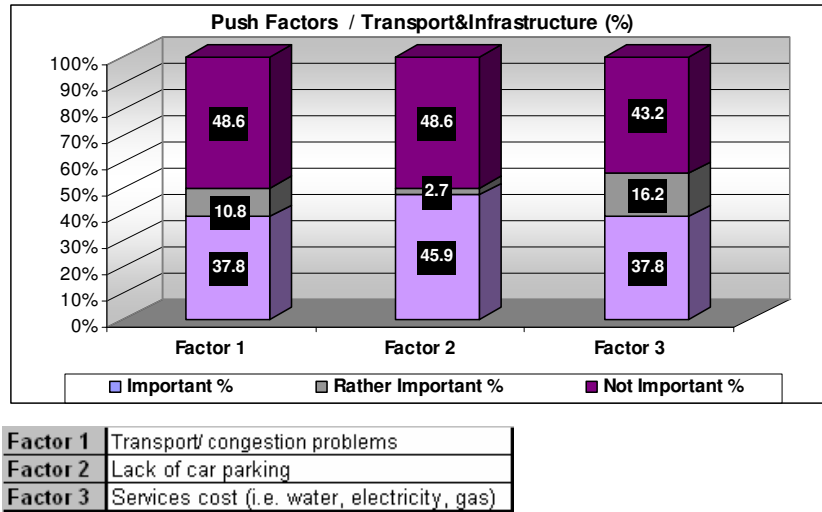


Location 1	Kartal_Tuzla
Location 2	Maltepe_Pendik
Location 3	Kadiköy
Location 4	Üsküdar_Ümraniye
Location 5	Şişli_Beşiktaş
Location 6	Bahçelievler_Zeytinburnu
Location 7	Eminönü
Location 8	Beyoğlu

**Figure 5.65: The effect of high cost of service on their move from the original location based on previous location**

In brief, factors related to transport and infrastructures were considered as influential. In particular, for the firms previously located in central districts in Istanbul, transportation

based factors had much more impact on their relocation decision. In short, considering the fact that about 90% of the transportation in Istanbul is made up of highway traffic that causes congestion, determination of transportation problem as push factor is an expected outcome.



<b>Factor 1</b>	Transport/ congestion problems
<b>Factor 2</b>	Lack of car parking
<b>Factor 3</b>	Services cost (i.e. water, electricity, gas)

**Figure 5.66: The effect of transportation and infrastructure on their move from the original location**

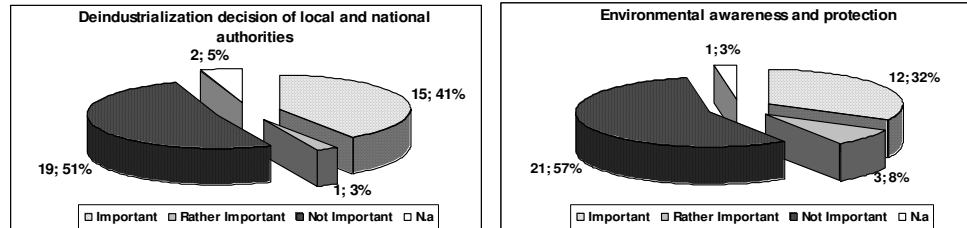
### 5.3.1.5 Local and National Government

In this part of questions, the research took into account local and national government policies. Four factors including deindustrialization decision of local authority, environmental awareness and protection, tax treatment not favorable to the firm and inefficiency of public administration were asked to the firms to be answered.

To begin with, the first factor investigated is deindustrialization decision of local and national authority. Regarding that particularly the Greater Istanbul Municipality has aimed to discourage location of industry in Istanbul in order to achieve a service sector oriented character of the city and creates environmental awareness and protection, the firms are expected to be stimulated to move to other locations where plans proposed suitable conditions for industrial development. The empirical result shows that in the case of

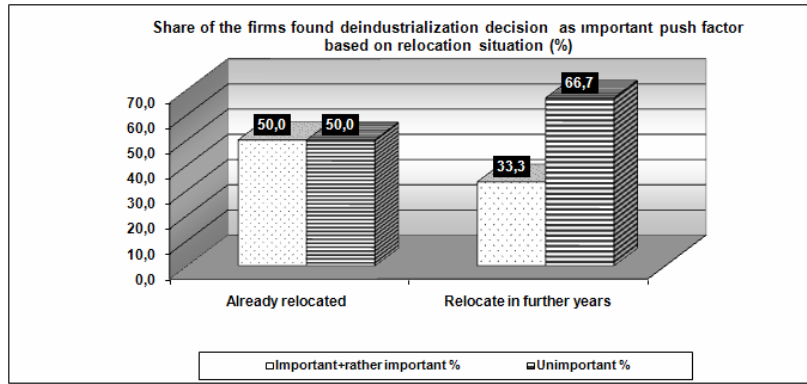


deindustrialization decision, while %51 of the firms found this factor as unimportant, 41% of them stated that this factor played a key role in their relocation. Similarly, in the case of environmental awareness and protection, the results present that this factor is dominantly found as unimportant (Figure 5.67).



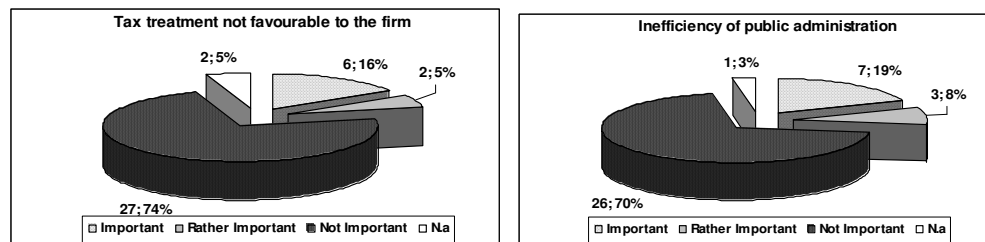
**Figure 5.67: The effect of deindustrialization decision of local and national authorities and policies on environmental awareness and protection on their move from the original location**

Now, it is appropriate to analyze the firms, constituting 41% of the total, which indicated the deindustrialization decision as important in relocation process. As mentioned at the beginning of this chapter, there are 9 firms that are still in Istanbul but will relocate in coming years. For those firms, it is expected that deindustrialization decision is much more influential in relocation decision making process than the other firms already relocated in GOIZ. However, the figure below demonstrates that for 67% of the firms that have not relocated in GOIZ this factor is not important in driving their activities from the present locations to GOIZ. At this point, it is seen that firms already relocated in GOIZ have a positive opinion about local government policy.



**Figure 5.68: The share of the firms found deindustrialization decision as important push factor based on relocation situation**

Furthermore, two more factors namely tax treatment not favorable to the firm and inefficiency of public administration related to this group were asked to the firms. Based on the results, it can be said that a vast majority of the firms stated that these factors were not important at all (Figure 5.69). The entrepreneurs do not seem so convinced about the relevance of government subsidies.



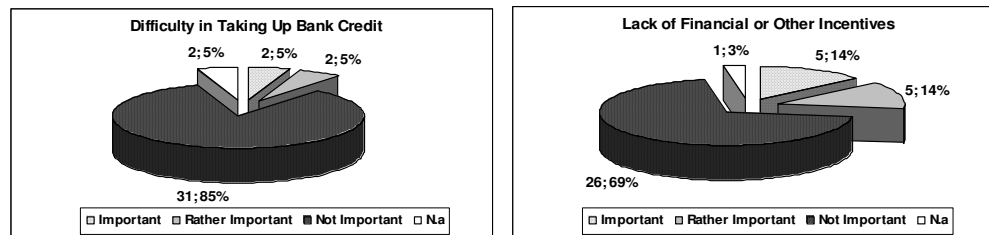
**Figure 5.69: The effect of tax treatment not favorable to the firm and inefficiency of public administration on their move from the original location**

### 5.3.1.6 Availability of Financial Assistance and Incentives

Availability of financial assistance and incentives is described under the framework of institutional factors in the literature as mentioned in Chapter 2. In some of the studies, for example the case of firms invested in Mezzogiorno in Italy conducted by Mariotti (2005),

it is found that for the vast majority of the firms incentives played a key role in the relocation decision so that respondents stated that without incentives they would never have relocated.

In line with this research, factors related to incentives were asked to the firms in order to understand their affects on relocation. In case of GOIZ, the result is differentiating totally from Italian case since vast majority of the firms defined the factors as unimportant (Figure 5.70). In other words, incentives did not play a key role in the relocation decision. Thus, without incentives they have relocated. This result might be related to that firms relocated GOIZ has established with self financing without loans, embracing the “not to expect everything from the government” principle.

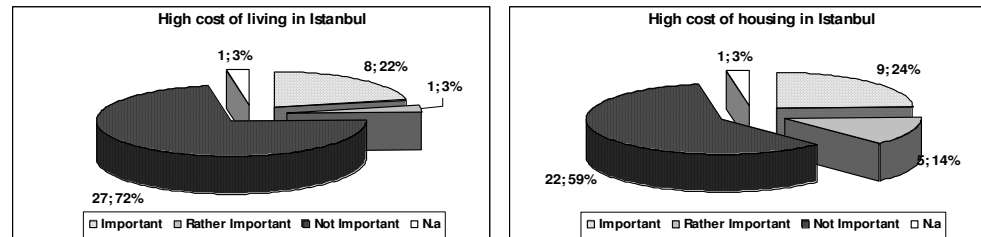


**Figure 5.70: The effect of difficulty in borrowing from banks credit and lack of financial or other incentives on their move from the original location**

### 5.3.1.7 Quality of Life

The scholars underlined that quality of life is one the soft factors promoting firm relocation. As clearly stated by Mariotti (2005, p.175), quality of life (housing and environment), image of places are shown to be as ‘relevant’ in several studies on firm relocation choices. In line with the literature and studies, it is expected that the push factors related to the quality of life are important for the firms. However, when examined the results of two factors namely high cost of living and housing in Istanbul related to the quality of life, it is revealed that the factors are not important determinants of the propensity to move (Figure 5.71). In detail, this result is not surprising considering the share of the labors that changed their address after relocation of the firms. Since the respondents stated that there was not a change in the address of more than half of the

labors regardless of skill level after relocation, the labors are still in the same location which makes two factors as neutral for them (see Appendix A, Figures 1, 2 and 3).



**Figure 5.71: The effect of high cost of living and housing in Istanbul on their move from the original location based on previous location**

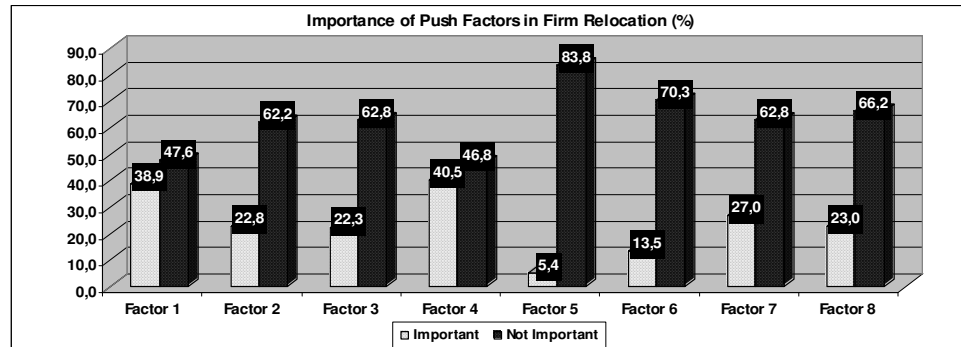
In summary, if the all push factors are compared based on ranking in order of importance, the factors related to site, premises, transport and infrastructure were found significantly more important for the relocation decision process than the other ones. Additionally, the empirical results for the factors describing driving reasons of firms from Istanbul indicate that infrastructure and transportation variables which reflect the transport, congestion problems and lack of car parking turned out to be the most significant ones at conventional level. This outcome is not surprising because accessibility and car parking problems are considered to be important push factors, driving firms to relocate from the core areas to the periphery in many studies.<sup>16</sup>

The factors related to government policies are in the third rank in the order of importance. Since local authority has made strict rules in spatial planning of industry and with regard to, for instance, environmental limits and decentralization policies, firms are stimulated to move from Istanbul.

<sup>16</sup> For current study on micro level analysis of firm relocation, see: Pellenbarg, P. H., Van Wissen, L.J.G, & Van Dijk, J. (2002), *Firm Relocation: State of the Art and Research Prospects*, SOM-theme D: Regional Science. Mariotti, I. (2005) *Firm Relocation and Regional Policy: A focus on Italy, the Netherlands and the United Kingdom*, Netherlands Geographical Studies 331, University of Groningen, Faculty of Spatial Sciences, The Netherlands

**Table 5.4: The share of push factors in order of importance**

Push Factors	Important	Rather Important	Not Important	N.a	TOTAL (%)
Site and Premises	38,9	9,8	47,6	3,7	100
Market	22,8	12,0	62,2	3,1	100
Labor	22,3	12,2	62,8	2,7	100
Transport&Infrastructure	40,5	9,9	46,8	2,7	100
Financial Assistance	5,4	5,4	83,8	5,4	100
Incentives	13,5	13,5	70,3	2,7	100
Local and National Authority	27,0	6,1	62,8	4,1	100
Quality of Life	23,0	8,1	66,2	2,7	100



Factor 1	Site and Premises
Factor 2	Market
Factor 3	Labor
Factor 4	Transport&Infrastructure
Factor 5	Financial Assistance
Factor 6	Incentives
Factor 7	Local and National Authority
Factor 8	Quality of Life

**Figure 5.72: The share of push factors in the order of importance**

To conclude, there are different reasons of relocation that stem from the structural factors of industries or environmental factors such as the absence of infrastructural facilities, agglomerations facilities, locational externalities, monetary problems etc. However, what is common to all firms is to make their profits maximum. Therefore, they relocated to GOIZ where they can be successful in this objective.

### 5.3.2 Pull Factors

In the process of relocation, certainly there are many different reasons behind the preference for the new location that might stem from the location factors, sufficient

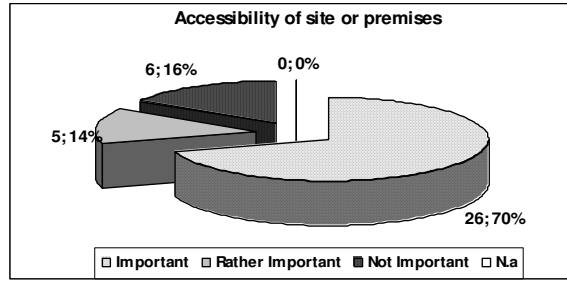
infrastructural facilities or institutional factors such as agglomeration facilities or locational externalities. Thus, in the second section, the main aim is to investigate which pull factors have led the firms to relocate in Gebze Organized Industrial Zone (GOIZ). In this respect, the attractiveness of GOIZ for firm relocation was analyzed through six main factors including:

1. Site and premises
2. Market and networking
3. Labor power
4. Transportation and infrastructure
5. Incentives
6. Policies of national and local government

### **5.3.2.1 Site and Premises**

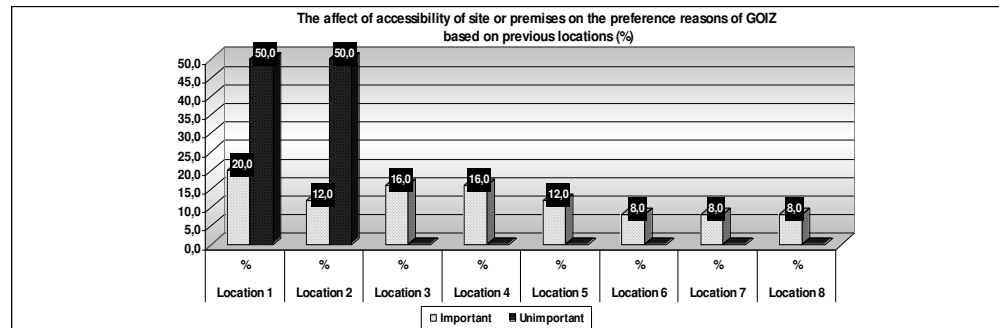
The first group of questions under the heading of site and premises comprises the basic locational factors, based on the relocation theories in Chapter 2, such as accessibility of the site or premises, low cost of the site, ownership pattern and spatial expansion flexibility of the site. Before analyzing the data, it should be noted that those factors are also important to understand the suitability of the present location in terms of physical attributes.

First of all, accessibility of the site or premises as a pull factor was asked to the respondents to be ranked in order of importance. The empirical result shows that more than half of the firms (70%) found this factor as important in promoting relocation (Figure 5.73). This high ratio is not surprising because accessibility is considered to be an important location characteristic in relocation studies (Pellenbarg et al, 2002).



**Figure 5.73: The effect of accessibility of site or premises on the reasons of preference for GOIZ**

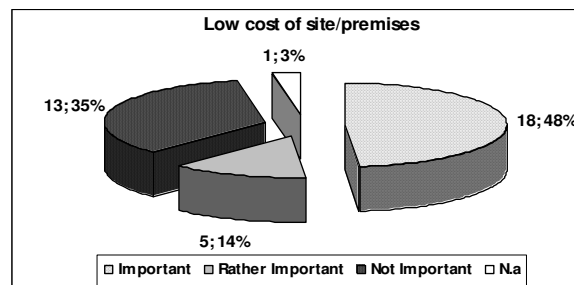
Furthermore, it might be said that accessibility appears to be a problem in previous locations of the firms. In order to reveal that, it can be analyzed whether there is a relationship between accessibility problem and previous location. When the accessibility problem and previous location in question, it is worth mentioning that there is not any significant differentiation among previous locations of firms considering this factor as important, however, in terms of unimportance ranking, it is seen that previous locations of the firms were dominantly in the districts closer to the peripheral parts of Istanbul since those districts have less congestion problems compared to the inner districts (Figure 5.74).



Location 1	Kartal Tuzla
Location 2	Maltepe Pendik
Location 3	Kadıköy
Location 4	Üsküdar Ümraniye
Location 5	Şişli Beşiktaş
Location 6	Bahçelievler Zeytinburnu
Location 7	Eminönü
Location 8	Beyoğlu

**Figure 5.74: The effect of accessibility of site or premises on the reasons of preference for GOIZ based on previous locations**

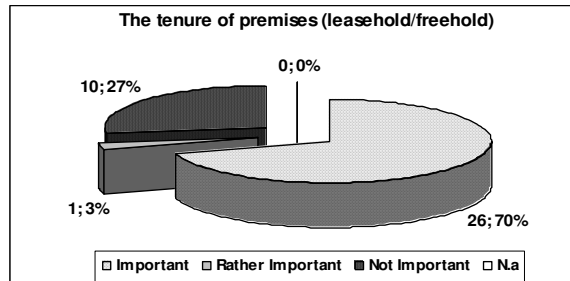
Following factor is low cost of the site or premises that is expected to be crucial in relocation process. Regarding acquisition cost of site is one of the direct cost of relocation process and is much higher in inner districts of Istanbul, it is expected that the places that provide cheaper site are much more suitable for firm relocation. As illustrated in the figure below, this argument is partially true in GOIZ case since for nearly half of the firms low cost of site or premises is an important pull factor. According to the Law 4562, about Organized Industrial Zones, industrial zones are the places where certain goods and services based on production zones are provided by supplying land parcels. Regarding this fact, it is clearly seen that provision of land at a low cost is one the main advantages of the organized industrial zones. Thus, indication this factor as important by the firms is not a surprising fact.



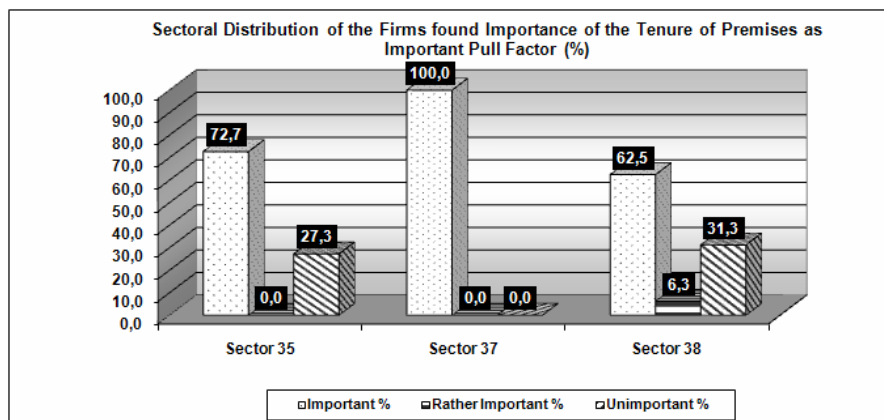
**Figure 5.75: The effect of low cost of site/premises on the reasons of preference for GOIZ**

The third factor supporting the move is the tenure of premises (leasehold/freehold). The outcome shows that 70% of the firms indicated the ownership pattern as an important pull factor, in other words firms dominantly took into consideration this factor (Figure 5.76). The fact can be explained as the vast majority of the firms are the single proprietor in GOIZ. Another explanation would be that the cost of getting rid of the previous building is less than owning a new one in GOIZ. Furthermore, based on the result of cross tabulation comprising this factor and sectors, it is found that there is not any sectoral differentiation among the firms who indicated the factor as important or unimportant (Figure 5.77).



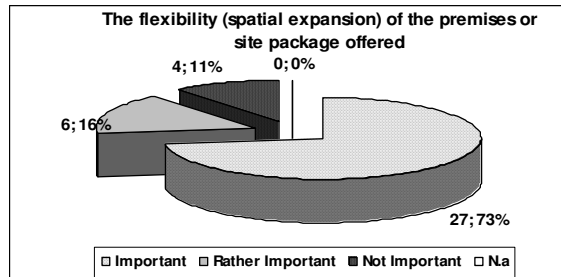


**Figure 5.76: The effect of the tenure of premises on the reasons of preference for GOIZ**



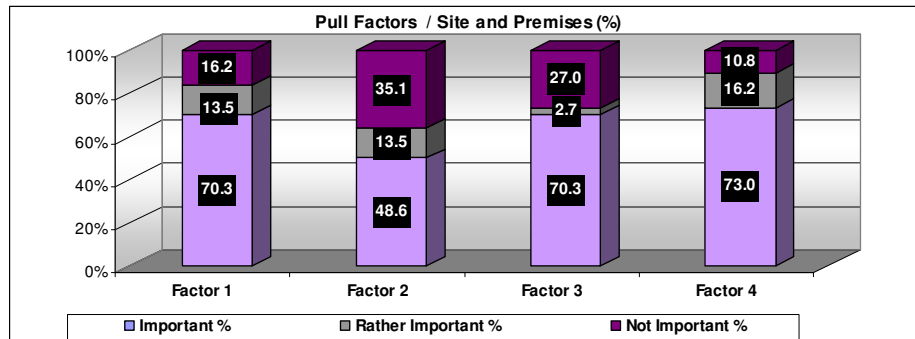
**Figure 5.77: The effect of the tenure of premises on the preference reasons of GOIZ based on sectors**

The last pull factor under site and premises is the flexibility (spatial expansion) of the premises. As a matter of fact that firms reaching satisfactory growth level in inner districts of the city are willing to consume a larger space, therefore the spatial expansion possibility of the site is expected to be crucial in deciding where to relocate activities. Indeed, the outcome reveals that an important percentage of the firms (73%) preferred GOIZ because of the spatial expansion opportunities provided by the industrial zone (Figure 5.78).



**Figure 5.78: The effect of the flexibility (spatial expansion) of the premises on the preference reasons of GOIZ**

To sum up, when all factors are compared in order of importance, it is revealed that spatial expansion opportunity, accessibility and ownership have nearly equal impacts on firm's decision about choosing GOIZ to relocate their activities (Figure 5.79). In particular, low price of land plays the most important role. All of these reasons can correspond to the absence of industries' locational needs in their previous locations. Indeed, regarding the previous locations of the firms, which are dominantly at central districts of Istanbul, indication of those factors as important is not surprising due to the high cost of site and ownership and congestion problems reducing accessibility of the site in previous location.



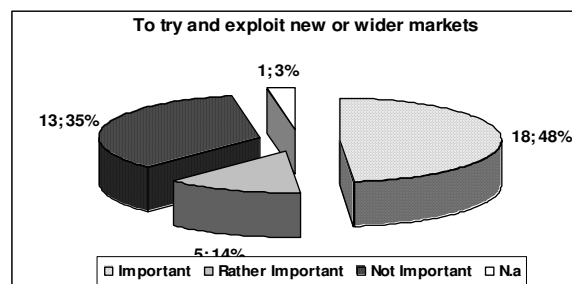
<b>Factor 1</b>	Accessibility of site or premises
<b>Factor 2</b>	Low cost of site/premises
<b>Factor 3</b>	The tenure of premises (leasehold/freehold)
<b>Factor 4</b>	The flexibility (spatial expansion) of the premises or site package offered

**Figure 5.79: The effect of site and premises on the preference reasons of GOIZ**

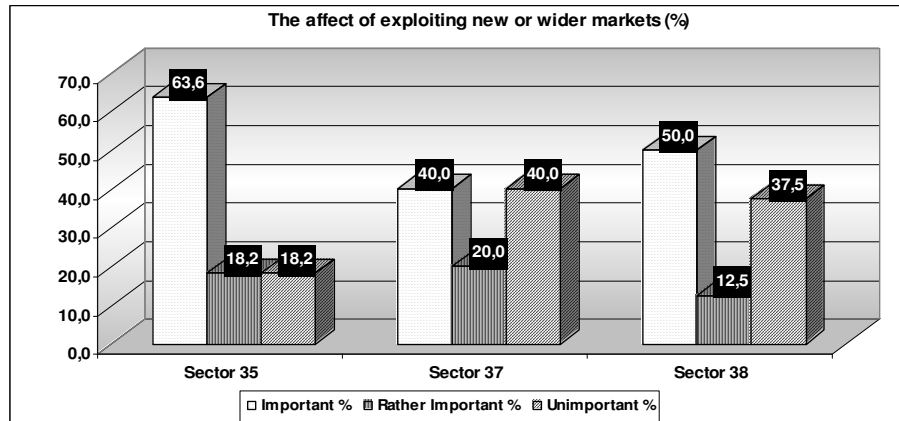
### 5.3.2.2 Market & Networking

The second group comprises the pull factors related to market and networking. As discussed in Chapter 2, market and networking oriented factors are described in the framework of evolutionary and institutional theory. Following the arguments of both theories, it is aimed to investigate to what extent market conditions are influential in promoting firms to relocate and whether cluster externalities that are expected to be provided by organized industrial zones played an important role in relocation of firms. In order to answer such questions, eleven factors were asked to the respondents to be ranked in order of importance.

The first pull factor is to try and exploit new or wider market. The results show that 62% of the respondents, putting important and rather important together, indicated that providing new market opportunities is an important pull factor in deciding to relocate to Gebze Organized Industrial Zone (GOIZ) (Figure 5.80). When sectoral differentiation is taken into consideration, it is revealed that the firms in chemical industry defined this factor relatively more important in relocating their activities in GOIZ (Figure 5.81). At this point, it can be said that those firms are in a process of product differentiation or want to benefit from the networking advantages provided by the organized industrial zone.

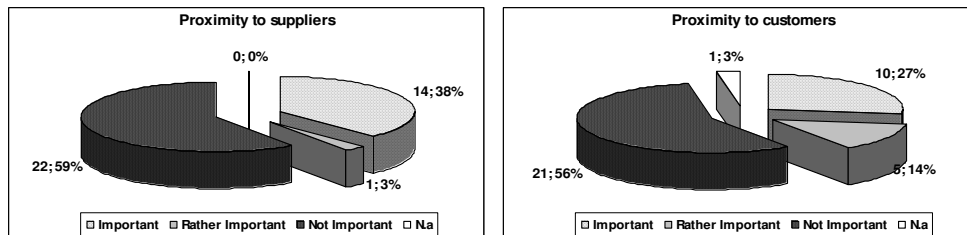


**Figure 5.80: The effect of exploiting new or wider markets on the preference reasons of GOIZ**



**Figure 5.81: The effect of exploiting new or wider markets on the preference reasons of GOIZ based on sectoral distribution**

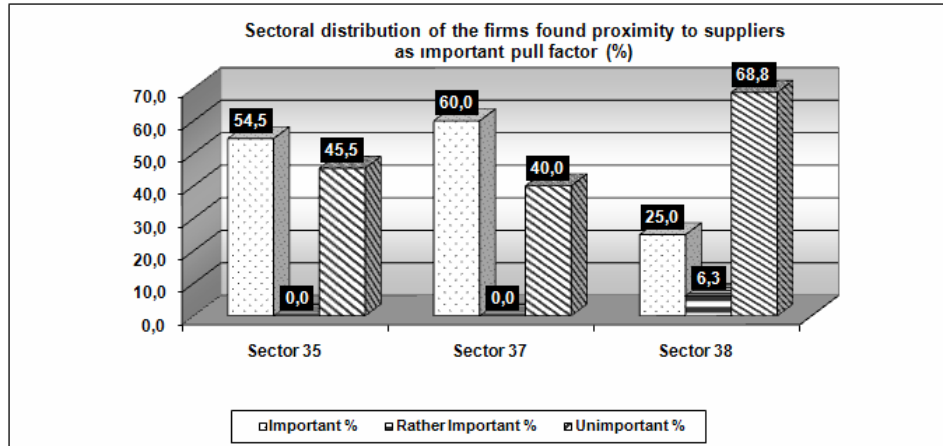
The next pull factors related to the market are proximity to suppliers and customers. More than half of the firms found it as unimportant (Figure 5.82). Indeed, this outcome is not surprising since firms in GOIZ provide more than 25% of raw material from foreign markets and sells more than 25% of their product to national market (Figures 5.13 & 5.14). Therefore, these two factors do not lead to decision to relocate.



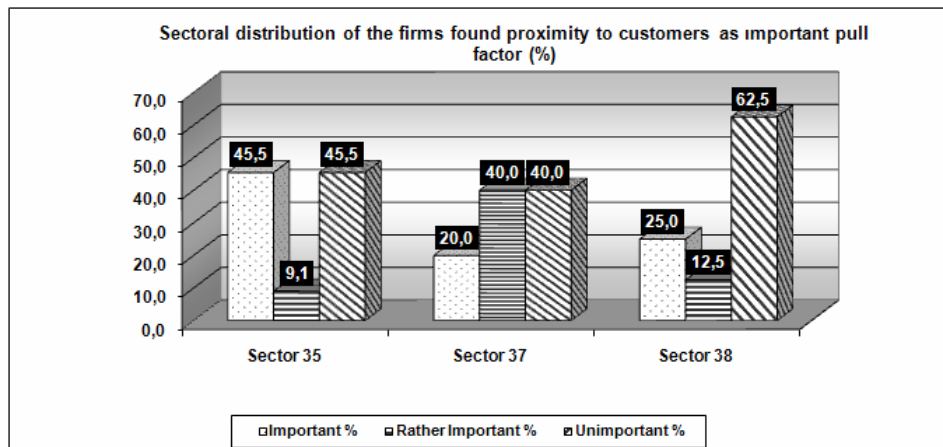
**Figure 5.82: The effect of proximity to suppliers and customers on the preference reasons of GOIZ**

In terms of sectoral differentiation, the outcome reveals that chemical and basic metal industries are the sectors dominantly stated proximity to customer and suppliers as important pull factors (Figure 5.83 & 5.84). This result can be explained with the sectoral characteristics. Those sectors depend on mutual relation of output and input markets and their distribution in Istanbul Metropolitan Area which are concentrated in Kartal and Tuzla

that are very close to GOIZ (see Appendix B, Figure B.11 & B.12). Thus, it can be claimed that those firms preferred GOIZ as very close to Kartal and Tuzla.



**Figure 5.83: The effect of proximity to suppliers on the preference reasons of GOIZ based on sectoral distribution**

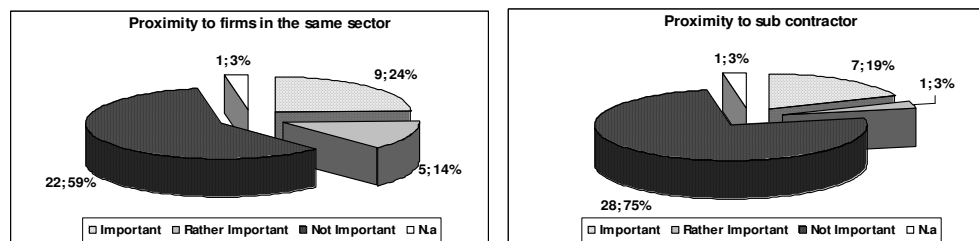


**Figure 5.84: The effect of proximity to customers on the preference reasons of GOIZ based on sectoral distribution**

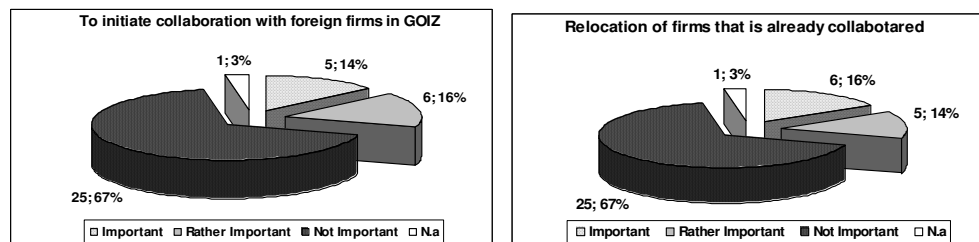
A different kind of variables in the category ‘market and networking’ are the category of factors that reflect to what extent firms thought to benefit from externalities provided by GOIZ. Since, in the literature, it is clearly explained that in the last 10-15 years there is a shift to soft factors such as the availability of research networks, knowledge infrastructure,

and information technologies, defined as cluster externalities, that motive firms to relocate (Pellenbarg et al, 2002), it is expected that the factors reflecting cluster externalities were defined as important pull factors in firm relocation. However, this argument is indeed not confirmed in the empirical analysis of this research.

Considering the results of the four factors namely proximity to the firms in the same sectors, proximity to sub contractor, to initiate collaboration with foreign firms in GOIZ and relocation of firms that are already collaborated were asked to be ranked in order of importance, it is observed that a vast majority of the firms did not find cluster oriented factors as important determinants of relocating in GOIZ (Figure 5.85 & 5.86).



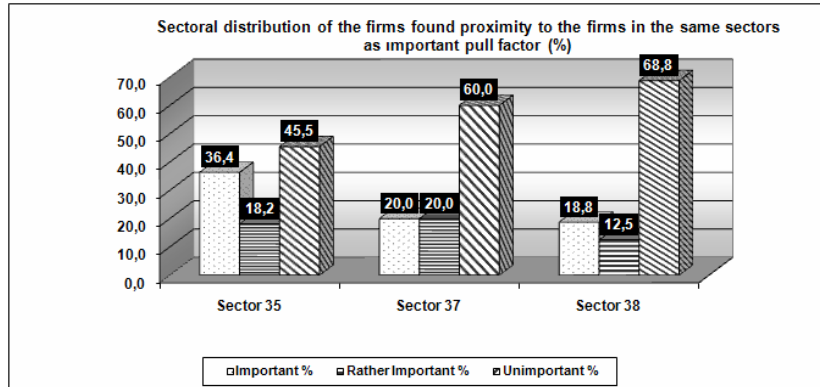
**Figure 5.85: The effect of proximity to firms in the same sector and subcontractor on the preference reasons of GOIZ**



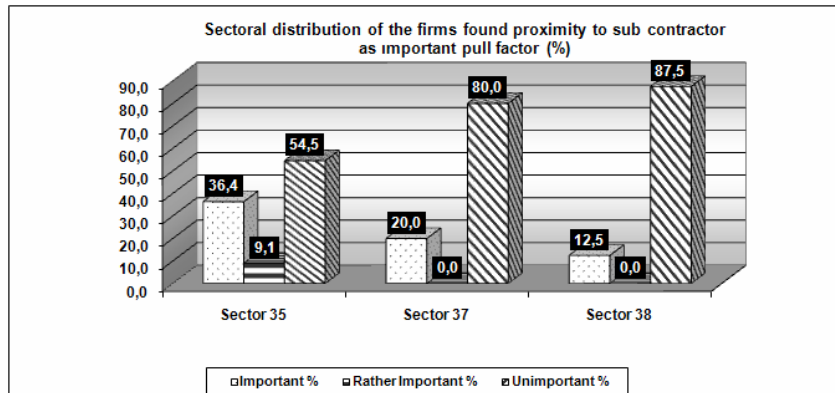
**Figure 5.86: The effect of initiating collaboration with foreign firms in GOIZ and relocation of firms that is already collaborated on the preference reasons of GOIZ**

Now it is important to discuss whether there is a sectoral differentiation among the firms that found cluster oriented factors as influential in relocating their activities to GOIZ. Actually, the cross tabulations demonstrates that except two factors namely proximity to

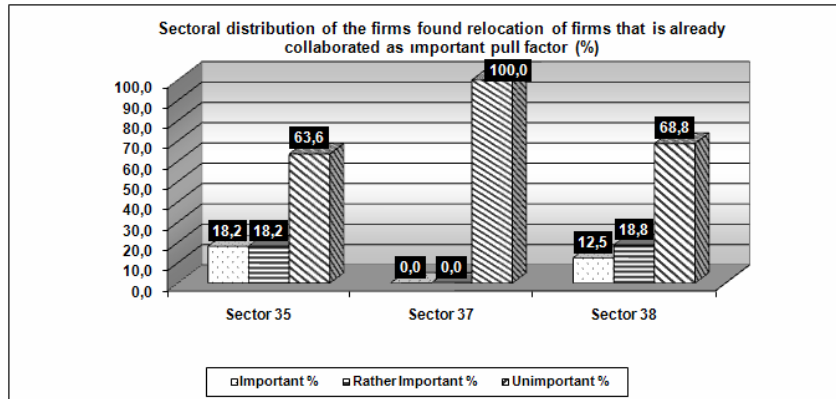
suppliers and customers, firms, which indicated cluster oriented factors as important pull factors, are not differentiated based on sectors.



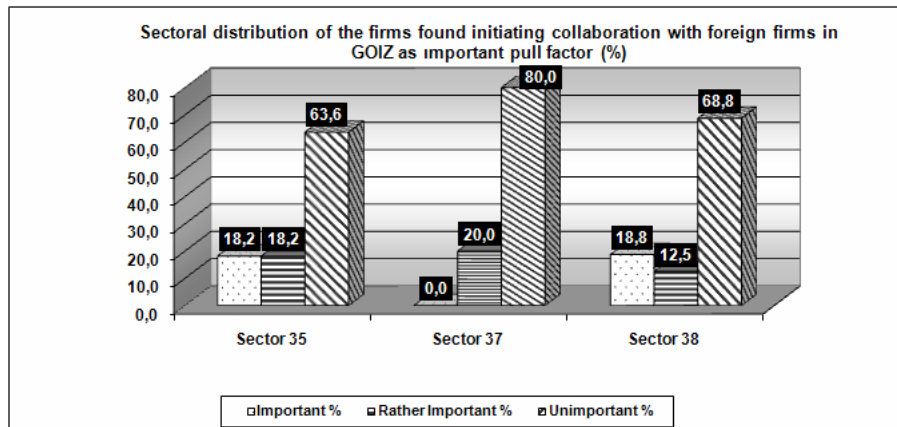
**Figure 5.87: The effect of proximity to firms in the same sector on the preference reasons of GOIZ based on sectoral distribution**



**Figure 5.88: The effect of proximity to sub contractor on the preference reasons of GOIZ based on sectoral distribution**



**Figure 5.89: The effect of relocation of the firms that are already collaborated on the preference reasons of GOIZ based on sectoral distribution**



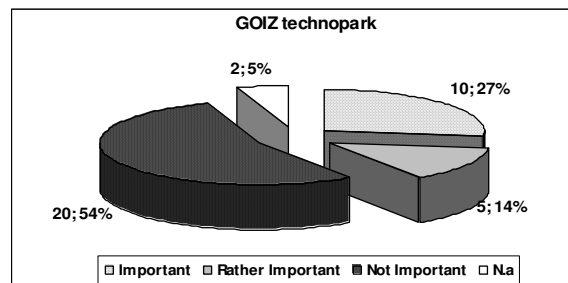
**Figure 5.90: The effect of initiating collaboration with foreign firms in GOIZ on the preference reasons based on sectoral distribution**

Apart from proximity oriented factors, firms were also asked to indicate whether existence of technopark was an attractive factor behind the choice of GOIZ to relocate. Since competitiveness literature puts a high emphasis on R&D in order to be able to attain international production, knowledge and business networks, it is expected that firms see GOIZ technopark as an attractive factor in choosing GOIZ to relocate their activities.

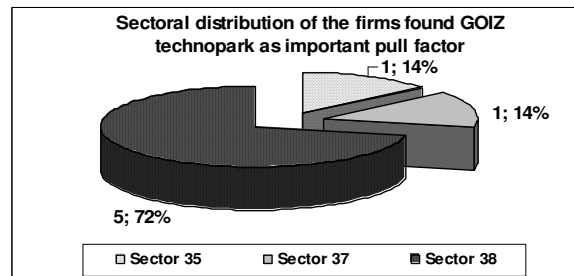
However, this is not fully supported in GOIZ case since more than half of the firms (54%) indicated that GOIZ technopark did not play an important role in determining to move to GOIZ, on the other hand when putting important and rather important together it is



observed that for 41% of the firms this factor is important, which means GOIZ technopark can be regarded as not a very irrelevant factor in decision making process of the firms (Figure 5.91). Additionally, it should be noted that 72% of the firms that found this factor as important are in machinery industry (Figure 5.92). In line with such a result, it might be said that machinery sector has much more relationship with GOIZ technopark than the others. However, this result is not enough to say that other sectors do not engage in research and development activities because firms in other sectors may have their own research unit or their research unit may be in other countries.



**Figure 5.91: The effect of existence of GOIZ technopark on the preference reasons of GOIZ**

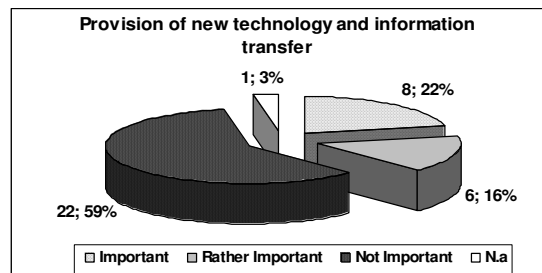


**Figure 5.92: The effect of existence of GOIZ technopark on the preference reasons of GOIZ based on sectors**

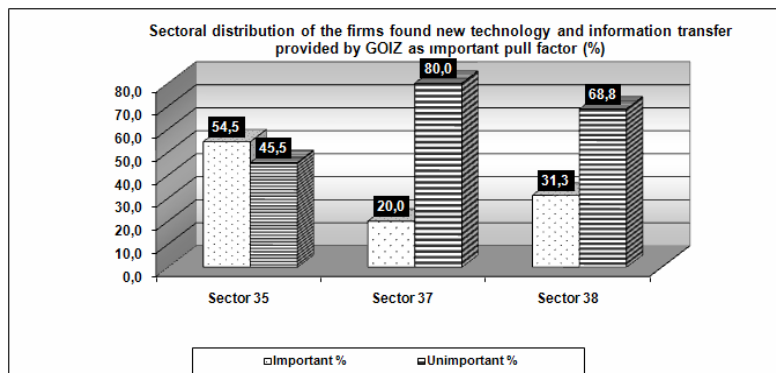
Lastly, in order to understand whether cluster externalities are influential in firm relocation process, it was asked if GOIZ is regarded as the place that enables new technology and information transfer. Porter (2000) clearly defines that cluster externalities provide different kind of bargains with labour, government, business and technology with fully

participation in information and research networks. As a result of such participation, new technology and information transfer are the most important opportunities.

Following Porter's argument, it is expected that firms consider the organized industrial zone as the place where new technology and information transfer is provided. When the result is considered, it appeared that nearly 60% of the firms did not indicate this factor as important in their preference reason of GOIZ (Figure 5.93). However, if the firms are taken into consideration based on sectoral differentiation, it is revealed that particularly, the firms in chemical sector claimed that provision of new technology and information transfer played a key role in relocation decision making process (Figure 5.94). In other words, the firms in chemical sector have a higher tendency to be in the process of sharing of skills, knowledge, technologies, methods of manufacturing, samples of manufacturing and facilities with other institutions to ensure scientific and technological developments.

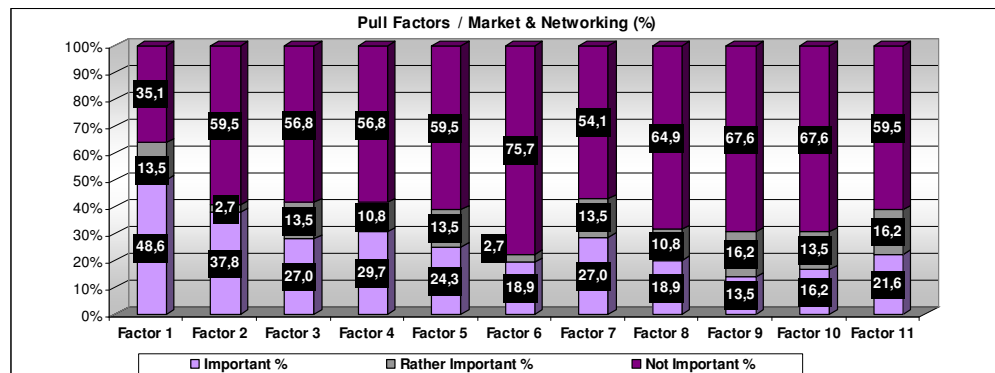


**Figure 5.93: The effect of new technology and information transfer provided by GOIZ on the preference reasons of GOIZ**



**Figure 5.94: The effect of new technology and information transfer provided by GOIZ on the preference reasons of GOIZ based on sectors**

In brief, the outcome of this research lead to the conclusion that factor 1, trying and exploiting new or wider markets, was perceived as the most relevant determinant to relocate compared to the ratios of other factors in order of importance. In other words, firm relocation activity is motivated by the market oriented reasons rather than cluster or networking ones. In fact, the factors related to cluster or networking were dominantly indicated as unimportant by the firms. Thus, it is possible to say that most firms did not really care about benefits of agglomeration facilities. This is a contradictory situation in terms of “cluster literature” inclinations.



<b>Factor 1</b>	To try and exploit new or wider markets
<b>Factor 2</b>	Proximity to suppliers
<b>Factor 3</b>	Proximity to customers
<b>Factor 4</b>	Reduced delivery times
<b>Factor 5</b>	Proximity to firms in the same sector
<b>Factor 6</b>	Proximity to sub contractor
<b>Factor 7</b>	Low cost of production
<b>Factor 8</b>	GOIZ technopark
<b>Factor 9</b>	To initiate collaboration with foreign firms in GOIZ
<b>Factor 10</b>	Relocation of firms that is already collabotared
<b>Factor 11</b>	Provision of new technology and information transfer

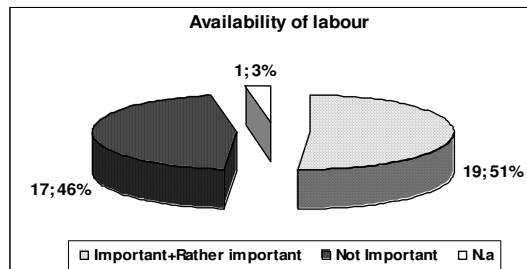
**Figure 5.95: The effect of market and networking on the preference reasons of GOIZ**

### 5.3.2.3 Labor Supply

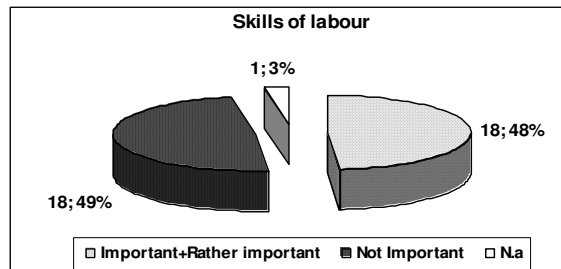
With regard to the labor force as a pull factor, it can be mentioned that identification of the factors in order of importance is not so clear. In particular, if the three factors including availability of labor, skills of labor and low cost of labor that were asked to the respondents to be ranked the empirical results are taken into consideration, it is revealed that for nearly half of the firms indicated those factors are unimportant, the remaining

found the factors as important in relocation decision making process (Figures 5.96, 5.97 and 5.98).

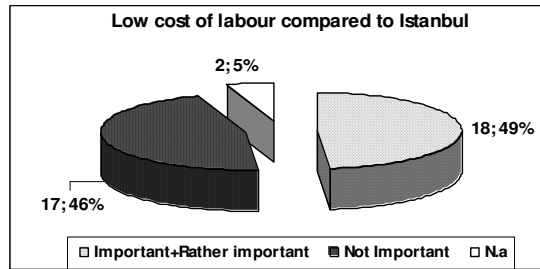
Regarding the facts that more than half of the labor did not change their residential location after relocation the firms in GOIZ and they densely located in Gebze, Tuzla, Kartal and Pendik, which are probably why for the respondents considered these factors are neutral (See Appendix A, Figure A.1, Figure A.2, Figure A.3 & Figure A.4).



**Figure 5.96: The effect of availability of labor on the preference reasons of GOIZ**

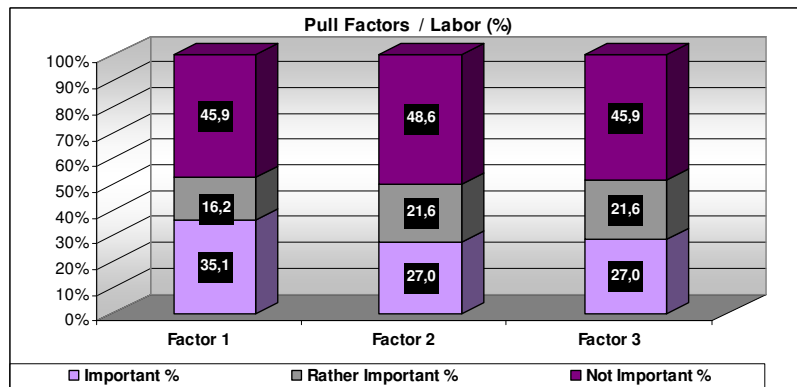


**Figure 5.97: The effect of skills of labor on the preference reasons of GOIZ**



**Figure 5.98: The effect of low cost of labor compared to Istanbul on the preference reasons of GOIZ**

In summary, although approximately half of the firms indicated the labor oriented factors as important, none of them are very dominant as pull factors. Therefore, it is possible to say that this result seems to contradict with the studies that emphasize the importance of internal factors in promoting firms to relocate in GOIZ.



<b>Factor 1</b>	Availability of labour
<b>Factor 2</b>	Skills of labour
<b>Factor 3</b>	Low cost of labour compared to Istanbul

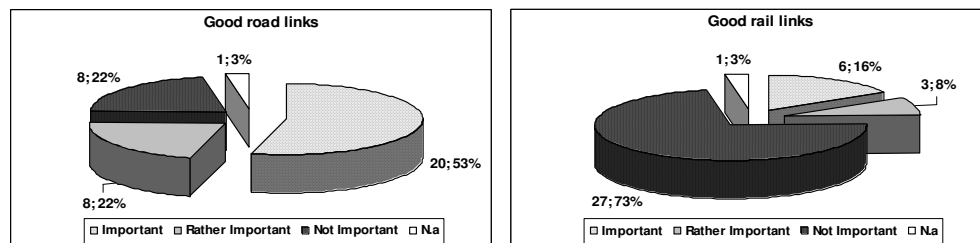
**Figure 5.99: The effect of labor supply on the preference reasons of GOIZ**

### 5.3.2.4 Transport and Infrastructure

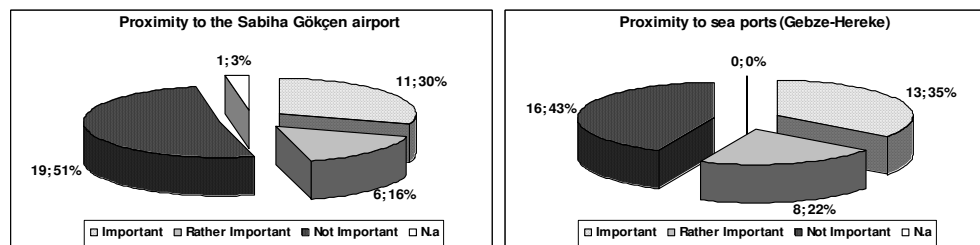
Based on transport and infrastructure, two types of infrastructure facilities regarding both long- and short-distance infrastructures were asked to the firms to be ranked in order of

importance. While long-distance infrastructures are roads, motorways, airports, ports, railways; short-distance infrastructures includes basic infrastructures including the streets linking the firm to the main road, car parking, telephone and basic services such as electricity and water connections.

In terms of long distance infrastructures, four factors namely good road links, good rail links, proximity to Sabiha Gökçen and proximity to sea ports (Gebze-Hereke) are investigated in order to reveal the affect on determining GOIZ to relocate. Among the four factors, the most important pull factor is good road links that 75% of the firms, counting important and rather important together, found as an important pull factor. The second pull factor is the proximity to sea ports. Proximity to the Sabiha Gökçen airport is the third factor in order of importance and the least important factor is good rail links (Figures 5.100 & 5.101). This ranking shows that the existence of good road links of GOIZ highly induced firms to relocate.

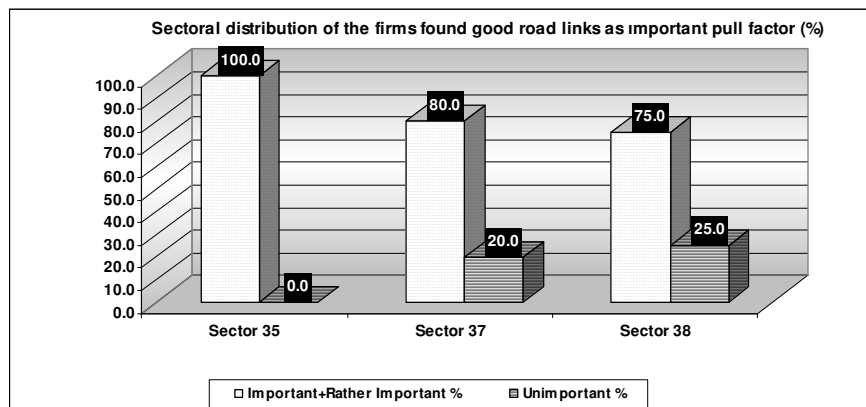


**Figure 5.100: The effect of good road and rail links on the preference reasons of GOIZ**

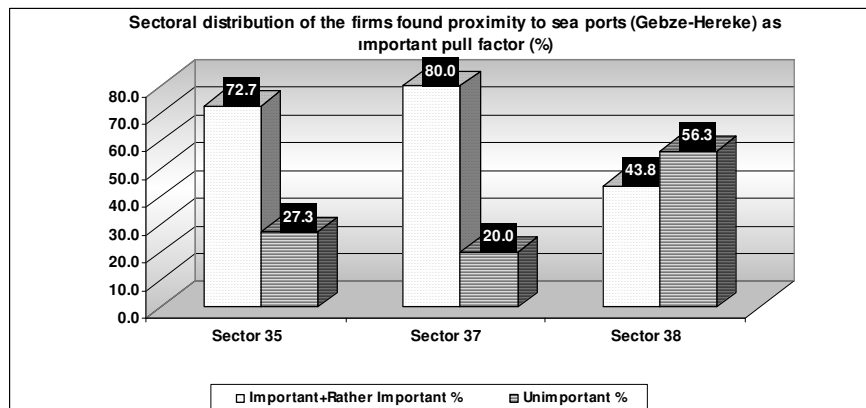


**Figure 5.101: The effect of proximity to the Sabiha Gökçen airport and sea ports (Gebze-Hereke) on the preference reasons of GOIZ**

When the most important pull factor, good road links, is examined based on sectoral differentiation, it is found out that there is not a significant sectoral differentiation among the firms (Figure 5.102). Thus, it is obvious that regardless of sectors, good road links provided by GOIZ encourage firms to invest in the organized industrial zone. However, in terms of secondly important factor that is proximity to sea ports, a sectoral differentiation is apparent. In detail, sector 35 (chemical industry) and sector 37 (basic metal industries) are significantly found the factor as important (Figure 5.103). The result might be related to the sectoral requirements since port services are vital for industries such as food process, petroleum, chemicals, and basic metal industries.

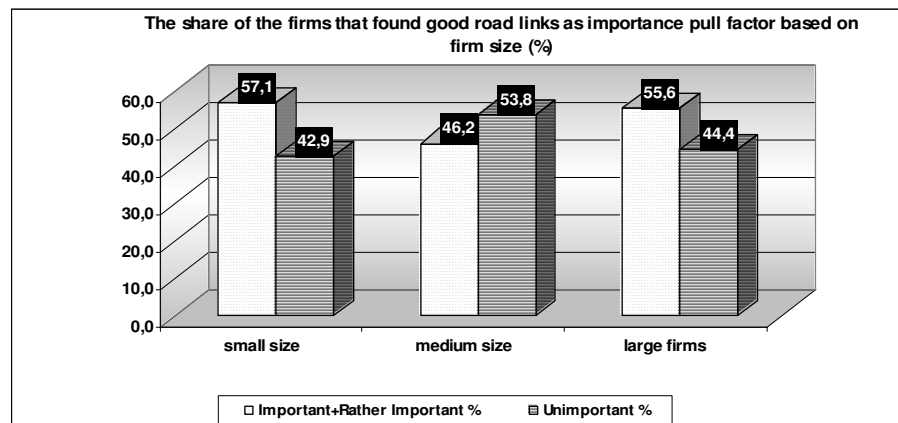


**Figure 5.102: The effect of good road links on the preference reasons of GOIZ based on sectors**



**Figure 5.103: The effect of proximity to sea ports on the preference reasons of GOIZ based on sectors**

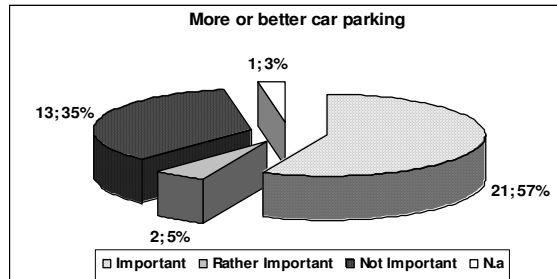
Furthermore, the previous studies on firm relocation stated that as the size of industries get higher, the ratios of long distance infrastructure factors increase too. This can be due to the need for better transportation facilities in order to get easy accessibility to sectors, markets and raw materials. Thus, it is expected that dominantly large firms stated that the first ranked pull factor, good road link, played a key role in relocation process. However, the empirical evidence did not support the argument since there is not a significant firm size based differentiation among the firms (Figure 5.104).



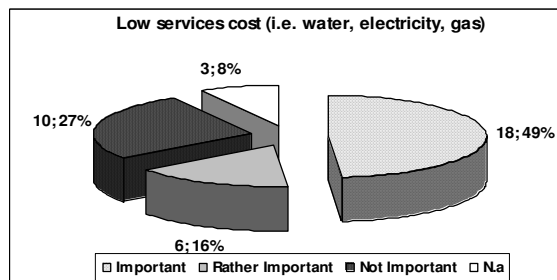
**Figure 5.104: The effect of good road links on the preference reasons of GOIZ based on firm size**

After analyzing long distance infrastructure factors, the affect of short distance infrastructure on deciding GOIZ to relocate is analyzed. This heading comprises three pull factors that are less transport congestion in GOIZ, more or better car parking and low cost of services. To begin with, the majority of the respondents pointed out that more or better car parking was a key determinant having impact on the preference reasons of GOIZ. Secondly, low cost of services was ranked in order of importance and the least important short distance pull factor compared to the other is less transport congestion in GOIZ (Figures 5.105, 5.106 and 5.107). As mentioned in preceding section, those results imply that particularly car parking problem in previous location of the firms encouraged them to relocate to where car parking facilities are available.

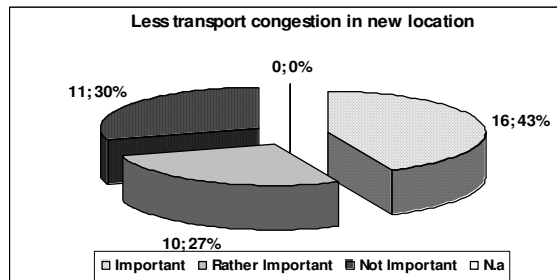




**Figure 5.105: The effect of more and better car parking on the preference reasons of GOIZ**

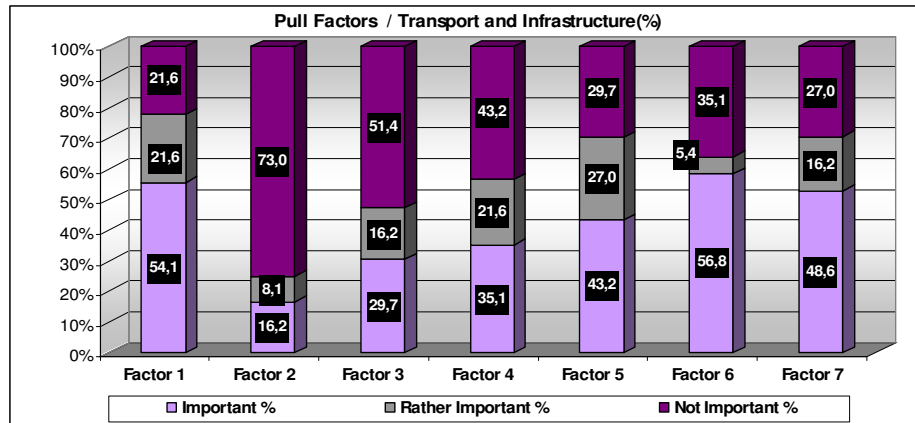


**Figure 5.106: The effect of low cost of services on the preference reasons of GOIZ**



**Figure 5.107: The effect of less transport congestion in GOIZ on the preference reasons of GOIZ**

As a result, based on the classification of interviewees, it is revealed that more and better car parking is the most important pull factor among short distance infrastructure factors; while in terms of long distance infrastructure factors, good road links ranked first in order of importance (Figure 5.108).



Factor 1	Good road links
Factor 2	Good rail links
Factor 3	Proximity to Sabiha Gökçen airway
Factor 4	Proximity to sea ports (Gebze-Hereke)
Factor 5	Less transport congestion in new location
Factor 6	More or better car parking
Factor 7	Low services cost (i.e. water, electricity, gas)

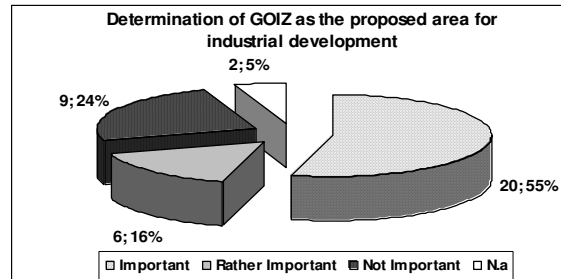
**Figure 5.108: The effect of transport and infrastructure on the preference reasons of GOIZ**

Considering the lack of transport links between inner districts in Istanbul, it is not abnormal that firms prioritized good road links while deciding where to relocate. In addition, the absence of car parking in inner districts induces firms to invest in GOIZ where parking facilities are provided.

### 5.3.2.5 Local and National Government

In the preceding chapters, it is mentioned that the scholars underlined the growing relevance of government policy in firm relocation choice. As suggested by Pellenberg et al (2002), besides location factors that are traditionally used for the explanation of firm relocation, it is argued that also institutional factors like government policy may contribute significantly to the explanation of firm relocation. Thus, it is expected that the local government strategic spatial decision, which is based on determination of GOIZ as the proposed are for industrial development, is indicated as important pull factor by the firms. Indeed, the result demonstrates that majority of the firms (71%), counting important and rather important together, stated that plan decisions of the local government played a crucial role in the relocation decision (Figure 5.109). With regard to the result, it can be

said that the plan of Greater Istanbul Municipality is thought to be influential in facilitating or inhibiting locational choices of firms.



**Figure 5.109: The effect of determination of GOIZ as the proposed area for industrial development on the preference reasons of GOIZ**

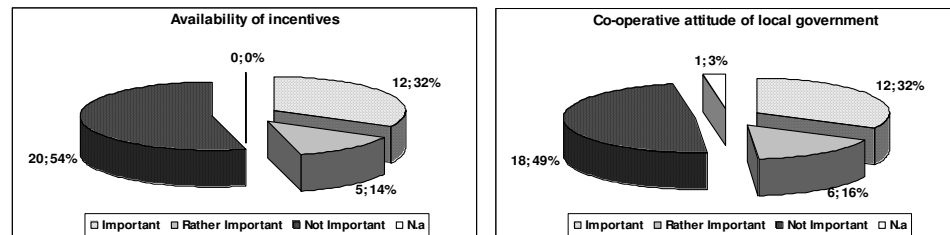
### 5.3.2.6 Incentives

In the last part, the questions related to incentives were asked to the firms to investigate the impact on preference reasons of GOIZ. As stated in Chapter 2, incentives are relatively important for a firm which has already decided to invest in a peripheral area. *Firms decide to make an investment (expansion or new plant) and subsequently in choosing an area they also take into account government incentives that are offered* (Louw, 1996). Thus, it can be stated that government subsidies play a relevant role in the last phase (the ‘negotiation’ phase) of relocation decision-making process.

In terms of firms relocated in GOIZ, it is clear that availability of incentives is not a dominant factor that motive firms to relocate in GOIZ since more than half of the firms indicated this factor as unimportant. Similarly, when the affect of the co-operative attitude of local government on relocation was asked to the firms, exactly the same number of firms, constituting 32 %, found this factor as important (Figure 5.110). This result might be related to that incentives and co-operative attitude of local government could be opening minority of firms up to some positive new opportunities that encourage firms to relocate. However, it should be kept in mind that the answers of the firms did not provide a clear base to understand the affect of incentives or attitude of local government on

relocation. Thus, only thing that can be claimed is that incentives and attitude of local government is neither important nor unimportant in relocation process.

Moreover, it is important to highlight that organized industrial zone is already a type of incentive for the firms because the land parcels whose borders are registered, with the necessary infrastructure services and the social facilities are provided by these zones. Therefore, firms in the GOIZ may not need other type of incentives in relocation process.



**Figure 5.110: The effect of incentives and co-operative attitude of local government on the preference reasons of GOIZ**

In brief, the outcome of this research based on investigating pull factors leading to relocation of firms in GOIZ revealed that the factors related site and premises are the most important determinant of relocation in GOIZ. In this respect, it is possible to say that firms expected to benefit from locational advantages provided by GOIZ in relocation decision making process. Those externalities reflect firm’s logic on choosing optimal location that prioritized cost and physical oriented reasons in this research.

Apart from the factors related to site and premises, decisions of local and national authorities were indicated as influential for the firms relocated in GOIZ. Since Greater Municipality of Istanbul determined GOIZ as potential area for industrial development with an expectation of relocation of manufacturing industry located in the core city, it is normal that relocation decision of the firms is mainly determined by policy oriented factors.

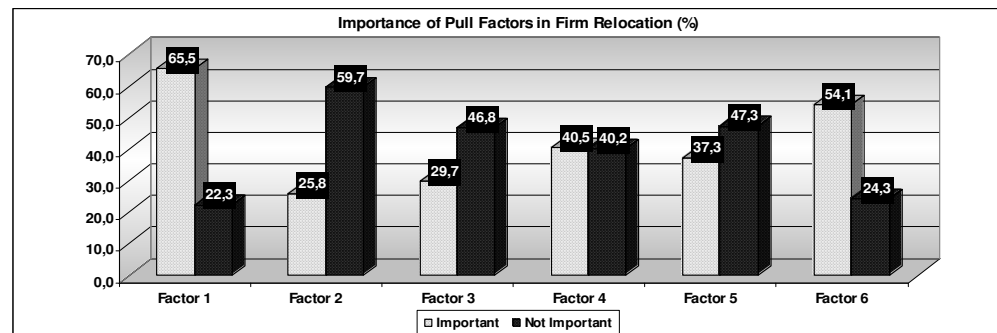
Furthermore, as illustrated in the below figure, “transportation facilities” is another pull factor considered as important by the firms. This result can be related to that better transportation facilities mean the decreasing costs for industries. Thus, as it is supported

by the research, proximity to motorways played the most important role for the industry development orientation to GOIZ. It should be also noted that firms preferred GOIZ in order to get rid of insufficient transportation facilities including lack of car parking and congestion problems that arose with rapid urbanization of the city and increasing population.

Thus, it can be claimed that the locational and institutional factors depending on the structures of industries and government policies are more effective on firms rather than the behavioral and external factors. In other words, physical and policy oriented interests and needs are the main guidance of their relocation tendencies.

**Table 5.5: The share of pull factors in order of importance**

Pull Factors	Important	Rather Important	Not Important	N.a	TOTAL (%)
Site and Premises	65,5	11,5	22,3	0,7	100
Market	25,8	11,5	59,7	2,9	100
Labor	29,7	19,8	46,8	3,6	100
Transport&Infrastructure	40,5	16,6	40,2	2,7	100
Incentives	37,3	15,5	47,3	0,0	100
Local and National Authority	54,1	16,2	24,3	5,4	100

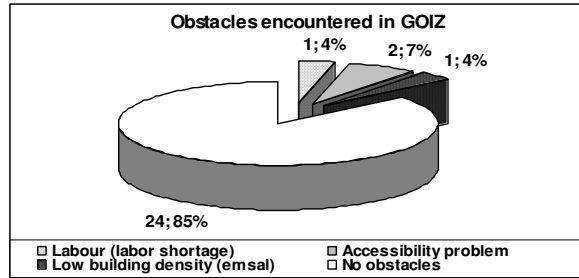


**Figure 5.111: The share of pull factors in order of importance**

## 5.4 OBSTACLES ENCOUNTERED IN GOIZ

The last question of the questionnaire that was asked to the firms to be explained is the obstacles encountered in GOIZ. Surprisingly, vast majority of the firms, constituting

85%, seemed to have any problems. Only 4 firms mentioned obstacles such as labor shortage, low building density and accessibility problems (Figure 5.112). This is important since there is not a main barrier to the location of firms in GOIZ. Thus, firms relocated to GOIZ can be interpreted as satisfied with their situation.



**Figure 5.112: Obstacles encountered in GOIZ**

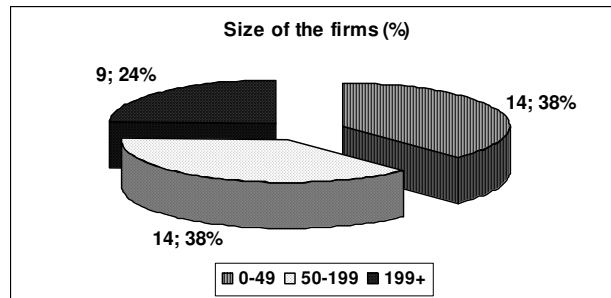
## 5.5 A GENERAL EVALUATION & HYPOTHESIS

To sum up, it is appropriate to question the validity of the previously stated hypotheses for the firm relocation in GOIZ. It is important to remind the hypotheses which state that:

**Hypothesis 1: *Firm’s mobility is expected to decrease with the size of the firm.***

With regard to the size of the firms, it is expected that small firms can move more easily to another location than large firms. As mentioned earlier, in the literature Brouwer (2004) clearly explains that small size firms have a higher tendency to relocate compared to the large size firms because the cost of moving for small firms are expected to be much less than for the large sizes.

Considering the size of the firms relocated in GOIZ, it is observable that there is not a significant differentiation among the firm’s sizes. Since the share of the medium (38%) and large (24%) firms relocated to GOIZ are almost the same with the share of small size firms, this outcome of the research does not lead to the same conclusion as for the results of many studies. Thus, the hypothesis is not fully acceptable for the GOIZ case.



**Figure 5.113: Size of the firms**

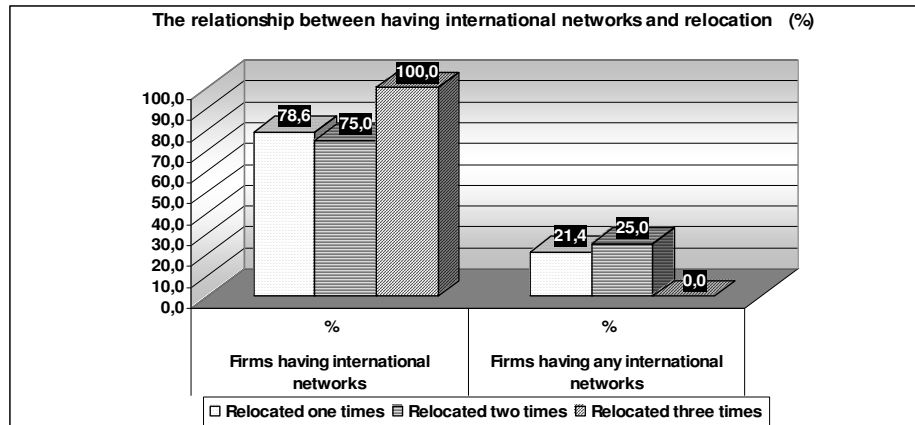
**Hypothesis 2:** *Firms that have certain networks with international firms are expected to be more mobile.*

In the literature, it is expected that firms with a larger relationship with international firms have a higher chance of relocating. In line with the hypothesis, it is seen that the vast majority of the firms relocated in GOIZ indicated that they have relations with international firms, while only 10 firms indicated that they had no relations with international firms (Table 5.8).

Moreover, if the relationship between times of relocation and having relationship with international firms is considered, it is clear that relocation is higher for firms that belong to international networks. Consequently, Hypothesis 2 can be accepted.

**Table 5.6: Type of Relation with International Firms**

Ranking	Type of Relation with International Firms	Frequency
1	Input	48
2	Trade	44
3	Technology	39
4	Finance	18
5	No Relation	10



**Figure 5.114: The relationship between having international networks and relocation (%)**

*Hypothesis 3: Although ‘contemporary’ factors (i.e. internal, institutional and external etc.) which have become important by 1980s seem to have played more important role in firm relocation, traditional location oriented relocation factors are expected to be significantly important determinants in firm relocation.*

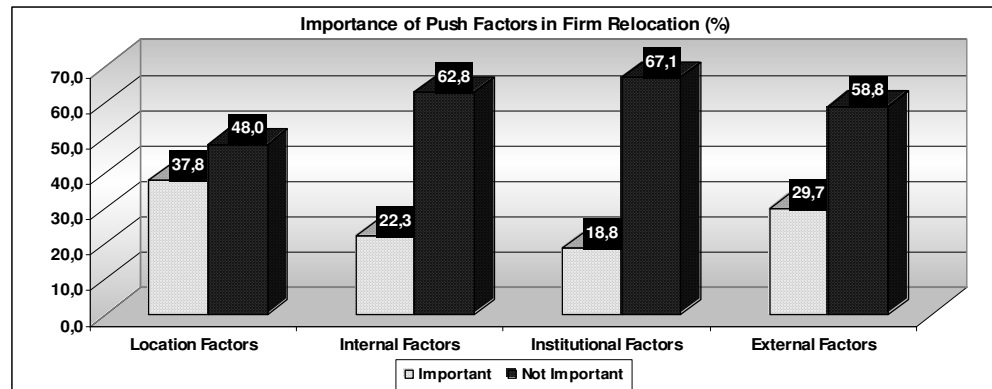
Since in the literature it is explained that boundaries between the traditional and the contemporary approaches are not so well defined and that the legacy of the old framework still survives. Even in contemporary-approach oriented factors, in fact, some of the tools typically labeled as “traditional”, such as land cost, are widely used. Therefore, traditional location factors are still to be important in relocation decision making process.

On the basis of the present analysis it can be drawn such a conclusion supporting the view that the relocation decision of a firm is still determined by location factors including both push and pull factors, and to a lesser extent by contemporary factors such as external push factors and institutional pull factors. In this respect, hypothesis is partially acceptable for GOIZ case because location factors are the most dominant in firm relocation process



**Table 5.7: The share of push factors in order of importance**

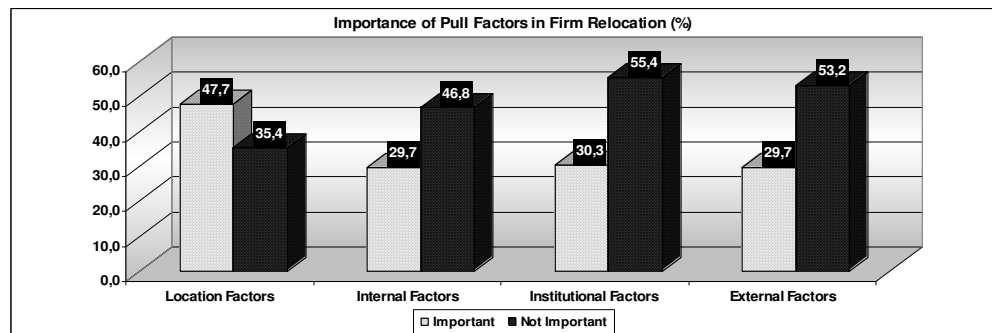
Push Factors	Important	Rather Important	Not Important	N.a	TOTAL (%)
Location Factors	37,8	10,6	48,0	48,0	100
Internal Factors	22,3	12,2	62,8	62,8	100
Institutional Factors	18,8	10,6	67,1	67,1	100
External Factors	29,7	8,8	58,8	58,8	100



**Figure 5.115: The share of push factors in order of importance**

**Table 5.8: The share of pull factors in order of importance**

Pull Factors	Important	Rather Important	Not Important	N.a	TOTAL (%)
Location Factors	47,7	14,6	35,4	2,3	100
Internal Factors	29,7	19,8	46,8	3,6	100
Institutional Factors	30,3	12,3	55,4	2,0	100
External Factors	29,7	13,5	53,2	3,6	100



**Figure 5.116: The share of pull factors in order of importance**

Moreover, the research also showed that relocation process in GOIZ is triggered by a combination of firm locational, external and institutional developments, therefore determination of factors drive from different relocation theories is an appropriate way to make an analysis.

Finally, it can be concluded that the importance of location factors seems to be most influential in firm relocation process rather than internal, external and institutional ones.

***Hypothesis 4: The reasons that push the relocated firms in GOIZ from the previous locations and pull the firms to Gebze Organized Industrial Zone are expected to differentiate according to the firm size, sector and previous locations.***

This hypothesis is handled under three headings namely firm size, sector and previous location. As discussed previously, the firms relocated in GOIZ have differentiated characteristics particularly in terms of size, sector or previous locations, therefore it is important to reveal whether there is a relationship between firm characteristics and push & pull factors generating relocation.

#### ***Firm size***

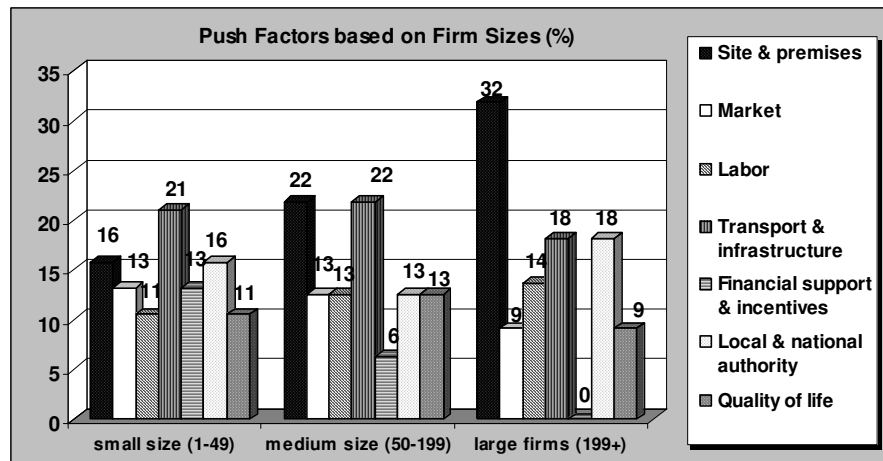
The reasons that push the firms from previous locations and pull them to GOIZ are examined due to firm sizes. In terms of push factors, the outcome presents that site and premises is the most important push factor for large firms; in addition to site and premises in case of medium firms transport and infrastructure has equal importance as a push factor. For small firms, the most important push factor is transport and infrastructure (Figure 5.115). At this point, it should be noted that those factors are two common prominent reasons that push firms from previous locations. However, it is observed that as the size of firm increases, the share of site and premises among other push factors increases too. This can be due to need for more additional space to grow for large firms compared to small and medium ones and there are not appropriate locations that provide spatial expansion for large firms in Istanbul.

Apart from site and premises and transportation & infrastructure, policies of local and national authorities are the common secondly important push factors regardless of firm size. In this respect, planning decisions and environmental limitations of local and

national authorities seemed to have played important roles in relocation of firms in general.

In the same way, financial support and incentives are more important for small scale firms compared to large and medium scale ones since for large scale firms this factor is not important at all and medium scale firms stated this factor as the least important one in relocation. This situation can arise from having more self financing ability of medium and large firms than small ones.

To sum up, it is clear that although there is not a sharp differentiation in the most important push factors based on firm sizes, it is observed that there is a partial differentiation in the shares and order of important factors based on firm size. Therefore, the hypothesis is partially accepted in case of push factors.



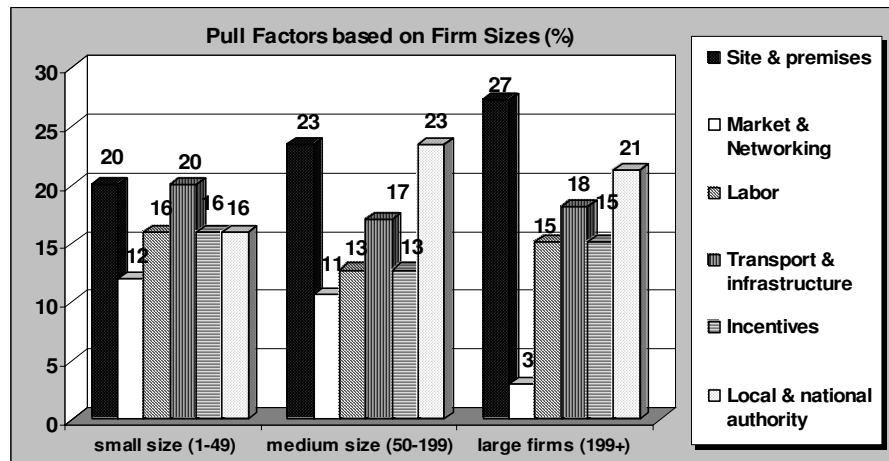
**Figure 5.117: Push factors based on firm size (%)**

Apart from push factors, if pull factors are examined due to firm size, it is seen that for all firm sizes, site and premises is the common most important reason that pull firms to GOIZ (Figure 5.116) . Similar to the previous result, the share of this factor increases as firm size increases too. This result is not surprising because large scale firms require much more additional space to grow than small and medium scale ones. However, for small and medium scale firms it is comparatively easier to locate within the Istanbul.

In addition to site and premises, transport and infrastructure is more important for small scale firms. Behind such a result, it might be that small scale firms located within inner city much more than medium and large scale firms. Therefore, it is normal for small firms to prioritize less congestion or better car parking in relocation decision making process.

As far as factors are concerned in order of importance, it is seen that policies of local and national authorities, focusing on determination of GOIZ as the proposed area for industrial development, come fore in terms of medium and large scale firms. Such an analysis presents that medium and large firms are more eager to take into consideration the alternative sites proposed by 1/100.000 scale Environment Plan of Istanbul.

On the other hand, it is obvious that market and networking have very low shares for all sized firms which may be partly explained on the ground of relocation priorities putting a high emphasis on location pull factors.



**Figure 5.118: Pull factors based on firm size (%)**

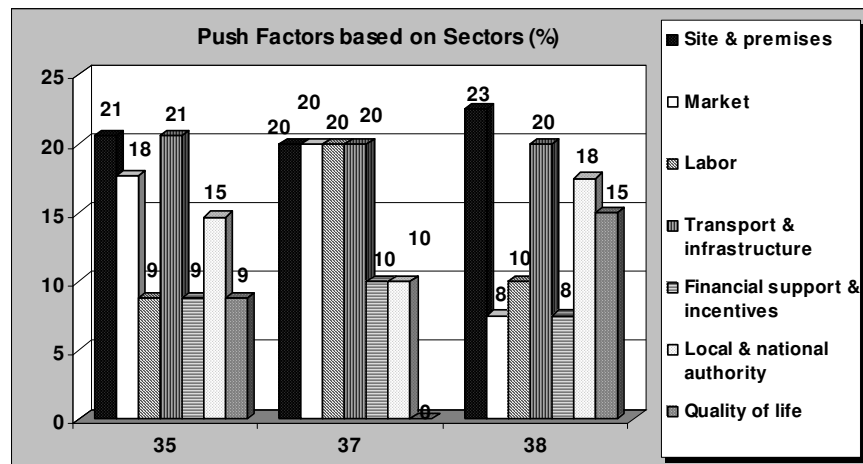
To sum up, it is revealed that push factors are partly differentiated based on firms sizes. However, there is not a significant differentiation in pull factors based on firm sizes. Thus, hypothesis 2 is partly accepted in case of this research.

**Sector**

In terms of sectoral differentiation, the push factors are investigated in order to reveal whether the factors differentiate based on sectors. However, when considering the most common important push factors that are site & premises and transport & infrastructure, it is obvious that those factors are common for all sectors. Thus, it can be stated that location factors played a key role in driving activities from Istanbul regardless of sectoral differentiation. This situation is related to the lack of additional space to grow, congestion and inadequate parking area which are common problems that all firms faced in Istanbul.

In addition to location factors, market and labor has the highest shares for sector 37 (basic metal industries). Shortage of labor and being far away from market based activities (customer, supplier and other firms) are very influential in relocation decision of sector 37. However, this factor is the least important one for sector 38 (manufacture of fabricated metal products, machinery and equipment). It is understood that firms in sector 38 did not have severe problems related to the market that force them to relocate.

Furthermore, it is observed that policies of local and national authorities concerning deindustrialization and environmental limitations are more important for sector 38 in relocation. In other words, it is possible to say that firms in sector 38 took into consideration policies of local and national authorities much more compared to other sectors.



**Figure 5.119: Push factors based on sectors (%)**

In case of pull factors, similar to the previous result, it is seen that site and premises is the common most important pull factor regardless of sectoral differentiation. This result is due to common need of the firms about additional space to grow.

There are sectoral differentiating pull factors as well. Firstly, transport and infrastructure, including the factors dominantly related to proximity to the different modes of transport, has higher values for sector 35 (manufacture of chemicals and chemical petroleum coal rubber and plastic products). It is a rational result since sector 35 is more dependent on waterfront or port facilities.

Secondly, labor has higher value for sector 37 and thirdly, determination of GOIZ as proposed area for industrial development is more important for sector 38. As explained in the former analysis planning decision have much more affect on sector 38 compared to the others.

The last differentiation is apparent in the factor of incentives. While for sector 38, incentives played an important role in promoting relocation, in terms of sectors 35 and 37, this factor is the least important one in the process.

In summary, it is seen that location push or pull factors are the most influential ones regardless of firm size. However, other factors differentiate based on firm sizes. Therefore, hypothesis can be partially accepted in case of firm size.

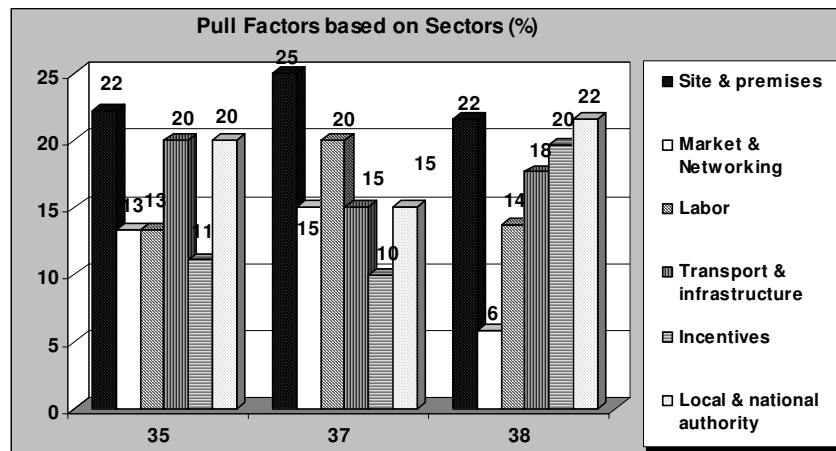


Figure 5.120: Pull factors based on sectors (%)

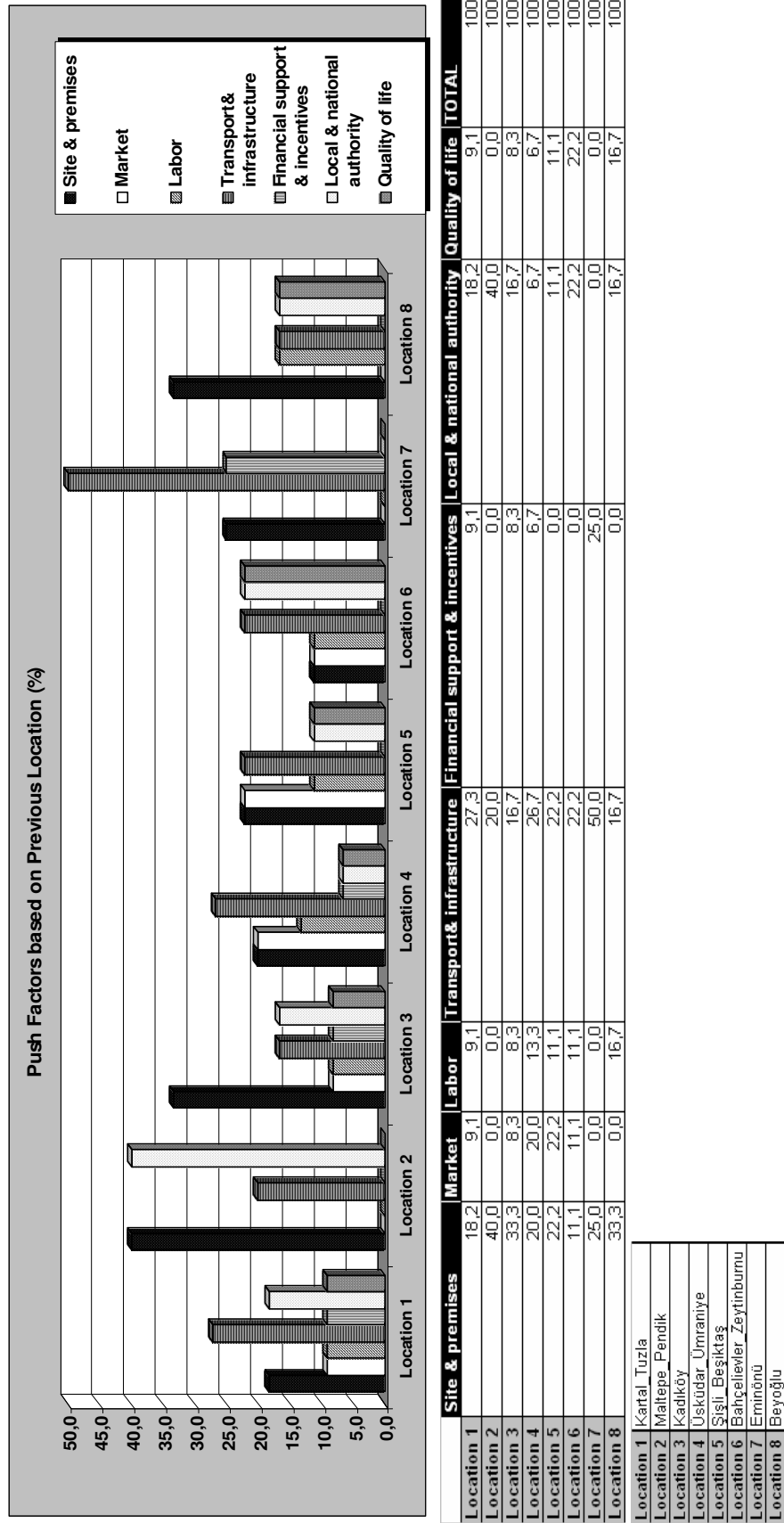
### ***Previous Location***

Lastly, push and pull factors are examined based on previous locations of the firms in Istanbul. Regarding push factors, as illustrated in Figure 5.119, there is a differentiation based on previous locations of the firms. To begin with, site and premises are significantly most important push factors for Location 3 (Kadıköy) and 8 (Beyoğlu). Considering the high density of central business activities and housing in those districts, it is not surprising for the firms located here to suffer from inadequate space to grow.

Apart from site and premises, transportation and infrastructure has significantly highest share for the firms located in Eminönü (Location 7). Most probably this result is related to the fact that retailers, manufacturers, and shippers have to adjust their operating practices to compensate for time wasted in traffic congestion in Eminönü. Because of congestion, transporting goods and services to their destinations takes longer. Thus, transport problems cause severe disadvantages for the firms in Eminönü.

Furthermore, deindustrialization policies and environmental limitations of local and national authorities are other push factors that are significantly important for the firms located in Maltepe and Pendik (Location 2). It is a matter of fact that Maltepe is one of the focused districts that Greater Municipality of Istanbul desire to transform industrial activities into service oriented ones and in case of Pendik, local authority is restrictive against industrial activities in order to protect Ömerli dam from pollution. Lastly, it is seen that lack of financial support and incentives have much more affect on relocation for the firms in Location 7 (Eminönü) compared to the other locations.

In brief, it is clear that push factors differentiate based on previous locations. Thus, this hypothesis is accepted in terms of previous locations.



**Figure 5.121: Push factors based on previous locations**

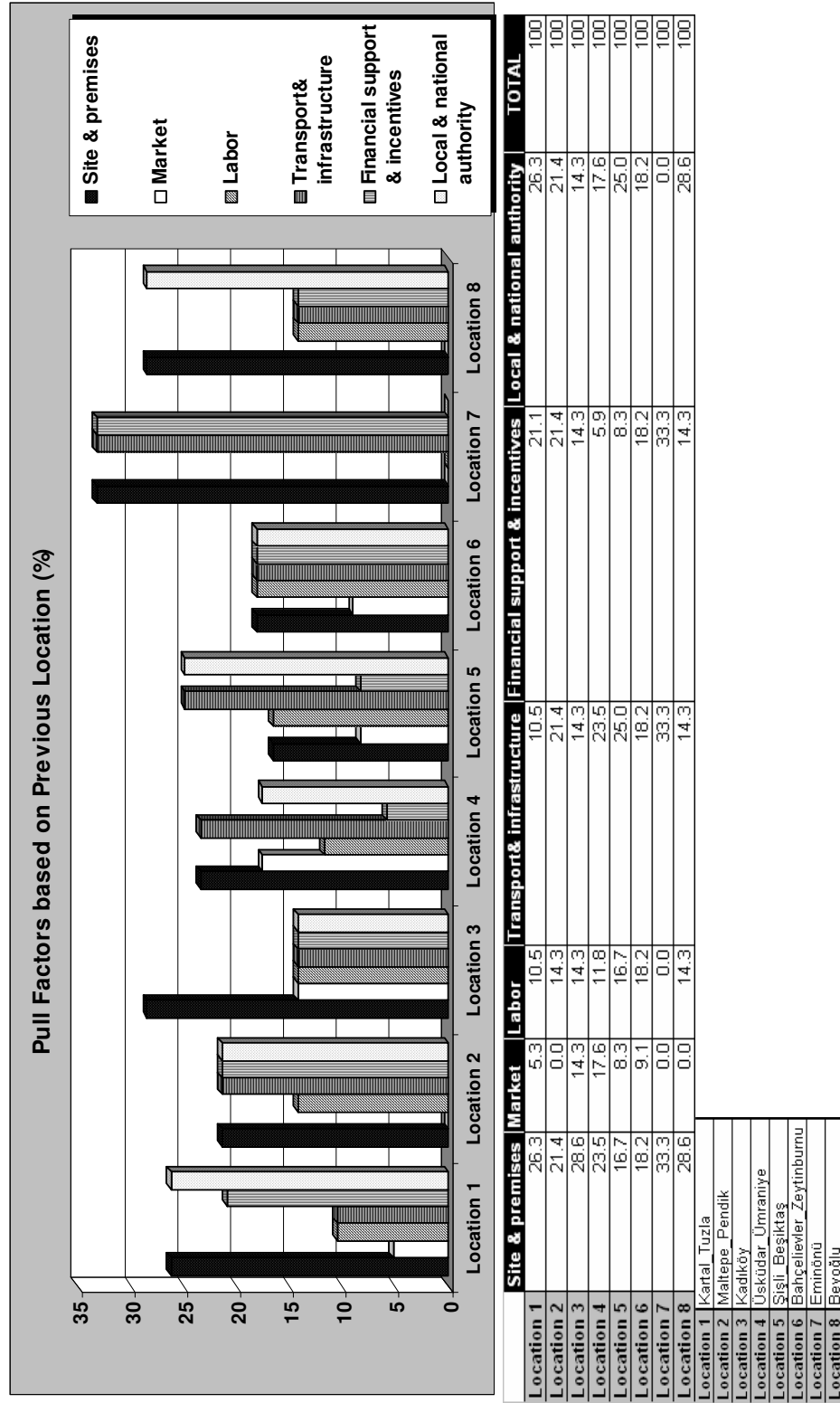


If the pull factors are examined based on differentiation in previous locations, the data allow that site and premises, mean the availability to expand, are significantly important reasons for the firms previously located in Kadıköy (Location 3), Eminönü (Location 7) and Beyoğlu (Location 8). As explained previously, this result is related to the characteristics of those districts reflecting CBD character.

Moreover, parallel to the results in terms of push factors affected the firms in Eminönü, proximity to different mode of transport, availability of parking area and incentives have again the most significant affects on the firms previously located in Eminönü. Besides, as for the firms previously located in Eminönü, policies of local and national authority based on determination of GOIZ as proposed area for industrial development played a much more role in preference reasons of GOIZ compared to the firms previously located in other districts.

In terms of the least important pull factors, the market and networking factor has the lowest share in general regardless of previous locations. This result shows that firms did not have any problems about market and networking to force them to relocate and firms did not imagine GOIZ as a provider of new opportunities based on market and networking.

To conclude, as far as these results are concerned, it might be a common view that pull factors differentiate based on previous locations.



**Figure 5.122: Pull factors based on previous locations**

Based on this analysis, it can be claimed that there are causal relationships between firm characteristics and pull/push factors to relocate. In this context, the factors determining the attractiveness of a site for firm relocation and the action from the current location to a new one when the first is no longer inside the spatial margins of profitability quietly differentiate based on firm sizes, sectors and previous locations except from location factors. Thus, hypothesis can be accepted.

To conclude, it can be argued that the facts support the validity of the hypotheses in general except from the relationship between firm size and mobility. The findings of the case study showed that firms have certain reasons to relocate and those reasons differentiate based on firm characteristics such as firm size, sector and previous locations.

## CHAPTER 6

### CONCLUSION

It is a global fact that since the 1980s cities have experienced a restructuring process triggered by the globalization of economy throughout the world. In this restructuring process, the sectoral composition of cities has severely been affected. For example, some sectors such as finance, culture, logistics and tourism, which are more adaptable to the global economy, have been promoted to strengthen in the economy of cities; while the industrial sector has gone through economical, social and spatial restructuring process through various ways, including organization of production, supply chain management, marketing and relocation of firms in order to make progress in terms of process and product innovation within the activities of industrial production. Within this context, this thesis focuses on the spatial restructuring of industrial activity that is defined as *industrial firm relocation* in the literature.

Although the concept is not new and has been discussed from the 1945s onwards, the main motivation behind the focus on industrial firm relocation is to explain and understand the main reasons behind the relocation of firms from Istanbul to Gebze Organized Industrial Zone (GOIZ). In detail, during the last decade planning authorities of Istanbul put a high emphasis on the strengthening competitive power of Istanbul in the world market and desire to see Istanbul as a finance, logistics, tourism and culture center. Therefore, the idea of substituting the industrial sector with the service sector has increasingly gained prevalence. As a result of such a framework defined for Istanbul, relocation of industry to the peripheral areas of Istanbul such as Çorlu, Çerkezköy and GOIZ has become a very popular spatial strategy. Among three locations, GOIZ provides

a clear example of industrial firm relocation due to the mix sectoral composition and incorporating firms relocated from Istanbul.

Therefore, the research object of this study is to define characteristics of firms that are relocated in GOIZ, to explain push factors and pull factors have led the firms once located in the inner city of Istanbul to relocate in GOIZ and investigate whether there is a differentiation in reasons of relocation in terms of firms size, sector and previous locations. In this regard, in order to deal with this research objective in a comprehensive way, four different approaches to firm relocation are introduced namely neoclassical, behavioral, institutional and evolutionary. Each of them introduces different factors of relocation that constitute the empirical research of this study.

According to the neo-classical theory, a firm decides to move to another location when the former is not inside the spatial margins of profitability and considers the maximization its profit (*homo economicus*). In line with this argument, the theory defines *location factors*, which comprises physical assets and market situation of the firms, as influential in firm relocation.

In terms of behavioral theory, which implies the satisfier person states that the firm decides where to relocate based on conflicting goals and limited levels of knowledge. Therefore, the theory sees firm relocation as an activity depending on the firm's *internal factors*.

Another theory is institutional approach which puts a high emphasis on norms and rules in the society, considers firm relocation as a result of firm's negotiations with a variety of local and national players. In this respect, *institutional factors* such as state policy, incentives and network play a prominent role in firm relocation.

The last theory which is evolutionary approach is introduced recently and main argument is that firm relocation can be explained within the context of firm's routines, path dependence and competencies. Therefore, the theory introduces *external factors* such as entry and exit of the firms as relevant in firm relocation.

Factors defined in the four relocation theories allowed to state four hypotheses which are compatible to the research objective. The hypotheses state that traditional location oriented relocation factors are expected to be still important determinants in firm relocation,

although 'contemporary' factors (i.e. internal, institutional and external) which have become important by 1970s seem to have played more important role in firm relocation. Moreover, the reasons that push the relocated firms in GOIZ from the previous locations and pull the firms to GOIZ are expected to differentiate according to the firm size, sector and previous locations. Apart from these, firm's mobility is expected to decrease with the size of the firm and firms that have certain networks with international firms are expected to be more mobile.

In order to investigate hypotheses, a questionnaire was carried out in GOIZ at a firm rationality level. In this survey, 37 relocated firms, of those 28 already relocated in GOIZ, while 9 of them will relocate in the near future, constitute universe of the study and particular questions were asked to test the validity of previously mentioned hypotheses.

The findings of the questionnaire indicate that in terms of reasons pushing firms from Istanbul, traditional location factors such as transport, infrastructure, site and premises are the most influential in firm relocation. In addition to location factors, policies of local and national authorities which are defined under the institutional factor is affective in driving firms from Istanbul. However, institutional, internal and external factors do not play a significantly important role in pushing firms from Istanbul.

When reasons that pull the firms to GOIZ are investigated, it is found out that site and premises and policies of national and local governments are the most important factors that motivate firms to relocate in GOIZ. In other words, relocated firms also took into consideration the decisions of the local and national authorities who promoted deindustrialization policy and determined GOIZ as a potential area for industrial development in 1/100.000 scale Environment Plan. Therefore, the plan decisions coincide with the interest of the firms in case of GOIZ. However, it should be noted that deindustrialization policy is not new since it has a long background dating back to 1960s with Piccinato Master Plan. Therefore, relocation of firms to the GOIZ is not a success of only the recent plan, independent from previous ones. Furthermore, similar to the previously mentioned result, apart from policies of local and national authorities, contemporary factors such as institutional, internal and external are not significantly important in pulling firm to GOIZ.

In line with those results, from perspective of firm rationality, it is clear that firms expected to benefit from locational advantages provided by GOIZ. Thus, they prioritized

cost and physical oriented reasons (site and premises) rather than internal, institutional and evolutionary reasons in relocation process. Actually, this result has not been reported in other countries in the literature where contemporary factors are found to be significantly important in firm relocation studies.

In addition to the micro level explanations, the dominance of location factors in firm relocation in the case of GOIZ can be explained from a macro level perspective considering real estate market in Istanbul. Real estate market plays an important role in the spatial distribution of sectors. In this respect, the land in inner districts of the city is allocated to the sector which offers the highest rent in order to get the greatest return. For example, compared to industrial activities, banks and headquarter offices have much higher *capital-land ratios* in inner districts of Istanbul. Thus the landowners are subjected to a *trade-off* between industrial and service sector activity. As a result, they trade off relocation cost for higher rent generated by the service sector for their sites. In such a situation, landowners prefer to relocate industrial activities to the organized industrial zones because these places provide certain advantages such as land and infrastructure provisions that facilitate relocation process and make relocation as if a costless exercise. That is why the factor related to site and premises has the highest ratio among push and pull factors that motive firms to relocate to the GOIZ.

When regarding the differentiation in the reasons to relocate according to the firm size, sector and previous locations, it is worthwhile to say that as the **size of firm** increases, the share of the push and pull factors related to site and premises increase too. This is due to need for additional space to grow for large firms compared to small and medium ones. Therefore, a relation is apparent between reason to relocate and firm size.

Moreover, there is not a significant relation between relocation reasons and **sectoral differentiation** since location push and pull are the most influential ones regardless of sectoral differentiation. The main reason behind such a result is that additional space to grow is the common need of firms. On the other hand, it should be highlighted that the pull factor related to transport and infrastructure are more important for sector 35 (manufacture of chemicals) since the firms in this sector are more dependent on waterfront or port activities. Furthermore, policies of national and local authorities concerning determination of GOIZ as potential for industrial development are more important for sector 38 (manufacture of fabricated metal products) than other sectors. Although location

factors constitute a common reason to relocate, sectoral differentiation is apparent in terms of other reasons.

In terms of **previous location of the firms**, findings confirm the differentiation in the reasons to relocate. Location push and pull factors such as site & premises and transportation & infrastructure are the most influential for the firms previously located in Kadıköy, Beyoğlu and Eminönü. Considering high densities of central business activities, housing and congestion in those districts, this result is not surprising. On the other hand, institutional push factors comprising deindustrialization policies and environmental constraints imposed by local and national authorities are significantly important for the firms previously located in Maltepe and Pendik. Particularly, Maltepe is one of the districts that Greater Istanbul Municipality desires to transform its industrial oriented structure to service oriented one.

Another point that should be mentioned here is the relationship between firm mobility and firm size. The shares of small (38%), medium (38%) and large firms (24%) are not greatly differentiated. This result does not coincide with the many studies in the literature. At this point, it should be noted that relocated firms to GOIZ do not have certain characteristics in terms of firm size.

Moreover, relocation activity is in parallel to the existence of international networks of the firms. A multinational network has a positive impact on the relocation decision. When a firm is part of a global network, production can easily be shifted within its network. Thus, the findings, which vast majority of relocated firms in GOIZ has international networks, confirm the impact of international networks on firm relocation.

Obviously, except from hypothesis investigating the relationship between firm mobility and firm size, the findings are compatible with the before-mentioned hypotheses and quite explanatory to portray the reasons that motivate firms to relocate from Istanbul to GOIZ.

One of the most relevant findings of this study is that location factors constitute the most influential reason to drive firms from Istanbul and promote them to relocate to the GOIZ. Moreover, reasons to relocate differentiate based on firm characteristics including firm size, sector and previous locations. However, different from the firm relocation studies explained in the literature, contemporary location factors are not much influential in relocation. Particularly, in case of the GOIZ, it was expected that the factors reflecting



availability of research networks, knowledge infrastructure, and information technologies, defined as externalities provided by the GOIZ were defined as important pull factors in firm relocation. However, this argument is indeed not confirmed in this research. The main reason is probably related to that relocated firms do not prioritize the networking externalities provided by the GOIZ because as mentioned previously other externalities such as land and infrastructure provision are prioritized in relocation.

The findings of the study provide certain contribution to the plans prepared for Istanbul. First of all, the plan decisions based on industrial development can be handled in a more rational way that take into consideration reasons to relocate and differentiation in reasons based on firm characteristics. By doing so, a spatial strategy for industrial development can be determined based on sector analysis. Moreover, information about reasons to leave Istanbul and relocate to GOIZ will shed light on forward looking plan decisions for located firms in inner districts of Istanbul.

In order to reach to a more comprehensive conclusion, similar studies have to be undertaken in other peripheral areas of the city, most notably in Çorlu and Çerkezköy, which are determined as potential areas for industrial development in recent plans of Istanbul. Such a comprehensive study covering relocated firms in peripheral areas of Istanbul can provide a comparative framework for reasons to relocate and to investigate whether the existing relocation trend is compatible with the planning decisions of the local authority.

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## APPENDIX A

### TABLES & FIGURES

**Table A.1: The change in employment in sub sectors**

	1980	1985	1990	1995	2000	2001
<b>Sector 31</b>	28710	28259	25600	19425	16677	16529
<b>Sector 32</b>	65333	89907	119921	123570	130122	135487
<b>Sector 33</b>	4489	4119	3309	2936	3280	3051
<b>Sector 34</b>	10776	14138	14569	14352	12384	11944
<b>Sector 35</b>	27729	32415	35787	27922	33948	34634
<b>Sector 36</b>	13658	14395	12952	8113	9971	8672
<b>Sector 37</b>	11391	10287	12147	8846	7613	6698
<b>Sector 38</b>	80461	87157	86110	70780	79857	76328
<b>Sector 39</b>	2478	4267	4298	4956	7312	7539
<b>TOTAL</b>	<b>245225</b>	<b>284944</b>	<b>314.693</b>	<b>280900</b>	<b>301164</b>	<b>300882</b>
<b>31:</b> manufacturing of food, beverages and tobacco	<b>33:</b> manufacture of wood and wood products including furniture		<b>35:</b> manufacture of chemicals and chemical petroleum coal rubber and plastic products		<b>37:</b> basic metal industries	
<b>32:</b> textile apparel and leather industries	<b>34:</b> manufacture of paper and paper products including printing and publishing		<b>36:</b> manufacture of nonmetallic organic products		<b>38:</b> manufacture of fabricated metal products, machinery and equipment	

Source: Turkish Statistical Institute, <http://www.turkstat.gov.tr/>, last accessed data: 14<sup>th</sup> June, 2009.

**Table A.2: The ratio of value added per worker in Istanbul to Turkey (Turkey=100)**

	1980	1985	1990	1995	2000	2001
<b>Sector 3</b>	89,7	97,43	89,92	82,65	91,65	88,61
<b>Sector 31</b>	133,4	196,5	162,4	151,6	161,3	148,2
<b>Sector 32</b>	91,4	97,6	100,5	94,6	94,1	91,9
<b>Sector 33</b>	85,1	80,2	98,7	64,6	61,9	55,4
<b>Sector 34</b>	95,0	100,9	114,0	91,4	127,5	128,5
<b>Sector 35</b>	45,7	55,3	52,1	50,7	67,8	60,4
<b>Sector 36</b>	109,9	104,0	89,2	109,2	102,4	88,3
<b>Sector 37</b>	92,8	104,5	124,8	133,0	116,4	172,0
<b>Sector 38</b>	111,6	109,6	103,2	97,8	101,5	104,7
<b>31:</b> manufacturing of food, beverages and tobacco	<b>33:</b> manufacture of wood and wood products including furniture		<b>35:</b> manufacture of chemicals and chemical petroleum coal rubber and plastic products		<b>37:</b> basic metal industries	
<b>32:</b> textile apparel and leather industries	<b>34:</b> manufacture of paper and paper products including printing and publishing		<b>36:</b> manufacture of nonmetallic organic products		<b>38:</b> manufacture of fabricated metal products, machinery and equipment	

Source: Turkish Statistical Institute, <http://www.turkstat.gov.tr/>, last accessed data: 14<sup>th</sup> June, 2009.

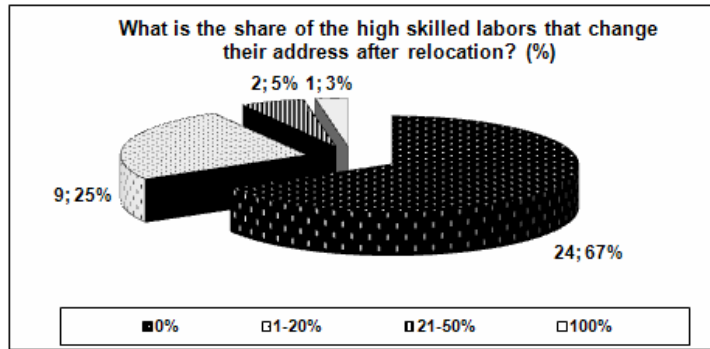


Figure A.1: The share of the high skilled labors that change their address after relocation

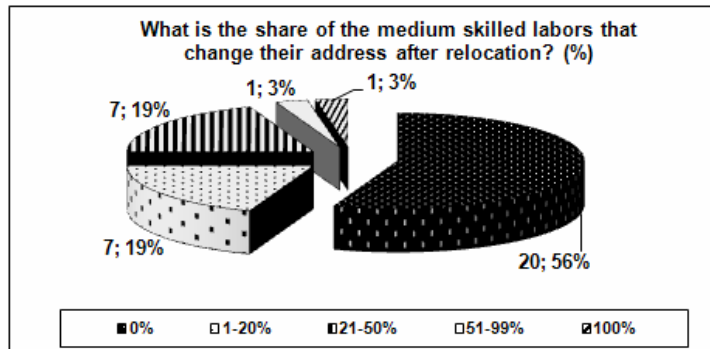


Figure A.2: The share of the medium skilled labors that change their address after relocation

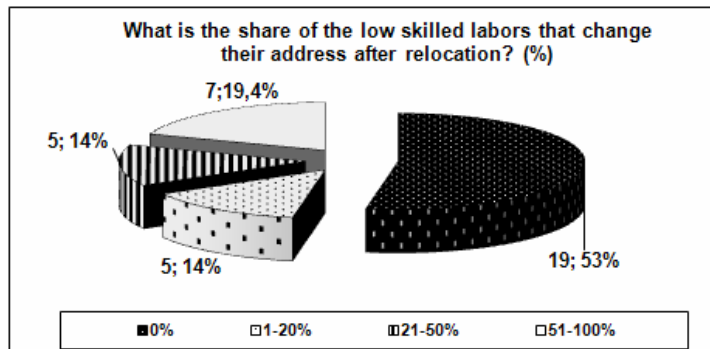


Figure A.3: The share of the low skilled labors that change their address after relocation



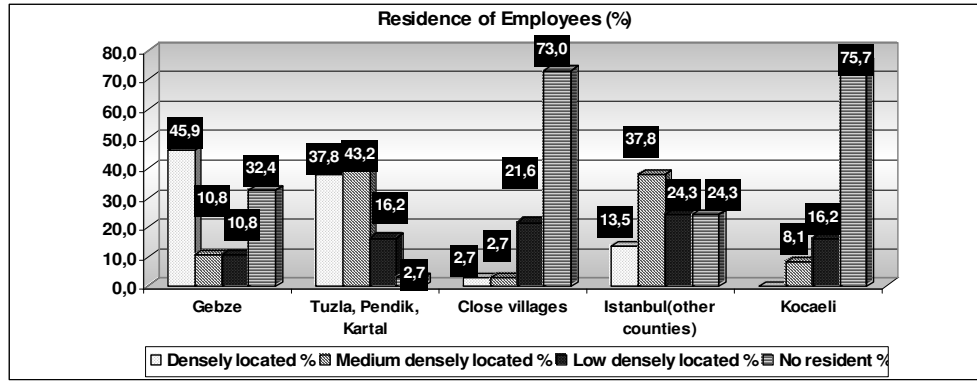


Figure A.4: Residence of employees (%)

# APPENDIX B

## MAPS

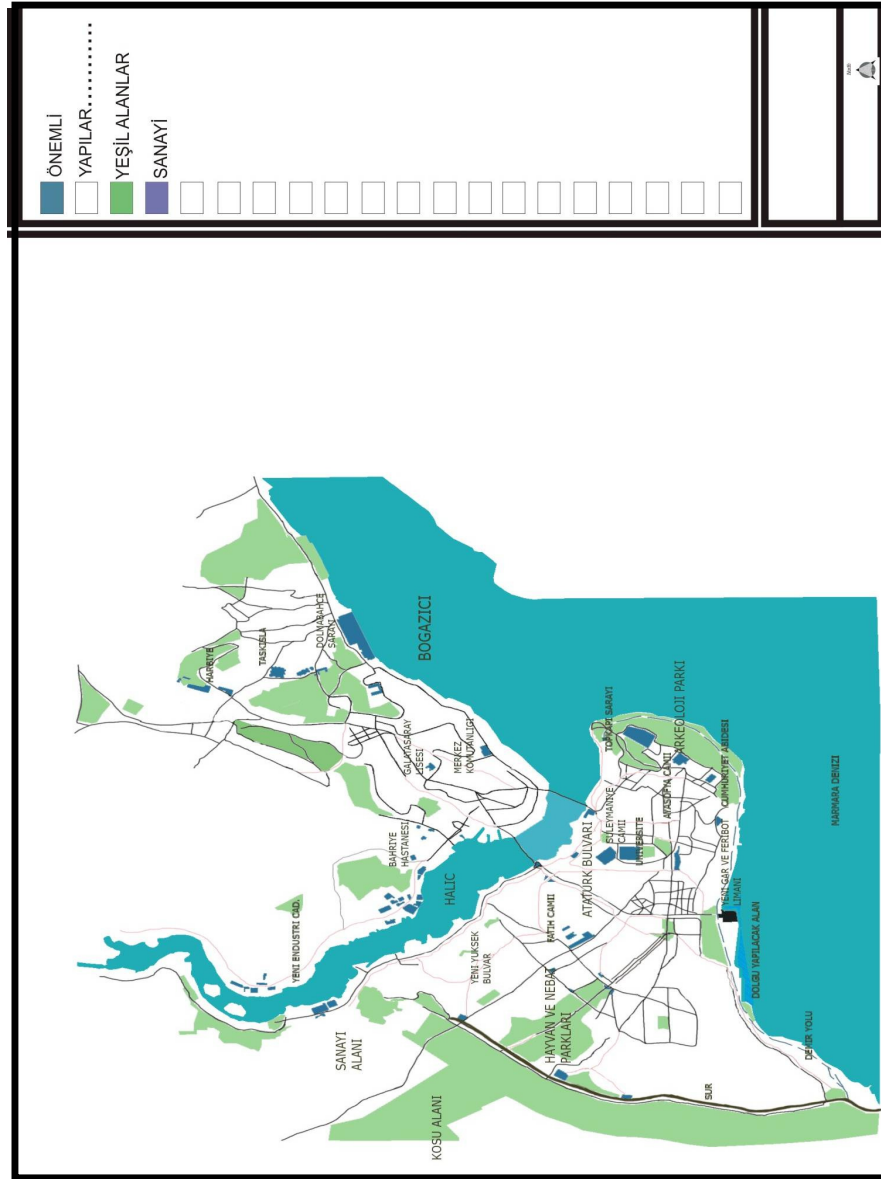


Figure B.1: Prost Plan (1939) (Source: Planning History Report, 2006, p.5).

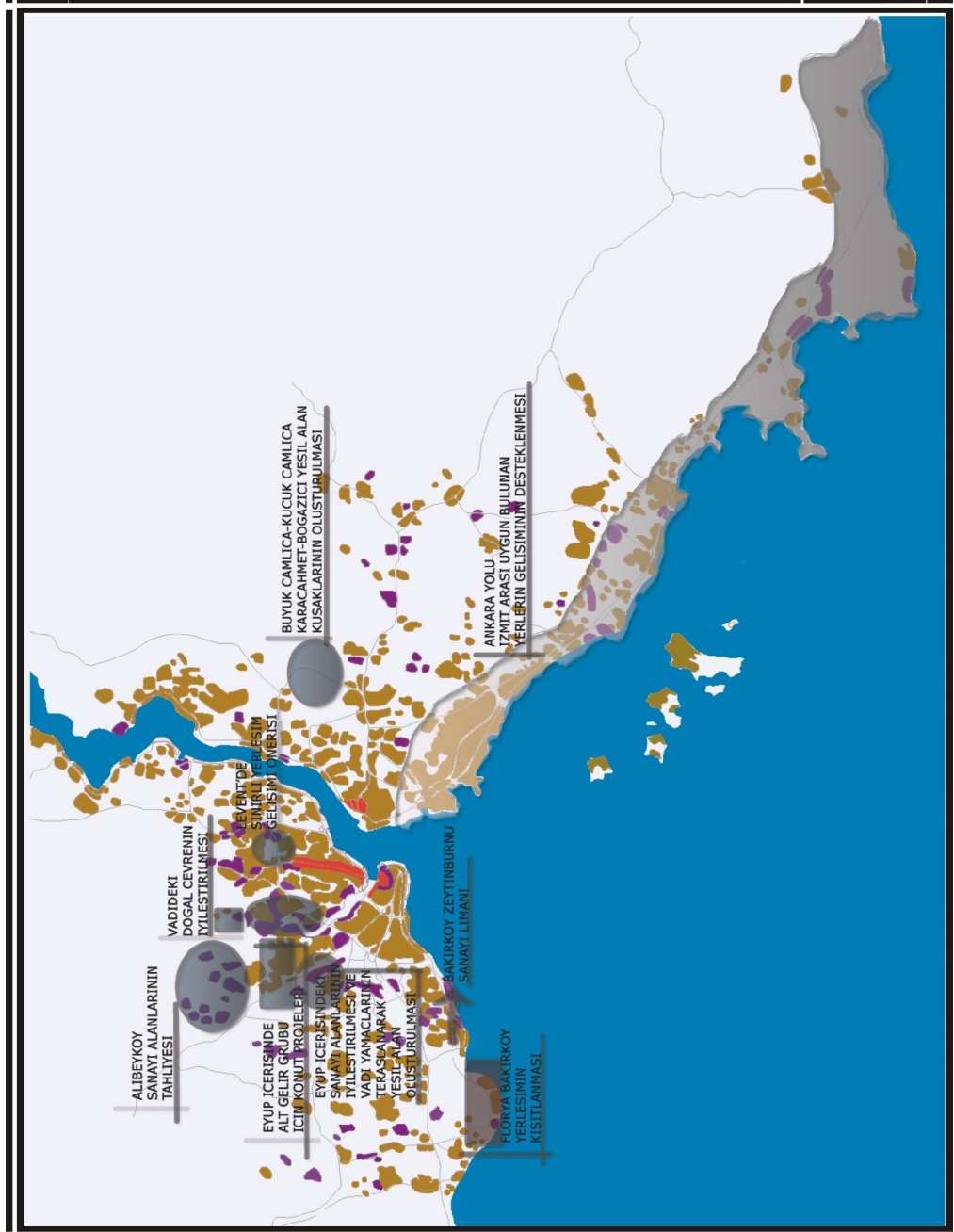


Figure B.2: Piccinato Plan (1960) (Source: Planning History Report, 2006, p.16).

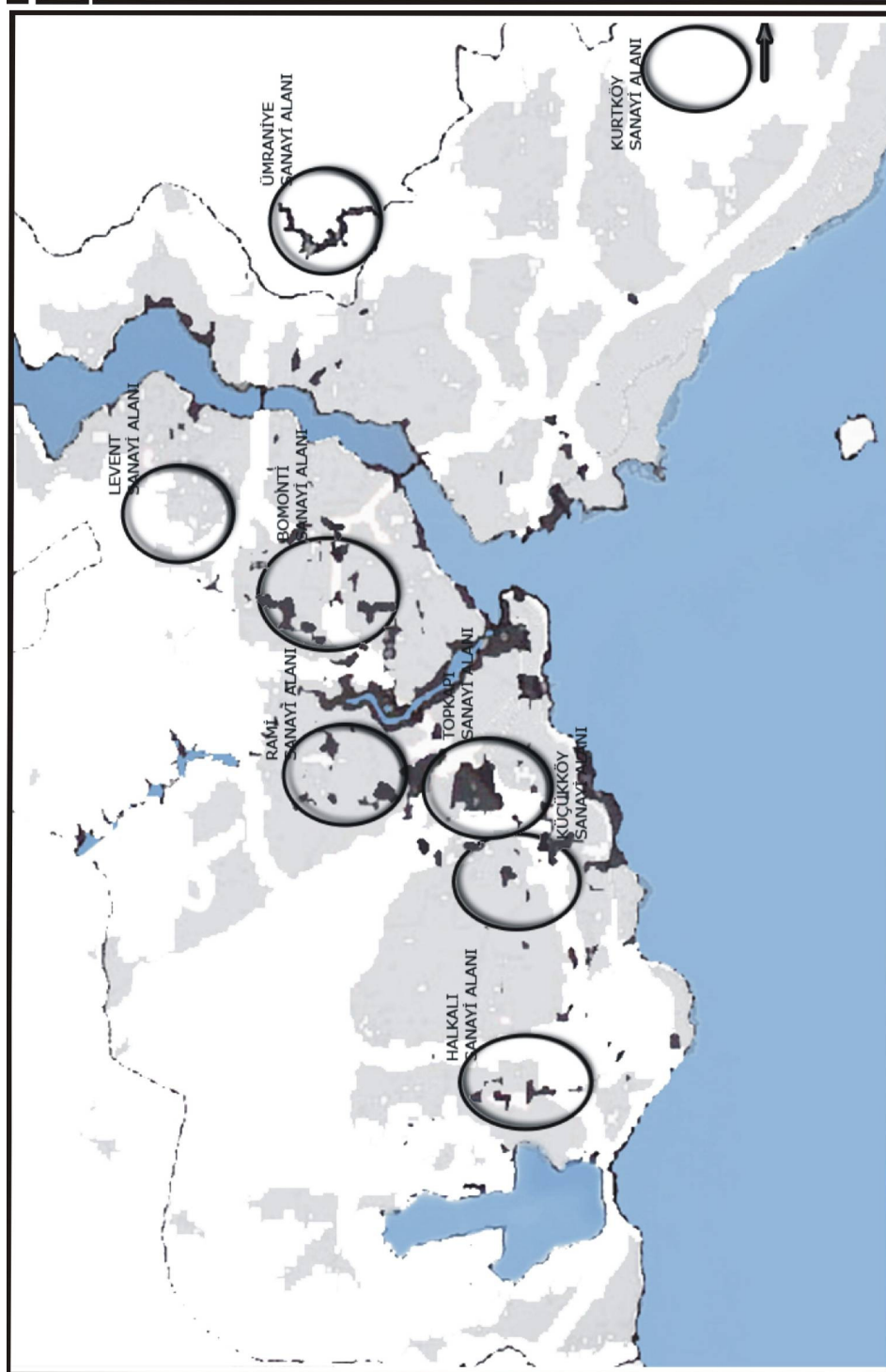
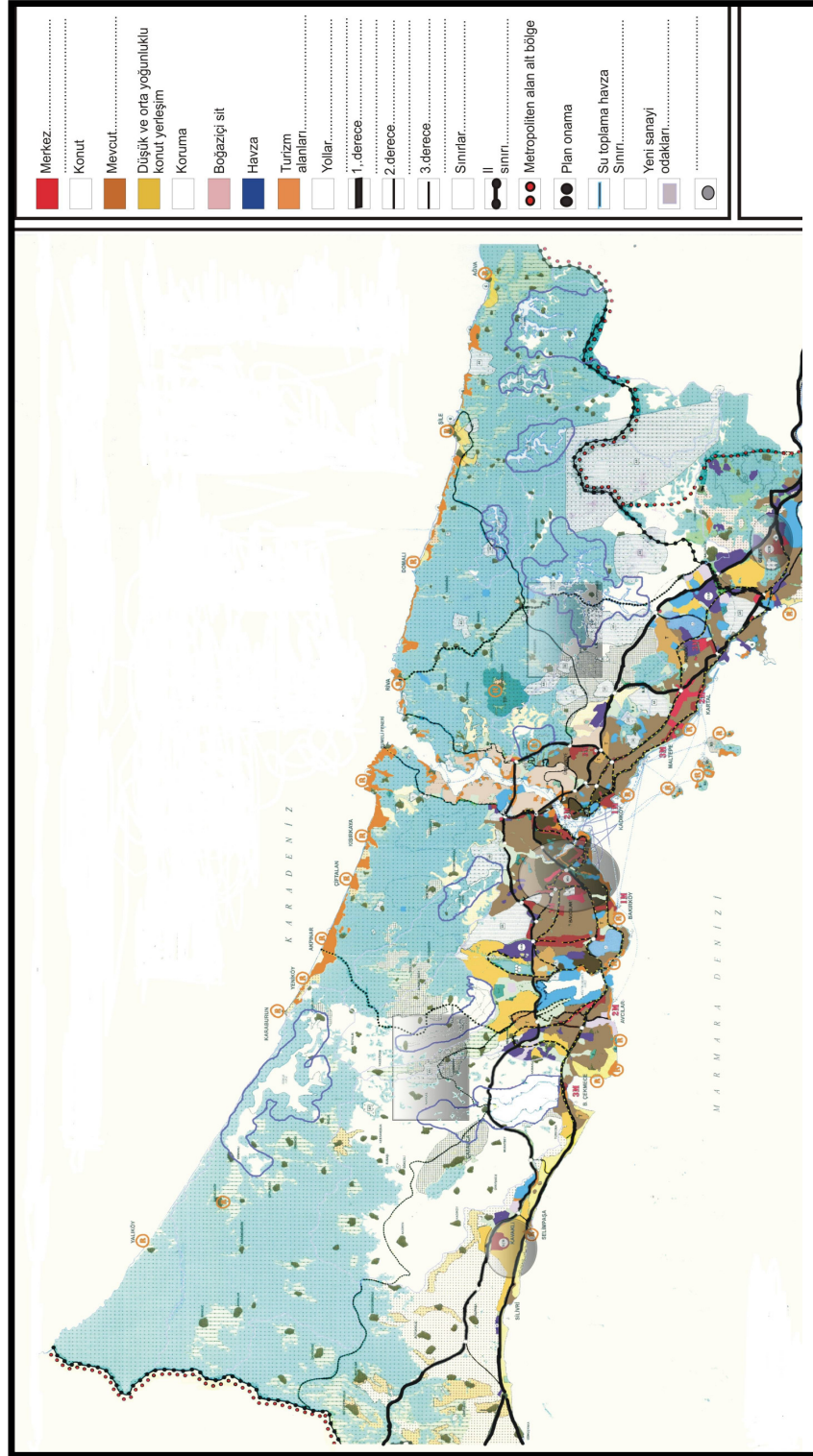


Figure B.3: The 1966 Industry Master Plan (Source: Planning History Report, 2006, p.20).



Figure B.4: 1980 Metropolitan Master Plan (Source: Planning History Report, 2006, p.36).



**Figure B.5: The 1995 Istanbul Metropolitan Sub-Region Master Plan (Source: Planning History Report, 2006, p.55).**

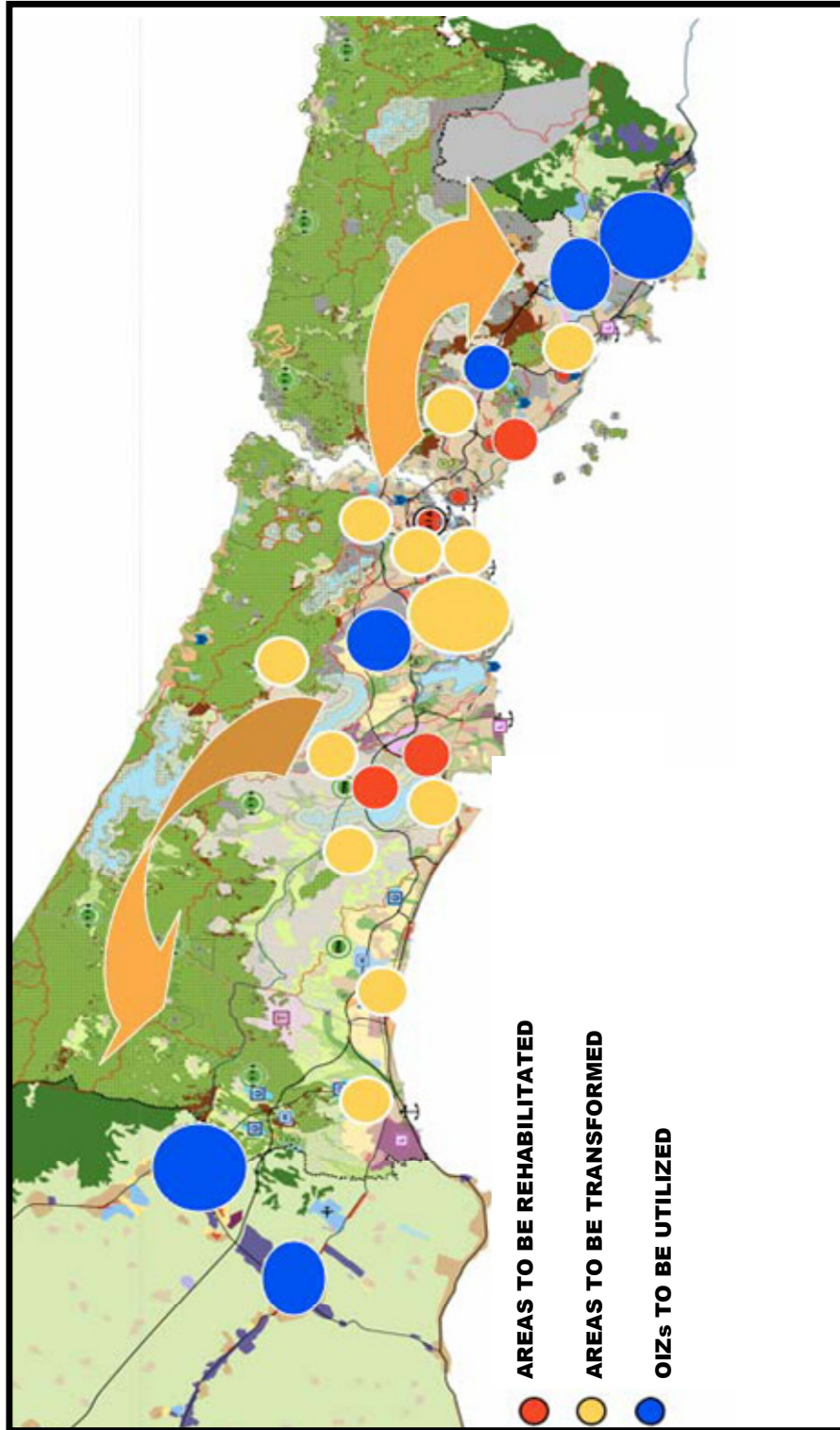


Figure B.6: Spatial Development Strategies for Industry (Source: IMP, Plan Report, 2006, p.265)

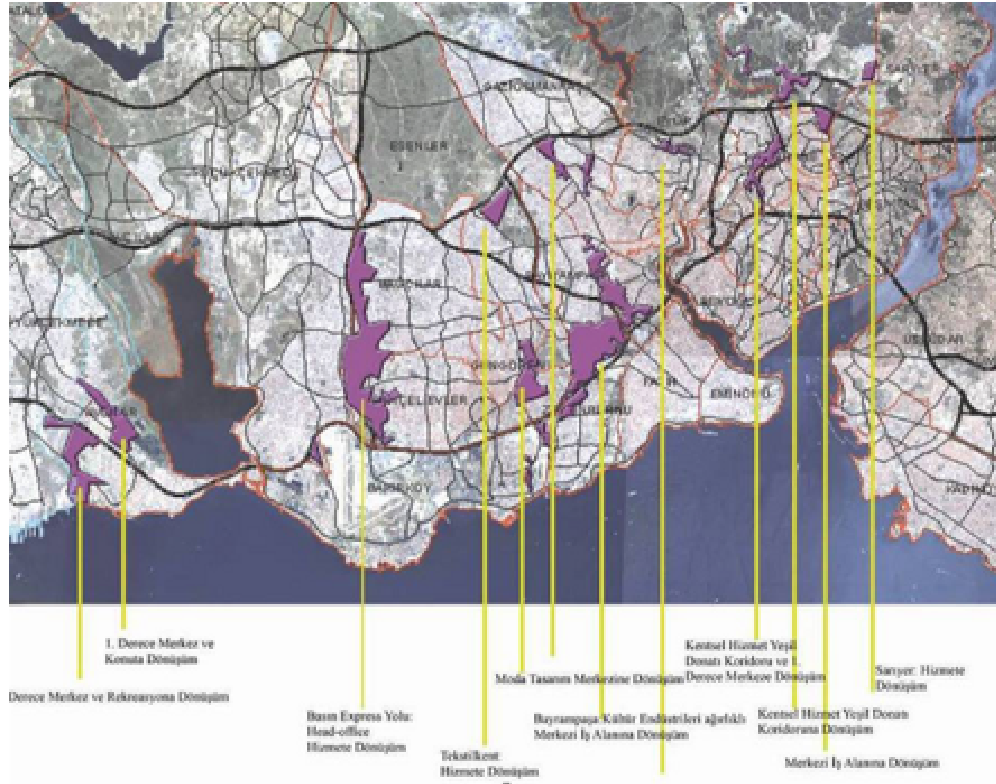


Figure B.7: Areas to be transformed in Western Side (Source: Baz, İ, 2008, p.13)

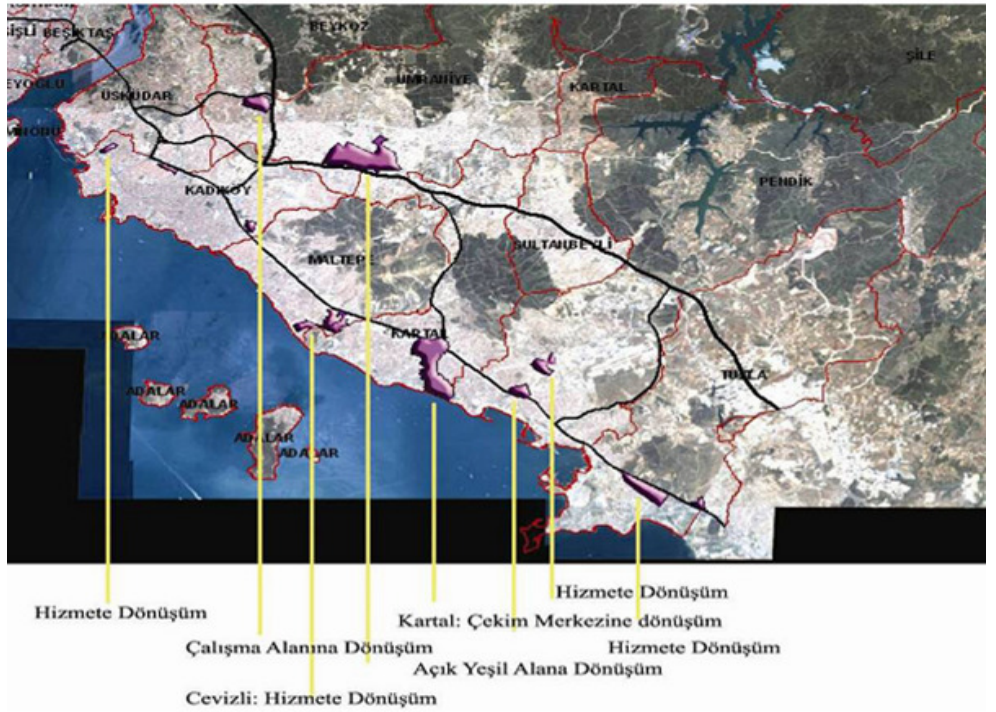
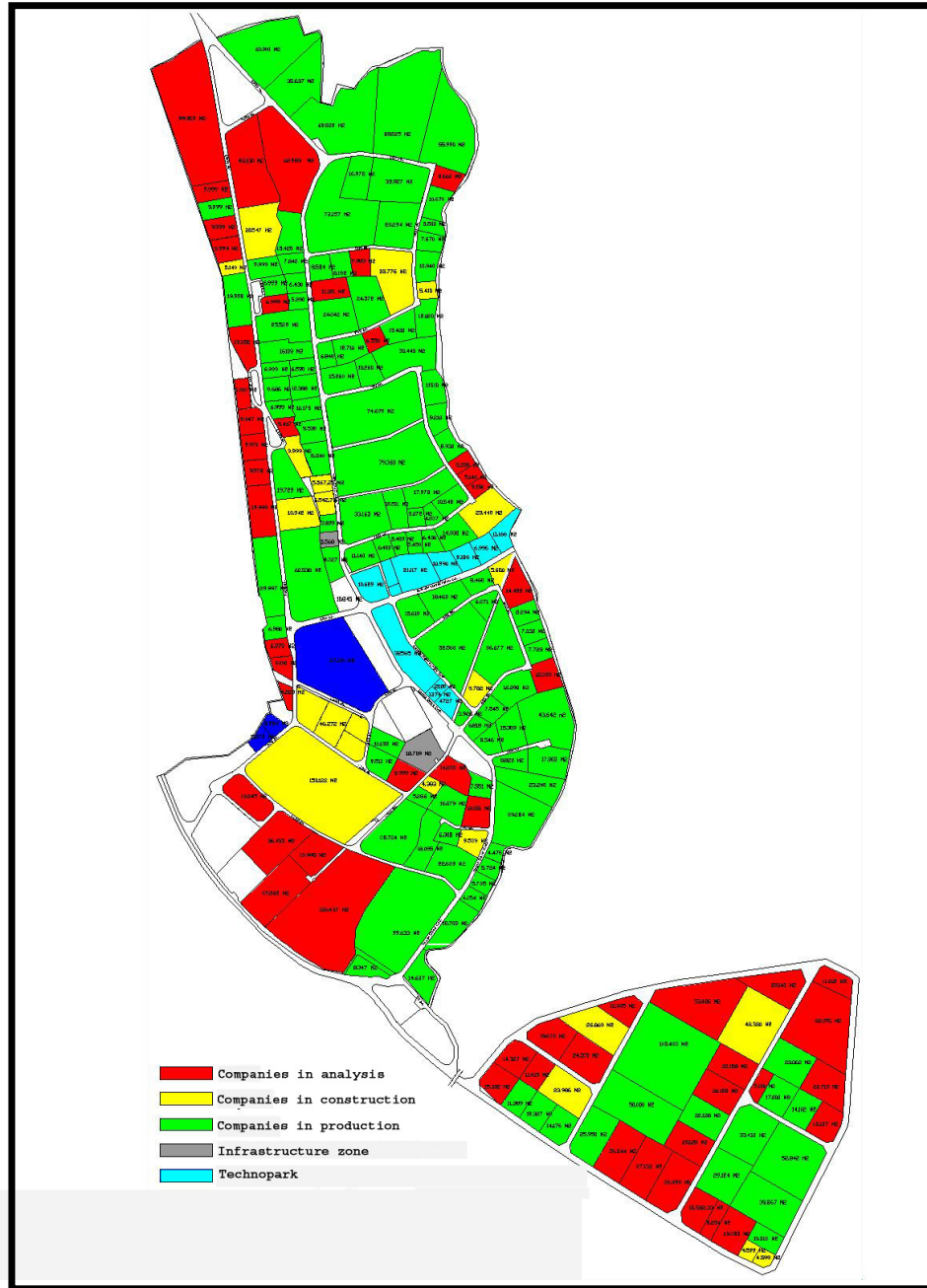


Figure B.8: Areas to be transformed in Eastern Side (Source: Baz, İ, 2008, p.14)





**Figure B.9: The location of GOIZ (Source: Archieve of GOIZ Administration)**



**Figure B.10: The spatial distribution of companies (Source: Archive of GOIZ Administration)**

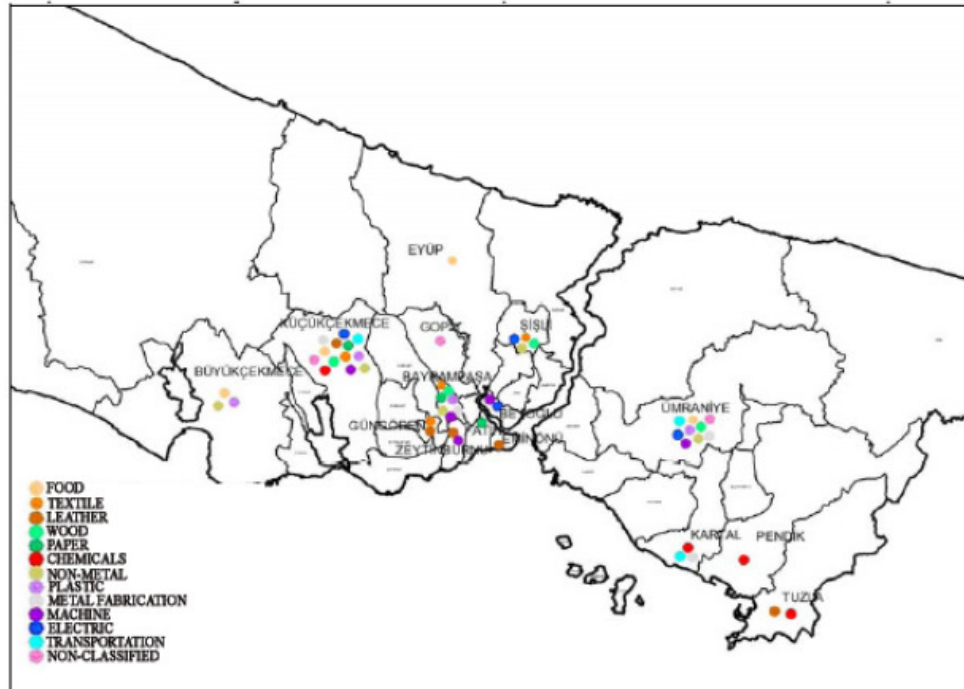


Figure B.11: The distribution of raw materials in Istanbul Metropolitan Area (Source: Ak, B., 2008, p.107).

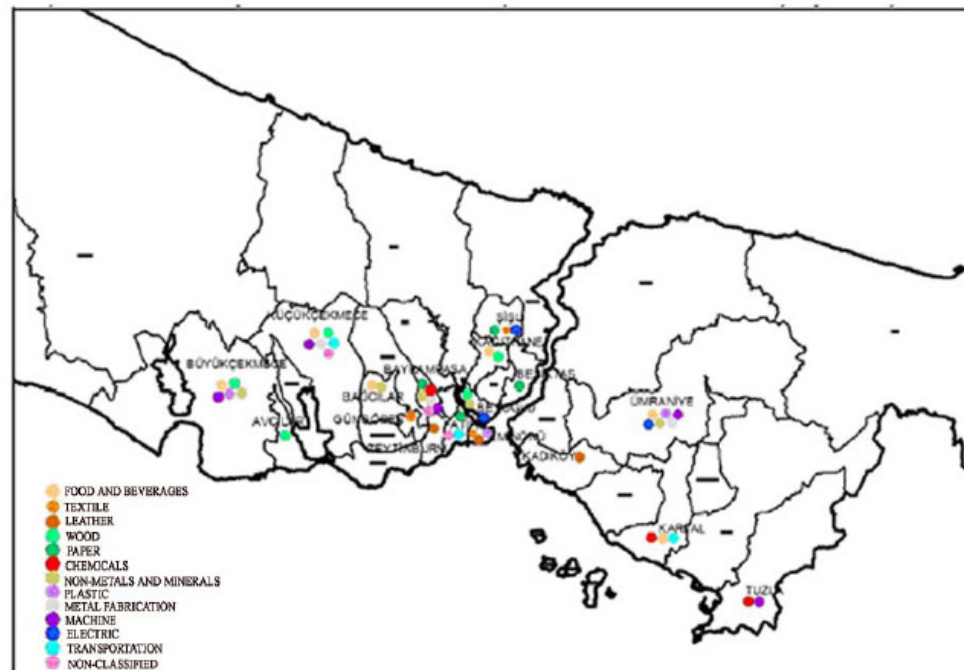


Figure B.12: The distribution of markets in Istanbul Metropolitan Area (Source: Ak, B., 2008, p.106).

## APPENDIX C

### A SAMPLE OF QUESTIONNAIRE

#### SANAYİNİN GEBZE ORGANİZE SANAYİ BÖLGESİ'NDE YENİDEN YERSEÇİM NEDENLERİNİN TESPİTİNE YÖNELİK ANKET

##### **Bölüm 1: Firma Kimliği**

Firma ünvanı :.....  
Firma adresi :.....  
Firmanın ana faaliyet kolu :.....  
Tel :.....  
E-mail :.....  
Web adresi :.....

GOSB 'a TAŞINAN FİRMA (.....)

GOSB'a TAŞINACAK FİRMA (.....)

##### **Bölüm 2: Firmanın Faaliyet Konusu**

**S1.** Firmanın kuruluş yılı [X-4]

.....

**S2.** Firma daha önce başka bir yerde faaliyet gösterdi mi? [X-5]

1 ( ) Evet

2 ( ) Hayır

**S3.** Önceki faaliyet adresi[X-6] :.....

.....

**S3.1** Faaliyet gösterdiği semt [X-7]:.....

**S3.2** GOSB'a taşınma yılı/taşınacağı yıl [X-8]: .....

(Yer deęiřtirme sayısı 1'den fazlaysa tüm adresler ve yer deęiřtirme yılları belirtilecek)

1. Adres[X-9]..... Adresi Deęiřtirme Yılı:[X-10] .....
2. Adres[X-11]..... Adresi Deęiřtirme Yılı:[X-12].....
3. Adres: [X-13]..... Adresi Deęiřtirme Yılı:[X-14] .....

**(4-5-6 ve 7 Numaralı Sorular Gebze Organize Sanayi Bölgesi'ne TAřINMIř FİRMALARA Sorulacak)**

**S4.** Önceki yerinizde mülkiyet durumunuz neydi? [X-16]

- 1 ( ) Mülk sahibi  
2 ( ) Kiracı  
3 ( ) Dięer (lütfen tanımlayınız) .....

**S5.** Firma bu adrese ařaęıdaki nedenlerden hangisi ile geldi? [X-17] Yanıt "firma kapatılarak" ise SORU 6 ya geçilecek

- 1 ( ) Firmayı kapatılarak 2 ( ) Yeni bir üretim kolu açarak 3 ( ) Yeni bir řube açarak

**S6.** Eęer cevap yeni bir üretim kolu açarak/yeni bir řube açarak ise

- 11.1 Ana firmanın adı [X-18]  
:.....  
11.2 Ana firmanın faaliyet kolu [X-19]  
:.....  
11.3 Ana firmanın adresi [X-20]  
:.....  
11.4 Ana firmanın faaliyet gösterdięi semt [X-21]:.....

**S7.** Firma bu adrese tařınırken yönetim birimlerini de tařıdı mı? [X-22] Yanıt Hayır ise; soru 7.1 ve 7.2 yi sormalısın

- 1 ( ) Evet 2 ( ) Hayır  
(Hayırsa) 7.1 İdari birimlerin adresi[X-23]:.....  
(Hayırsa) 7.2 İdari birimlerin semti [X-24]:.....

**S8.** Firmanın bu faaliyet dışında başka bir faaliyet alanı var mı? [X-25] **Yanıt Evet ise; faaliyeti öğreniniz.**

1 ( ) Evet 2 ( ) Hayır

8.1 Faaliyet kolu/kolları: [X-26].....  
8.2 Adresler: [X-27].....

**S9.** Firmanın bir başka yerli firma ile ortaklığı var mı? [X-28] **Yanıt Evet ise 14.1 ve 14.2 sorularını sorunuz**

1 ( ) Evet 2 ( ) Hayır

(Evetse) 9.1 Yerli firmanın sermaye yüzdesi: [X-29].....  
(Evetse) 9.2 Yerli firmanın üretim kolu: [X-30].....

**S10 .** Firmanın bir başka yabancı firma ile ortaklığı var mı? [X-31]

1 ( ) Evet 2 ( ) Hayır

(Evetse) 10.1. Yabancı firmanın sermaye yüzdesi: [X-32].....  
(Evetse) 10.2 Yabancı firmanın ülkesi: [X-33].....

**S11.** Bu adresteki işiniz aşağıdakilerden hangisi ile tanımlanabilir? [X-34] (birden fazla işaretlenebilir)

1. ( ) Yalnızca bu adreste yönetim ve üretim birimi olan
2. ( ) Üretim birimi burada ama başka yerde ana ofis veya bölge ofisi olan
3. ( ) Buradaki üretim biriminin yanı sıra Türkiye’de başka üretim birimleri de bulunan
4. ( ) Buradaki üretim biriminin yanı sıra yurtdışında üretim birimleri bulunan
5. ( ) Diğer (lütfen tanımlayınız.....)

### **Bölüm 3: İşgücü Özellikleri**

**S12.**Bu adreste kaç kişi çalışıyor?

İşgücü [X-36]	Çalışan Sayısı
Üst düzey (Yönetici, mühendis) [X-37]	
Orta düzey (Teknisyen, idari personel) [X-38]	
Alt düzey (Düz işçi ve ustabaşı[X-39]	
Toplam Çalışan Sayısı	

**S13.** Personelinizin oturduğu yerleri en yoğun dan en az yoğun a doğru sıralar mısınız?  
Anketör ! (1: yoğun, 2: orta yoğun, 3: az yoğun, 4: oturan yok)

Semtler	1	2	3	4
Gebze [X-40]	( )	( )	( )	( )
Tuzla, Pendik, Kartal [X-41]	( )	( )	( )	( )
Yakın köyler [X-42]	( )	( )	( )	( )
İstanbul'un diğer ilçeleri X-43] ...(belirtiniz)..... [X-44]	( )	( )	( )	( )
Kocaeli'nin diğer ilçeleri [X-45]	( )	( )	( )	( )

**S14.** Personeliniz GOSB'a gelmek için kullandığı ulaşım türünü en çok kullanılan dan en az kullanılan a doğru sıralar mısınız ?

(1: yoğun, 2: orta yoğun, 3: az yoğun, 4: kullanan yok)

Ulaşım Türleri	1	2	3	4
Personel servisi X-46]	( )	( )	( )	( )
Özel araç [X-47]	( )	( )	( )	( )
Raylı sistem, tren [X-48]	( )	( )	( )	( )
Otobüs, dolmuş [X-49]	( )	( )	( )	( )
Diğer [X-50]	( )	( )	( )	( )

**S15.** Firma ile birlikte üretim birimi personelinden kaç kişi adres değiştirmiş tir/değiştirecektir?

Ulaşım Türleri	% yüzde
Üst düzey [X-51]	%
Orta düzey [X-52]	%
Alt düzey [X-53]	%

Toplamı %100 olmalı

#### **Bölüm 4: Üretim ve Pazar Koşulları**

**S16.** Firma üretimde en çok kullandığı malı/malları nelerden sağlıyor?

Ulaşım Türleri	% yüzde
GOSB'daki diğer firmalardan [X-54]	%
Kocaeli ve hemen yakın çevresi [X-55]	%
İstanbul [X-56]	%
Türkiye'deki diğer illerden [X-57]	%
Yurt dışından [X-58]	%

Toplamı %100 olmalı

S17 .Firma en çok ürettiği malı/malları hangi bölgelere satıyor?

Bölgeler	% yüzde
GOSB'daki diğer firmalara [X-60]	%
İstanbul [X-61]	%
Kocaeli ve hemen yakın çevresi [X-62]	%
AB ülkelerine [X-63]	%
Yurt dışına [X-64]	%
Türkiye pazarına [X-65]	%

Toplamı %100 olmalı

S18. Firmanın aşağıdaki kurum/kuruluşlardan hangisi ile ne tür ilişkisi vardır?

Kurum / Kuruluşlar	Girdi	Ticaret	Teknoloji	Finansal	Diğer Belirtiniz	İlişği yok
Aynı bölgedeki diğer firmalar [X-66]						
İstanbul,Kocaeli içi ve çevresindeki yerel firmalar [X-67]						
Türkiye'deki diğer firmalar [X-68]						
AB üyesi ülkelerdeki yabancı firmalar [X-69]						
Uluslar arası firmalar [X-70]						
Üniversiteler[X-71]						
GOSB teknopark [X-72]						
Diğer...[X-73]. Belirtiniz .....[X-74]						

**Bölüm 5: Arazi ve Bina Özellikleri (Bu bölümdeki sorular taşınmış firmalara sorulacak)**

S19. İşyerinin kapladığı alan ne kadardır?

24.1 Açık alan.....m<sup>2</sup>[X-75]

24.2 Kapalı alan.....m<sup>2</sup>[X-76]

S20. Mülkiyet durumu aşağıdakilerden hangisine uygundur? [X-77]

1 ( ). Tamamına sahip

2 ( ). Kısmen sahip – Kısmen kiracı

3 ( ). Tamamen kiracı

S21. Firmanın parselde yayılma (mekansal büyüme) olanağı mevcut mudur? [X-78]

1 ( ) Evet

2 ( ) Hayır



**Bölüm 6: Firmalar arası ağ ve ilişkiler (Bu bölümdeki sorular taşınmış firmalara sorulacak)**

S22. Ürünlerinizi/çıktılarınızı sürekli satın alarak kendi üretiminde kullanan firmalar nerelerde yer seçiyor?

	<u>% yüzde</u>
GOSB içerisinde [X-79]	%
Kocaeli, Bursa, Sakarya [X-80]	%
İstanbul,Trakya [X-81]	%
Ülke içi [X-82]	%
Ülke dışında [X-83]	%

Toplamı %100 olmalı

S23. Sizin üretiminizde kullandığınız girdileri üreten fabrikalar nerelerdedir?

	<u>% yüzde</u>
GOSB içerisinde [X-85]	%
Kocaeli, Bursa, Sakarya [X-86]	%
İstanbul,Trakya [X-87]	%
Ülke içi [X-88]	%
Ülke dışında [X-89]	%

Toplamı %100 olmalı

S24. Fabrikanız için ihtisaslaşmış hizmet gereksinimi (mühendislik/bilgisayar programı/yazılım, ar-ge, tasarım, finans, muhasebe v.b) varsa bunu karşıladığınız firmalar nerelerde bulunmaktadır?

	<u>% yüzde</u>
Kendi firması içerisinde [X-90]	%
GOSB içerisinde diğer firmalar [X-91]	%
Kocaeli, Bursa, Sakarya [X-92]	%
İstanbul,Trakya [X-93]	%
Ülke içi [X-94]	%
Ülke dışında [X-95]	%

Toplamı %100 olmalı

**Bölüm 7: Üretiminizi Daha Önceki Yerinden Taşınmasında/Taşınmayı Düşünmesinde Aşağıdaki Faktörlerden Hangileri Etkili Olmuştur?**

	Önemli	Kısmen Önemli	Önemsiz
<b>Arazi ve Bina</b>	1	2	3
1 Birimlerin küçüklüğü [X-97]	1	2	3
2 Arazinin küçüklüğü [X-98]	1	2	3
3 Birimlerin bakım ve kullanım maliyetinin yüksekliği [X-99]	1	2	3
4 Kiralama süresinin bitmesi [X-100]	1	2	3
5 Birimlerin ekonomik ömrünü doldurması/eski oluşu [X-101]	1	2	3
6 Alanın imar planı veya yönetmeliğine aykırı bir durumu olması [X-102]	1	2	3
7 Alternatif alan veya binaların yokluğu [X-103]	1	2	3
8 Fabrika ve arazisinin fiyatlarının yüksek oluşu [X-104]	1	2	3
<b>Pazar</b>	1	2	3
1 Yeni coğrafi pazarlara girme [X-105]	1	2	3
2 Yeni bir ürün pazarına girme [X-106]	1	2	3
3 Alıcılara uzaklık [X-107]	1	2	3
4 Hammadde tedarikçilerine uzaklık [X-108]	1	2	3
5 Aynı faaliyet kolundaki diğer firmalara uzaklık [X-109]	1	2	3
6 Fason firmaya uzaklık [X-110]	1	2	3
7 Yüksek üretim maliyetleri [X-111]	1	2	3
<b>İşgücü</b>	1	2	3
1 İşgücünün yetersizliği [X-112]	1	2	3
2 İşe uygun nitelikli işgücünün yetersizliği [X-113]	1	2	3
3 İşgücü maliyetinin yüksekliği [X-114]	1	2	3
4 İşgücü verimliliğinin düşük olması [X-115]	1	2	3
<b>Ulaşım ve Altyapı</b>	1	2	3
1 Ulaşım ve trafik yoğunluğu problemleri [X-116]	1	2	3
2 Otopark alanlarının olmayışı [X-117]	1	2	3
3 Altyapı maliyetlerinin yüksek oluşu [X-118]	1	2	3
<b>Finansal Destek</b>	1	2	3
1 Banka kredisi alma güçlüğü [X-119]	1	2	3
<b>Kamusal Teşvik</b>	1	2	3
1 Finansal yada diğer teşviklerin yetersizliği(kredi,muafiyet,vergi v.b) [X-120]	1	2	3
<b>Yerel ve Merkezi Yönetim</b>	1	2	3
1 Yerel yönetimin Çevre Düzeni Planında sanayinin İstanbul il sınırı dışına çıkarılması ile ilgili kararı [X-121]	1	2	3
2 Su kirliliği,hava kirliliği vb. çevresel konularda duyarlılık ve koruma isteği [X-122]	1	2	3
3 Firmaları zor durumda bırakan vergilendirme sistemi [X-123]	1	2	3
4 Kamu yönetiminin yetersizliği [X-124]	1	2	3
<b>Yaşam Kalitesi</b>	1	2	3
1 İstanbul'da yaşama maliyetinin yüksek olması [X-125]	1	2	3
2 Konut maliyetlerinin yüksek olması [X-126]	1	2	3
<b>Diğer (Lütfen tanımlayınız) [X-127]</b>	1	2	3
1			
2			

**Bölüm 8: Aşağıdakilerden Faktörlerden Hangileri GOSB'da Yer Seçme Kararınızı Almanızda Etkili Olmuştur?**

		Önemli	Kısmen Önemli	Önemsiz
	<b>Arazi ve Bina</b>	1	2	3
1	Arazinin ve/veya binaya erişebilirlik olanakları [X-129]	1	2	3
2	Düşük arazi/bina maliyetleri [X-130]	1	2	3
3	Mülkiyet durumu/sahipliği (kira/leasing/sahiplilik) [X-131]	1	2	3
4	Arsanın veya binanın fiziksel genişleme olanakları [X-132]	1	2	3
	<b>Pazar</b>	1	2	3
1	Yeni ve daha geniş pazarlara girme [X-133]	1	2	3
2	Hammadde sağlayıcılara yakınlık [X-134]	1	2	3
3	Alicılara yakınlık [X-135]	1	2	3
4	Malın sevk süresinde kısalık [X-136]	1	2	3
5	Aynı faaliyet kolundaki diğer firmalara yakınlık [X-137]	1	2	3
6	Fason firmaya yakınlık [X-138]	1	2	3
7	Düşük üretim maliyetleri [X-139]	1	2	3
8	GOSB teknoparkının var olması [X-140]	1	2	3
9	GOSB'ta yer seçmiş/seçecek yabancı sermayeli firmalarla birlikte çalışma isteği [X-141]	1	2	3
10	İş ilişkisinde olduğunuz firmaların GOSB'a taşınması/taşınacak olması [X-142]	1	2	3
11	Diğer firmalarla kurulacak ilişkinin yeni bilgi ve teknoloji transferlerine imkan vermesi [X-143]	1	2	3
	<b>İşgücü</b>	1	2	3
1	İş gücü olanaklarının varlığı [X-144]	1	2	3
2	İşgücünün niteliği [X-145]	1	2	3
3	İşgücü maliyetinin İstanbul'a göre düşük olması [X-146]	1	2	3
	<b>Ulaşım ve Altyapı</b>	1	2	3
1	Güçlü karayolu bağlantısı [X-147]	1	2	3
2	Güçlü demiryolu bağlantısı [X-148]	1	2	3
3	Sabiha Gökçen'e yakın olması [X-149]	1	2	3
4	Limanlara yakınlık (Gebze-Hereke) [X-150]	1	2	3
5	Trafik yoğunluğunun düşük olması [X-151]	1	2	3
6	Daha iyi park olanakları [X-152]	1	2	3
7	Düşük altyapı maliyetleri (su,elektrik,doğalgaz) [X-153]	1	2	3
	<b>Kamusal Teşvik</b>	1	2	3
1	Finansal yada diğer teşviklerin varlığı(kredi,muafiyet,vergi,v.b) [X-154]	1	2	3
2	Yerel yönetimin işbirlikçi davranışları [X-155]	1	2	3
3	GOSB yönetiminin sağladığı teşvikler [X-156]	1	2	3
	<b>Yerel ve Merkezi Yönetim</b>	1	2	3
1	Gebze'nin İstanbul Çevre Düzeni Planı kapsamında sanayinin desentralize edileceği bir alan olarak belirlenmesi [X-157]	1	2	3
	<b>Diğer (Lütfen tanımlayınız) [X-158]</b>	1	2	3
1		1	2	3
2		1	2	3

**Burada faaliyet göstermenin /GOSB'a taşınmanın olumsuz yönleri varsa nelerdir? /kısaca sıralar mısınız? (Bu soru taşınmış firmalara sorulacak) [X-159]**

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