NET MIGRATION BETWEEN DIFFERENT SETTLEMENT TYPES IN TURKEY, 1985-90

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ABSTRACT

NET MIGRATION BETWEEN DIFFERENT SETTLEMENT TYPES IN TURKEY, 1985-90

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In the past studies covering 1965-90, it is observed that net migration was from villages and district centers towards province centers. Although the net migration trend throughout the period was almost constant for the villages and the province centers, the role of the district centers changed in later periods. Previously, the district centers were transient settlements in terms of net migration with resultant almost zero net migration. However, in later years, they began to have net out-migration in significantly increasing numbers, because net in-migration from the villages decreased and net out-migration to the province centers increased.

The increase in the net migration from district centers to province centers and the gradual loss of the importance of the district centers (towns) occurred not only in Turkey but also in the other developing countries, especially in 1990's.

The aim of this thesis is to study the net migration trends and patterns of the three different settlement types namely, province centers, district centers and villages of Turkey during 1985-90. In this study, the descriptive analyses which were carried out on the net migration rates of the provinces and three settlement types clearly indicate the regional disparities between west-east and south-north of Turkey. For all of the three settlement types, the provinces having the highest net in-migration rates are located along the Western and Southern coastal zones whereas the provinces having the largest net out-migration rates are located in the East, North East and South East regions.

Key Words: Net migration, net in-migration, net out-migration, settlement type, regional migration.

ÖZ

TÜRKIYE'DE FARKLI YERLEŞİM BİRİMLERİ ARASINDAKİ NET GÖÇ, 1985-90

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Türkiye'de 1965-90 dönemi için yapılmış olan çalışmalarda, net göçün köy ve ilçe merkezlerinden il merkezleri yönünde gerçekleştiği görülmektedir. Dönem süresince köy ve il merkezleri için net göç eğilimleri hemen hemen değişmemiş olmasına karşın ilçe merkezlerinin rolü son dönemlerde değişmiştir. İlk yıllarda, ilçe merkezleri köylerden net göç alırken, il merkezlerine net göç vermişlerdir, diğer bir deyişle, aldıkları ve verdikleri net göç (sıfır net göç) yaklaşık olarak eşittir. Fakat son yıllarda, köylerden aldıkları net göçün düşmesi ve il merkezlerine verdikleri net göçün artması, ilçe merkezlerinin önemli bir şekilde göç vermeye başlamasına neden olmuştur.

Ilçe merkezlerinden il merkezlerine olan net göçün artması ve ilçe merkezlerinin giderek önemini kaybetmeye başlaması, sadece Türkiye'de değil, gelişmekte olan diğer ülkelerde de özellikle 1990'larda görülmektedir.

Bu tezin amacı da, 1985-90 döneminde Türkiye'deki illerin ve üç farklı yerleşim biriminin (il merkezi, ilçe merkezi ve köyler) net göç eğilimlerini ve örüntülerini incelemektir. Çalışmada, illerin ve bu üç yerleşim biriminin net göç verileri kullanılarak yapılan tanımlayıcı analizler, Türkiye'deki batı-doğu ve güney-kuzey bölgeleri arasındaki farklılaşmayı açıkça ortaya koymuştur. Üç yerleşim birimi için de en büyük net alınan göç oranına sahip iller batı ve güney kıyı kesimlerde yer alırken, en çok net verilen göç oranına sahip iller Doğu, Kuzeydoğu ve Güneydoğu Bölgelerinde yer almaktadır.

Anahtar Kelimeler: Net göç, net alınan göç, net verilen göç, yerleşim birimi, bölgesel göç.

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LIST OF ABBREVIATIONS

a_rnet: Net migration rate of province centers

b_rnet: Net migration rate district centers

c_rnet: Net migration rate villages

t_rnet : Total net migration rate

a_netmig : Net migration of province centers

b_netmig: Net migration of district centers

c_netmig: Net migration of villages

Total net mig.: Total net migration

Perm. Res. Pop.: Permanent resident population

a_pop85: Permanent resident population in 1985 in province centers

b_pop85: Permanent resident population in 1985 in district centers

c_pop85: Permanent resident population in 1985 in villages

U-U: Urban to urban

U-R: Urban to rural

R-U: Rural to urban

R-R: Rural to rural

Std. Dev.: Standard deviation

Std. Error of Kurtosis: Standard Error of Kurtosis

Adj. R^2: Adjusted R^2

CHAPTER 1

INTRODUCTION

1.1. AIM OF THE STUDY

Net migration between different settlement types and the resultant national population distribution of a country are closely tied to its socio-economic development. It is also influenced by differences in living conditions between regions and urban and rural areas. Thus, the prediction of the possible trends of migration is a crucial issue mainly for the developing countries which still have an evolving urban systems.

In Gedik's study (1998), the migration trends of Turkey through 1965-90 period were studied by using the data about the net migration. According to this study, it is observed that net migration was from villages and district centers (towns) towards province centers (cities). Village population started to decrease beginning with 1980. Although the net migration trend throughout the period was almost constant for the villages and the province centers, the role of the district centers changed in later periods. Previously, the district centers were transient settlements in terms of net migration with resultant almost zero net migration. However, in later years, they began to have net out-migration in significantly increasing numbers, because net in-migration from the villages decreased and net out-migration to the province centers increased. While province centers always had net in-migration, district centers and villages (except 1975-80 period) had net out-migration through the entire period" (Gedik, 1998:4).

Similarly, while the numbers of net migrants from villages to province centers were largest in size in the initial years, the largest type of net migration was from district to province centers in the later years. In other words, through the years, the significance of the villages as the source of migrants decreased, while the role of district centers increased. As the district centers started to have net out-migration after 1975-80 period, it is expected that "...in the near future, the district centers will also lose population in absolute numbers and will experience—depopulation similar to villages"; as the level of urbanization increases, this trend will continue (Gedik, 1998:4).

The aim of this thesis is to study the net migration trends and patterns of the three different settlement types namely, province centers, district centers and villages of Turkey during 1985-90 in the provincial and regional level.

The large net migration from district centers to province centers can be explained with the theory of step migration which is one of the aspects of Ravenstein's laws. According to this theory, a migration system is comprised of a series of moves, which may be rural-rural, rural to small town, small town to large city or large city to metropolis. In Turkey, among these migration flows, the largest move is from the small towns (district centers) to the large cities during 1985-90.

The increase in the step migration flow from district centers to province centers (towns to cities) and the gradual loss of the importance of the towns occurred not only in Turkey but also in the other countries such as China, Poland, Romania, South Africa, Finland, India in 1990's. It is clear that this fact and all other migration patterns and intensities have been affected from the economic cycles and the macro policy changes of a country.

For instance, during 1975-80 period, due to the economic stagnation in Turkey, the urban to rural and city to town migration increased and the villages had net in-migration. Therefore, if there is a high economic growth, cities will grow but the

small towns will lose population. However, if there is a slow economic development, cities do not receive migration gain and small town areas and the countryside do not suffer from the migration loss.

1.2. DATA AND METHODOLOGY:

Internal migration data which is based on change in permanent residency during 1985-90, is obtained from 1990 Population Census. The migration data are compiled from the Publications of the State Institute of Statistics. The migrant is defined as those who changed their permanent residency during five-years between two consecutive population census days. It excludes those in 0-4 ages and those who died during the period, as well as return migrants.

In many academic studies and official statistics, the province centers and district centers are combined and called as "city". Nevertheless, the results of Gedik's study (1998) indicate that "the province and district centers should be studied separately because they exhibit the opposite trends" (Gedik, 1998:1). In terms of the net migration rates of three settlement types, the province centers and district centers are not similar. For example, while province centers have net in-migration, the district centers have net out-migration. Therefore, in this study, province and district centers which are considered as city area in the Population Census of Turkey, will be studied separately.

In the analyses, three different data files of internal migration are used. Data file 1 is comprised of net migration rates of province centers, district centers and villages of 73 provinces. As the district centers and villages of İstanbul and Kocaeli are within the boundary of their metropolitan area, they are excluded in the data file 2 and 3, respectively. Data file 2 differs from data file 1 such that the data of the district centers and the villages of İstanbul are excluded, and the numbers of net migration of these settlement types of İstanbul are added to that of

its province center. For the data file 3, in addition to İstanbul, the district centers and the villages of Kocaeli are excluded and the numbers of net migration of these settlement types of Kocaeli are added to that of its province center.

In view of the fact that the district centers and the villages in the provinces of İstanbul and Kocaeli can be considered to be in the metropolitan area, and will be more so in the future, the data file three is used in the discussion of the analyses.

This study is composed of six chapters in which the first one is the introduction. The second chapter summarizes the theoretical and conceptual framework of internal migration. In that chapter, migration will be defined according to different criteria and the different types of migration will be explained. Subsequently, a review of migration literature and the new migration trends such as polarization reversal, counterurbanization and differential urbanization will be discussed.

In the third chapter, the selected case studies about the internal migration of both the developing countries such as Turkey, Poland, China and the developed countries (USA) are examined.

The findings of the descriptive analyses of the net migration data of Turkey are provided in the fourth and the fifth chapters. While the fourth chapter presents the net migration to/from three types of settlements in the national scale in aggregate; whereas, in the fifth chapter, the discussion are carried out in disaggregate manner in the provincial level. Lastly, the conclusion summarizes the results of the analyses and discusses the political insights of these results.

CHAPTER 2

THEORETICAL FRAMEWORK

In this chapter, firstly, migration will be defined according to spatial, residential, temporal and activity criteria. Then, the types of migration; gross and net migration, rate of migration, and step and chain migration will be explained. Subsequently, a review of migration literature and lastly, the new migration trends such as polarization reversal, counterurbanization and differential urbanization will be discussed.

2.1. DEFINITION OF MIGRATION

As there are many ways of measuring migration, there is no unique definition of a migrant and migration. Some definitions are according to the permanent or temporary character of the move; some are in terms of a minimum distance, a change in environmental condition, or a crossing of a specified political boundary. Therefore, some movement within the same village or town qualifies as migration, for others it does not (Oberai, 1987: 18).

Conceptualizing the migration is complex primarily because it holds four crucial dimensions: space, residence, time and activity changes. These dimensions are summarized as below:

2.1.1. Spatial Criteria

The notion of mobility implies a movement from one place to another, which means a change of "area" and a movement over some "distance". The first aspect of the notion of moving is the concept of "area". Defining an area is extremely difficult, because areas that may be similar or different on the basis of economic criteria (income levels, production structure, etc.) may not be similar or may not be distinguishable on the basis of demographic, cultural, linguistic or political criteria (Standing, 1982:3). Usually, existing administrative units within a country are used as the basic geographical areas that allow the distinction between migrants and other movers to be made. However, these administrative units vary in size both within and between countries and there are also differences between countries about the time reference used (UN, 2000:54). While some countries measured the movement between large states or regional units, some measured between much smaller geographical units. "Clearly, *ceteris paribus*, the smaller the unit the greater the extent of measured population mobility" (Standing, 1982:3). Therefore, international comparison could not be done perfectly.

The other aspect is the concept of "distance" which covers three main elements: geographical, economic and social. According to geographical approaches, while a move of long distances constitutes migration, shorter distance moves are only "residence" changes. For economic approaches, distance is considered with the "…movements between market centers or between centers of production or the centers of particular types of industry or occupational specialization" (Standing, 1982:5). In many cases economists have used movements between labor markets in their analysis. Finally, according to social approaches, social distance could be used to categorize types of move in terms of physical separations such as from an accustomed circle of family and neighbors or from a particular ethnic group or social groupings to which the mover belongs (Standing, 1982:5-6).

2.1.2. Residential Criteria

As the notion of migration implies a movement to stay somewhere else, it raises the question what constitutes staying and the matter of duration of stay. Some migration authorities have centered their definition of population mobility simply on changes of residence. For instance, Bogue claimed that the term "migration" is theoretically "...reserved for those changes of residence that involve the complete change and readjustment of the community affiliation of the individual" (Bogue 1959 in Hauser and Duncan: 489).

However, this perspective is highly restrictive in two ways. Firstly, it limits migrants to those who moved permanently or for a long period, excluding those who have moved for limited periods such as circular migrants, short-term migrants. Secondly, it restricts migrants to those who actually make a change of residence, ignoring those circumstances in which individuals or families retain many places of residence and those who do not have any usual place of residence (Oberai, 1987: 19).

One of the main aspects of identifying migrants by reference to residence is that censuses and surveys have been inclined to record usual place of residence (*de jure* approach) rather than current place of residence (*de facto* approach). The use of the *de jure* notion has led to massive understatements of mobility in many developing countries where seasonal and other circular migration has been widespread. The *de facto* approach would record many more short-term movements, especially if the surveys enumerate people where they are staying on the survey date. As some countries have adopted *de jure* approach and others have used *de facto* approach, this diversity makes cross-national comparisons of levels and incidence of migration difficult (Oberai, 1987: 20).

2.1.3. Temporal Criteria

The time period for someone being away from one place in order to be counted as a migrant varies for observes. According to some observers, "…migration should be defined as a change of residence over the predefined boundaries of an area for a period of one or more years" (Standing, 1982:9). There is no theoretical justification for such a procedure. If someone has to be away from a place for at least one year, two groups of people will be unrecorded. Those short-term migrants who stay away for less than the period chosen and those who have been away for less than one year at the time of the survey (Standing, 1982:9). Therefore, by using this procedure some people may not be counted as migrant.

On the other hand, some studies have defined migrants as those away for more than one day. However, this excludes those who move on a daily basis, commuters mainly (Oberai, 1987: 21).

The reference period is another temporal dimension and it makes possible to categorize migrants by whether or not they have moved within the same specified period. Therefore, "…many censuses effectively define migrants as those who have moved in the intercensal period and who, at the time of the second census, are living in an area that is not the same as the area in which they were living at the time of the first census" (Oberai, 1987: 21). Nevertheless, this procedure excludes two groups: those who had migrated before the first census and those who had moved within the intercensal period but had returned to that area (Oberai, 1987: 21). Usually, surveys have defined migrants as those who have moved during the last five years. This procedure has many advantages. For instance, as this period parallels census procedures, the survey data can be compared with the census data. Moreover, the census data can be used to select the sample (Oberai, 1987: 22). Similarly, in the internal migration data of Turkey which will be used in this study, the migrant is defined as those who changed

their permanent residency during five-years between two consecutive population census days.

2.1.4. Activity Criteria

Population mobility covers moves of both current residence and activity space. A person can move activity place without changing current or usual place of residence or, in the case of daily or weekly commuting, one can move place of residence without changing place of activity. This distinction is especially important in analyzing the impact of industrial location strategies. Considering this perspective, it has been suggested that migration should include all residence changes and that only exclusions should be those "…moves (traveling, touring and commuting)…" (Standing, 1982:13).

However, generally, "internal migration" is defined as a change of permanent residence which involves crossing the boundary of one of the smallest administrative units like towns and rural townships (Korcelli, 1990:305).

2.2. TYPES OF MIGRATION

Definitions of some basic concepts and types of migration are as follows: (1) gross and net migration; (2) rate of migration; (3) migration streams and counter-streams; (4) step and chain migration.

2.2.1. Gross And Net Migration

In order to understand "gross migration" and "net migration", some concepts such as "area of origin", "area of destination", "out-migration" and "in-migration" should be known. The area from which a migrant departs is termed the "area of origin"; the area at which he arrives is termed the "area of destination" (Bogue,

1969: 757). Each change of residence involves two events: a departure and an arrival. Departure from the community of origin is termed "out-migration" and arrival at the community of destination is termed "in-migration" (Bogue, 1969: 757).

According to Bogue, "gross migration", the sum of the arrivals and departures, is a measure of the total volume of population turnover that a community is experiencing (Bogue, 1969: 757). "Gross in-migration" or "gross out-migration" refers to the number of people who enter or leave an area in a given period (Standing, 1982:28). Any particular area may be receiving migrants from some areas and losing migrants to other areas. The net balance between these arrivals and departures is termed "net migration". Unlike the gross migration, net migration can take on either positive or negative values. For instance, " a region with more in-migrants than out-migrants is said to have positive net migration or net in-migration" (Plane and Rogerson, 1994:97).

Another general term that is useful is "flow". "A migration flow can be a count of transitions from origins to destinations or a count of movements between before-move or after-move locations" (Rees et al., 2000: 208).

2.2.2. Rate Of Migration

The conceptual definition of the rate of migration is the ratio of migrants to the total population where the moves have occurred in a specified period (Standing, 1982:27).

Out-migration rate for any specific region *k* may be found by dividing the gross out-migration to the population of *k*. Similarly, in-migration rate of region *k* may be found by dividing the gross in-migration to the population of *k*. "Net migration

rate" of area *k* is the difference between the in- and out-migration rates (Plane and Rogerson, 1994:97):

$$OMR_k = (OM_k/P_k) \times 1{,}000$$
$$IMR_k = (IM_k/P_k) \times 1{,}000$$
$$NMR_k = IMR_k - OMR_k$$

Migration is normally measured by using one of these two conceptual frameworks: as a transition or as a movement. "The *transition* concept involves comparison of a person's location at one point in time with that at another" and "the *movement* concept requires the counting of each change of address that occurs in a given time interval" (Rees et al., 2000: 208). While the count of transitions is the same as the count of migrants, the count of movements is the same as the count of events.

Crude migration intensities are the basic measures of total migration. These can be computed in two ways depending on the migration data. Firstly, if transition data are used, the crude migration probability (CMP) is computed as;

$$CMP = k\,(T/PAR)$$
$$PAR = P(t)$$

where *k* is a constant, *T* is the count of transitions and P(*t*) is the estimated population at the start of the time interval over which migration is measured. The crude migration probability can also be defined as "inflow rate" (Standing, 1982: 28).

Secondly, if movement data are used, the crude migration rate, CMR is computed as;

$$CMR = k(M/PAR)$$
$$PAR = \tfrac{1}{2}\,(P(t)+P(t+n))$$

where *M* is the count of movements occurring in the time period and P*(t+n)* is the population at the end of the time interval of *n* years (Rees et al., 2000: 208).

The population at risk (PAR) will depend on the migration concept used. While the crude migration probability is measured by the population at the start of the time interval, the crude migration rate is measured by the linear average of start and end populations (Plane and Rogerson, 1994:97 and Rees et al., 2000: 208).

2.2.3. Migration Streams And Counter-Streams

Derived from Ravenstein's seminal articles, migrant who departs from a common area of origin and arrives at a common area of destination during a particular migration interval constitutes a "migration stream." An analogous movement in the opposite direction between the same two areas is called a "counter-stream." As Ravenstein and Lee have stressed, for every migration stream there is a counter-stream and each should be divided into out-migrants and return-migrants (Lee, 1970:288-95).

Streams and counter-streams often refer to flows between two types of place, particularly rural and urban areas. A "net stream" is the difference between a stream and its corresponding counter-stream, sometimes called a "net interchange." In contrast, as stated previously, a "gross interchange" is the sum of the corresponding stream and counter-stream (Standing, 1982:31).

2.2.4. Step And Chain Migration

Step and chain migration are two aspects of Ravenstein's laws. According to him, migration takes place in 'steps' that "the population living in areas surrounding economically expanding urban centers migrates to those centers and that their

place is taken by other migrants from further afield" (White and Woods, 1980:36). Therefore, a migration system is comprised of a series of moves, which may be rural-rural, rural to small town, small town to large city or large city to metropolis, although the aim is to create a flow from the rural area to the metropolis (White and Woods, 1980:36).

Whether the step migration will occur may depend on some reasons such as the economical development, restrictive government policies and explicit industrial policies of a country. These will be explained below by examples. For instance, in Turkey during 1975-80, an economic depression period, urban to rural and city to town migration increased while the trend was reversed during the boom period (Gedik, 1998: 4). Likewise, in Finland, if there is a high economic growth, cities will grow but the small towns will disappear. On the other hand, if there is a slow economic development, "central areas do not receive migration gain and small town areas and the countryside do not suffer from the migration loss" (Heikkila and Jarvinen, 2002 in Geyer: 260).

In the Soviet Block countries such as in Romania, during 1970-90 period, small and intermediate-sized towns gained importance. This is mainly because of the fact that "industrialization of small-sized towns and rural settlements scheduled to become agro-industrial centres (1980-1989)" (Ianoş, 2002: 312). In the 1990's, due to the industrial restructuring and changing economic circumstances, the urban-to-rural migration increased. "Failing industries have reduced the means for the families to survive in town" and "those that own land in their native villages tend to return" these areas (Ianoş, 2002: 324). Between 1997 and 1998, all categories of towns had a significant decline of net migration rates. While rural settlements as a whole gained population, small towns had the negative net migration rates in this period.

The abrogation of the restrictive laws in Romania which had controlled the migration movements also caused step migration. According to the law of

"restricting people's settlement in large cities", large cities had been closed to people searching for permanent residence during the communist period (Ianoş, 2002: 320). When this law was abrogated during the end of 1980's, the large cities gained population by 15 percent. On the other hand, many industrial towns which had developed explosively during the communist period, lost population. Furthermore, with the post-revolutionary policy of the "encouragement of assault on large cities", the large cities gained migrants from their surrounding villages and small towns of the counties (Ianoş, 2002: 321).

China has also experienced step migration due to the different restrictive government policies and its economical situation. Since its implementation in the late 1950's, China's household registration system (hukou) was a major deterrant to rural-to-urban migration. According to this system, "any individual who wanted to migrate had to obtain permission from local authoroties in the place of origin and the place of destination" (Liang, 2001:500). This system was very effective in restricting the migration from towns and villages to the cities during 1950-80. However, the introduction of economic reforms in 1978 lead to a rapid economic increase in China and this situation has brought about a significant rural to urban migration, from towns and counties to the cities (Shen, 1996:404, 407). Moreover, a series of rural and agricultural policies which have been introduced by the government during this reform period also have similar impacts. For instance, in 1984, the policy which "...allows peasants and their families to get permanent registrations in towns and townships..." and allows to "...get temporary registration in small and medium-sized cities" led people migrate to urban areas (Shen, 1996: 396).

The concept of information flow can be used as a cause for step migration. As the migrant moves from place to place through the hierarchy at each new destination he is first exposed to information about opportunities at the next level in the hierarchy. If such a process occurred, it would imply that any step migration should take place in one direction. At that time, "…the migrant moving from

village to metropolis through other places which intervene both in size and in space and with the outer limit of information from the metropolis not reaching so far through that space as to affect the distant village" (White and Woods, 1980:36). On the other hand, villagers living near the metropolis and within its area of information supply would be expected to move directly to the large center without any steps.

The notion of 'chain migration' implies that there are primary and secondary migrants who are active and passive, leaders and followers, pioneers and colonists. The primary group involves the initial migrants who make the first moves from the origin area. Then, they are followed by the members of the secondary group. As, the primary group is usually dominated by young adult males searching employment or a better standard of living, the secondary group contains dependents; wives, children and parents. Clearly, the concept of chain migration is mainly important for long-distance moves where information availability is poor (White and Woods, 1980:37).

2.3. REVIEW OF MIGRATION LITERATURE

There are several theoretical perspectives explaining the spatial mobility of people. However, no single theory is sufficient to explain the migratory behavior of people.

From the sixteenth to eighteenth century, classical economists dealt with the effect of the labor migration on countries of origin in the advanced economies of Europe. At that time, "the economic strength of a country was measured by the size of its labor force and Mercantilists generally argued that the labor force of sending countries would be weakened by emigration" (Geyer, 2002:19). The Mercantilist period characterized by government control of the economy. However, Adam Smith's views on economic liberation and the reduction of

government control heralded the free market system (Geyer, 2002:19). The transition caused large scale rural-urban migration in Europe.

The Industrial Revolution characterized by the mechanical inventions like water-powered and steam-driven machines in Europe and North America. "... This mechanization, combined with a continued stream of rural-urban migrants who over-estimated employment opportunities in the industrial sector, resulted in over-urbanization..." (Geyer, 2002:19). In 1885, Ravenstein's paper of "Laws of Migration" explained that "migrants in Industrial Revolution era Great Britain tended to move up the urban hiererchy in a stepwise fashion" and "migrants proceeding long distances generally go by preference to one of the great centres of commerce and industry" (Ravenstein, 1885 in Plane, Henrie and Perry, 2002:2).

With the experience of industrialism, it is expected that the larger the urban area, the greater its net migration gains. Nevertheless, according to Zelinsky's "hypothesis of the mobility transition" in 1971, a country's urbanization process may peak at some points and rural-to-urban migration may decline at these times. Because of the reduced demand in the primary-sector industries in the countryside, the urban-to-urban migration flows become to predominate. However, while "these urban-to-urban flows may initially favor the growth of larger and larger agglomerations...", at some point diseconomies may emerge and cause the urban system to reach some form of equilibrium (Plane, Henrie and Perry, 2002:2).

During the 1970's, the developed countries experienced more rapid growth of the non-metropolitan counties than the metropolitan areas. During the 1980's, that tendency was reversed while during 1990's, non-metropolitan regions again gained importance. In this way, the new concepts and theories of "polarization reversal", "counter-urbanization" and "differential urbanization" have been advanced.

These theories above and some other theories which have been considered for the broader comprehension of the migration will be explained in more detail.

2.3.1. Ravenstein's Laws

Although there have been many criticisms to Ravenstein's papers, his studies still remain the starting point for work in migration theory. Ravenstein's 'law-like' statements first appeared in three papers published in the 1870's and 1880's. These statements were made at a time of growing interest in social conditions, education, public health and the developing science of economic and social statistics (White, P. and Woods, R., 1980:34).

His 'laws of migration' are broad generalizations on the characteristics of migrants and their origins and destinations, but they are mainly on the characteristics of the migration streams (White, P. and Woods, R., 1980:34). These laws are found in the first paper and extended in the second. The most important of Ravenstein's statements with relevance to the present discussion are:

a. Migration and distance: Most migrants travel short distances and most long-distance migration is to the major industrial and commercial centers. The volume of migration increases with the development of industry and commerce.

b. Migration by stages: Migration proceeds step by step.

c. Stream and counterstream: Each stream or flow of migration produces a counter-stream.

d. Urban-rural differences in propensity to migrate: The direction of most migration is mainly from agricultural to industrial areas (rural-urban). Urban dwellers are less migratory than people in rural areas[1].

e. Predominance of females among short-distance migrants: Females are more migratory than males in internal migration, but males are more common in international migration.

f. Dominance of the economic motive: The main causes of migration are economic (Ravenstein, 1885 in White, P. and Woods, R., 1980:34).

Furthermore, according to him, large towns owe more of their growth to migration than natural increase and as the industry and commerce develops and transport improves, volume of migration increases.

The universality of Ravenstein's statements varies from law to law. For instance, he proposed that most migrations tend to be over short distances. However, "the length of the average migration tended to increase in most technologically advanced societies with the introduction of the train, omnibus, motor car, passenger ship and aeroplane…" (Ravenstein, 1885 in White, P. and Woods, R., 1980:35). In short, Ravenstein overlooked the significance of the advances of the transportation technology.

Ravenstein hypothesized that migration takes place in steps; that "the population living in areas surrounding economically expanding urban centers migrates to those centers and that their place is taken by other migrants from further afield" (Ravenstein, 1885 in White, P. and Woods, R., 1980:36). On the other hand, White and Woods proposed that a migration system is composed of a series of moves, like rural-to-rural, rural-to-small town, small town-to-large city or large city-to-metropolis. However, according to White and Woods, Ravenstein was not capable of interpreting in this manner because he can measure only lifetime migration.

Ravenstein stressed on rural-urban migration and greater mobility of females and single persons. Indeed, all these laws are particular rather than universal and they

are specific to the late 19th century, Victorian England (White, P. and Woods, R., 1980:35).

He also suggested that the major causes of migration were economic. Nevertheless, many theorists claim that besides the economic factors, a number of potential variables play an important role in explaining the reasons for migration. According to Svart (1976), "it seems clear that noneconomic quality of life considerations have been playing a greater role in migration motivation in the more affluent countries" (Svart, 1976 in Jones, H. 1981:237).

Another statement that the volume of migration increases with the development of industry and commerce is also criticized. Zelinsky (1971) has suggested that "the relationship is not a simple linear one, rather it takes the form of an attenuated S-shaped curve over time".

Although Ravenstein's 'laws of migration' have taken many criticisms, they have "proved of considerable stimulus to subsequent researchers because they are simple and eminently reasonable about migration streams" (White, P. and Woods, R., 1980:35). He has been much quoted for many years, but, while there have been thousands of migration studies in the literature, very few generalizations like Ravensteins' could be developed.

D. Thomas (1938) concluded that "the only generalization that could be made in regard to differentials in internal migration was that migrants tended to be young adults or persons in their late teens" (Lee, 1970:289). Later as some other theorists tried to sum up the current state of knowledge, all of them were restricted to the United States and hampered by a lack of data. Perhaps, one of the best known among the theories of migration is Stouffer's theory of intervening opportunities (Stouffer, 1940).

2.3.2. The Gravity Model Approach And Intervening Opportunities Model

Newton who developed the laws of the gravity tried to account for the attraction between two particles. According to him, the gravitational attraction is directly related to the product of the masses of the two particles and inversely related to the square of the distance between them. Such a physical law were very frequently applied in the social sciences. For example, the interaction or movement between two places may be directly related to the populations of those places and inversely related to the square of the distance between them. The analogy has been made between force and intercation, and mass and population size. Therefore the equation becomes as below:

$$I_{ij} = a \frac{P_i . P_j}{D_{ij}^{b}}$$

where I_{ij} is interaction or movement between places is i and j; P_i and P_j are the populations of places i and j respectively; D_{ij} is the distance between places i and j; a and b are the constants (White and Woods, 1980:39).

In 1940, Stouffer, an American social psychologist, has insisted that the attributes of intervening distance must also be taken into account in the gravity model (Stouffer, 1940 in Jones, H. R., 1981:218). Then, he introduced the model of 'intervening opportunities'. He argued that linear distance was a less important indicator of migration than the nature of space. According to him, distance should be regarded in socio-economic rather than geometric terms and because migration is costly both socially and financially, a mobile person will stop moving when he meets an appropriate opportunity (Stouffer, 1940 in Jones, H. R., 1981:218).

The basic hypothesis of Stouffer was that "the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities" (Stouffer 1940, in Jones 1981:220). In order to explain it, Strodbeck (1949) developed a formula,

$$y = k \frac{\Delta x}{x}$$

"where y is the expected number of migrants from a place to a particular concentric zone or distance band around that place, Δx is the number of opportunities within this band, and x is the number of opportunities intervening between origin and midway into the band in question" (Strodbeck, 1949 in Jones, H. R.,1981:218-219).

The actual opportunities to prospective migrants could be housing, employment or environment that have attracted migrants. However, Strodbeck avoided to make a direct specification of opportunities and therefore, it causes conceptual and technical problems. "Another problem is that in-migration only represents opportunities or vacancies filled, so that in areas of economic buoyancy and employment expansion it will invariably underestimate opportunities available" (Jones, H. R., 1981:220).

In 1960, Stouffer improved his 'intervening opportunities' model. At that time, he realized that "the take-up of opportunities in place B by inhabitants of place A through migration is inversely proportional not only to the opportunities intervening between A and B but also...to the number of competing migrants from elsewhere" (Stouffer, 1960 in Jones, H. R., 1981:220).

His refined formula became to the following form:

$$Y = k \frac{X_0 . X_1}{X_B . X_C}$$

"where, during a particular period; Y: the number of migrants from City 1 to City 2; X_0: all out-migrants from City 1, X_1: opportunities in City 2 measured by total in-migrants, X_B: opportunities intervening between Cities 1 and 2 measured by total in-migrants to a circle having as its diameter the distance from City 2 to City 1, X_C: migrants potentially competing for opportunities in City 2 measured by total out-migrants from all cities within a circle having as its center City 2 and as its radius the distance from City 2 to City 1" (Galle and Tauber, 1966 in Jones, H. R.,1981:220).

This formula was applied to 116 intercity migration streams in the United States, from 1935-40 by Stouffer in 1960 and from 1955-60 by Galle and Taueber in 1966. It is found that both intervening opportunities and competing migrants make independent and nearly equal contributions to the model's predictive utility (Jones, H. R.,1981:220).

2.3.3. The Dual Model Of Development And Migration

During the twentieth century, "the emphasis in neoclassical thinking shifted to ways in which capital-labour ratios could be improved within developed and developing countries (Geyer, 2002:20).

The dual model of development and migration was first provided by Lewis (1954). His theory of development for a labour-surplus economy directly links migration to the process of economic growth (Lewis, 1954 in Singh, 1991: 13). According to him, development is related with industrialization, agricultural

modernization and urbanization. The developing countries can achieve this by exploiting the existing inequalities in sectoral, spatial and social relationships. Sectorally, industry has to receive investment priorities over agriculture due to the differences in the rate of return between industry and agriculture sectors. Spatially, investment locations will be concentrated in large urban areas providing economies of scale and agglomeration benefits. Socially, the entrepreneurs have to be encouraged to invest so that the rest of the country can be employed (Reddy, 1998: 7).

"This model considers rural-urban migration as an equilibration mechanism through which transfer of labor from the labour surplus to the labour deficit sector, eventually brings about wage equality in the two sectors" (Reddy, 1998: 7). The model is based on two sectors; "subsistence agricultural sector" characterized by underemployment and "modern industrial sector" by full employment. In the "subsistence sector", the marginal productivity of labour is zero or very low and wages paid to workers are equal to their cost of subsistence. However, in the "modern sector", the wages are much higher due to the high productivity or labour union pressures (Reddy, 1998: 7).

Migration occurs from the subsistence to modern sector with these differences and this increases industrial production and also the capitalist's profit. As this profit is assumed to be reinvested in the industrial sector, the demand for labour in this sector increases. The rural-urban migration continues as long as surplus labour exists in the rural areas and it might continue indefinitely if the rate of population growth in the rural areas is greater than or equal to the labour out-migration. However, rural-urban migration must end eventually if the rate of growth of demand for labour in the urban area exceeds rural population growth (Reddy, 1998: 7).

This theory later extended by Ranis and Fei in 1961. As this model provides useful policy variables, it is found unsatisfactory by many observers due to some

weaknesses. For example, migration is not only induced by low wages and underemployment in rural areas. Moreover, the assumption of near zero marginal productivity and surplus labour in agriculture has been criticized (Ranis and Fei, 1961 in Reddy, 1998: 8).

2.3.4. Human Investment Theory

Sjaastad presented his Human Investment Theory in 1962. In this theory, he places migration "in a resource allocation framework because it treats migration as a means in promoting efficient resource allocation and because migration is an activity which requires resources" (Sjaastad, 1962 in Singh, 1991, p.15).

According to him, migration involves both costs and benefits and it is best treated as "an investment increasing the productivity of human resources" (Sjaastad, 1962: 82). Migration takes place only when the benefits to individuals weigh more than the costs of migration. Sjaastad grouped the costs of migration into "money" costs and "non-money" costs. The "money" costs are the out of pocket expenses of movement. The "non-money" costs comprise 'foregone earnings' such as cost of transportation, disposal of property and the 'psychic' costs like costs of leaving familiar surroundings, adopting new dietary habits and social customs (Reddy, 1998:8).

While the components of money costs can be clearly estimated and form part of real resource costs, the psychic costs cannot be quantified and involve no resource costs. He is aware of the fact that the psychic costs affect the resource allocation although they do not involve any resource costs (Singh, 1991: 16).

As the components of this theory are difficult to quantify, it is very difficult to apply empirical tests by using this model (Reddy, 1998:8). For empirical investigation, Sjaastad has suggested some additional prepositions. The more important of these are (Singh, 1991: 17):

a. Gross migration, not net migration, is a more relevant concept for analyzing the returns to migration.

b. Migration rates by themselves cannot measure the effect of migration.

c. Age is an important variable influencing migration and must be considered in analyzing income differentials.

2.3.5. Lee's Migration Theory

Building on Ravenstein's laws, Lee tried to explain the factors affecting migration in terms of the positive and negative characteristics of both the origin and destination. According to him, "...every act of migration involves an origin, a destination and an intervening set of obstacles" (Lee, 1970:290). The factors of the act of migration can be summarized under four headings as factors associated with the area of origin, factors associated with the area of destination, intervening obstacles and personal factors.

In every area, there are some positive factors which attract people to it and there are some negative ones which deter them. Besides these factors, there are other factors to which people are essentially indifferent. These factors are shown in the diagram respectively as (+) and (-) signs and (0) (Lee, 1970:290) (see Figure 1).

There are important differences between *the factors associated with the area of origin* (push factors) and those associated *with the area of destination* (pull factors). "Persons living in an area have an immediate and often long-term acquaintance with the area..." however, knowledge of the area of destination is especially not exact (Lee, 1970:291). Therefore, there is always some uncertainty or even mystery about the new area. Another important difference between factors of origin and destination is related to stages of the life cycle. Because many

migrants have spent their formative years, generally good health of youth, in the area of origin, they overevaluate the positive elements in the environment and underevaluate the negative elements. On the other hand, the difficulties in a new environment may create migrants in the area of destination a contrary evaluation (Lee, 1970: 291).

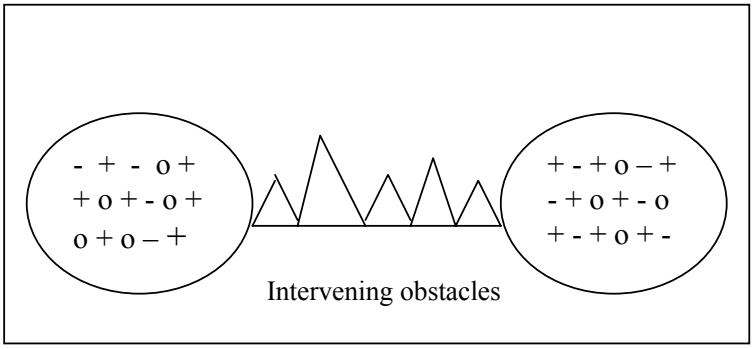


Figure 1: Origin and Destination Factors and Intervening Obstacles in Migration (Lee, 1970:291)

These so-called push and pull factors were also summarized by Bogue as follows (Bogue, 1969, pp. 753-754):

Push Factors:

a. Decline in a national resource or in the prices paid for it; decreased demand for a particular product or the services of a particular industry.

b. Loss of employment due to incompetence, mechanization or automation.

c. Discriminatory treatment because of politics, religion or ethnicity.

d. Cultural alienation from a community.

e. Retreat from a community due to the few opportunities for personal development like employment and marriage.

f. Retreat from a community due to catastrophe like flood, fire, earthquake or epidemic.

Pull Factors:

a. Superior employment opportunities in one's occupation.

b. Superior income opportunities.

c. Opportunities to obtain specialized education or training.

d. Preferable environment and living conditions such as climate, schools, housing.

e. Movement due to the dependency on someone else who has moved such as the movement of dependents with a breadwinner.

f. Attraction of new or different activities, environments or people.

However, these factors alone are not able to describe the migration that actually takes place. According to Lee, there are also intervening obstacles to migration that should be considered. He states that between every two points there is a set of *intervening obstacles* which may be slight in some cases and overwhelming in others. Among them, the most studied and important one is distance. Different people are affected by the same set of obstacles in different ways. What may be unimportant to some people like the cost of transporting household goods may be prohibitive to others (Lee, 1970: 291). Such obstacles might include family pressures, mis-information, national policy, travel costs, lack of capital, illiteracy, military service and language[2].

Finally, there are many *personal factors* that affect individual thresholds. While some of these factors may facilitate migration, the others may retard migration (Lee, 1970: 291).

Lee used these factors to formulate a series of hypotheses about the volume of migration under varying conditions, the development of stream and counterstream, and the characteristics of migrants in his study. The hypotheses about the volume of migration are as below (Lee, 1970: 292-295):

a. The volume of migration within a given territory varies with the degree of diversity of areas included in that territory.

b. The volume of migration varies with the diversity of people.

c. The volume of migration is related to the difficulty of surmounting the intervening obstacles.

d. The volume of migration varies with fluctuations in the economy.

e. Unless severe checks are imposed, both volume and rate of migration tend to increase with time.

f. The volume and rate of migration vary with the state of progress in a country or area.

Similar to this last hypothesis, Ravenstein (1889) also suggested that "Migration means life and progress; a sedentary population stagnation" (Lee, 1970:294). Lee proposed that, in an economically progressive country, the differences among areas increase with the industrial development and improving technology lessens intervening obstacles to migration. Therefore, such developed countries are

expected to have a high rate of internal migration. Conversely, the least developed countries are expected to have a largely immobile population (Lee, 1970: 294).

Besides the hypotheses about the volume of migration, he has also provided a set of hypotheses about stream and counterstream. According to him, for every migration stream, there is a counterstream and he combined the migration flows in a single ratio in order to derive an index of migration efficiency. The efficiency of the stream is "the ratio of stream to counterstream or the net redistribution of population affected by the opposite flows" (Lee, 1970: 295-296). A ratio of 1.0 shows "a balance of flow and counter-flow although the counter-flow is likely to be composed of migrants with different attributes to those making up the flow, so that there is still likely to be an impact on both sending and receiving communities" (White, P. and Woods, R., 1980: 23). These hypotheses are as below:

a. Migration tends to take place largely within well defined streams.

b. For every major migration stream, a counterstream develops.

c. The efficiency of the stream (ratio of stream to counterstream or the net redistribution of population affected by the opposite flows) is high if the major factors in the development of a migration stream were minus factors at origin.

d. The efficiency of stream and counterstream tends to be low if origin and destination are similar[3].

e. The efficiency of migration streams will be high if the intervening obstacles are great.

f. The efficiency of a migration stream varies with economic conditions, being high in prosperous times and low in times of depression.

Finally, his hypotheses about the characteristics of migrants are like below (Lee, 1970: 296-297):

a. Migration is selective.

b. Migrants responding primarily to plus factors at destination tend to be positively selected.

c. Migrants responding primarily to minus factors at origin tend to be negatively selected; or, where the minus factors are overwhelming to entire population groups, they may not be selected at all.

d. Taking all migrants together, selection tends to be bimodal. For any given origin, some of the migrants respond primarily to plus factors while others respond to minus factors. Therefore, the former is positively selected, but the latter is negatively selected.

e. The degree of positive selection increases with the difficulty of the intervening obstacles.

f. The heightened propensity to migrate at certain stages of the life cycle is important in the selection of migrants

g. The characteristics of migrants tend to be intermediate between the characteristics of the population at origin and the population at destination.

In brief, Lee developed a detailed and simple schema for migration and from it he formulated certain hypotheses regarding to volume of migration, stream and counterstream and the characteristics of migrants.

2.3.6. Todaro's Model Of Rural-Urban Migration

One of the most discussed approaches in migration is Todaro's (1976) model of rural-urban migration. He states that migration is a selective process and is influenced by economic and non-economic factors which are varied and complex. He classifies these non-economic factors into five main categories as social, physical, demographic, cultural and communication factors. However, while these non-economic factors are considered relevant, Todaro suggests that migration can be explained primarily by the influence of economic factors (Todaro, 1976 in Singh, 1991, p. 24).

The four basic components of Todaro model are as follows (Todaro, 1976 in Singh, 1991, p. 35-36):

1. Migration is stimulated primarily by rational economic considerations of relative benefits and costs, mostly financial but also psychological.

2. The decision to migrate depends on "expected" rather than actual urban-rural wage differentials and the probability of successfully obtaining employment in the urban modern sector.
3. The probability of obtaining an urban job is inversely related to the urban unemployment rate.

4. The migration rates in excess of urban job opportunity growth rates are not only possible but also rational and probable in the face of the continued positive urban-rural expected income differentials. High rates of urban unemployment are therefore inevitable outcomes of the serious imbalances of economic opportunities between urban and rural areas of the most under-developed countries.

Basing on these postulates, Todaro explained the process of the rural-urban migration in two stages. In the first stage, the migrant in urban areas remains

either unemployed for some time or gets employed in the traditional sector while seeking a job in the modern sector. In the second stage, migrant gets a modern sector job carrying higher earnings. The migrant is said to be acting economically rational as long as the present value of the urban income exceeds the present value of the rural income, in addition to the costs of migration (Reddy, 1998: 9).

A main weakness of this model is in its assumption that potential migrants are homogenous in respect of skills and attitudes and that they have complete information for working out the probability of finding a job in the modern sector (Reddy, 1998: 9-10).

2.3.7. Zelinsky's Theory Of Migration

Many scholars have tried to think vital transition and the mobility transition together in their studies. In this respect, Zelinsky's study is the one that is often cited and is well-known (Zelinsky, 1971). In his article, he added the process of vital transition to the mobility transition in order to understand the modernization phenomenon along the five stages of development of the countries.

He used the concept of territorial mobility as a totality of social and physical mobility in his article. It is comprehensive, combining conventional (residential) and migration with "circulation" (Zelinsky, 1971:225). Moreover, he used the term "vital transition" rather than "demographic transition" because the concept is only related with births and deaths, without taking into account the other demographic events and characteristics. With these concepts, he has attempted to identify five phases of development that he called *the hypothesis of the mobility transition*. These phases and their features are:

1. The Premodern Traditional Society: There is little residential migration and limited movement between areas. Fertility and mortality levels are high and as they are at nearly the same level, the natural increase is about zero. "...medieval

Europe or Japan and much of the contemporary underdeveloped world" (Zelinsky, 1971:234) had these characteristics.

2. The Early Transitional Society: There is considerable growth in various kinds of migration. These massive movements are from countryside to cities in the native country; cities in alien lands; rural settlement frontiers; and the pioneer zone in a foreign country. In addition to these movements, there is little but significant immigration of skilled persons from more advanced parts of the world (Zelinsky, 1971:230-136). In this period, due to the increase in fertility and decline in mortality level, there is a rapid rate of natural increase. This phase started in the North Sea countries in the 17th century, in the US in the 18th century and in the mid-20th century in East and South Europe (Zelinsky, 1971:237).

3. The Late Transitional Society: In this phase, "...critical rung ...of the mobility transition or...the vital transition" where urban-to-urban migration exceeds the rural-to-urban migration emerges (Zelinsky, 1971:243). Rural-to-urban migration "continues but at waning absolute or relative rates" and there is a rapid rise in migration "…within the urban network, from city to city or within a single metropolitan region" (Zelinsky, 1971:243-245). There is a significant decline in natural increase due to the declines in both fertility and mortality. Zelinsky thought, "abundance of case histories may accumulate during the 1970's and 1980's" (Zelinsky, 1971:242-243).

4. The Advanced Society: In this phase, rural-to-urban migration continues but at a markedly reduced rate. Residential migration remains high, but it is "...from city to city and within individual urban agglomerations" (Zelinsky, 1971:230). There may be a considerable international migration of highly trained professional persons exchanged between countries and of unskilled workers from less developed countries (Zelinsky, 1971:230). As "the decline in fertility has terminated...and mortality is stabilized at levels near or slightly below

fertility...there is either a slight to moderate rate of natural increase or none at all" (Zelinsky, 1971:230, 245).

5. A Future Superadvanced Society: "There may be a decline in level of residential migration...and nearly all residential migration may be of the interurban and intraurban variety" (Zelinsky, 1971:231). It is predicted that the births will be more carefully controlled by individuals and there will be "a stable mortality pattern slightly below present levels" (Zelinsky, 1971:231). The earliest occurrence may be in northwestern Europe, in urbanized Japan or in the most advanced segments of Anglo-America (Zelinsky, 1971:248).

Gedik (2001) brought new insights to the Zelinsky's theory in her article. She discussed and compared the mobility transition in a developed country, Japan, and a developing country, Turkey, only in terms of rural-to-urban and urban-to-urban migration.

Unlike Zelinsky's study, according to her findings, firstly, "urban-to-urban migration should *not* include intra-urban migration", secondly, "rates and numbers of migration should be studied separately"; thirdly, "mobility transition should be studied in terms of out-migration, and not as sum of the in- and out migration"; and finally, "the turning point in the mobility transition should be discussed in terms of numbers of migrants, and not in terms of migration rates" (Gedik, 2001:429).

Moreover, according to Gedik, the turning point in the mobility transition (when the number of urban-to-urban migrants exceeds the numbers of rural-to-urban migrants) takes place before the level of urbanization reaches 50 per cent (Gedik, 2001:426). "As the difference between these two migration rates increases, the turning point in the mobility transition takes place at much lower levels of urbanization and of GDP p.c." Thus, she argues that "the timing of the mobility

transition is not "strictly" related to the development stage of the late transition period as it is proposed in the Zelinsky's theory" (Gedik, 2001:429).

Both Zelinsky and Gedik stress that the demographic (vital) factors like the fertility rates, have relationship with the migration rates and numbers. Besides the demographic factors, Gedik also underline the macro non-spatial factors such as the economic and other demographic characteristics e.g. the age structure, population growth rates that affect the national average migration rates and numbers (Gedik, 2001:430).

In 1996, Gedik brought new insights to some of the conflicting findings in the migration literature about the less developed countries by using the analysis of Turkish data which covered the period of 1965-85. According to Gedik, these conflicting findings in the migration literature can be summarized in six parts (Gedik, 1996: 3)

1. The analyses with the Turkish data showed that there are also other factors which were at least as significant as the push factors such as education-skill and information level of the potential rural migrant, transportation and communication facilities and the existence of previous migrants who are relatives, friends and people from the same village. "In other words, information, ability to take risk and social networks are at least as influential as the push factors" (Gedik, 1996: 3).

2. Proportion of rural-to-urban migrants among the total number of migrants in the country: Many migration studies emphasized that in the less developed countries the rural-to-urban migration flow is the largest of all migration flows in the country. However, in the analysis of the Turkish data, migration between rural areas and between urban areas is not negligible in size. They are even at least as large as or larger than the rural-to-urban migration (Gedik, 1996: 5).

3. Volume of urban-to-rural return migration: There is a general consensus that in the less developed countries, urban-to-rural return migration does not exist or it is very small in size. However, Lee stated in his study (1966) that there is always a counter stream for every migration stream. This is also relevant for the Turkish data in 1965-85 periods. As Gedik mentioned, during this period, the ratio of urban-to-rural return migration is almost half of the rural-to-urban migration stream (Gedik, 1996: 9).

4. Effect of Distance: "In the migration literature, the relationship between distance and migration is tested in terms of distance decay function, such as a Pareto curve" (Gedik, 1996: 10). This relationship is tested for the 1965-70 period of the Turkish data, and functional relation between the distance and the migration data could not be obtained. However, according to Gedik, in the future a better Pareto function will be obtained which is based on the assumption that "…as the level of urbanization increases, there will be more alternative urban destinations; and as educational level and the diffusion of information in the country improves, the potential migrant will be more aware of these alternative destinations…" (Gedik, 1996: 12).

5. Share of Rural Migration in the Total Migration Towards Urban Areas: It is generally thought that rural-to-urban migration is the largest component in total migration to/from the urban centers. However, this assumption is not relevant for the Turkish case. For example, in 1965-70 period, when the three metropolitan areas are studied, the in-migrants from villages (26.1%) were almost equal to the in-migrants from the province centers (25.5%). In 1980-85 period, the in-migrants from the city areas to the three metropolitan areas increased to about 48.5% (Gedik, 1996: 13).

6. Significance of Rural-to-Urban Migration for the Unbalanced Population Concentration in the Metropolitan Areas: There is general consensus that the problem of the unbalanced population concentration can be solved by attracting

rural in-migrants to the intermediate sized cities. According to her emprical findings, the three metropolises of İstanbul, Ankara and İzmir do not have high in-migration rates from the villages and in fact, they are close to the average rates for the intermediate size province centers. However, the out-migration rates from the three metropolitan areas are very low due to their high capacity to absorb and retain the in-migrants, and vice versa. Therefore, the reason for the high net in-migration of these metropolitan areas is their very low out-migration rates to other province centers (Gedik, 1996: 15).

2.4. POLARIZATION REVERSAL, COUNTERURBANIZATION, AND DIFFERENTIAL URBANIZATION

After the Second World War, the developed countries have experienced two important changes in the redistribution of population in the rate of urbanization and the primate city growth. Until the end of the 1960's, many scholars believed that the urbanization process would continue indefinitely and the primate cities would grow until they linked up with one another to form 'ecumenopolises' (Geyer and Kontuly, 1996:1). During the early 1970's in North America and Western Europe, population deconcentration has been experienced after a long history of population concentration.

Around the beginning of the 1970's, many major centers of population concentration in industrial nations began to experience a decline in the in-movement of population from the more peripheral regions. This decline continued in many places and a net flow of population migrated from these major centers to the peripheral and mostly to the rural regions (Vining and Kontuly, 1978: 67).

During the 1980's, there were indications of the reversal of the turnaround in some of the developed countries. However, during the same period, deconcentration tendencies were also experienced, especially in certain more advanced developing countries (Kontuly and Geyer, 2003: 3).

With these deconcentration tendencies both in the developing and developed countries, new concepts of "counterurbanization", "polarization reversal" and "differential urbanization" emerged. Before explaining them in detail, it is necessary to define the concepts of "urbanization", "counterurbanization", "polarization reversal" and "differential urbanization" briefly. "Urbanization" indicates the growth of large-sized cities at the expense of small places. On the other hand, "counterurbanization" indicates the growth of small-sized cities at the expense of large places (Kontuly and Geyer, 2003: 3). "Polarization reversal" can be defined as the turning point in the spatial pattern of the growth and development in a nation when continuing concentration ceases and urban deconcentration or spatial decentralization commences. "Differential urbanization" can usually be described as "a sequence of urban development cycles, with each cycle consisting of consecutive phases of urbanization, polarization reversal and counterurbanization" (Geyer and Kontuly, 1996: 330). During urbanization, mainstream migration generally supports large city development; during the phase of polarization reversal, this is followed by secondary or regional center city development; and lastly, during the counterurbanization, by the small city development (Geyer and Kontuly, 1996: 330).

Above mentioned, deconcentration is studied below in terms of "polarization reversal" and "counterurbanization". Subsequently, theory of "differential urbanization" which synthesizes all these phases will be discussed.

2.4.1. Polarization Reversal

Richardson (1980) defines the concept "polarization reversal" as "the turning point when spatial polarization trends in the national economy give way to a

process of spatial dispersion out of the core region into other regions of a system" (Richardson, 1980:143).

Gedik (1978) studied the case of Japan and found that "...the dominant cause of PR process in Japan was the high rate of economic development..." (Gedik, 1978 in Richardson, 1980: 151). She suggested that this economic development were followed by a narrowing in interregional income disparities and a decline in the rate of population concentration.

According to Richardson, the urban-industrial process begins with one or two regions due to the scarcity of investment resources. The choice of regions is determined by initial location advantages such as resource endowments or because it was the first area opened up from outside. This initial start causes a cumulative causation process which can be explained by "increasing returns to scale and the consequent polarization of labor and any surplus capital from other regions" and the core-periphery relationship (Richardson, 1980:143). The core region consists of the primate city and its hinterland dominates the rest of the space economy. The periphery is dominated by the core and dependent on the core and its rate of development is controlled and distorted in order to achieve the core's economic interests (Richardson, 1980:143).

At a more advanced stage of development, a spatial transformation occurs in the core region. Because the population and agglomeration of economic activities in the primate city become very large, monocentric spatial structure becomes inefficient and costly. These congestion costs and rising land values cause decentralization of some economic activities to satellite centers within the core region. However, this intraregional decentralization does not mean polarization reversal, because the core region and the primate city continue to grow at a faster rate than the rest of the country (Richardson, 1980:144).

However, some conditions related with the generation of agglomeration economies and other scale economies in the periphery, rising population and incomes, expanding markets, the exploitation of local resources, lower input costs, improvements in communications emerge which make dispersion into other regions of the system efficient. “This dispersion process may be accelerated by obstacles to continued rapid expansion in the core region, such as soaring land and labor costs, increasing congestion…, pressure on housing and infrastructure and an above-average rate of increase in living costs” (Richardson, 1980:144). These obstacles accelerate the decentralization process and encourage an increasing number of migrants to choose urban areas outside the core region. This “interregional” dispersion process is the main aspect of “polarization reversal” (Richardson, 1980:144). Nonetheless, this dispersion process is so uneven that most of the growth occurs at a limited number of relatively large urban centers. In other words, the national concentration within the core region is replicated by the regional concentration in major regional centers.

At a later stage of this “polarization reversal” process, the intraregional decentralization which was observed in the core region is repeated within these developing regions. As a result, “the decentralization forces in all regions (but especially in the core region) may become so strong that the major cities begin to lose population absolutely” (Richardson, 1980:144). This process has also been described as “spatial cycles” by Berg et al in 1979. According to them, the cycle of agglomeration, and then dispersion, first occurs in the core regions and then is repeated in other regions of the system.

Richardson connects population deconcentration in advanced developing countries with high social returns from dispersion. According to him, when social returns from dispersion are higher than the social returns from concentration, polarization reversal may occur. (Geyer and Kontuly, 1996: 333).

In less developed countries, industrial development has a clear influence on migration because employment opportunities are still very important for the migrants. However, a good living environment is more important for the more developed communities of the First World. In other words, while the importance of employment opportunities is highlighted in the developing countries, migration destinations in the developed countries point to the importance of the environmental factors. This indicates the basic difference between deconcentration in developed countries and in developing countries where population deconcentration has occurred (Geyer and Kontuly, 1996: 333).

2.4.2. Counterurbanization

Counterurbanization is defined as a "...process of population deconcentration; it implies a movement from a state of more concentration to a state of less concentration" (Berry, 1978: 42). This definition has a similarity with the polarization reversal, but there are important differences. While the main factor in polarization reversal is much more the interregional decentralization of economic activity with population shift, the counterurbanization emphasizes the changes in people's tastes about where they want to live (Richardson, 1980: 155). Richardson also stresses that polarization reversal takes place when there is slow metropolitan growth while counterurbanization is related with an absolute decrease in the growth of core regions (Geyer and Kontuly, 1996: 333).

There have been different approaches explaining why "counterurbanization" occurs. Hugo (1989) identified nine lines of explanation as "embracing economic recession, decentralization policy, rural resource development, urban diseconomies, state welfare payments, reduced distance friction, changing residential preferences, changing socio-demographic composition and structural change in the economy" (Hugo, 1989 in Champion, 1988: 137). Champion suggests three groups of factors for explaining counterurbanization: improved

civil and social infrastructure all through the country; economic factors associated with highly qualified labor; and demographic changes linked to socio-economic services (Champion, 1988: 137).

Berry (1976) coined the term "counter-urbanization" to show the process by which the larger metropolitan areas became to lose population to smaller urban centers. On the other hand, Fielding (1982) suggested that counter-urbanization arises when there is a negative correlation between the net migration rate of places across the settlement system and their respective population. This shift was first observed in the United States between 1960's and 1970-73. At that period, non-metropolitan areas had net migration losses of 300,000 persons and net gains of 400,000, annually (UN, 2000:67). Other studies confirmed that similar trends were also observed in various developed countries such as, Australia, Denmark, France, Germany, Italy, Japan, Norway and the United Kingdom in 1970's (Champion, 1989).

The main causes of both counter-urbanization include the new spatial division of labor. The development of economic activity based in rural areas, particularly related with energy resource development, agriculture and forestry was one of the factors contributing to counter-urbanization during the 1970's (UN, 2000:67). Moreover, changing residential preferences associated with changes in the age structure of the population might have played a role as well. Finally, government actions about infrastructure investment including the expansion of transportation networks and the improvement of health and educational services in smaller communities; the support provided for rural development; and the adoption of decentralization policies all contributed to the counter-urbanization (UN, 2000:67).

Vining sees population deconcentration as an outcome of regional restructuring and according to him, economic conditions of a country is an important but not the only factor explaining the counterurbanization. For instance, Vining and

Kontuly found no correlation between economic booms and the rate of deconcentration in the case of Norway and Italy (Vining and Kontuly, 1978: 85).

Moreover, Richter tested a number of factors explaining counterurbanization in the USA in 1970's and he found that the factors vary over time. Especially areas with high military and agricultural employment lost population while the areas with mild temperature and above average recreation facilities attracted population (Richter, 1985: 62-63).

According to Fielding (1989), counterurbanization occurred due to a decrease in the migration from agriculture, improved transport and communications, government incentives for non-metropolitan locations, increased retirement migration and some urban dropouts (Fielding, 1989: 127).

On the other hand, Champion (1988) treats the turnaround as a short-term downward fluctuation in the rate of population deconcentration. He explained the counterurbanization of the 1970's as a temporary event "resulting from a chance of combination of factors which is unlikely to recur" and recognized that this process is not uniform over time but fluctuates with economic conditions. (Champion, 1988: 136).

Although it is expected that the shift from the population concentration in the larger metropolitan areas to that in medium and small-sized settlements would accelerate during the 1980's, recent evidence has failed to support this trend. According to the latest data, the tendency of population concentration in the larger urban areas has returned. The most significant reversal seems to have taken place in the United States during the 1980's (UN, 2000:67).

The economic recession affected most of the developed countries during the early 1980's. As the government policies related with the rural development have been

weakened at that period, large metropolitan areas again became the concentration of population and economic activity (UN, 2000:67).

2.4.3. Differential Urbanization Model

The "differential urbanization" model deals with two main issues. According to this model, urban systems generally experience two phases of development, concentration and deconcentration. During the concentration phase, urbanization occurs, followed by polarization reversal and counterurbanization. "Urbanisation is associated with continuing economic and population convergence and counterurbanisation with divergence" (Geyer, 2003:91). In other words, in the urbanization phase, the large-sized cites grow the fastest while in the polarization reversal phase, these large-sized cities lose migrants and the intermediate-sized cities gain migrants. When the urban system enters to the counterurbanization phase, small-sized cities start attracting significant numbers of migrants (Geyer, 2003:91)

Secondly, the model distinguishes between mainstream and substream migration patterns within countries and indicates how these streams change as the urban systems evolve and mature over time (Kontuly and Geyer, 2003: 5). In the primate city phase, the main migration stream is directed to the primate cities. This phenomenon is typically observed in the developing countries in a primate city situation. However, when the industrial and population deconcentration from large-sized to intermediate-sized cities increase (the urban system evolves), counterstream migration becomes more visible (Geyer, 2003:92).

In this model, as the cities are grouped as large, intermediate and small-sized urban areas without referring their actual sizes, it is possible to compare the urban development stage in different countries. Thus, the differential urbanization model provides a dynamic framework which allows comparisons overtime (Geyer and Kontuly, 1996:335-339). This model also links the concept of productionism

(deconcentration of people to income) and environmentalism (deconcentration of people to areas of high visual quality) in both the First and Third Worlds.

The differential urbanization theory proposes consecutive cycles of urban development. According to the model, "...groups of large, intermediate-sized, and small cities go through successive periods of fast and slow growth, in a continuum of development that spans the evolution of urban systems in less developed and developed countries" (Geyer and Kontuly, 1993:291). This sequence of fast and slow growth periods indicates the process of differential urbanization.

Regarding to the development of urban systems, six stages of differential urbanization can be stated. These six stages are comprised of three main phases. The initial phase can be subdivided into three stages. Firstly, in the "early primate city stage", a primate city attracts a large percentage of net interregioanal movement and establishes a spatial dominance within an urban system (Geyer and Kontuly, 1993:292). Secondly, in the "intermediate primate city stage", the primate city is still monocentric and growing rapidly with suburbanization. In the third stage, the advanced primate city stage, the primate city becomes so large that a monocentric urban structure can no longer prevail. The second phase which is the intermediate city phase has two stages. The "early intermediate city stage" (fourth stage) is characterized by an uneven growth of intermediate-sized cities which are close to the primate city. During the "advanced intermediate city stage" (fifth stage), the intraregional decentralization or suburbanization is repeated in faster-growing intermediate-sized cities. Finally, the urban system enters to "small city phase" (sixth stage) which is also known as counterurbanization. In this phase, deconcentration takes place from the primate and intermediate-sized cities to the small urban centers (Geyer and Kontuly, 1993:293-295).

These six stages of differential urbanization can be expanded by generalizing the relationship between migration theory and the concepts of productionism and environmentalism. This expanded model "...with both mainstream and substream

migration flows, postulates that more affluent, better-educated people generally tend to deconcentrate in search of better living conditions (environmentalism), while the less affluent tend to conentrate in search of better prospects of a livelihood (productionism)" (Geyer and Kontuly, 1993: 300). "If a small proportion of a country's population is wealthy and a large proportion is less affluent, a large majority would tend to concentrate, while a minority tend to deconcentrate" (Geyer and Kontuly, 1993: 300). When the nation becomes more developed and the proportion of the wealthy people increases, then the mainstream and substream migration tendencies would be expected to reverse (Geyer and Kontuly, 1993: 300).

Patterns of differential urbanization occur in certain developed countries and less developed countries. "...While the mainstream population migration patterns point to the beginning of the process of counterurbanisation in a number of developed countries, substream migration patterns prevail in the countries which differ fundamentally from the former" (Geyer, 1993:239). For instance, while the mainstream population migration patterns show the beginning of the process of counterurbanization in developed countries like the USA, in France, "...substream migration typical of a totally different phase of development is taking place simultaneously" (Geyer, 1993:252).

Similar patterns of differential urbanization are also observed in less developed countries. For example, the findings of Gedik's study for Turkey (2003) are consistent with the theory of differential urbanization. According to this study, Turkey is in the first phase of polarization reversal which may be called as "...the early medium city stage - where medium sized urban centres show the largest growth rates, followed by the large and then the small cities" (Gedik, 2003: 108).

CHAPTER 3

SELECTED CASE STUDIES

In recent years, many countries of the world consider population distribution as their major population problem and the concern with population distribution issues has tended to increase. “In 1998, only 27 percent of countries of the world considered their patterns of population distribution to be satisfactory” (UN, 2000:74). However, “44 percent of countries, 88 percent of which are in the less developed regions, consider their patterns of population distribution to be a major concern” (UN, 2000:74). The dissatisfaction with their existing spatial population distribution patterns which is expressed by the majority of the developing countries, reflects a shared realization of the significant relationship of population distribution to issues of national and regional development (UN, 1981:1).

In order to produce effective regional and national development policies, in addition to the population distribution of a country, the nature and volume of migration should also be considered. Urban and rural populations of a country may change as a result of births, deaths, net migration and areal reclassification resulting from changes of the boundaries defining urban and rural areas. Especially in developing countries where the pace of the urbanization is high, internal migration is an important phenomenon for the population redistribution.

Migration patterns change over time as countries develop and urbanize. Migration flows evolve from being mostly rural-rural to rural-urban and then to urban-urban, as seen in the Zelinsky’s “hypothesis of the mobility transition” (Zelinsky,

1971:242-49). The turning point in the mobility transition (when the number of urban-to-urban migrants exceeds the numbers of rural-to-urban migrants) takes place before the level of urbanization reaches 50 percent (Gedik, 2001: 426). "As the difference between the urban-to-urban migration rates and the rural-to-urban migration rates increases, the turning point in the mobility transition takes place at much lower levels of urbanization and of GDP p.c." (Gedik, 2001:429). Therefore, "the timing of the mobility transition is not "strictly" related to the development stage of the late transition period as it is proposed in the Zelinsky's theory" (Gedik, 2001:429).

The countries of the developing world are at various stages of this mobility transition, with those in Africa and most of Asia primarily at the early stage, with rural-rural and rural-urban migration. However, as countries develop, rural-urban and then urban-urban flows become the largest (UN, 2001:102).

As internal migration involves the movement from one place to another, identification of the spatial units is very important in measuring this phenomenon. Usually, existing administrative units within a country are used as the basic geographical areas that allow the distinction between migrants and other movers to be made. However, these administrative units vary in size both within and between countries and there are also differences between countries about the time reference used. Therefore, international comparison could not be done perfectly (UN, 2000:54).

3.1. DEVELOPING COUNTRIES

In 2000, United Nations studied internal migration patterns of many developing countries from Africa, Asia and Latin America and the Caribbean by using the data providing information about the directionality of flows, rural-urban, urban-urban, rural-rural and urban-rural.

Due to the importance of the urbanization process and its strong linkages to development, the analysis of internal migration in developing countries has often been limited to the consideration of mostly the rural-urban migration. Nonetheless, for most of the countries with available data, rural-urban migration does not account for the largest proportion of internal movements (see Table 1). Indeed, in countries which are still largely rural, rural-rural migration is likely to be more important than rural-urban migration, such as in Ethiopia (1984), India (1971, 1981) and Thailand (1980, 1994). On the other hand, in countries that are at least moderately urbanized in the 1990's, urban-urban migration is probably to be dominant, such as in Turkey, Brazil, Peru, Brunei Darussalam and Republic of Korea. Even in countries with lesser levels of urbanization, urban-urban migration may be significant as in Ghana in 1988, Egypt in 1976, Pakistan in 1973, Cote d'Ivoire in 1986 and Honduras in 1983 (see Table 1). Thus, not only rural-urban migration and its counterstream urban-rural migration but also the other types of migration (rural-rural and urban-urban) may be more important in the redistribution of population within each geographical strata.

Among the developing countries, the internal migration patterns and trends of Turkey, Poland and China will be explained in detail.

3.1.1. Turkey: Migration Flows

Many migration studies emphasized that in the less developed countries the rural-to-urban migration flow is the largest of all migration flows in the country. However, in the analysis of the Turkish data, migration between rural areas and between urban areas is not negligible in size. They are even at least as large as or larger than the rural-to-urban migration (Gedik, 1996: 5). Briefly, through the periods of 1965-70, 1975-80, 1980-85 and 1985-90, it is clearly seen that rural-rural (village-village) migration has decreased from 41 % to 18 % whereas urban-

Table 1. Migrants, According to Urban or Rural Origin or Destination

Country, census year	Type of data	Migration stream			
		R-U	U-U	R-R	U-R
Africa					
Botswana, 1985	Place of birth	60,0	8,0	29,0	3,0
Cote d'Ivoire, 1986	Previous residence	14,8	**44,2**	20,3	20,7
Ghana, 1988	Previous residence	4,6	**48,5**	9,5	37,3
Egypt, 1976	Inter-state Previous residence	26,0	**55,2**	12,0	6,8
Ethiopia, 1984	Place of birth	28,7	13,5	**55,8**	2,0
Sierra Leone, 1974	Place of birth	25,5	27,7	25,3	21,5
Sudan (Northern), 1993	Place of birth	34,4	**41,7**	16,6	7,3
Asia					
Brunei Darussalam, 1991	Residence in 1986	18,2	**53,9**	9,7	18,3
India, 1971	Intra-state Place of birth	12,8	7,7	**73,9**	5,6
India, 1971	Inter-state Place of birth	28,4	30,7	**32,9**	8,0
India, 1971	Total Place of birth	14,6	10,4	**69,1**	5,9
India, 1981	Intra-state Place of birth	14,7	9,4	**70,0**	5,9
India, 1981	Total Place of birth	16,7	11,9	**65,4**	6,1
Malaysia, 1970	Residence in 1965	8,8	20,0	38,8	32,4
Pakistan, 1973	Residence in 1965	17,3	**38,8**	32,6	11,4
Philippines, 1973	Residence in 1965	39,3	25,2	19,7	15,8
Philippines, 1973	Birth to 1965	43,5	12,8	32,6	11,2
Republic of Korea, 1966	Residence in 1961	36,6	32,0	21,2	10,2
Republic of Korea, 1970	Residence in 1965	48,6	23,9	17,2	10,3
Republic of Korea, 1975	Residence in 1970	43,5	28,7	14,0	13,8
Republic of Korea, 1990	Residence in 1985	25,7	**70,3**	4,1	8,2
Republic of Korea, 1995	Residence in 1990	12,8	**85,7**	1,5	7,0
Thailand, 1980	Residence in 1975	15,4	18,5	**56,0**	10,2
Thailand, 1994	Residence in 1992	15,0	7,0	**44,1**	33,9
Turkey, 1970	Residence in 1965	27,4	**39,2**	17,9	15,5
Turkey, 1980	Residence in 1975	17,0	**48,9**	14,8	19,3
Turkey, 1985	Residence in 1980	22,5	**56,2**	8,5	12,8
Latin America and the Caribbean					
Bolivia, 1992	Place of birth	71,4			28,6
	Residence in 1987	61,0			39,0
Brazil, 1970	Inter-district Place of birth	17,9	**50,4**	25,7	6,0
Brazil, 1970	Inter-state Place of birth	17,4	**50,4**	26,5	5,7
Ecuador, 1982	Previous residence	16,0	46,0	18,0	21,0
Ecuador, 1990	Place of birth	39,6			60,4
	Residence in 1985	50,5			49,5
Honduras, 1983	Residence in 1978	26,0	**32,0**	28,2	13,9
Peru, 1986	Previous residence	11,6	**51,6**	13,6	23,2

Sources. Turkey: Gedik, A. (1996), Table 3; Other countries: United Nations (2000), Table IV.2.

urban (cities-cities) migration has increased from 34 % to 56 %. Furthermore, rural-urban and urban-rural migration have constant proportion about 15% and 11%, respectively (see Table 2).

Table 2. Migration Flows in Turkey (percentages)

Migration stream	1965-70	1975-80	1980-85	1985-90
Rural-urban	15	11	18	15
Urban-urban	34	46	50	56
Urban-rural	10	11	11	11
Rural-rural	41	32	21	18
Total	100	100	100	100

Source. Gedik, A. (1998), Table 2.

The main reasons might be as follows. Firstly, rural-to-rural and urban-to-urban migration flows occur parallel to the rural-to-urban migration. Rural-to-rural migration is because of the fact that the rural population who could not migrate to urban centers might have migrated to the other rural areas "...such as from mountain villages with labor surplus to villages in the plains with labor shortage" (Gedik, 1996: 7-8). As for the urban-to-urban migration, after the knowledge about the urban centers and skill levels of the migrants (from rural-to-urban areas) increase, they may leave the initially migrated urban area and seek an optimum urban center for themselves (Gedik, 1996: 7-8). Secondly, the mathematical artifact due to the increasing levels of urbanization and higher mobility rates of urban population can be cited as reasons for the relative sizes of the three migration flows. Furthermore, another reason may be the national socio-economical situation. For example, in 1975-80, period of economic stagnation in Turkey, although the rural-to-urban migration decreased to a very low level (11%), migration in the same sectors such as between urban areas increased (from 34% to 46%) (see Table 2).

The decreasing rural-to-urban and increasing urban-to-urban flows can also be examined when we disaggregate urban into province and district centers. In all periods, the dominant flow was forward flows towards the province centers which was firstly from the villages and starting with 1975-80 period was from the district centers. In other words, through 1965 to 1990, the significance of the villages as the source of migrants to the province centers decreased but that of the district centers increased. As for the future, as the level of urbanization increases and the proportion of young population decreases, it is predicted that this trend will continue. That is, in addition to the villages, district centers are likely to be depopulated in the future in Turkey (Gedik, 1998:14-15).

Except the unusual period of 1975-80 in Turkey, during the all periods, city areas always had net in-migration whereas the village areas had net out-migration. However, due to the economic stagnation in 1975-80, the village areas had net in-migration (see Table 4). The rates of net migration were the largest in 1965-70 and then decreased until 1985-90 with a dip in 1975-80 (see Table 4).

The exchanges of net migration between the three settlement types; province centers, district centers and villages were in favor of higher order settlement type (see Table 3). For instance, net migraton between "villages and province centers" and "district center and province centers" was such that province centers had net in-migration whereas villages and district centers had net out-migration (Gedik,1998:4-5). Similarly, net migration between villages and district centers were in favor of the district centers except 1975-80 period (see Table 3).

The migration trends of Turkey through the 1965-90 period are examined in more detail by using the data about the net migration which is according to the three different settlement types: province centers; district centers; and villages (Gedik, 1998). When the city areas are disaggregated as province centers and district

Table 3. Origin and Destination of the net migration (Numbers, proportions (%)) between different settlement types: 1970, 80, 85 and 90 Population Censuses (in thousands)

		Province center	District center	Village
1965-70	Province center	.....	-167.7 (-99.2)	-306.2 (-64.4)
	District center	167.7 (35.4)	.....	-169.4 (-35.6)
	Village	306.2 (64.6)	169.4 (3.7)	.....
	Total	473.9 (100.0)	1.7 (100.0)	-475.5 (100.0)
1975-80	Province center	.....	-192.0 (-68.8)	-4.4 (-5.4)
	District center	192.0 (97.7)	.....	87.2 (105.4)
	Village	4.4 (2.3)	-87.2 (-31.3)	.....
	Total	196.4 (100.0)	-279.2 (100.0)	82.8 (100.0)
1980-85	Province center	.....	-265.8 (-144.7)	-287.8 (-77.8)
	District center	265.8 (48.0)	.....	-82.1 (-22.2)
	Village	287.8 (52.0)	82.1 (44.7)	.....
	Total	553.6 (100.0)	-183.8 (100.0)	-369.8 (100.0)
1985-90	Province center	.....	-721.5 (-127.4)	-133.9 (-46.3)
	District center	721.5 (84.4)	.....	-155.3 (-53.7)
	Village	139.9 (15.7)	155.3 (27.4)	.....
	Total	855.4 (100.0)	-566.2 (100.0)	-289.2 (100.0)

Source. Gedik, A. (1998), Table 3.

Table 4. Net migration of cities and village areas

	1965-70	1975-80	1980-85	1985-90
City	4,3	-0,5	1,6	1,0
Village	-2,6	0,4	-1,8	-1,4

Source. Gedik, A. (1998), Table 2.

centers, it is clearly seen that the province centers and district centers show opposite trends (see Table 5).

While province centers always had net in-migration, district centers had net out-migration through the entire period except in 1965-70 when they were transitory places with almost zero net migration. These indicate that as the trends of these two settlement types were opposite to each other, they should be studied separately. Furthermore, as the district centers started to have net out-migration since 1975-80 period, it is expected that the district centers will experience depopulation in the near future (Gedik, 1998:4).

Table 5: Net migration of province centers, district centers and village areas

	1965-70	1975-80	1980-85	1985-90
Province center	7,2	1,9	3,8	4,6
District center	0,0	-4,3	-2,2	-5,5
Village	-2,6	0,4	-1,8	-1,4

Source. Gedik, A. (1998), Table 2.

In addition to Turkey, the internal migration patterns and trends of two other developing countries namely Poland (1952-85) and China (1982-95) will also be explained in detail. Polish and Chinese examples give us the opportunity to examine the effects of macro policy changes as well as economic cycles on migration patterns and intensities.

3.1.2 Poland: Migration flows and patterns: 1952-85

The nature and the intensity of internal migration in Poland have evolved over the last fifty years. This process began after the Second World War when large interregional migration resulted from the shifts in national boundaries, socialist

industrialization and development schemes. The changes in the country's boundaries had major impacts on the Polish urban system. The postwar resettlement (1948) which implied a westward move of the population, followed by another stage of high spatial mobility of population during 1950's in the peripheral regions (Rykiel and Jazdzewska, 2002: 277).

The socialist industrial development schemes favored investment in heavy industry in more peripheral areas, mainly in the east and south Poland (Kok, 1997: 79-80). The nationalization of commerce, socialization, in this period resulted in the collapse of the economic base of "small towns." On the other hand, the centralization of the political system caused the development of the "large urban centers" and most of the migrants moved over long distances (Rykiel and Jazdzewska, 2002: 277 and Kok, 1997: 80).

"There were major political developments after 1956, the year of the destalinization, Hungarian Uprising, and the uprising in favour of the Gomulka regime in Poland" (Kok, 1997:81). These events started a decade of slight economic and political liberalization throughout Eastern Europe and the Soviet Union. As an outcome of the liberalization policy, investment in industries and infrastructure became more evenly distributed over the regions. The "regional capitals" became centers of investment and development. As many people were able to commute to the regional centers, migration declined and the migration distances decreased (Kok, 1997:81). "Since then, large scale rural-to-urban flows, as well as net population relocations from small-to-middle sized and large urban places, have remained among the salient features of internal migrations in Poland" (Korcelli, 1990:305).

During the 1960's, the overall migration volume decreased notably. In the early 1960s, after the post-war resettlement large-scale population movements resulting from industrialization came to an end, the crude internal migration rate (number of moves per 1000 population) became stabilized at 26-30 (Korcelli:1990:307).

In the 1970's, there was a shift towards more "large-scale state developments" in the industrial regions and the larger cities. As a result of these tendencies, Poland experienced an increase in total migration during the 1970's. Without the territorial enlargement of municipalities that took place in 1974, migration would have increased even more (Kok, 1997: 81). Spatial mobility rates increased again in the late 1970's when the pull of industrial markets was very strong. The mainstream migration in the 1970's in Poland was directed upwards in the urban hierarchy. In the mid-1970's, while new large and middle-sized towns appeared, the populations of small towns declined and migration to them decreased and they disappeared (Rykiel and Jazdzewska, 2002: 286). Another point is that since mid-1950's, rural-to-rural migration stream was dominant, from the beginning of the 1970's, rural-to-urban migration began to be the dominant flow in Poland (see Table 6).

During the 1980s, the Polish economies went into a period of stagnation and the overall migration volume fell sharply in the 1980's. The economic problems of rising prices, shortages and collapsing state housing construction were concentrated in the cities. Because of these problems, the cities lost many of their advantages over the rural areas. Poland experienced a decrease of the migration rates in the 1980s. The rate dropped from 23 per 1000 inhabitants to about 15 per 1000 inhabitants (Kok, 1997:82). The second half of the 1980's was a period of economic stagnation and social apathy. These factors caused "...a rapid decrease in migration to large and middle-sized towns, while net migration to small towns began to increase" at that period (Rykiel and Jazdzewska, 2002: 286).

In the 1990's, with the revolution of 1989, the possibility for the modernization of economies and socities became possible for the countries in the Soviet Block. Poland took this chance and there was a rapid change and liberalization of the economy in 1990-93 (Kupiszewski et al, 1998:266). Due to the privatization of industry, the number of jobs in industrial centers either shrank rapidly or was transformed into post-industrial types of employment in services. The cost of

living together with poor prospects of employment made migration from rural to urban areas very difficult (Kupiszewski et al, 1998:266). In the 1990's, there was a substantial reduction of migration from rural to urban locations. There were important changes in the role of cities and towns. Largest cities have tended to lose population in the mid 1990's. Medium to large sized towns and cities in the range between 50.000 and 500.000 attract substantial parts of the migration pool. It is believed that a suburbanization process has been put into motion (Kupiszewski et al, 1998:289).

In short, while the dominant migration flow was rural-to-rural during 1950 to 1970, rural-to-urban migration began to be the dominant migration stream during 1970-1990. Until the 1990, there was an increase in the migration from rural areas to the large urban centers, but in the 1990's, a reduction of migrants from rural to urban areas was experienced. After 1990, the largest cities became to lose population and different sizes of urban areas gained importance. In the future, different growth of large cities as a result of differences in the availability of local social capital and their competitiveness is predicted to continue. Moreover, differential growth in small towns due to the local initiative and competitiveness is also expected (Rykiel and Jazdzewska, 2002: 292).

According to the concept of mobility transition (Zelinsky, 1971), it is assumed that parallel to vital revolution, countries undergo a transition from low to high and then again to low mobility in the development process. Along with this change the dominant direction of migratory flows shifts from rural-rural to rural-urban to urban-urban and, finally, to an urban-rural orientation. Polish migration data supports this interpretation. The post-war peak of labor migration occurred in the mid-fifties, followed by a secondary peak in the late seventies. Since then, internal migration rates have declined. The initial dominance of rural-rural migration (35.7% in 1966-70) was replaced during 1971-75 by rural-to-urban moves (34.1%) and this dominance of rural-to-urban migration continued till 1985 (see Table 6).

Table 6. Migration Flows in Poland (percentages)

Migration stream	1952-55	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85
urban-urban	27.9	23.2	22.4	21.9	23.6	28.2	27.4
rural-urban	25.8	24.0	25.9	29.3	34.1	36.1	34.5
urban-rural	18.7	17.7	15.9	13.1	12.1	13.2	15.8
rural-rural	27.6	35.1	35.7	35.7	30.2	22.5	22.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source. Korcelli, P. (1988), Table 17.1.

A more comprehensive approach to the study of interurban migration would require the identification of an urban hierarchy with reference to functions and spatial distributions of urban places, rather than simply in terms of population size. Such an attempt was made by Z. Rykiel and A. Zurkowa (1981) who used a complete matrix of urban-to-urban movements for 1974 and their findings corroborate the rule of hierarchical migration with dominant flows occurring from urban places of lower order to those of higher order (Korcelli,1990.315).

In other words, urban-to-urban migration in Poland has consistently conformed to a hierarchical pattern, in which urban places in a given size category are net gainers in their interaction with places in each of the smaller size categories and net losers with respect to each of the larger size groups (Korcelli,1990:315-16). This regularity may be found in the matrix of the interurban migration for 1985 (see Table 6).

The intensity of migration between the regions in Poland has changed dramatically but the patterns have not. On the one hand, the regions with the large urban centers tend to have a higher inflow than outflow. In contrast, the peripheral rural regions still have a higher outflow than inflow. The basic pattern of people moving from peripheral regions to the economic centers of Poland still exists

(Kok, 1997:84). The Katowice region used to be the main destination region, followed by regions with the largest urban centers. These second rank destinations were followed by regions with large regional centers. The Katowice region used to attract migrants from all over the country and the second and third-rank regions tended to attract migrants from surrounding, more peripheral regions. The third-rank regions attract migrants from peripheral areas, but in turn, lose migrants to higher-ranked regions. The more peripheral regions, which are losing migrants, are mainly agricultural regions without an urban center of national importance (Kok, 1997:85).

This pattern is still visible in 1995 but it has much lower intensity. There is a considerable migration in both directions. Some of the migration from the higher-rank regions to lower-rank regions is probably return migration of retired people to their region of origin. This is still a common phenomenon in Poland and other East European countries (Kok, 1997:86).

3.1.3. China: Net migration flows and patterns

In the past half-century, China has experienced important demographic changes. Since the late 1950's, China's household registration system (hukou) was a major deterrent to rural-to-urban migration. According to this system, an individual without an urban household registration status could not buy food or get a job in a city (Liang, 2001:500). Any person who wanted to migrate had to obtain permission from local authorities in the place of origin and destination. This system was very effective in keeping the country's urbanization level relatively low.

The history of urbanization in the country can be divided into four stages. The first period (1951-60) which was a period of large rural-to-urban migration coincides with the first Five-Year Plan (1953-57) and the Great Leap Forward (Liang, 2001:500). During this period, following the Soviet model, a

disproportionately large investment in heavy industries was made and peasants migrated to cities to work in these industries. As a result, due to the laissez-faire migration policy, millions of people migrated into urban centers (Liang, 2001: 500).

In the second period (1961-65), "China's leaders had realized that the country's agricultural output would be unable to supply enough grain to sustain the urban population even at the level of 20 percent of the total (130 million in 1960)" (Liang, 2001:500). In order to reduce the urban population, 24 million workers whom was originated from rural areas were sent to the countryside (Liang, 2001: 500).

In the third period (1966-77), as the rustication movement sent cadred, intellectuals and young people to the rural areas, urbanization levels declined. The urbanization level in China stabilized nearly 17 percent (Liang, 2001: 500).

The fourth period (1978-95 and beyond) has been a time of substantial rural-to-urban migration and increasing urbanization. Some changes made migration easier than before. Firstly, the transformation from former production teams to household farming has increased agricultural productivity and thus decreasing the need of rural laborers (Liang, 2001: 500). Moreover, the transition toward a market economy transformed the urban industrial structure and created a demand for migrant workers. The non-state enterprises, joint-venture enterprises provided migrant workers with temporary urban resident cards. Without these cards, migrant workers can live as long as they have the means to support themselves. As a consequence, migration which is often temporary has increased significantly since the mid 1980's (Liang, 2001: 500).

The five-year migration rates during 1982-87 of city, town and county in China indicate that these three settlement types had similar out-migration rates, although the county population had the greatest out-migration rate. Furthermore, the city

and town population had much greater in-migration rates (nearly 6%) than the county population (nearly 1%) (see Table 7). As a consequence, while the city and town populations had net in-migration rates of 2.98% and 3.90% respectively, the county population had a net out-migration rate of 2.10% over this period (see Table 7).

Table 7. Five-year migration rates of city, town and county populations in China, 1982-1987 (%)

Populations	City	Town	County	Total
In-migration rates	5,81	6,03	1,07	2,86
Out-migration rates	2,83	2,13	3,08	2,86
Net migration rates	2,98	3,90	-2,01	0,00

Source. Shen, J. (1995), Table 6.

When the intersectoral migrant population according to origin and destination by city, town and rural location are examined, it is seen that there has been a major drop in migration to towns whether from cities, towns or rural areas. In this period, the share of city-to-town migrants declined from 26 percent in 1987 to about 9 percent in 1995 and that of town-to-town migrants from 50 percent to 19 percent during 1987-95 period (see Table 9). Furthermore, the share of rural-to-town migrants declined significantly from 41 percent to 9 percent. In sum, although the migration to towns continued in the 1990's, their importance as migrant destinations has declined over time (Liang, 2001: 513).

Table 8. Percent distribution of the intersectoral migrant population

Period	(Migrants in .....originating from ....)	Cities	Towns	Rural areas
1987	Cities	29.4	11.8	10.7
	Towns	9.0	17.6	15.8
	Rural areas	61.6	70.6	73.7
	Total	100.0	100.0	100.0
1995	Cities	40.6	26.8	11.6
	Towns	10.0	17.6	5.1
	Rural areas	49.5	55.6	83.3
	Total	100.0	100.0	100.0

Source. Liang, Z. (2001), pp.499-524.

Table 9. Percent distribution of the intersectoral migrant population according to place of origin and destination, China, 1987 and 1995

Period	(Migrants originating from .... living in .....)	Cities	Towns	Rural areas	Total
1987	Cities	59.9	26.1	14.0	100.0
	Towns	23.6	49.8	26.6	100.0
	Rural areas	33.2	41.2	25.6	100.0
1995	Cities	80.6	8.7	10.7	100.0
	Towns	65.6	18.8	15.6	100.0
	Rural areas	50.8	9.3	39.8	100.0

Source. Liang, Z. (2001), pp.499-524.

This largest drop in the share of rural-to-town migrants indicates that rural migrants moved increasingly to cities (51%) and other rural areas (40%) (see Table 9). Moreover, there has been an increase in city-to-city and town-to-city migration (24% to 66%) from the period 1982-87 to 1990-95. Overall, people have a tendency to select cities to migrate in the early 1990's (see Table 9) (Liang, 2001: 513; Shen, 1995:407).

Another significant migration pattern is found in the share of migrants moving from cities to towns. Among migrants to towns in 1995, 27 percent were from cities as compared to only 12 percent in 1987 (see Table 8). Among the migrants to rural areas, the share of the city-origin population increased slightly. However, migrants from cities to towns and to rural areas are often temporary which may be due to the technical personnel hired by industries in those places (Liang, 2001: 513).

As a result, in the early 1990's, towns and rural areas became less attractive destinations for urban migrants while they became more attractive for migrants from other rural locations and towns (Liang, 2001:513). In other words, the main direction of migrants was to cities no matter where they came from (Shen, 1995: 407).

While 14 percent of migrants originating from cities were living in rural areas in 1995, this figure declined to 11 percent. The share of migrants from towns to rural areas had an even sharper decline from 27 percent to 16 percent. However, the share of migrants in rural areas originated from other rural areas shows 14 percent increase (26 to 40 percent) from 1987 to1995 (see Table 9). This fact is relatively new in China which shows a novel type of migration pattern. While rural migrants from certain provinces are migrating to cities, they hold their land in case their expectations are not realized. "As they attempt to establish themselves in the cities, they may hire migrants from other rural areas to plant and harvest certain crops on the rural land they have retained" (Liang, 2001:514).

3.1.4. Other Countries:

The migration patterns and intensities of other countries such as Romania, South Africa, India and Finland have also been affected by the different government policies and economic cycles.

In Romania, two important political events disrupted the evolution of towns during the past century. These are "... the totalitarian regime that came into effect after the Second World War and the transition towards democracy ad the free market system after 1989" (Ianoş, 2002: 295). The impact of these events on the urban system is mainly that different size towns evolved over time. During the first part of the twentieth century, there was a primate city phase centered around the capital city. Between 1950-70, regional centers; between 1970-90, the intermediate-sized and small towns; and after 1990, the countryside gained importance in Romania (Ianoş, 2002: 326).

As stated previously during 1970-90 period, small and intermediate-sized towns gained importance. This is mainly because of the fact that "industrialization of small-sized towns and rural settlements scheduled to become agro-industrial centres (1980-1989)" (Ianoş, 2002:312). However, the size and the position of the towns are different from each other. Some intermediate-sized and small towns are excessively industrialized while others have no industry at all. Some towns are either in the lowlands with a population largely engaged in agriculture or in the highlands where spas and health resorts are numerous. On the other hand, large and intermediate-sized towns have a much more diversified economy (Ianoş, 2002:314).

In the 1990's, the collapse of the communism and changing economic circumstances caused an increase in the urban-to-rural migration. Failing industries have reduced the means for the families to survive in town and those

that own land in their native villages tend to return these areas (Ianoş, 2002:324). Between 1997 and 1998, all categories of towns had a significant decline of net migration rates. While rural settlements as a whole gained population, small towns had the negative net migration rates in this period. Many factors affected the small towns in 1990's. For instance, the industrial restructuring does not affect the large cities, but it affects the small and intermediate-sized towns. This is because of the fact that "in large cities, workers that have been laid off in a struggling industrial sector can perhaps find alternative employment in the tertiary sector..." (Ianoş, 2002:322-23). However, as the smaller towns based on only one or two industrial enterprises, when these industries collapse or struggle, they face with important social challenges.

Likewise, the rural towns of South Africa were affected from the government policies and the country's economical situation. For instance, in South Africa, during 1977-1993 period, "...the country progressed from a fragmented regional system of segregated government....to a unified state with a democratic government" and political-economic transformation had been experienced (Geyer and van der Merwe, 2002:565). In 1994, with the elections, the socio-economic restructuring started and in 1996, spatial development initiatives were taken to provide some national spatial development.

From 1980's to 1997, huge volumes of Blacks in rural areas began to migrate to the rural towns. The 1994 elections brought many changes to the social and economic environment in South Africa. After 1994, particular migration patterns emerged on a national scale. Mainly the Blacks from rural areas migrated to the all sizes of urban areas. An important part of the migrants locating in small rural towns originate from nearby commercial or traditional farming areas in order to retain "...strong social and financial ties with their kin on the farms for the sake of survival..." (Geyer and van der Merwe, 2002:583). Nonetheless, the huge volume of Black migrants in rural towns can not be sustained because of the economic collapse in the local governments of most of these rural towns. On the other hand,

central government took some steps to "...incorporate small economically non-viable rural settlements into the jurisdiction areas of larger towns and cities..." (Geyer and van der Merwe, 2002:583). This policy may delay the economic-administrative disintegration of the rural towns in South Africa.

Another example is India where "...migration was dominated by local rural-to-rural migration but with considerable, mainly short distance, rural-to-urban migration to local and regional urban centers" in the 1960's (Skeldon, 1986: 767). Long-distance migration was mainly from urban to urban areas and they were likely to have been forward flows from local to regional centers to the largest national cities. At that period, the stagnation of the small towns and the growth of large urban centers were experienced. A system of stage migration was seen similar to Ravenstein's (1885) original explanation for the late nineteenth century England. He stated it as "...local movement to regional urban centers accompanied by movement out of the regional centers to the largest towns in the urban hierarchy" (Skeldon, 1986: 767).

In the 1970's, rural-to-urban migration increased and the movement to small and regional centers from the rural areas became greater than movement up the hierarchy. The more rapid urban growth was more evenly spread among centers of all sizes with the smallest centers showing the fastest rates of growth between 1971-81 (Skeldon, 1986: 767). It is likely that many of these centers are in close proximity to large metropolitan centers and they would be included as suburban parts of the largest cities rather than as separate towns in their own right (Skeldon, 1986: 767).

However, in 1991, urban inequality increased rapidly that "...greater and greater numbers of urban population are polarized into the largest metropolitan areas, and small towns/cities show a decreasing share" (Mukherji, 2002:529). This is because of the fact that the government's planning perspective has a very strong metropolitan bias at the expense of the smaller towns and/or cities.

In Finland, during the second half of the 1980's, as the employment opportunities improved in the large cities, while a mass migration to the large cities was experienced, the smaller towns have almost disappeared and lost population (Heikkila and Jarvinen, 2002:243). During the economic recession of 1992, the volumes of migration decreased and there was more migration from urban to rural areas. However, in 1996, with the effects of the regional policies and communal development, the main migration stream was again directed to large central regions. Cities have become larger while smaller towns have almost disappeared after the second half of the 1990's.

There are two possible trends in the Finnish population projection for the years 1997-2020. In the first alternative, if there is a high economic growth, cities will grow but the small towns will disappear. According to the other one, if there is a slow economic development, "central areas do not receive migration gain and small town areas and the countryside do not suffer from the migration loss" (Heikkila and Jarvinen, 2002:260).

3.1.5. Afterthought

The increase in the urban-to-urban migration stream (towns to cities) and the lose of the importance of the small towns gradually especially after 1990's were experienced not only in Turkey but also in other countries such as China, Poland, Romania, South Africa, India and Finland. It is clear that this fact and all other migration patterns and intensities have been affected from the the economic cycles and macro policy changes of a country.

In Turkey, urban-to-urban migration flow had been the dominant migration stream during 1965-90. In this period, while the city areas had net in-migration, district centers and villages had net out-migration. Through this period, the significance of the villages as the source of migrants to the province centers

decreased but that of the district centers increased. As the migrants from villages to district areas declined and the migrants from district centers to province centers increased significantly, it is predicted district centers will experience depopulation in the near future.

On the other hand, China had a steady rural-to-urban migration during 1982-1995. During the 1990's with the new economic circumstances, there has been an increase in town-to-city and city-to-city migration in China. Although the migration to towns continued in the 1990's, their importance as migrant destinations has declined over time.

In Poland, through the mid-1950 to 1970, rural-to-rural migration stream and then, since the beginning of the 1970's, rural-to-urban migration has been the dominant migration flow. In the 1990's, with the liberalization of the economy, there was a reduction of migration from rural to urban areas. While the largest cities have tended to lose population, medium to large sized towns and cities attract population in Poland.

Furthermore, in Romania, in the 1990's, the collapse of the communism and changing economic circumstances caused an increase in the urban-to-rural migration. Failing industries have reduced the means for the families to survive in towns. Between 1997 and 1998, all categories of towns had a significant decline of net migration rates. While rural settlements as a whole gained population, small towns had the negative net migration rates in this period.

Likewise, this trend as mentioned above is also observed in India and Finland. In India, in 1991, the metropolitan areas gained importance while smaller towns and/or cities had severe losses. Moreover, in Finland, while cities have become larger, smaller towns have almost disappeared after the second half of the 1990's.

Firtsly, an important factor causing this trend is the economic cycles of each country. In general, if there is a high economic growth, cities will grow but the small towns will disappear but, if there is a slow economic development, "central areas do not receive migration gain and small town areas and the countryside do not suffer from the migration loss" (Heikkila and Jarvinen, 2002:260).

For instance, during 1975-80 period, Turkey experienced "...economic stagnation with minus economic growth, social instability and political violance" (Gedik,1998:3). In this period, as the urban to rural and city to town migration increased the village areas had net in-migration in Turkey. However, the district centers were affected with significant amount of net out-migration in this period.

Similarly, during the 1980s, when the Polish economies went into a period of stagnation, net migration to small towns began to increase, a rapid decrease in migration to large and middle-sized towns was experienced at that period (Rykiel and Jazdzewska, 2002: 286). Likewise, in Finland, in the economic recession of 1992, urban to rural migration increased whereas the trend was reversed during the boom period.

Secondly, the macro policy changes also affect the migration trends of the countries. In China, for example, from 1950's to 1980's, China's household registration system (hukou) was a major deterrent to rural-to-urban migration. As a result of this system, the urban areas could not attract many migrants from rural areas. However, in the early 1990's, with the transition to market economy, towns and rural areas became less attractive destinations for urban migrants while they became more attractive destinations for migrants from other rural locations and towns.

Another example is South Africa which supported the policy of a more unified state with a democratic government, instead of a fragmented regional system during 1977-1993 period. As a result of the policy, huge volumes of Blacks in

rural areas began to migrate to the rural towns and rural towns gained importance during this period. On the other hand, in India, as the government's planning policy tended to support the metropolitan areas much more than the smaller towns/cities, in the 1990's, urban population are polarized into the largest metropolitan areas, and small towns/cities lose their importance.

3.2. DEVELOPED COUNTRIES

The level of urbanization in the more developed regions was 76 percent in 1998 and by 2030, it is projected to be 84 percent (UN, 2000:68). Furthermore, the dichotomy between the rural and urban areas is not very sharp. Therefore, most of the migration studies of such countries are between the urban locations.

The urbanization trends experienced by developed countries until the 1950's were related with the rising proportion of people living in urban areas. Nonetheless, between 1965 and 1985, a tendency towards population deconcentration was noticed in a number of developed countries. In the literature, new concepts such as "counterurbanization", "polarization reversal" and "differential urbanization" emerged and many scholars tried to define them. "Fielding defines "urbanization" as coincident with a significantly positive, and "counterurbanization" as coincident with significantly negative, relationship between net migration rate and settlement size (Geyer and Kontuly, 1996: 330). Geyer defines the concept of "polarization reversal" as coincident with a symmetrical relationship between net migration rate and settlement size. Differential urbanization can usually be described as "a sequence of urban development cycles, with each cycle consisting of consecutive phases of urbanization, polarization reversal and counterurbanization" (Geyer and Kontuly, 1996: 330). During urbanization, mainstream migration generally supports large city development; during the phase of polarization reversal, this is followed by secondary or regional center city development; and lastly, during the counterurbanization, by the small city development (Geyer and Kontuly, 1996: 330).

Berry (1976) coined the term "counter-urbanization" to show the process by which the larger metropolitan areas became to lose population to smaller urban centers. On the other hand, Fielding (1982) suggested that counter-urbanization arises when there is a negative correlation between the net migration rate of places across the settlement system and their respective population. This shift was first observed in the United States between 1960's and 1970-73. At that period, non-metropolitan areas had net migration losses of 300,000 persons and net gains of 400,000, annually (UN, 2000:67). Other studies confirmed that similar trends were also observed in various developed countries such as, Australia, Denmark, France, Germany, Italy, Japan, Norway and the United Kingdom in 1970's (Champion, 1989).

The main causes of both counter-urbanization include the new spatial division of labor. The development of economic activity based in rural areas, particularly related with energy resource development, agriculture and forestry was one of the factors contributing to counter-urbanization during the 1970's (UN, 2000:67). Moreover, changing residential preferences associated with changes in the age structure of the population might have played a role as well. Finally, government actions about infrastructure investment including the expansion of transportation networks and the improvement of health and educational services in smaller communities; the support provided for rural development; and the adoption of decentralization policies all contributed to the counter-urbanization (UN, 2000:67).

Although it is expected that the shift from the population concentration in the larger metropolitan areas to that in medium and small-sized settlements would accelerate during the 1980's, recent evidence has failed to support this trend. According to the latest data, the tendency of population concentration in the larger urban areas has returned. The most significant reversal seems to have taken place in the United States during the 1980's (UN, 2000:67).

The economic recession affected most of the developed countries during the early 1980's. As the government policies related with the rural development have been weakened at that period, large metropolitan areas again became the concentration of population and economic activity (UN, 2000:67).

The recent researches on USA[4] and other developed countries confirmed that there has been lack of general return to traditional patterns of regional concentration, and showed a 'new turnaround' or 'renewed counterurbanizaton' during 1990's (Geyer and Kontuly, 1996:334).

Nonetheless, the phenomenon of deconcentration of population from some large cities into suburban areas or smaller cities known as "counter-urbanization" seems not to be limited to cities in the developed countries. Some mega-cities in the less developed regions have also experienced a slowdown in their population growth (UN, 2000:73).

3.3. POPULATION DISTRIBUTION POLICIES

The major concerns of the many developing countries have been to reduce their spatial inequalities. Especially, in the developing world, population distribution policies largely related with measures to reduce the rural-urban migration by trying to control the growth of the primate city or other large metropolitan areas. Nonetheless, these policies have not always been effective and some countries have adopted the "development from below" approach which involves strong rural-oriented policies. Besides slowing the growth of large metropolitan areas, especially these developing countries have endorsed the concept of promoting small and medium-sized cities (UN, 2000:74).

Spatial inequalities in the developing world are large and in many instances rapidly increasing. In order to reduce these inequalities, Stöhr and Tödtling (1978) developed an approach which is called "development from below." According to this approach, the spatial inequalities can be reduced by internal territorial

integration and a greater degree of internal self-reliance with selective spatial closure (Stöhr and Taylor, 1981:1).

"Development from below" considers development to be based primarily on maximum mobilization of each area's natural, human and institutional resources with the aim of being the satisfaction of the basic needs of the inhabitants of that area. In order to serve the regions described as disadvantaged, development policies must be oriented directly towards the bottom. Development from below strategies are basic needs oriented, labor-intensive, small-scale, regional-resource-based, often rural-centered (Stöhr and Taylor, 1981:1).

Other measures to promote small and medium-sized cities are to build new capitals, regional development policies for lagging regions, border-region strategies and land colonization schemes, such as in Kazakhstan, Malaysia and Nigeria. Many governments have also adopted the policies "channelling private investment to designated areas, providing infrastructure in under-served areas, or removing subsidies..." from the favoured areas like the national capital (UN, 2000:74). With this approach, a number of areas of a country may be equally attractive to potential migrants.

For instance, in order to reduce the out-migration from rural areas, Botswana, an African country, had developed policies and programmes "...for expanding and improving socio-economic infrastructure in rural areas, for creating rural employment, and for improving education, health and social services in remote rural areas" (UN, 2000: 75). Another country, Ghana, also searches to reduce out-migration from rural areas by improving the economy in the rural areas as promoting cottage industries, small-scale enterprises and agro-based industries and promoting the infrastructure.

CHAPTER 4

DESCRIPTIVE ANALYSIS OF THE NET MIGRATION TO/FROM THREE TYPES OF SETTLEMENTS: FOR TURKEY AS A WHOLE

In this chapter, net migration rates of the three settlement types namely, province centers, district centers and the villages during the five-year period of 1985-90 will be studied—in aggregate for Turkey as a whole. Firstly, the total number of net migrants and the weighted net migration rate will be examined. Subsequently, the descriptive statistics of the unweighted net migration rates of the three settlement types will be studied in detail.

Gedik (1998) studied the internal migration between the three different settlement types for Turkey in aggregate for the four periods between 1965-90 (1965-70, 75-80, 80-85, and 85-90). In her study, she used the weighted net migration rates to indicate the rates for each three settlement types for the nation as a whole. She found that the province centers have positive net migration rates whereas the district centers and villages have negative net migration rates (see Table 10). For example, for data file three, these were 5,25%, -5,66%, and –2,28%, respectively.

In this study, the net migration rates of three settlement types are calculated for each province and the unweighted mean[5] rates for Turkey are obtained. Unweighted mean rates of all settlement types are negative and among them, district centers have the largest net out-migration rate (-7,57).

On the other hand, district centers have the lowest the unweighted mean rate (-7,57%) and median (-7,09%) which are approximately “twice” or “three times” of the respective values of province centers (-3,61%; -2,35%) and villages (-2,73%; -2,91%) (see Table 11; Figure 5).

Similar to weighted mean rates in Gedik’s findings, it is found that both the villages (-2,73%) and the district centers (-7,57%) have negative unweighted mean rates (see Table 10). On the other hand, while the weighted mean rate for province centers (5,25%) is positive, the unweighted mean rate (-3,61%) is negative similar to the case for district centers and villages.

The difference (0,45%) between the weighted and unweighted mean (-2,28% versus -2,73%) for the villages is least among the three settlement types, followed by the district centers (1,91%). On the other hand, the fact that the weighted mean (5,25) is very different (8,86%) from the unweighted mean (-3,61%) for the province centers indicates that the net migration rates to/from province centers are “not homogenously” distributed among the provinces; and vice versa for the villages (see Table 10).

Table 10: Weighted and Unweighted means of the net migration of each settlement type in 1985-90

	Weighted means[1]	Unweighted means	The difference between the unweighted and weighted means	Number of net migrants	Perm. Res.Pop. in 1985 (in 1990 Pop. Census)	Perm. Res.Pop. in 1990 (in 1990 Pop. Census)
Datafile 1[1]						
a_rnet	4,58	-3,76	8,34	856011	18707408	19563419
b_rnet	-5,36	-7,36	2,00	-565224	10554615	9989421
c_rnet	-1,39	-1,87	0,48	-289549	20721588	20432039
Total					49983611	49984879
Datafile 2[2]						
a_rnet	4,97	-3,75	8,72	954421	19205638	20160059
b_rnet	-5,08	-7,18	2,10	-526295	10360096	9833831
c_rnet	-2,09	-2,52	0,43	-426888	20417877	19990989
Total					49983611	49984879
Datafile 3[3]						
a_rnet	5,25	-3,61	8,86	1034541	19703245	20737786
b_rnet	-5,66	-7,57	1,91	-573418	10130596	9557208
c_rnet	-2,28	-2,73	0,45	-459885	20149770	19689885
Total					49983611	49984879

Notes: (1) Net migration rates of province centers, district centers and villages of 73 provinces; (2) Numbers of net migration of district centers and villages of İstanbul are added to that of its province center; (3) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers.

Source: (1) Gedik, A. (1998), p. 12-13

Following findings also support this conclusion. For example, the difference between the unweighted mean and median of province centers is the largest and that of villages is the smallest. This difference for province centers, district centers and villages is –1,26, –0,48 and 0,18 respectively (see Table 11).

Both the Kolmogorov-Smirnov and Shapiro-Wilk tests do not reject the normal distribution of net migration rates for province centers, district center and villages (see Table 11). Moreover, the fact that the ratio of skewness and kurtosis of the province centers, district centers and villages are less than $(+2)^6$ and the histograms and boxplot all show us that the net migration rates of all three settlement types are "normally" distributed (see Table 11; Figure 2-4 and Figure 5).

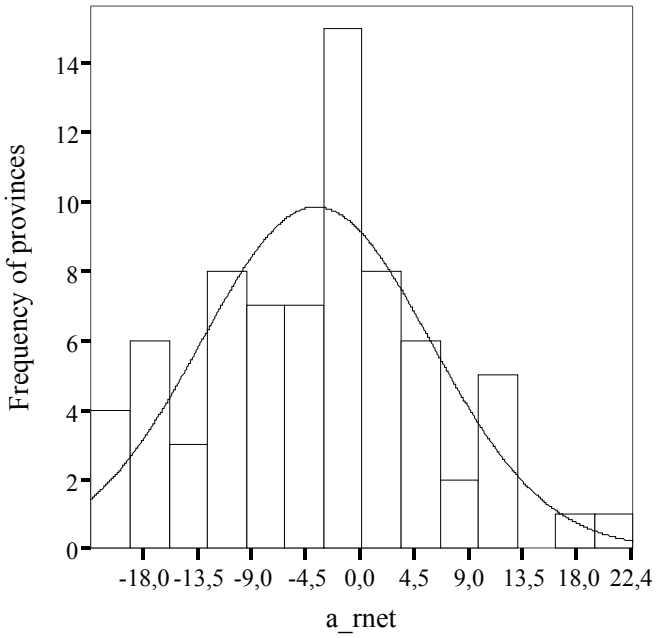


Figure 2: Histogram of the net migration rates of the province centers

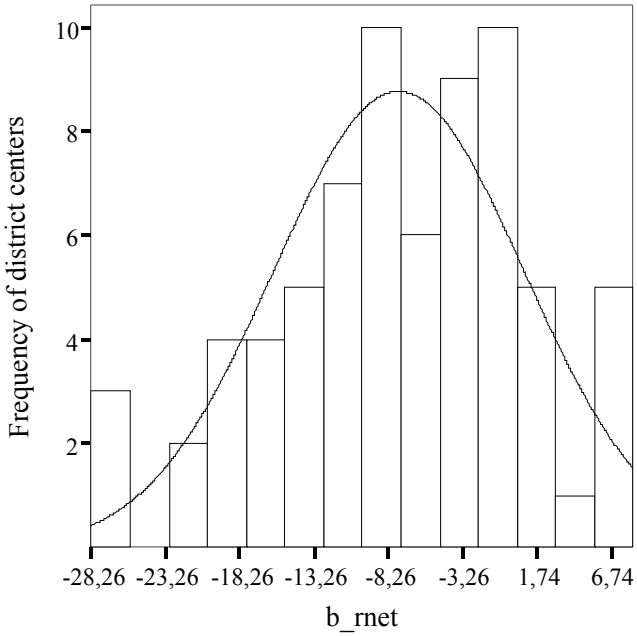


Figure 3. Histogram of the net migration rates of the district centers

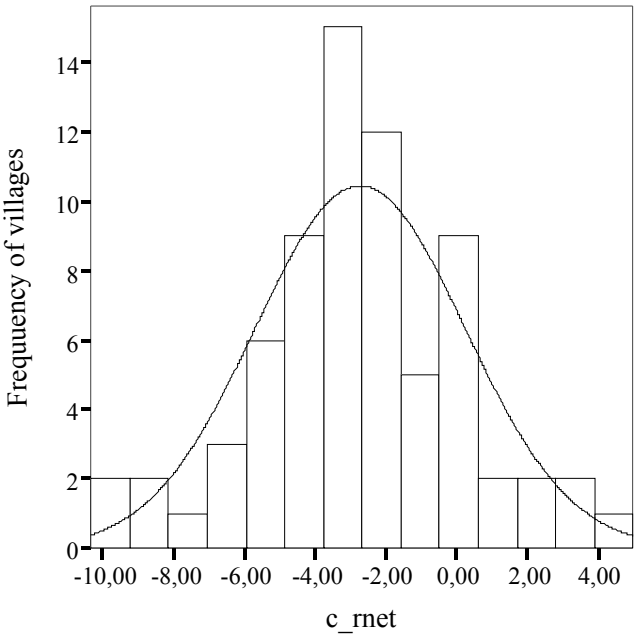


Figure 4: Histogram of the net migration rates of the villages

The villages have the lowest (15,32) and province centers have the maximum "range" (44,88) (see Table 11; Figure 5). The range of the district centers (36,48) is closer to the range of province centers. The minimum and maximum values for province and district centers, and villages are as follows: -22,21% and 22,67%; -28,26% and 8,22%; -10,33% and 4,99%. Among the minimum and maximum values, district centers have the lowest minimum value (-28,26) and province centers have the highest maximum value (22,67). In other words, while the province centers have the largest net in-migration rates, district centers have the largest net out-migration rates (see Figure 5).

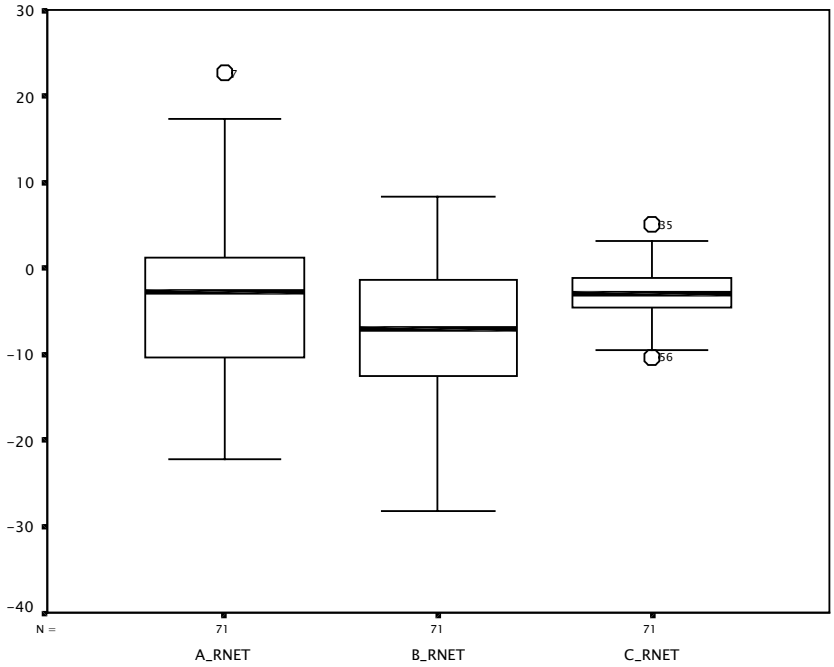


Figure 5: Boxplot of the net migration rates of the province centers, district centers and villages

Table 11. Statistics of net migration rate (Data file 3)

	a_rnet (n=73)	b_rnet (n=71)	c_rnet (n=71)
Weighted Mean	5,25	-5,66	-2,28
Unweighted Mean	-3,61	-7,57	-2,73
Median	-2,35	-7,09	-2,91
Unweighted mean - Median	-1,26	-0,48	0,18
Std. Deviation	9,49	8,43	2,97
Coefficient of variation	-2,63	-1,11	-1,09
Kolmogorov-Smirnov (α)	0,20	0,20	0,20
Shapiro-Wilk (α)	0,49	0,36	0,79
Skewness	0,09	-0,34	0,01
Std.Error of Skewness	0,28	0,29	0,29
Ratio of skewness	0,31	-1,20	0,03
Kurtosis	-0,08	-0,28	0,43
Std.Error of Kurtosis	0,56	0,56	0,56
Ratio of kurtosis	-0,14	-0,50	0,76
Range	44,88	36,48	15,32
Minimum	-22,21	-28,26	-10,33
Maximum	22,67	8,22	4,99

Note: Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers.

As discussed above, it is clearly seen that the largest net out-migration rates of the district centers (–28,26) are nearly three times of the villages (–10,33) and 1.3 times of the province centers (-22,21) (see Table 11). On the other hand, it is interesting to note that the largest net in-migration rates for province centers (22,67) are nearly three times those of district centers (8,22) and five times those of villages (4,99).

Similar to the case for the "range", the standard deviation of province centers (9,49) and district centers (8,43) are about three times more than those of villages (2,97) (see Table 11). Coefficient of variation has also consistent pattern.

To sum up, although the weighted mean rate for the province centers was "positive" (5,25%), the unweighted mean rate was "negative" (-3,61%). On the other hand, district centers and villages had "negative" rates both for weighted (-5,66% and -2,28%) and unweighted mean rates (-7,57% and -2,73%).

All of the three settlement types had "normal" distribution. However, according to the values of the differences between weighted and unweighted mean rates, median, range and standard deviation, villages exhibit relatively "homogeneous-uniform" net out-migration rates—which is opposite the case for the other two and especially for the province centers.

CHAPTER 5

DESCRIPTIVE ANALYSIS OF THE NET MIGRATION RATES TO/FROM EACH SETTLEMENT TYPE: PROVINCIAL LEVEL

In the previous chapter, net migration rates of the three settlement types (province centers, district centers and the villages) were studied for Turkey as a whole. In this chapter, net migration rates will be analysed in terms of the 73 provinces. Firstly, the descriptive statistics of the "total" net migration rates of provinces will be explained in detail. Secondly, the net migration rates of each "settlement type" will be analysed on the province level. Thirdly, the "typology" of provinces according to the total net migration and net migration to/from the three types of settlements will be constructed. Lastly, association between net migration rates themselves and population will be discussed.

5.1. TOTAL NET MIGRATION OF PROVINCES

When the total net migration rates of 73 provinces are examined, it is seen that the numbers of provinces with net in-migration are less than half of the provinces with net out-migration. While the provinces with total net in-migration comprised about 27%, the provinces with total net out-migration comprised about 73% of the total number of provinces. In other words, more than two-thirds of the provinces lose net migrants.

Total net in-migration	Total net out-migration	Total
20 (27,4%)	53 (72,6%)	73 (100%)

The statistics of total net migration rates of provinces indicate that on the average, the provinces of Turkey had net out-migration rates during 1985-90 period. For example, the unweighted mean and median are –3,03% and -3,24%, respectively. The difference (0,21) between the unweighted mean and the median, normality index (Kolmogorov-Smirnov and Shapiro-Wilk), skewness and kurtosis, histogram and boxplot all indicate that the total net migration rates of provinces have a more symmetrical (normal) distribution (see Table 12; Figures 6-7).

Table 12. Statistics of net migration rates of provinces

	t_rnet (n=73)
Unweighted Mean	-3,03
Median	-3,24
Unweighted mean - Median	0,21
Std. Deviation	5,66
Coefficient of variation	-1,87
Kolmogorov-Smirnov (α)	0,20
Shapiro-Wilk (α)	0,57
Skewness	0,31
Std.Error of Skewness	0,28
Ratio of Skewness	1,11
Kurtosis	0,24
Std.Error of Kurtosis	0,56
Ratio of Kurtosis	0,43
Range	26,56
Minimum	-15,12
Maximum	11,44

The range of this distribution is %26,56 and it has a minimum value of %–15,12 and a maximum value of %11,44. As the ratio of skewness (1,11) and ratio of kurtosis (0,43) are less than $(2,00)^7$, it again points out that the total net migration rates are normally distributed. (see Table 12).

From the Boxplot of the provinces, it is also seen that two provinces namely, Kocaeli (11,44) and İstanbul (11,38) are the outliers due to the fact that their total net migration rates are considerably higher than that for the other provinces (see Figure 7).

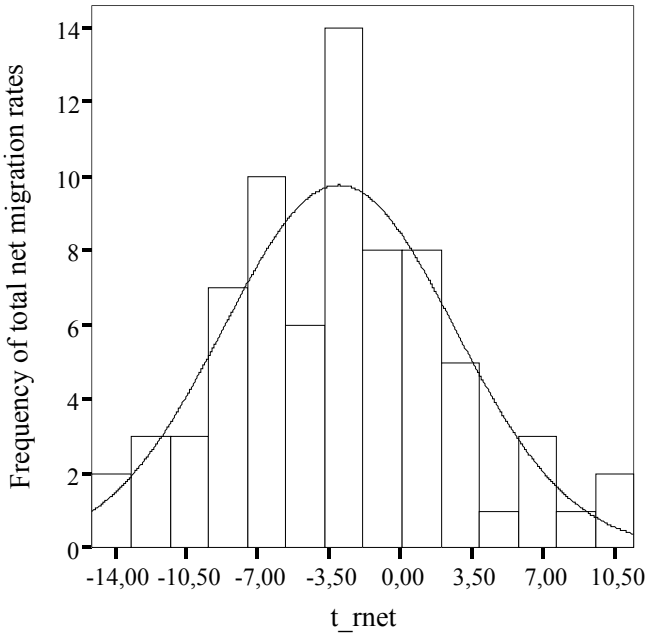


Figure 6: Histogram of Total Net Migration Rates

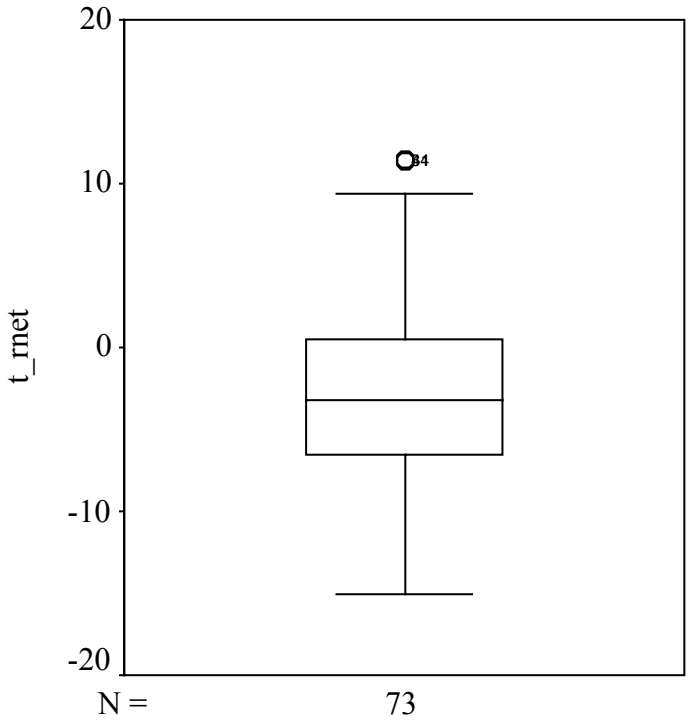


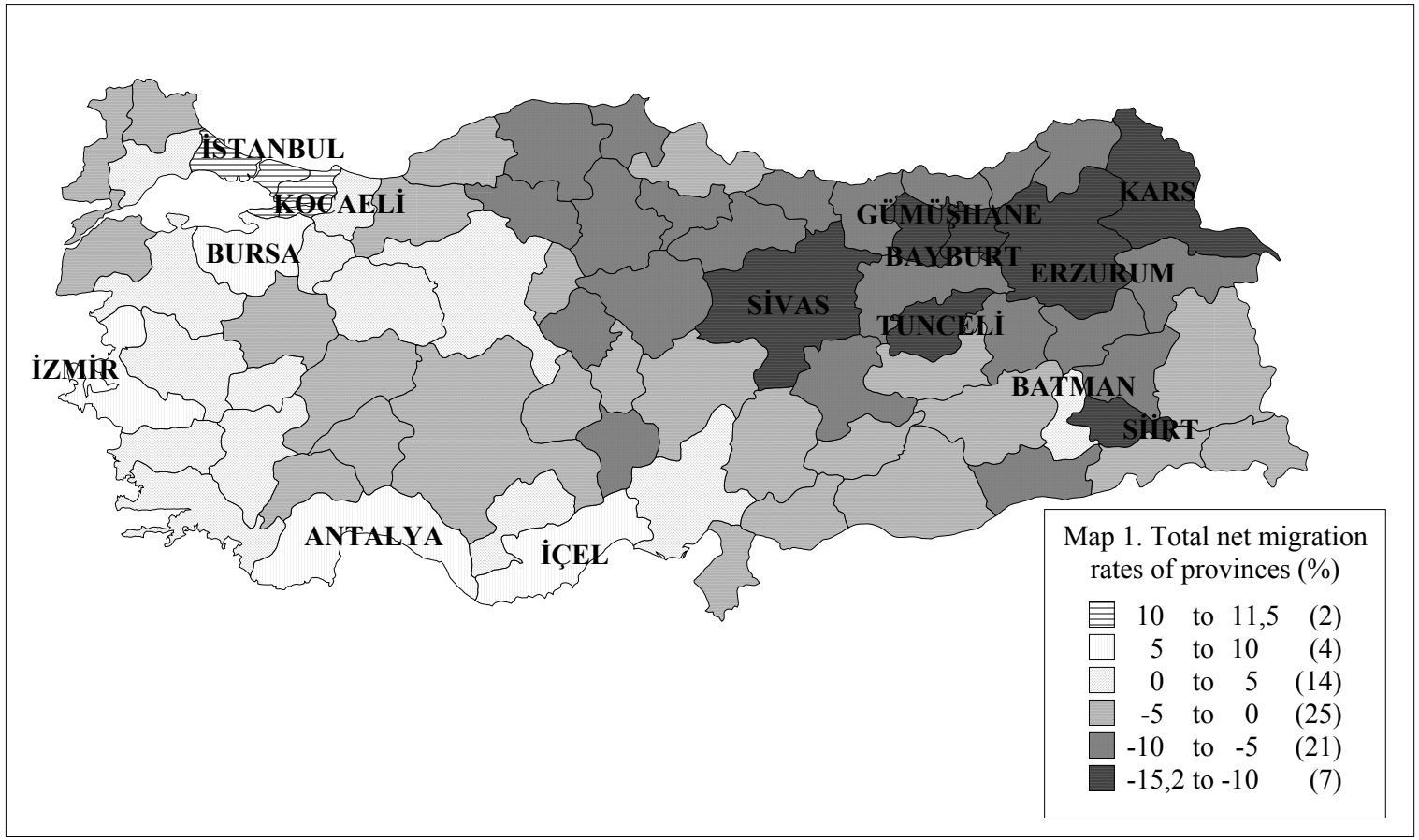
Figure 7: Boxplot of Total Net Migration Rates

The spatial distribution of the total net migration rates of provinces clearly indicates the west-east and south-north regional disparity (see Map 1). It indicates that except four provinces namely, Batman in Southeastern Anatolia, and Ankara, Eskişehir and Karaman in Central Anatolia, the provinces with total net in-migration are all located in Marmara, Aegean and Mediterranean regions. These provinces are located along the coastal zones, and/or to a lower degree next to these coastal zones mainly due to the intensive industrial or tourism activities and good agricultural land. On the other hand, the provinces located in the Northeastern and Eastern Anatolia regions like Kars, Tunceli, Siirt, Gümüşhane and Erzurum have the largest net out-migration rates (See Table 13). This fact is largely due to the topography, distance from internal and international markets, unstable political situation, and lack of educated, skilled labor force.

Table 13. Total net migration rates of provinces (%)

No.	Name	Value
41	KOCAELİ	11,44
34	İSTANBUL	11,38
7	ANTALYA	9,39
33	İÇEL	7,07
35	İZMİR	6,59
16	BURSA	6,36
59	TEKİRDAĞ	4,78
48	MUĞLA	3,35
9	AYDIN	2,75
6	ANKARA	2,53
45	MANİSA	2,09
11	BİLECİK	1,98
1	ADANA	1,61
20	DENİZLİ	1,55
72	BATMAN	1,40
26	ESKİŞEHİR	1,13
54	SAKARYA	1,05
10	BALIKESİR	0,54
70	KARAMAN	0,48
64	UŞAK	0,22
27	GAZİANTEP	-0,05
31	HATAY	-0,41
17	ÇANAKKALE	-0,52
68	AKSARAY	-0,82
43	KÜTAHYA	-0,87
14	BOLU	-0,93
32	ISPARTA	-1,68
42	KONYA	-1,70
38	KAYSERİ	-1,87
39	KIRKLARELİ	-2,05
22	EDİRNE	-2,10
73	ŞIRNAK	-2,44
71	KIRIKKALE	-2,74
55	SAMSUN	-2,86
67	ZONGULDAK	-2,90
63	ŞANLIURFA	-2,95
30	HAKKARİ	-3,24
21	DİYARBAKIR	-3,42

15	BURDUR	-3,61
2	ADIYAMAN	-3,68
3	AFYON	-3,70
65	VAN	-3,72
50	NEVŞEHİR	-4,02
46	KAHRAMANMARAS	-4,07
23	ELAZIĞ	-4,49
44	MALATYA	-5,28
52	ORDU	-5,31
51	NİĞDE	-5,41
19	ÇORUM	-5,68
5	AMASYA	-5,80
18	ÇANKIRI	-5,92
66	YOZGAT	-6,23
37	KASTAMONU	-6,40
60	TOKAT	-6,53
61	TRABZON	-6,56
47	MARDİN	-6,78
13	BİTLİS	-6,93
28	GİRESUN	-7,13
40	KIRŞEHİR	-7,72
53	RİZE	-8,06
12	BİNGÖL	-8,41
57	SİNOP	-8,49
24	ERZİNCAN	-8,91
4	AĞRI	-9,10
8	ARTVİN	-9,40
49	MUŞ	-9,56
58	SİVAS	-10,05
25	ERZURUM	-10,71
69	BAYBURT	-12,48
29	GÜMÜŞHANE	-12,67
56	SİİRT	-13,15
62	TUNCELİ	-14,28
36	KARS	-15,12



Map 1: Total net migration rates of provinces

5.2. NET MIGRATION TO/FROM THREE TYPES OF SETTLEMENTS

When the net migration of provinces according to three settlement types are examined, out of 73 provinces, number of district centers (60) and villages (59) with net out-migration are nearly equal whereas the respective number is less for the province centers (45) (see Tables 14-15). For example in data file 3, as 62% of province centers have net out-migration, this is much higher for the district centers (85%) and villages (83%). In other words, the numbers of province centers having net in-migration rates (n=28) are more than double than those of district centers and villages (n=11-12). For example, in data file 3, while 38% of province centers have net in-migration, this percentage decreases to only 15-17% for district centers and villages (see Tables 14-15).

Table 14. The number of provinces with positive and negative net migration rates for the three settlement types: three data files

Data file 1[1]	a_rnet[4] (n=73)	b_rnet[5] (n=73)	c_rnet[6] (n=73)
positive (+)	28	12	14
negative (-)	45	61	59
Data file 2[2]	(n=73)	(n=72)	(n=72)
positive (+)	28	12	13
negative (-)	45	60	59
Data file 3[3]	(n=73)	(n=71)	(n=71)
positive (+)	28	11	12
negative (-)	45	60	59

Notes: (1) Net migration rates of province centers, district centers and villages of 73 provinces are used; (2) Numbers of net migration of district centers and villages of İstanbul are added to that of its province center; (3) Numbers of net migration of district centes and villges of İstanbul and Kocaeli are added to that of thir province centers; (4) Province centers; (5) District centers; (6) Villages

As stated above, among the 73 province centers, only 28 (38%) of them have net in-migration. Furthermore, 76% (1,000,930) of the total net in-migration is directed to only the five (18%) largest province centers of İstanbul, Ankara, İzmir, Bursa and Adana (see Figure 8; Map 2). Their net migration rates are also among the largest (see Table 16). On the other hand, the rest of the 23 (82%) province centers receive only 24% (314,162) of the total net in-migration. Thus, we can see that the distribution of net migration among province centers is very uneven.

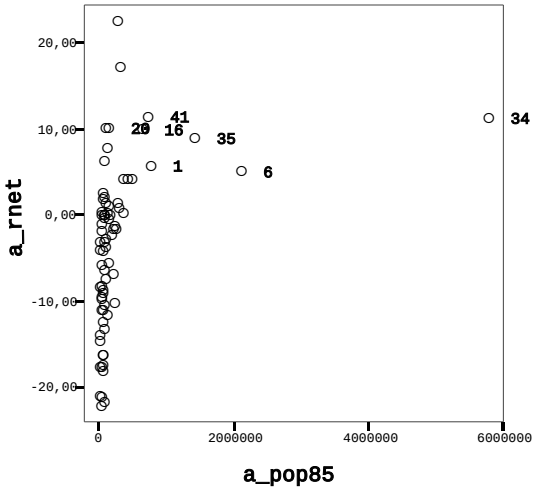


Figure 8: Permanent resident population (1985) versus net migration rate (1985-90) of the province centers

Note: (1) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers. Then, their province center's net migration rates are recalculated.

Table 15: Provinces with positive and negative net migration rates

Province centers		District centers		Villages	
Positive net migration	Negative net migration	Positive net migration	Negative net migration	Positive net migration	Negative net migration
ANTALYA	AKSARAY	TEKİRDAĞ	HAKKARİ	İZMİR	MANİSA
İÇEL	EDİRNE	BİLECİK	HATAY	İÇEL	BALIKESİR
KOCAELİ	SAKARYA	BURSA	KÜTAHYA	TEKİRDA	ADANA
İSTANBUL	ÇANAKKALE	ANTALYA	AKSARAY	MUĞLA	DENİZLİ
BATMAN	ŞANLIURFA	MUĞLA	İZMİR	ANTALYA	KIRKLAREL
DENİZLİ	MALATYA	AYDIN	BURDUR	AYDIN	BOLU
BURSA	K.MARAŞ	MANİSA	KIRKLAREL	SAKARYA	AKSARAY
İZMİR	BURDUR	SAKARYA	BOLU	KARAMA	ZONGULDA
MANİSA	ELAZIĞ	İÇEL	AFYON	HATAY	UŞAK
UŞAK	ÇORUM	BALIKESİR	ESKİŞEHİR	ÇANAKK	NEVŞEHİR
ADANA	ADIYAMAN	ŞIRNAK	ISPARTA	BURSA	ANKARA
ANKARA	HAKKARİ		ZONGULDA	BİLECİK	EDİRNE
ESKİŞEHİR	HATAY		ÇANAKKAL		KÜTAHYA
GAZİANTEP	BİLECİK		KARAMAN		ÇANKIRI
KONYA	KIRŞEHİR		DENİZLİ		ISPARTA
TEKİRDAĞ	TRABZON		KAYSERİ		SAMSUN
AYDIN	NEVŞEHİR		ADANA		NİĞDE
KARAMAN	AFYON		ADIYAMAN		ŞANLIURFA
KÜTAHYA	SİVAS		EDİRNE		BATMAN
SAMSUN	ORDU		KONYA		KASTAMON
BALIKESİR	KIRKLARELİ		ŞANLIURFA		ERZİNCAN
DİYARBAKI	ŞIRNAK		AMASYA		DİYARBAKI
MUĞLA	SİİRT		BİTLİS		ELAZIĞ
KAYSERİ	GİRESUN		GAZİANTEP		GAZİANTEP
VAN	ÇANKIRI		MARDİN		TRABZON
BOLU	BİNGÖL		YOZGAT		K.MARAŞ
KIRIKKALE	ERZURUM		ORDU		KAYSERİ
ISPARTA	TOKAT		TOKAT		ORDU
	KASTAMONU		NEVŞEHİR		KONYA
	NİĞDE		UŞAK		KIRIKKALE
	ZONGULDAK		VAN		MALATYA
	AMASYA		RİZE		YOZGAT
	ERZİNCAN		SAMSUN		ADIYAMAN
	SİNOP		K.MARAŞ		VAN
	TUNCELİ		GİRESUN		ŞIRNAK
	AĞRI		KIRIKKALE		AMASYA
	MARDİN		ÇORUM		AFYON
	YOZGAT		DİYARBAKI		HAKKARİ
	ARTVİN		NİĞDE		RİZE
	BİTLİS		ANKARA		TOKAT
	RİZE		BATMAN		MARDİN
	GÜMÜŞHANE		ÇANKIRI		ÇORUM
	MUŞ		AĞRI		SİNOP
	KARS		KASTAMON		BİTLİS
	BAYBURT		ELAZIĞ		BAYBURT

MUŞ	ESKİŞEHİR
BİNGÖL	ARTVİN
SİNOP	GİRESUN
TRABZON	KIRŞEHİR
KIRŞEHİR	BURDUR
ARTVİN	MUŞ
GÜMÜŞHA	AĞRI
MALATYA	BİNGÖL
ERZİNCAN	SİVAS
ERZURUM	ERZURUM
SİVAS	GÜMÜŞHAN
BAYBURT	KARS
SİİRT	TUNCELİ
TUNCELİ	SİİRT
KARS	

Table 16: Provincial net migration rates: in terms of province centers, district centers and villages (%)

a_rnet[2]			b_rnet[3]			c_rnet[4]		
No.	Name	Value	No.	Name	Value	No.	Name	Value
n=73			n=71			n=71		
7	ANTALYA	22,67	59	TEKİRDAĞ	8,22	35	İZMİR	4,99
33	İÇEL	17,23	11	BİLECİK	6,82	33	İÇEL	3,20
41	KOCAELİ	11,44	16	BURSA	6,63	59	TEKİRDAĞ	3,06
34	İSTANBUL	11,38	7	ANTALYA	6,56	48	MUĞLA	2,66
72	BATMAN	10,19	48	MUĞLA	5,94	7	ANTALYA	2,33
20	DENİZLİ	10,09	9	AYDIN	5,00	9	AYDIN	1,55
16	BURSA	9,98	45	MANİSA	2,99	54	SAKARYA	1,31
35	İZMİR	8,91	54	SAKARYA	2,52	70	KARAMAN	0,59
45	MANİSA	7,74	33	İÇEL	2,05	31	HATAY	0,58
64	UŞAK	6,29	10	BALIKESIR	1,32	17	ÇANAKKALE	0,52
1	ADANA	5,70	73	ŞIRNAK	0,88	16	BURSA	0,23
6	ANKARA	5,08	30	HAKKARİ	-0,60	11	BİLECİK	0,11
26	ESKİŞEHİR	4,30	31	HATAY	-0,68	45	MANİSA	-0,01
27	GAZİANTEP	4,25	43	KÜTAHYA	-0,71	10	BALIKESİR	-0,07
42	KONYA	4,22	68	AKSARAY	-0,93	1	ADANA	-0,11
59	TEKİRDAĞ	2,56	35	İZMİR	-1,11	20	DENİZLİ	-0,22
9	AYDIN	2,02	15	BURDUR	-1,28	39	KIRKLARELİ	-0,75
70	KARAMAN	1,90	39	KIRKLARELİ	-1,31	14	BOLU	-0,94
43	KÜTAHYA	1,46	14	BOLU	-1,32	68	AKSARAY	-1,20
55	SAMSUN	1,45	3	AFYON	-1,85	67	ZONGULDAK	-1,25
10	BALIKESİR	1,13	26	ESKİŞEHİR	-1,91	64	UŞAK	-1,29
21	DİYARBAKIR	0,84	32	ISPARTA	-2,37	50	NEVŞEHİR	-1,60
48	MUĞLA	0,32	67	ZONGULDAK	-2,59	6	ANKARA	-1,69
38	KAYSERİ	0,20	17	ÇANAKKALE	-2,82	22	EDİRNE	-1,73
65	VAN	0,19	70	KARAMAN	-3,41	43	KÜTAHYA	-1,77
14	BOLU	0,09	20	DENİZLİ	-3,59	18	ÇANKIRI	-2,14
71	KIRIKKALE	0,07	38	KAYSERİ	-3,94	32	ISPARTA	-2,19
32	ISPARTA	0,00	1	ADANA	-4,00	55	SAMSUN	-2,19
68	AKSARAY	-0,01	2	ADIYAMAN	-4,43	51	NIĞDE	-2,22
22	EDİRNE	-0,27	22	EDİRNE	-4,46	63	ŞANLIURFA	-2,24
54	SAKARYA	-0,53	42	KONYA	-4,89	72	BATMAN	-2,32
17	ÇANAKKALE	-1,03	63	ŞANLIURFA	-5,64	37	KASTAMONU	-2,39
63	ŞANLIURFA	-1,23	5	AMASYA	-5,87	24	ERZİNCAN	-2,46
44	MALATYA	-1,60	13	BİTLİS	-5,97	21	DİYARBAKIR	-2,84
46	K.MARAŞ	-1,65	27	GAZİANTEP	-6,33	23	ELAZIĞ	-2,85
15	BURDUR	-1,87	47	MARDİN	-7,09	27	GAZİANTEP	-2,91

23	ELAZIĞ	-2,35	66	YOZGAT	-8,13	61	TRABZON	-2,92
19	ÇORUM	-2,78	52	ORDU	-8,30	46	K.MARAŞ	-3,06
2	ADIYAMAN	-3,09	60	TOKAT	-8,69	38	KAYSERİ	-3,17
30	HAKKARİ	-3,16	50	NEVŞEHİR	-8,97	52	ORDU	-3,29
31	HATAY	-3,69	64	UŞAK	-9,01	42	KONYA	-3,31
11	BİLECİK	-4,01	65	VAN	-9,38	71	KIRIKKALE	-3,31
40	KIRŞEHİR	-4,11	53	RİZE	-9,46	44	MALATYA	-3,45
61	TRABZON	-5,58	55	SAMSUN	-9,52	66	YOZGAT	-3,46
50	NEVŞEHİR	-5,90	46	K.MARAŞ	-9,58	2	ADIYAMAN	-3,58
3	AFYON	-6,29	28	GİRESUN	-9,59	65	VAN	-3,58
58	SİVAS	-6,89	71	KIRIKKALE	-10,04	73	ŞIRNAK	-3,69
52	ORDU	-7,43	19	ÇORUM	-10,48	5	AMASYA	-3,74
39	KIRKLARELİ	-8,14	21	DİYARBAKIR	-10,88	3	AFYON	-3,97
73	ŞIRNAK	-8,42	51	NİĞDE	-11,44	30	HAKKARİ	-4,11
56	SİİRT	-8,66	6	ANKARA	-11,54	53	RİZE	-4,25
28	GİRESUN	-9,12	72	BATMAN	-11,64	60	TOKAT	-4,48
18	ÇANKIRI	-9,53	18	ÇANKIRI	-12,35	47	MARDİN	-4,53
12	BİNGÖL	-9,78	4	AĞRI	-12,71	19	ÇORUM	-4,60
25	ERZURUM	-10,20	37	KASTAMONU	-13,88	57	SİNOP	-4,64
60	TOKAT	-10,39	23	ELAZIG	-13,95	13	BİTLİS	-4,78
37	KASTAMONU	-11,11	49	MUŞ	-15,13	69	BAYBURT	-4,79
51	NİĞDE	-11,13	12	BİNGÖL	-15,14	26	ESKİŞEHİR	-4,97
67	ZONGULDAK	-11,61	57	SİNOP	-15,96	8	ARTVİN	-5,08
5	AMASYA	-12,39	61	TRABZON	-16,40	28	GİRESUN	-5,23
24	ERZİNCAN	-13,17	40	KIRŞEHİR	-17,10	40	KIRŞEHİR	-5,38
57	SİNOP	-13,93	8	ARTVİN	-17,35	15	BURDUR	-5,50
62	TUNCELİ	-14,63	29	GÜMÜŞHANE	-18,49	49	MUŞ	-5,51
4	AĞRI	-16,21	44	MALATYA	-18,81	4	AĞRI	-6,03
47	MARDİN	-16,22	24	ERZİNCAN	-19,19	12	BİNGÖL	-6,10
66	YOZGAT	-17,52	25	ERZURUM	-19,62	58	SİVAS	-6,74
8	ARTVİN	-17,55	58	SİVAS	-21,36	25	ERZURUM	-7,21
13	BİTLİS	-17,68	69	BAYBURT	-22,68	29	GÜMÜŞHANE	-8,30
53	RİZE	-18,21	56	SİİRT	-26,01	36	KARS	-8,81
29	GÜMÜŞHANE	-20,99	62	TUNCELİ	-26,20	62	TUNCELİ	-9,50
49	MUŞ	-21,14	36	KARS	-28,26	56	SİİRT	-10,33
36	KARS	-21,62						
69	BAYBURT	-22,21						

Notes: (1) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers; (2) Province centers; (3) District centers; (4) Villages.

Most of "province centers" in the West Turkey have positive net migration rates. The metropolitan areas and the province centers close to them like Adana, İstanbul, İzmir, İçel, Kocaeli, Denizli, Bursa and Manisa have large net in-migration rates. However, in the Western half of the country, there are some province centers with net out-migration, i.e., Çanakkale, Edirne, Kırklareli (in Thrace and Marmara) and Burdur and Afyon (in West Anatolia).

In contrast to West Turkey, many province centers in the East Turkey have net out-migration rates. Among these provinces, Bayburt, Kars, Gümüşhane which are located in the North East Turkey have the largest net out-migration rates (see Table 16 and Map 2). On the other hand, in the South East Turkey, there are four province centers namely, Batman, Gaziantep, Diyarbakır and Van that have net in-migration rates. This fact may largely be due to the South Eastern Anatolia Project, (e.g. in Batman and Diyarbakır), establishing of universities (e.g. in Diyarbakır and Van), and indigenous industrial development (e.g. in Gaziantep).

As for the "district centers", there are only 11 provinces (15%) that have net in-migration rates. These are similar to the case for the province centers and they are located in Marmara region, along the Meditarrenean and to a lesser degree Aegean sea coast (see Table 16 and Map 3). Especially the district centers along the southern coastline of Turkey (e.g. in Antalya, Muğla, Aydın and İçel provinces) have the highest net in-migration rates due to the tourism and agricultural activities. Other district centers that have net in-migration (e.g. in Tekirdağ, Bilecik, Bursa, Manisa, Sakarya and Balıkesir provinces) are extension of the main metropolitan areas of İstanbul, İzmir.

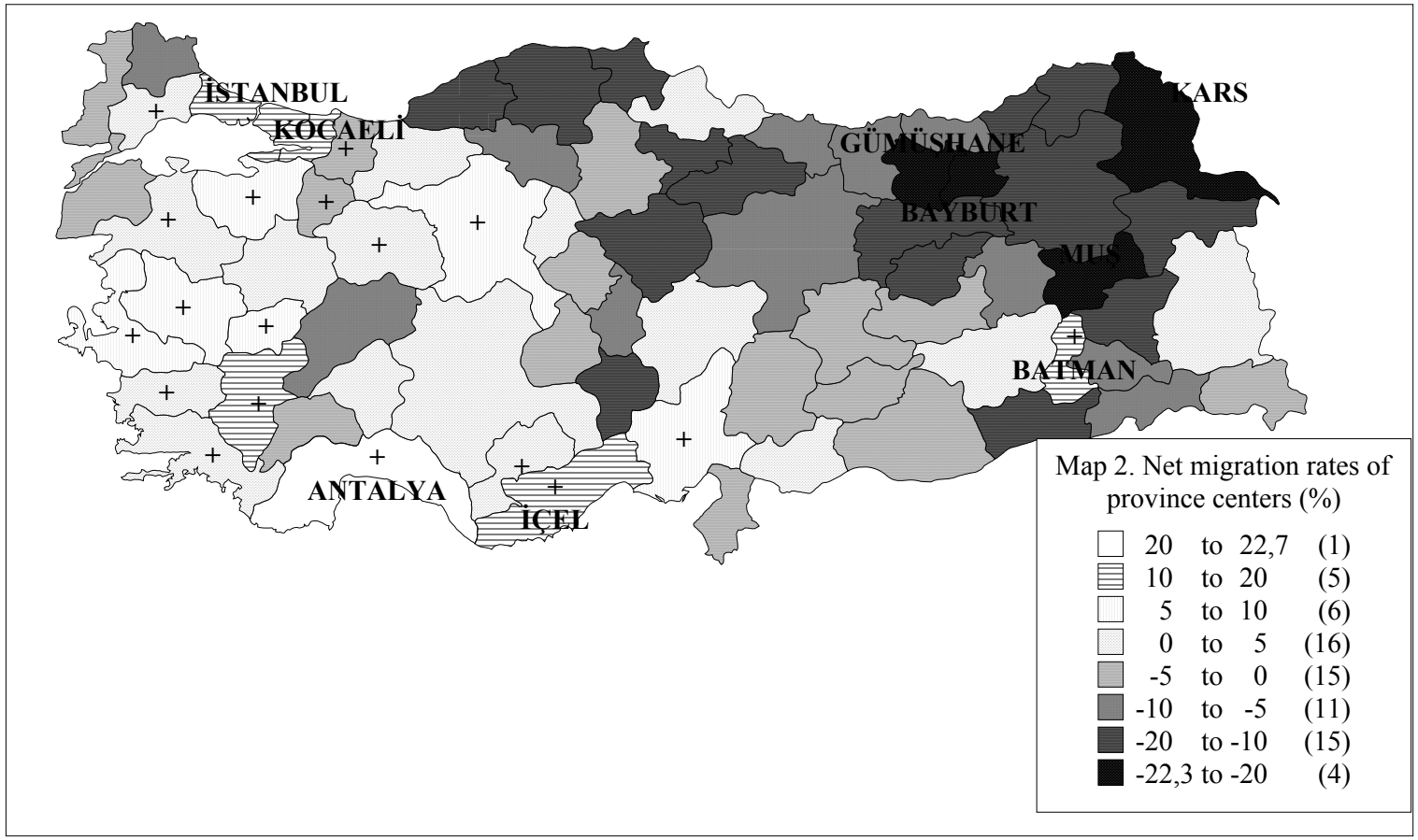
Nonetheless, district centers of the other provinces in the West Turkey have net out-migration. When the Eastern part of Turkey is considered, except the district centers of Şırnak, the other provinces have very large net out-migration rates. Among these provinces in the East and North East Turkey, Kars (-28,26), Tunceli (-26,20%), Siirt (-26,01%), Bayburt (-22,68%), Sivas (-21,36%) have the highest

net out-migration rates which are followed by the provinces along Black Sea and east of Central Turkey (see Table 16; Map 3).

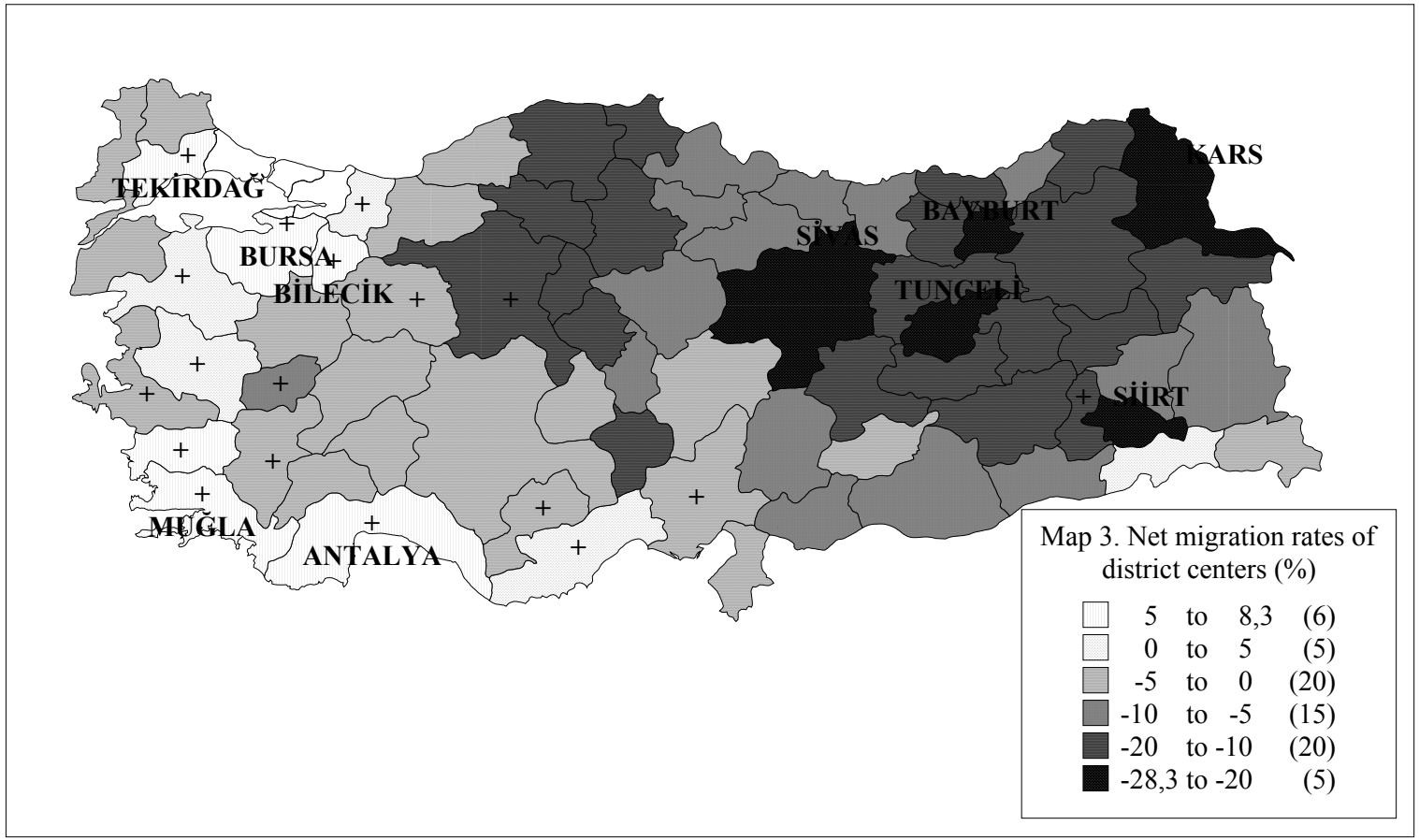
The pattern of the net migration rates of the "villages" is very similar to that of district centers. There are only 12 provinces (17%) whose villages have net in-migration rates (see Map 4). These villages are located along the coastal zones of Turkey (except Black Sea), namely, İzmir, İçel, Tekirdağ, Muğla, Antalya and Aydın[8]. In the East Turkey, all provinces have net out-migration such as the villages of Siirt, Tunceli, Kars, Gümüşhane, Erzurum (see Table 16; Map 4).

In summary, about 73% of provinces and 62% of the province centers and as high as 83-85% of district centers and villages are losing migrants. The spatial pattern of the net migration rates of all three settlement types is very clear. Almost all provinces except those in the Western part of the country are losing migrants in all three types of settlements. For example, the provinces which have the highest net in-migration rates for each of three settlement type, except Batman, are located along the West Sea coast such as İçel, Antalya, Muğla, Aydın, Bursa, Kocaeli, İstanbul and Tekirdağ. However, the provinces which have the largest net out-migration rates for all three setlement types are located in the East, North East and South East regions such as Kars, Bayburt, Gümüşhane, Muş, Tunceli, Sivas and Siirt (see Table 16).

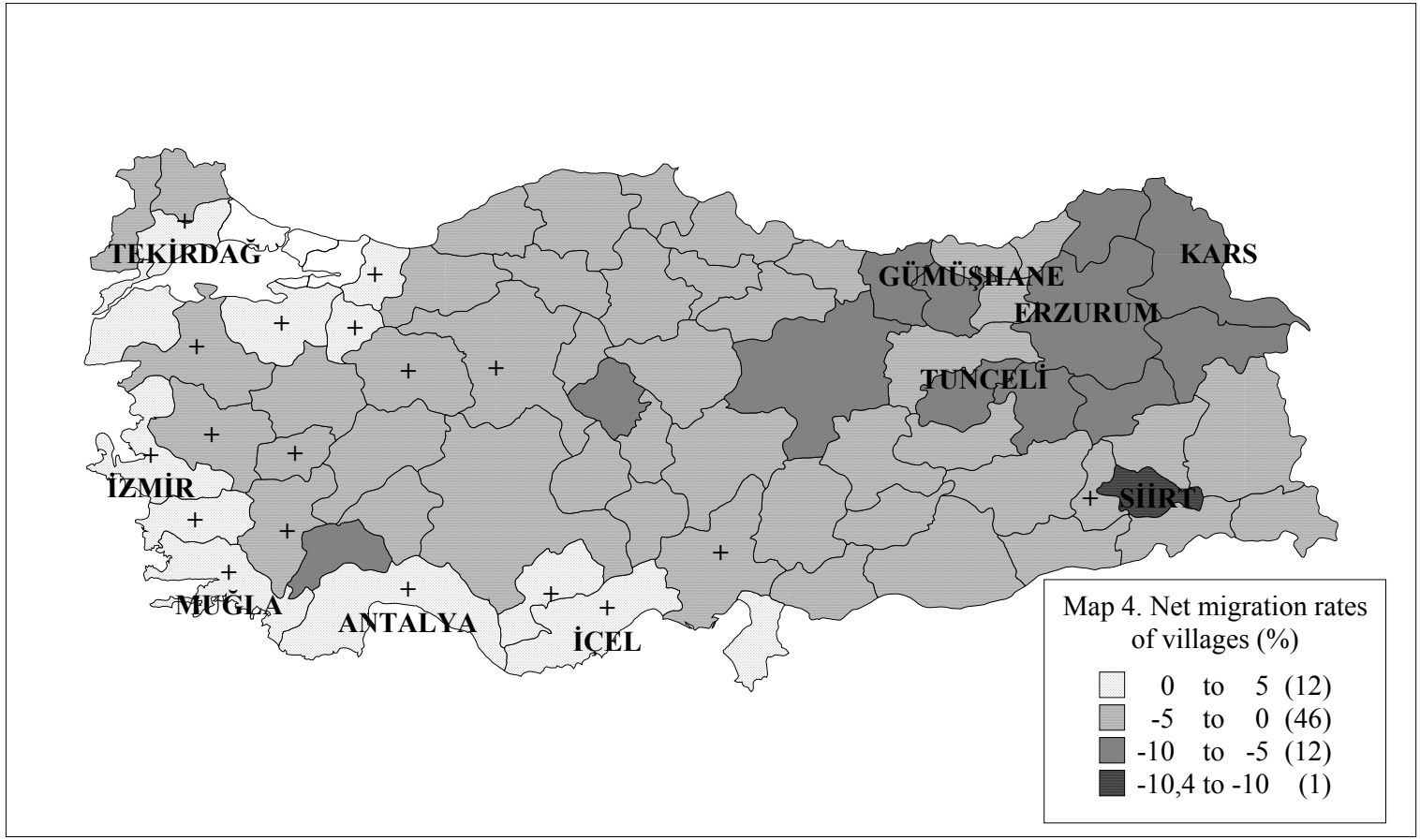
Furthermore, while the net migration rates of province centers indicate the most heterogeneous distribution, villages shows the most homogenous distribution among the provinces (see Map 2; Map 4). Spatial distribution of the net migration rates of district centers is similar to that of villages such that more than 80% of the provinces have net out-migration except the 11-12 provinces along the sea coast of Marmara, Aegean and Meditarrenean.



Map 2: Net migration rates of the province centers (Data file 3)
Notes: (+) indicates the provinces with total net in-migration.



Map 3: Net migration rates of the district centers (Data file 3)
Notes: (+) indicates the provinces with total net in-migration.



Map 4: Net migration rates of the villages (Data file 3)
Notes: (+) indicates the provinces with total net in-migration.

5.3. TYPOLOGY OF PROVINCES ACCORDING TO THE TOTAL NET MIGRATION, AND NET MIGRATION TO/FROM THE THREE TYPES OF SETTLEMENTS

In this section, firstly, the provinces with total net in- and out-migration are studied in terms of three settlement types. Then, the eight main types which are obtained from grouping these provinces, will be discussed.

As previously stated, among 73 provinces, only 20 provinces have total net in-migration (see Map 1). When the provinces are examined in terms of the three settlement types, we see that only about one-third, i.e., only 6 (8 when İstanbul and Kocaeli are included) out of 20 provinces have positive net migration for "all" three types of settlements (type 1, Tables 17 and 19): Antalya, Aydın, Bursa, İçel, (İstanbul), (Kocaeli), Muğla, Tekirdağ.

It is interesting to note that 90%, i.e., almost all (18 out of these 20) provinces with total net in-migration (except Bilecik and Sakarya) have positive net migration also in their "province centers": Adana, Ankara, Antalya, Aydın, Balıkesir, Bursa, Denizli, Eskişehir, İçel, İstanbul, İzmir, Kocaeli, Manisa, Muğla, Tekirdağ, Uşak, Karaman, Batman (type 1-3 and 5, Tables 17 and 19). However, only half of them, i.e. 10 provinces, have positive net migration either in their district centers and/or villages (type 1-3, Tables 17 and 19). These provinces are: for district centers, Antalya, Aydın, Balıkesir, Bilecik, Bursa, İçel, Manisa, Muğla, Sakarya, Tekirdağ; and for villages, Antalya, Aydın, Bilecik, Bursa, İçel, İzmir, Muğla, Sakarya, Tekirdağ, Karaman (see Map 5; Tables 17 and 19).

Among 53 provinces with total net out-migration, 81% of the provinces have net out-migration in their province centers. On the other hand, among these provinces with total net out-migration, all provinces except the three (Şırnak, Çanakkale and Hatay), i.e., 94% have net out-migration in their district centers and villages (see Map 5; Tables 18 and 19).

We can group the provinces into eight possible types. While the groups 1 to 4 include the provinces with total net in-migration, group 6 to 8 include the provinces with total net out-migration. However, group 5 includes both the provinces with total net in- or net out-migration: out of 16 provinces, 6 have total positive net migration; 10 have total negative net migration. Among these eight types, three main types are the dominant categories, i.e., categories 8, 5 and 1 (see Map 5, Table 19).

Table17: Provinces with total net in-migration (Data file 3[1])

Province	a_rnet[2]	b_rnet[3]	c_rnet[4]	Category no.
ADANA	+	-	-	5
ANKARA	+	-	-	5
ANTALYA	+	+	+	1
AYDIN	+	+	+	1
BALIKESİR	+	+	-	2
BİLECİK	-	+	+	4
BURSA	+	+	+	1
DENİZLİ	+	-	-	5
ESKİŞEHİR	+	-	-	5
İÇEL	+	+	+	1
İSTANBUL	+			
İZMİR	+	-	+	3
KOCAELİ	+			
MANİSA	+	+	-	2
MUĞLA	+	+	+	1
SAKARYA	-	+	+	4
TEKİRDAĞ	+	+	+	1
UŞAK	+	-	-	5
KARAMAN	+	-	+	3
BATMAN	+	-	-	5

Source: Map 5

Notes: (1) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers; (2) Province centers; (3) District centers; (4) Villages.

Table 18: Provinces with total net out-migration (Data file 3[1])

Province	a_rnet[2]	b_rnet[3]	c_rnet[4]	Category no.
ADIYAMAN	-	-	-	8
AFYON	-	-	-	8
AĞRI	-	-	-	8
AMASYA	-	-	-	8
ARTVİN	-	-	-	8
BİNGÖL	-	-	-	8
BİTLİS	-	-	-	8
BOLU	+	-	-	5
BURDUR	-	-	-	8
ÇANAKKALE	-	-	+	6
ÇANKIRI	-	-	-	8
ÇORUM	-	-	-	8
DİYARBAKIR	+	-	-	5
EDİRNE	-	-	-	8
ELAZIĞ	-	-	-	8
ERZİNCAN	-	-	-	8
ERZURUM	-	-	-	8
GAZİANTEP	+	-	-	5
GİRESUN	-	-	-	8
GÜMÜŞHANE	-	-	-	8
HAKKARİ	-	-	-	8
HATAY	-	-	+	6
ISPARTA	+	-	-	5
KARS	-	-	-	8
KASTAMONU	-	-	-	8
KAYSERİ	+	-	-	5
KIRKLARELİ	-	-	-	8
KIRŞEHİR	-	-	-	8
KONYA	+	-	-	5
KÜTAHYA	+	-	-	5
MALATYA	-	-	-	8
KAHRAMANMARAŞ	-	-	-	8
MARDİN	-	-	-	8
MUŞ	-	-	-	8
NEVŞEHİR	-	-	-	8
NİĞDE	-	-	-	8
ORDU	-	-	-	8

RİZE	-	-	-	8
SAMSUN	+	-	-	5
SİİRT	-	-	-	8
SİNOP	-	-	-	8
SİVAS	-	-	-	8
TOKAT	-	-	-	8
TRABZON	-	-	-	8
TUNCELİ	-	-	-	8
ŞANLIURFA	-	-	-	8
VAN	+	-	-	5
YOZGAT	-	-	-	8
ZONGULDAK	-	-	-	8
AKSARAY	-	-	-	8
BAYBURT	-	-	-	8
KIRIKKALE	+	-	-	5
ŞIRNAK	-	+	-	7

Source: Map 5
Notes: (1) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers; (2) Province centers; (3) District centers; (4) Villages.

The first largest type of provinces is type 8 and it includes 40 provinces (55%) with negative net migration in all three settlement types (see Map 5, Tables 18-19). In other words, more than half of all provinces lose in all three types of net migrants. These first largest type of provinces are largely located in the Black Sea region and the East, Northeast Turkey while two provinces are in the Central Turkey (Afyon and Burdur) and two provinces in the border provinces of Thrace (Edirne, Kırklareli).

The second largest group of provinces is type 5 with 16 provinces (22%) (see Map 5, Tables 17-19). These provinces lose migrants both in their district centers and villages; but gain migrants in their province centers. While only one-third (6 provinces)[9] of these provinces have total net in-migration, two-thirds (10 provinces) have total net out-migration. Most of them are located in the Central

Table 19. Typology of Provinces according to three types of net migration (Data file 3[1])

Type	Number of provinces	Names of provinces	Prov. center	Distr. center	Village	No. of provinces with total net in-migration
1	6 (+2)* (8,2%)	Antalya, Aydın, Bursa, İçel, Muğla, Tekirdağ (İstanbul, Kocaeli)	+	+	+	6 (8)
2	2 (2,7%)	Manisa, Balıkesir	+	+	-	2
3	2 (2,7%)	İzmir, Karaman	+	-	+	2
4	2 (2,7%)	Bilecik, Sakarya	-	+	+	2
5	16** (21,9%)	……..	+	-	-	6
6	2 (2,7%)	Çanakkale, Hatay	-	-	+	0
7	1 (1,4%)	Şırnak	-	+	-	0
8	40*** (54,8%)	…….	-	-	-	0
Total	73 (100%)					20

Source: Map 5

Notes: * When İstanbul and Kocaeli are included, type 1 has 8 provinces totally. When numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers, type 1 has 6 provinces.

**Adana, Ankara, Denizli, Eskişehir, Uşak, Batman, Bolu, Diyarbakır, Gaziantep, Isparta, Kayseri, Konya, Kütahya, Samsun, Van, Kırıkkale

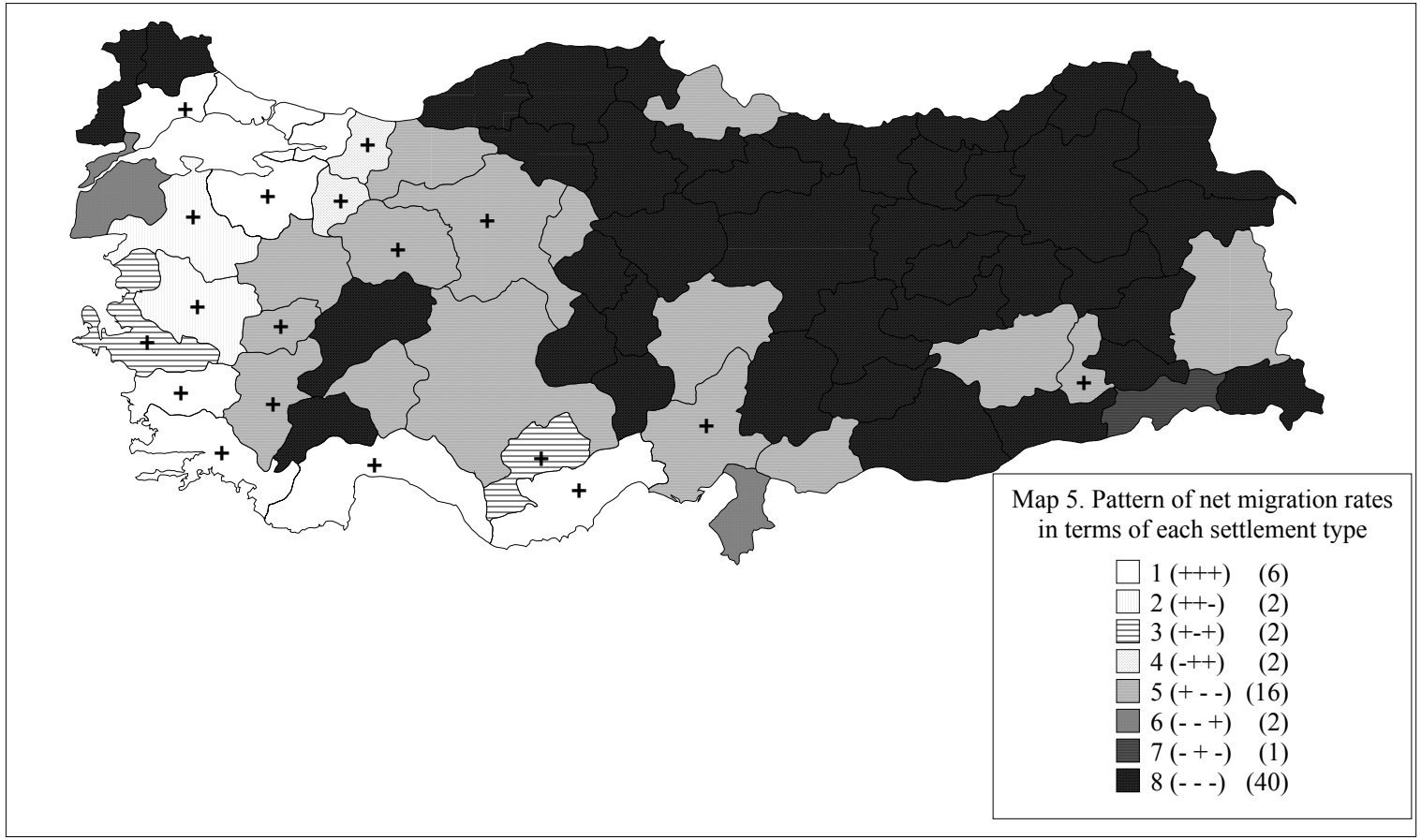
*** Adıyaman, Afyon, Ağrı, Amasya, Artvin, Bingöl, Bitlis, Burdur, Çankırı, Çorum, Edirne, Elazığ, Erzincan, Erzurum, Giresun, Gümüşhane, Hakkari, Kars, Kastamonu, Kırklareli, Kırşehir, Malatya, Kahramanmaraş, Mardin, Muş, Nevşehir, Niğde, Ordu, Rize, Siirt, Sinop, Sivas, Tokat, Trabzon, Tunceli, Şanlıurfa, Yozgat, Zonguldak, Aksaray, Bayburt.

Turkey and east of Aegean region, such as Ankara, Kayseri, Konya, Uşak, Denizli. Few provinces are in the Southeast Turkey (Van, Gaziantep, Diyarbakır) and only one province is in the Black Sea (Samsun) (see Map 5).

Third largest type is type 1 with 6 provinces (8%, or 11%) if İstanbul and Kocaeli are included) (see Map 5, Tables 17, 19). They gain in all three types of net migration which is opposite to the case for type 8 where the provinces lose in all three types. These provinces are located along the Marmara, Aegean and Mediterranean Sea: Tekirdağ, Bursa, Aydın, Muğla, Antalya, İçel (see Map 5).

Other categories have 1 or 2 provinces. For example, types 2 and 3, next to the type 1, have total net in-migration; and gain in their province centers, but lose either in district centers or villages (see Map 5, Tables 17, 19). These two types 2 and 3 which include four provinces, namely Balıkesir, Manisa, İzmir and Karaman are adjacent to the six provinces of type 1.

In summary, we can see three main regions. (1) East and Black Sea (mostly type 8) i.e., east of the diagonal line where more than half of the provinces are located. Provinces of this region lose migrants in all three types of settlements except four provinces namely, Samsun, Van, Diyarbakır and Gaziantep. (2) Central Turkey, (type 5 and 8) where the provinces gain only in province centers, but lose both in the district centers and villages; or lose in all three settlement types. (3) Western sea coast (type 1 to 3) along Marmara, Aegean and Mediterranean Sea. In this region, besides the province centers, either district centers and/or villages gain net migrants (see Table 19 and Map 5).



Map 5: Category of provinces according to total net migration and net migration rates to/from each settlement type
Notes: (+) indicates the provinces with total net in-migration.

5.4. ASSOCIATION BETWEEN NET MIGRATION RATES AND PERMANENT RESIDENT POPULATION

The correlation between the net migration rate of province centers, district centers, villages and their permanent resident population in 1985 are significant at 0,05 level; but coefficient of determination ranges between 0,084 and 0,197 (see Table 20).

Table 20. The correlation between permanent resident population in 1985 and net migration rates of different settlement types

	R	α	R^2	Adj. R^2
Datafile 1[1]				
pop_85 versus tot_rnet	0,488	0,000	0,238	0,228
a_pop85 versus a_rnet	0,346	0,003	0,120	0,107
b_pop85 versus b_rnet	0,326	0,005	0,106	0,093
c_pop85 versus c_rnet	0,140	0,239	0,019	0,006
Datafile 2[2]				
a_pop85 versus a_rnet	0,344	0,003	0,118	0,106
b_pop85 versus b_rnet	0,341	0,003	0,116	0,103
c_pop85 versus c_rnet	0,241	0,041	0,058	0,045
Datafile 3[3]				
pop_85 versus tot_rnet	0,443	0,000	0,197	0,185
a_pop85 versus a_rnet	0,352	0,002	0,124	0,112
b_pop85 versus b_rnet	(0,328)	(0,005)	(0,107)	(0,094)
c_pop85 versus c_rnet	(0,289)	(0,015)	(0,084)	(0,070)

Notes: (1) Net migration rates of province centers, district centers and villages of 73 provinces are used; (2) Numbers of net migration of district centers and villages of İstanbul are added to that of its province center; (3) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers. (4) As this correlation test does not have much relevance to district centers and villages[10], they are in parantheses.

As the permanent resident population in 1985 has a skewed distribution, when the logarithms are used, correlation increases and the coefficient of determination ranges between 0,093 and 0,41 (see Table 21). The largest value of 0,41 is observed for the net migration rates of province centers.

Table 21. The correlation between permanent resident population in 1985 and net migration rates of different settlement types

	R	α	R^2	Adj. R^2
Datafile 1[1]				
logpop_85 versus tot_rnet	0,509	0,000	0,259	0,249
a_logpop85 versus a_rnet	0,622	0,000	0,387	0,378
b_logpop85 versus b_rnet	0,354	0,002	0,125	0,113
c_logpop85 versus c_rnet	0,180	0,128	0,032	0,019
Datafile 2[3]				
logpop_85 versus tot_rnet	0,445	0,000	0,198	0,187
a_logpop85 versus a_rnet	0,624	0,000	0,390	0,381
b_logpop85 versus b_rnet	0,375	0,001	0,140	0,128
c_logpop85 versus c_rnet	0,271	0,021	0,074	0,060
Datafile 3[3]				
logpop_85 versus tot_rnet	0,448	0,000	0,200	0,189
a_logpop85 versus a_rnet	0,637	0,000	0,406	0,397
b_logpop85 versus b_rnet	0,360	0,002	0,130	0,117
c_logpop85 versus c_rnet	0,305	0,010	0,093	0,080

Notes: (1) Net migration rates of province centers, district centers and villages of 73 provinces are used; (2) Numbers of net migration of district centers and villages of İstanbul are added to that of its province center; (3) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers.

Subsequently, correlation between net migration in numbers and rates are examined. While the total net migrants are highly correlated with the net migrants of province centers (0,87) and villages (0,85), this value decreases (0.63) for district centers (see Table 22). In other words, number of net migrants to province centers and villages account more than 75% of variation in total net migration of the provinces.

When the total net migration to provinces is disaggregated as net in- and out-migration, the pattern is more clear. For example, net migrants of province centers is highly correlated (0,92) with total net in-migrants. On the other hand, the correlation between the net migrants of both district centers (0,92) and villages (0,90) is very high with total net out-migration of the provinces (see Table 22). Briefly, correlation (0,92) is highest for province centers for those provinces with positive net migration; and highest for the district centers (0,92) and villages (0,90) for those provinces with negative net migration (see Table 22). In other words, more than 80% of the variation of total net in- and out-migration of the provinces is accounted by the variation in the net migration to province centers, district centers and villages, respectively.

Table 22: Correlation between the total net migrants of provinces and the numbers of net migrants of each settlement type (Data file 3[1])

	Total net mig.	Total net mig.>0	Total net mig.<0
a_netmig	0,87	0,92	0,64
	α<0,0005	α<0,0005	α<0,0005
b_netmig	0,63	-0,03	0,92
	α<0,0005	α=0,912	α<0,0005
c_netmig	0,85	0,67	0,90
	α<0,0005	α= 0,002	α<0,0005

Notes: (1) a: province center; b: district center; c: village (2) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers. (3) If İstanbul and Kocaeli are included

Similar relationships are also observed when rates, rather than numbers are analyzed (see Table 23). However, the pattern in the correlation coefficients are less distinct. The correlation coefficients between the total net out-migration rates are higher than those for the total net in-migration: such as 0,78 versus 0,69; 0,89 versus 0,48; and 0,85 versus 0,63. Like the analysis with the "number" of net migrants, correlation is highest for "province centers" (and to a lesser degree for the villages) for those provinces with positive net migration rates. When provinces with total negative net migration are considered, the highest correlation is observed for district centers and villages (see Table 23).

Table 23: Correlation between the total net migration rates of provinces and the net migration rates of each settlement type (Data file 3[1])

	Total net mig.	Total net mig.>0	Total net mig.<0
a_rnet	0,87	0,69	0,78
	α<0,0005	α=0,002	α<0,0005
b_rnet	0,86	0,48	0,89
	α<0,0005	α=0,043	α<0,0005
c_rnet	0,89	0,63	0,85
	α<0,0005	α= 0,005	α<0,0005

Notes: (1) a: province center; b: district center; c: village (2) Numbers of net migration of district centers and villages of İstanbul and Kocaeli are added to that of their province centers.

The relation between the total net migration rates and the net migration rates of each settlement type can also be seen from the Figures 9-11. The provinces with "total net in-migration" rates mainly stem from the "province centers" with net in-

migration rates. Conversely, the provinces with "total net out- migration" rates is largely due to the "district centers and villages" with net out-migration rates (see Figure 9-11).

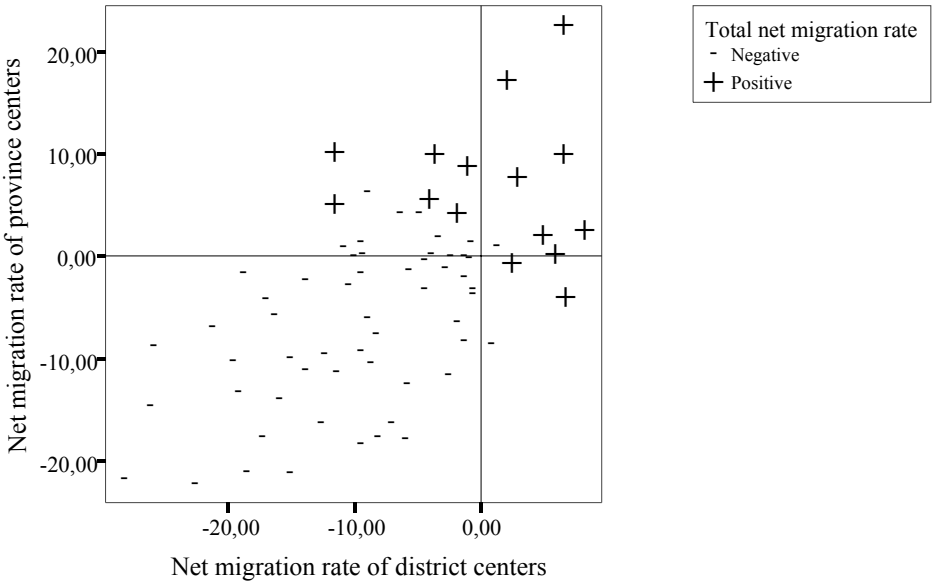


Figure 9: Net migration rates of province and district centers in terms of total net migration rates (Data file 3)

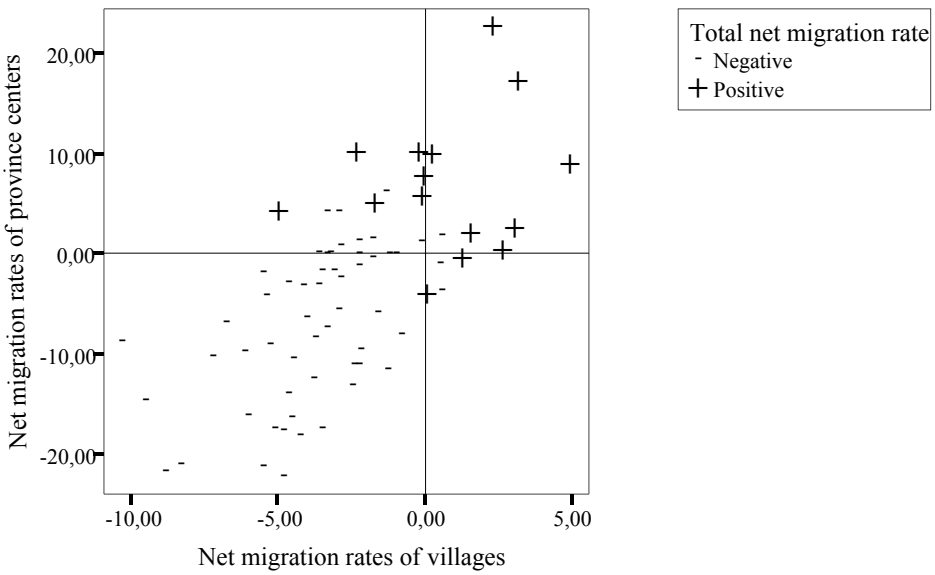


Figure 10: Net migration rates of province centers and villages in terms of total net migration rates (Data file 3)

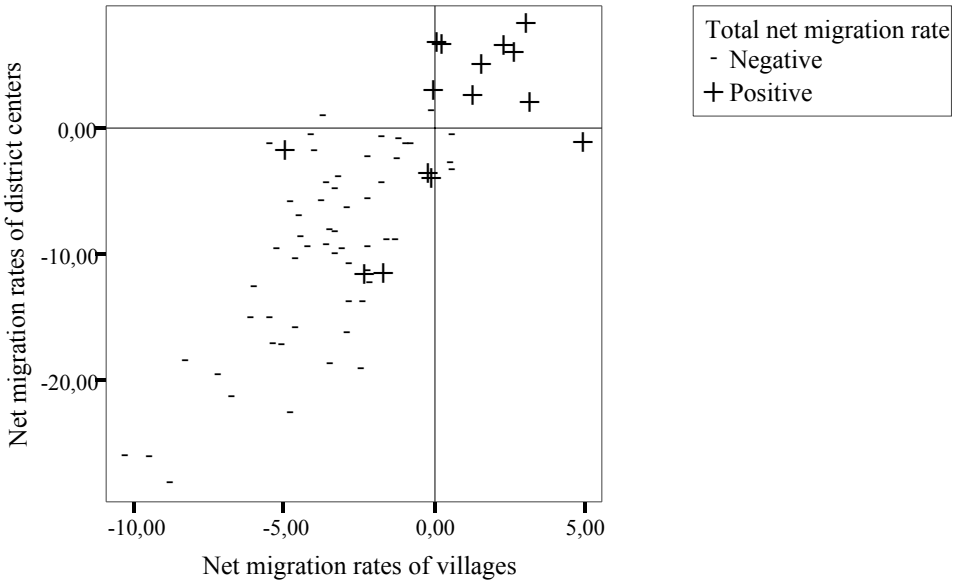


Figure 11: Net migration rates of district centers and villages in terms of total net migration rates (Data file 3)

When we examine the largest net migration to/from the three settlement types which makes up the total net migration, we observe the following. 12-14 (60-70%) of the 20 provinces with total net in-migration, have the largest numbers[11] and rates[12] of net in-migration to their province centers[13], respectively (see Tables 16 and 24). These provinces are located in the West of Turkey, except the two provinces namely, Karaman and Batman which are located in the Central and Southeastern Anatolia region respectively.

On the other hand, only (30%) 6 out of 20 provinces have the largest net migration rates[14] and numbers[15] of net migrants for their district centers (see Table 16). There is no province who has the largest net migration rate for its villages. However, there is only 2 out of 20 provinces (10%) which have highest number of net migrants for their villages, namely, Muğla and Sakarya (see Table 24). The district centers and villages which have the highest number and rates of net migration are all located in the West of Turkey.

Table 24: Number of net migrants in provinces in terms of three settlement types

il_adi	a_netmig	il_adi	b_netmig	il_adi	c_netmig
ISTANBUL	558829	KOCAELI	47123	ISTANBUL	137339
IZMIR	127148	BURSA	18014	KOCAELI	32997
ANKARA	107894	AYDIN	11479	IZMIR	22855
BURSA	64736	MANISA	11205	ICEL	13191
ANTALYA	61595	ANTALYA	10821	ANTALYA	10383
ICEL	54848	TEKIRDAG	10805	MUGLA	8503
ADANA	43913	MUGLA	7406	AYDIN	5722
GAZIANTEP	21306	ICEL	6710	TEKIRDAG	5435
KONYA	18230	BILECIK	3700	SAKARYA	4404
DENIZLI	16152	BALIKESIR	3525	HATAY	2874
ESKISEHIR	15413	SAKARYA	2798	CANAKKALE	1286
BATMAN	11603	SIRNAK	705	BURSA	920
MANISA	9804	HAKKARI	-164	KARAMAN	592
USAK	5797	AKSARAY	-450	BILECIK	87
SAMSUN	3964	KUTAHYA	-742	MANISA	-61
KOCAELI	3170	BURDUR	-853	BALIKESIR	-354
DIYARBAKIR	2604	KARAMAN	-955	ADANA	-550
AYDIN	1930	KIRKLARELI	-1117	DENIZLI	-849
BALIKESIR	1688	ESKISEHIR	-1163	KIRKLARELI	-1071
KUTAHYA	1677	BOLU	-1682	USAK	-1753
TEKIRDAG	1673	BAYBURT	-2111	AKSARAY	-1933
KARAMAN	1303	ISPARTA	-2370	NEVSEHIR	-2526
KAYSERI	749	HATAY	-2466	BOLU	-2856
VAN	260	CANAKKALE	-2851	BATMAN	-2936
KIRIKKALE	117	USAK	-3467	BAYBURT	-2973
MUGLA	110	AFYON	-3544	KIRIKKALE	-3151
BOLU	45	IZMIR	-3728	EDIRNE	-3152
ISPARTA	4	EDIRNE	-4114	CANKIRI	-3269
AKSARAY	-5	DENIZLI	-4722	HAKKARI	-3507
EDIRNE	-223	BATMAN	-4740	ERZINCAN	-3566
CANAKKALE	-473	ADIYAMAN	-4990	SIRNAK	-4043
BILECIK	-765	NEVSEHIR	-5186	ISPARTA	-4106
HAKKARI	-798	NIGDE	-5235	NIGDE	-4198
SAKARYA	-832	BITLIS	-5680	KUTAHYA	-5537
BURDUR	-921	KIRIKKALE	-5778	ELAZIG	-5764
SIRNAK	-1826	AMASYA	-6062	ANKARA	-6004
ADIYAMAN	-2923	BINGOL	-6623	KASTAMONU	-6210
NEVSEHIR	-2983	KAYSERI	-6805	KIRSEHIR	-6578
KIRSEHIR	-3013	GUMUSHANE	-6820	AMASYA	-6873
S.URFA	-3031	ZONGULDAK	-7318	BURDUR	-7042
CORUM	-3128	CANKIRI	-7852	ARTVIN	-7157
KIRKLARELI	-3316	RIZE	-8255	ZONGULDAK	-7590
K.MARAS	-3503	TUNCELI	-8476	BITLIS	-7621
SINOP	-3950	ARTVIN	-9208	ESKISEHIR	-7732
TUNCELI	-3993	MUS	-9465	TUNCELI	-7861
ARTVIN	-4004	VAN	-9507	SINOP	-7902

BINGOL	-4067	KIRSEHIR	-10047	GAZIANTEP	-8304
MALATYA	-4115	ERZINCAN	-10588	RIZE	-8693
CANKIRI	-4379	SINOP	-10713	S.URFA	-8963
HATAY	-4389	ELAZIG	-10889	GUMUSHANE	-8978
ELAZIG	-4469	YOZGAT	-12655	BINGOL	-9223
SIIRT	-5559	AGRI	-12719	ADIYAMAN	-9456
AFYON	-5990	SIIRT	-12907	KAYSERI	-9941
KASTAMONU	-6055	MARDIN	-13001	MALATYA	-10281
GIRESUN	-6160	GAZIANTEP	-13475	VAN	-11531
NIGDE	-6424	KASTAMONU	-14513	YOZGAT	-11769
GUMUSHANE	-6506	GIRESUN	-14608	DIYARBAKIR	-12048
AMASYA	-6967	S.URFA	-14809	MARDIN	-12282
BITLIS	-7174	CORUM	-15140	SAMSUN	-12670
ORDU	-7753	ADANA	-16278	SIIRT	-12848
TRABZON	-7933	K.MARAS	-16784	MUS	-13095
TOKAT	-8672	TOKAT	-19417	TRABZON	-13363
BAYBURT	-8713	ORDU	-19882	K.MARAS	-13660
AGRI	-9430	MALATYA	-20807	GIRESUN	-14056
MARDIN	-9465	KONYA	-21207	AGRI	-15159
YOZGAT	-10074	SAMSUN	-22493	ORDU	-15249
MUS	-11265	DIYARBAKIR	-22766	CORUM	-15624
ERZINCAN	-11413	TRABZON	-30194	AFYON	-16234
RIZE	-11769	ANKARA	-32270	TOKAT	-17634
ZONGULDAK	-14448	ERZURUM	-34817	KONYA	-24202
SIVAS	-14884	SIVAS	-36305	SIVAS	-25259
KARS	-19549	ISTANBUL	-38929	ERZURUM	-30227
ERZURUM	-23242	KARS	-46803	KARS	-38663

As a summary, firstly, while only about 20, i.e., one-third of the total number provinces (27%) gain migrants, more than two-third of them (73%) lose migrants. The statistics of total net migration rates of provinces indicate that on the average, the provinces of Turkey had net out-migration rate of -3,03% during 1985-90 period. West-east, south-north regional disparity can clearly be seen from the pattern of total net migration rates of provinces.

Secondly, when the net migration of provinces according to three settlement types are examined, while as high as 83% and 85% of provinces lose migrants in their district centers and villages, 62% of provinces lose migrants in their province centers. In other words, 28% of provinces gain migrants in their province centers while only 15% and 17% gain migrants in their district centers and villages. The net migration rates of province centers indicate a heterogeneous distribution whereas, relatively speaking, the district centers and especially the villages indicate homogenous distribution. Spatial pattern was very distinct while the provinces settled along the West coastal zones gained net migration, the provinces located especially in the Northeast and East Anatolia regions lost total net out-migration.

Only 6 (8 when İstanbul and Kocaeli are included) provinces have positive and 40 (55%) provinces have negative net migration for all three types of settlements. Among 53 provinces with total net out-migration, 81% of the provinces have net out-migration in their province centers and 94% of them have net out-migration in their district centers or villages. The provinces are categorized into 8 types out of which three main types are largely located in the East and Black Sea region, Central region, Western sea coast.

The net migration for the total and for each settlement type are highly correlated with each other. The provinces with total net in-migration mainly stem from the province centers with net in-migration. Conversely, the provinces with total net

out-migration rates is largely due to the district centers and villages with net out-migration.

CHAPTER 6

CONCLUSIONS AND POLICY IMPLICATIONS

The findings of this study about the net migration trends of three settlement types in Turkey is similar to the findings of the Gedik's study (1998) for Turkey as a whole. In her study, it is observed that the district centers began to have net out-migration in significantly increasing numbers since 1975-80 period because net in-migration from the villages decreased and net out-migration to the province centers increased. According to both Gedik's study and this study, it is predicted that similar to villages, the district centers will experince depopulation in the near future.

These findings are consistent with the theory of step migration which is one of the aspects of Ravenstein's laws. According to this theory, a migration system is comprised of a series of moves, which may be rural-rural, rural to small town, small town to large city or large city to metropolis. In Turkey, during 1985-90, among these migration flows, the largest move is from the small towns (district centers) to the large cities.

The increase in the step migration flow from district centers to province centers (towns to cities) and loss of the importance of the towns gradually especially after 1990's occurred not only in Turkey but also in the other countries such as China, Poland, Romania, South Africa, Finland, India, etc. It is clear that this fact and all other migration patterns and intensities have been affected from the economic cycles and the macro policy changes of a country.

For instance, during 1975-80 period, due to the economic stagnation in Turkey, the urban to rural and city to town migration increased and the villages had net in-migration. Therefore, if there is a high economic growth, cities will grow but the small towns will lose population. However, if there is a slow economic development, cities do not receive migration gain and small town areas and the countryside do not suffer from the migration loss.

An example of the macro policy changes can be the abrogation of the restrictive laws in Romania. The law of restricting the people's settlement in large cities in Romania also caused step migration. According to the law, large cities had been closed to people searching for permanent residence during the communist period. When this law was abrogated during the end of 1980's, the large cities gained population by 15 percent in Romania. Another example of the policy changes is China's household registration system. From 1950's to 1980's, China's household registration system (hukou) was a major deterrent to rural-to-urban migration. As a result of this system, the urban areas could not attract many migrants from rural areas. However, in the early 1990's, with the transition to market economy, the hukou system began to lose its effectiveness. As a result, towns and rural areas became less attractive destinations whereas large cities pulled enormous numbers of migrants.

The net migration trends of Turkey during 1985-90 in terms of three different settlement types can form a basis for the policy development and implications of the country both in the national and regional level.

Among the three settlement types, "district" centers have the largest net out-migration rate which is nearly twice of the respective value for the province centers and villages. The "villages" of 73 provinces of Turkey during 1985-90 have relatively similar net migration rates and they are homogenously distributed among the provinces. On the other hand, the net migration rates of district centers

and especially of the province centers have much larger dispersion than the villages.

The province centers have the maximum (44,88) and the villages have the lowest range (15,32). The range of the district centers (36,48) is closer to the range of province centers. In the national scale, while the province centers have the largest net in-migration rate (22,67%), district centers have the largest net out-migration rate (-28,26%). This also supports the fact that the significance of the villages as the source of migrants decreased while that of district centers increased during 1985-90 period.

More than two-third (53) of the total number of provinces (73) lose net out-migrants; and only one-third of them had net in-migration. The provinces of Turkey had unweighted average net out-migration rate of -3,03% during 1985-90 period.

The total net migration rates of provinces clearly indicate the regional disparities between west-east and south-north of Turkey. While the provinces settled along the Western and Southern coastal zones and/or to a lower degree next to these coastal zones, have net in-migration, the provinces located in the Northeast and East Anatolia regions have net out-migration rates.

Furthermore, while 83% and 85% of provinces lose migrants in their district centers and villages, only 62% of provinces lose migrants in their province centers. The spatial pattern of the net migration rates of three settlement types is very clear and consistent with the above stated pattern for the provinces. For all of the three settlement types, the provinces having the highest net in-migration rates, except Batman are located along the coastal zones (except Black Sea). Whereas the provinces having the largest net out-migration rates are located in the East, North East and South East regions. This migration pattern again reflects the west/east and south/north differentiation of Turkey.

Among the eight possible types of provinces, three main types which are mainly located in the East and Black Sea region, Central region, Western sea coast respectively, are more dominant. The provinces in the East and Black Sea have net out-migration in all three settlement types. The provinces in the Central Turkey mostly have positive net migration only in their province centers. On the other hand, the provinces[16] along the western sea coast of Turkey have net in-migration in all three settlement types. It is as if villages, district centers and province centers in the East and Black Sea regions and to a lesser extent in the Central Turkey are all losing migrants to 28 province centers, and to district centers and villages in 11-12 provinces in the West Turkey. There is a clear pattern of successive hollowing-out of net migrants from East towards West Turkey. However, this is relatively lesser degree in the province centers.

Almost all provinces (18 out of 20 provinces) with total net in-migration have positive net migration in their province centers. On the other hand, among 53 provinces with total net out-migration, all provinces except the three have net out-migration both in their district centers and villages; and 43 of them (81%) have net out-migration in their province centers.

Likewise, according to the correlation analyses, the provinces with total net in-migration rates mainly stem from the province centers which receive net in-migrants. Conversely, the provinces with total net out-migration rates is largely due to the district centers and villages which lose net out-migrants.

These spatial inequalities may be reduced by different population distribution policies. One of them is the policy of "development from below" which was developed by Stöhr and Tödtling (1978). According to this theory, the spatial inequalities can be reduced by internal territorial integration and a greater degree of internal self-reliance with selective spatial closure (Stöhr and Taylor, 1981:1). "Development from below" considers development to be based primarily on maximum mobilization of each area's natural, human and institutional resources

with the aim of satisfaction of the basic needs of the inhabitants of that area. In order to serve the regions described as disadvantaged, development policies must be oriented directly towards the bottom of the settlement hierarchy. Development from below strategies are basic needs oriented, labor-intensive, small-scale, regional-resource-based, often rural-centered (Stöhr and Taylor, 1981:1).

Nonetheless, as migration is age and sex selective, especially the young male population in the less developed regions migrate to the more developed regions. Therefore, the less developed regions of East and Black Sea regions in Turkey lose their relatively more educated and motivated population in all three types of settlements. Furthermore, as the relative difference between origin and destination is important in migration, it is very difficult to implement the "development from below" policy due to the fact that the less developed regions lose their human capital. Furthermore, there would be need for huge investments in the origin areas which cover more than two-thirds of the national area. Therefore, this approach might be impossible to sustain.

Another approach which is the reduction of the East-West movement might be achieved by directing investments and development efforts to selected regional centers and streghtening already existing ones in the East and Black Sea regions.

Secondly, the reduction in the fertility rates of the less developed regions namely, East and Black Sea should be emphasized. In this way, the supply of the potential migrants would be decreased. Furthermore, as the per capita income and as the per capita infrastructure and services in these areas would become better, the regional differences between East and West Turkey and net migration from East to West Turkey would be reduced.

As explained before, the villages of Turkey have a relatively homogenuous distribution among provinces in terms of net migration rates. Thus, rural spatial planning which would also include the amalgamation of the villages can be

encouraged, etc. Furthermore, in order to reduce the net out-migration from the district centers, the relation between the district centers and the villages should be strengthened with the amalgamated villages.

Lastly, another policy could be based on accepting the fact that this existing migration trend is inevitable as it was the case in the countries in the Far East such as Japan and Korea. In this policy, concentration in the province centers and to certain regions with comparative advantage lead to efficiency and national economical growth. This national growth later provided the resources for the redistibution from the more developed to less developed regions by tax cuts, subsidies, and infrastructure and service investments. In this way, as the national development reached to high and mature level, the interregional differences such as the differences in per capita income, per capita infrastructure and services is reduced and the migration flows in these countries are stabilized. This is another policy which Turkey could follow. If it was successfully implemented, together with the reduced inter-regional fertility inequalities, the migration flows from the East and North to West and South regions would be reduced and stabilized.

ENDNOTES

1. In the analysis of Turkish data by Gedik (1996), migration between rural areas and between urban areas is not also negligible in size and they are even at least as large as or larger than the rural-to-urban migration. Moreover, the urban population is much more mobile than the rural population.

2. Source:[http://www.angliacampus.com/public/sec/geog/migrate/page13.htm]

3. In this case, people move in opposing flows largely for the same reasons and in effect cancel each other out.

4. The migration trends of the United States have been examined by Plane, Henrie and Perry (2002) from 1995-96 to 1999-2000. In their recent work, they have tried to find the changing and complex geographic patterns of migration within USA's national urban system. According to Elliot and Perry (1996 in Plane et al, 2002: 22), considerable attention has been paid to an emerging group of smaller city and their immediate environs which are called "micropolitan areas." According to their findings, at the top of the hierarchy, there are many people choosing to move from the 10 "mega" metropolitan areas to areas down the hierarchy. At the same time, however, smaller "big cities" had net in-migration. At the bottom end of the hierarchy, non-CBSA counties and Micropolitan areas had net migration gains. "…the decade of 1990's appears to have been like the 1970's, a time of greatly improved economic prospects for smaller settlements" (Plane et al, 2002:22). However, this trend is not uniform and it is particularly focused in the "…natural-amenity-favored regions and where certain industrial sectors such as manufacturing and mining are strong" (Plane et al, 2002:22).

5. Weighted mean rate of a settlement type equals to the ratio of total net migration to the total permanent resident population in 1985 of that

settlement type. Unweighted mean rate on the other hand equals to the ratio of sum of net migration rates to the number of provinces.

6. Skewness measures the symmetry of the sample distribution and kurtosis measures its peakedness. Both the ratio of kurtosis and skewness can be used as a test of normality and the normality is rejected when the ratio is less than -2 or greater than +2 (SPSS Base 10.0 Applications Guide, 1999: 27-28).

7. *Ibid.., 6.*

8. In West Turkey, unlike the fact that the district centers of Balıkesir and Manisa have net in-migration, their villages have net out-migration.

9. Adana, Ankara, Denizli, Eskişehir, Uşak and Batman.

10. This correlation test does not have much relevance to district centers and villages. Because, their permanent resident population in 1985 are in aggregate for each province.

11. Adana, Ankara, Antalya, Bursa, Denizli, Eskişehir, İçel, İstanbul, İzmir, Uşak, Karaman, Batman

12. Adana, Ankara, Antalya, Bursa, Denizli, Eskişehir, İçel, İstanbul, İzmir, Karaman, Kocaeli, Manisa, Uşak and Batman

13. While the net migration rates of the province centers for Kocaeli and Manisa are higher than their district centers, the numbers of net migrants for their district centers are higher.

14. These provinces are Aydın, Balıkesir, Bilecik, Muğla, Sakarya and Tekirdağ.

15. These provinces are Aydın, Balıkesir, Bilecik, Kocaeli, Manisa and Tekirdağ.

16. Among the 20 provinces with total net in-migration, only 6 (8 when İstanbul and Kocaeli are included) out of 20 provinces have positive net migration for all three types of settlements.

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APPENDIX A

DATA FILE 1

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	pop_85_t	tot_rate
1	ADANA	769756	43913	5,7	407329	-16278	-4	510096	-550	-0,11	1687181	1,61
2	ADIYAMAN	94449	-2923	-3,09	112651	-4990	-4,43	264281	-9456	-3,58	471381	-3,68
3	AFYON	95281	-5990	-6,29	191831	-3544	-1,85	409258	-16234	-3,97	696370	-3,7
4	AĞRI	58165	-9430	-16,21	100033	-12719	-12,71	251558	-15159	-6,03	409756	-9,1
5	AMASYA	56240	-6967	-12,39	103207	-6062	-5,87	183842	-6873	-3,74	343289	-5,8
6	ANKARA	2121829	107894	5,08	279661	-32270	-11,54	354847	-6004	-1,69	2756337	2,53
7	ANTALYA	271732	61595	22,67	164964	10821	6,56	444705	10383	2,33	881401	9,39
8	ARTVİN	22811	-4004	-17,55	53067	-9208	-17,35	140892	-7157	-5,08	216770	-9,4
9	AYDIN	95511	1930	2,02	229726	11479	5	370314	5722	1,55	695551	2,75
10	BALIKESİR	149843	1688	1,13	266723	3525	1,32	475929	-354	-0,07	892495	0,54
11	BİLECİK	19055	-765	-4,01	54255	3700	6,82	78994	87	0,11	152304	1,98
12	BİNGÖL	41604	-4067	-9,78	43753	-6623	-15,14	151318	-9223	-6,1	236675	-8,41
13	BİTLİS	40579	-7174	-17,68	95167	-5680	-5,97	159572	-7621	-4,78	295318	-6,93
14	BOLU	52457	45	0,09	127398	-1682	-1,32	305343	-2856	-0,94	485198	-0,93
15	BURDUR	49183	-921	-1,87	66808	-853	-1,28	127945	-7042	-5,5	243936	-3,61
16	BURSA	648885	64736	9,98	271677	18014	6,63	394961	920	0,23	1315523	6,36

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	pop_85_t	tot_rate
17	ÇANAKKALE	45752	-473	-1,03	100951	-2851	-2,82	245478	1286	0,52	392181	-0,52
18	ÇANKIRI	45947	-4379	-9,53	63574	-7852	-12,35	152514	-3269	-2,14	262035	-5,92
19	ÇORUM	112373	-3128	-2,78	144491	-15140	-10,48	339802	-15624	-4,6	596666	-5,68
20	DENİZLİ	160147	16152	10,09	131424	-4722	-3,59	390388	-849	-0,22	681959	1,55
21	DİYARBAKIR	310046	2604	0,84	209206	-22766	-10,88	423636	-12048	-2,84	942888	-3,42
22	EDİRNE	82132	-223	-0,27	92257	-4114	-4,46	182612	-3152	-1,73	357001	-2,1
23	ELAZIĞ	189903	-4469	-2,35	78035	-10889	-13,95	202059	-5764	-2,85	469997	-4,49
24	ERZİNCAN	86660	-11413	-13,17	55162	-10588	-19,19	145045	-3566	-2,46	286867	-8,91
25	ERZURUM	227810	-23242	-10,2	177501	-34817	-19,62	419046	-30227	-7,21	824357	-10,71
26	ESKİŞEHİR	358135	15413	4,3	60973	-1163	-1,91	155573	-7732	-4,97	574681	1,13
27	GAZİANTEP	500889	21306	4,25	212748	-13475	-6,33	285712	-8304	-2,91	999349	-0,05
28	GİRESUN	67543	-6160	-9,12	152287	-14608	-9,59	268676	-14056	-5,23	488506	-7,13
29	GÜMÜŞHANE	31000	-6506	-20,99	36879	-6820	-18,49	108137	-8978	-8,3	176016	-12,67
30	HAKKARİ	25283	-798	-3,16	27376	-164	-0,6	85403	-3507	-4,11	138062	-3,24
31	HATAY	119019	-4389	-3,69	361794	-2466	-0,68	497139	2874	0,58	977952	-0,41
32	ISPARTA	97834	4	0	99930	-2370	-2,37	187721	-4106	-2,19	385485	-1,68
33	İÇEL	318283	54848	17,23	326530	6710	2,05	411722	13191	3,2	1056535	7,07
34	İSTANBUL	5277918	558829	10,59	194519	-38929	-20,01	303711	137339	45,22	5776148	11,38
35	İZMİR	1427289	127148	8,91	334385	-3728	-1,11	458366	22855	4,99	2220040	6,59
36	KARS	90407	-19549	-21,62	165615	-46803	-28,26	438651	-38663	-8,81	694673	-15,12
37	KASTAMONU	54494	-6055	-11,11	104556	-14513	-13,88	259422	-6210	-2,39	418472	-6,4
38	KAYSERİ	370849	749	0,2	172607	-6805	-3,94	313395	-9941	-3,17	856851	-1,87
39	KIRKLARELİ	40752	-3316	-8,14	85193	-1117	-1,31	142833	-1071	-0,75	268778	-2,05
40	KIRŞEHİR	73289	-3013	-4,11	58740	-10047	-17,1	122186	-6578	-5,38	254215	-7,72
41	KOCAELİ	230149	3170	1,38	229500	47123	20,53	268107	32997	12,31	727756	11,44
42	KONYA	432009	18230	4,22	433996	-21207	-4,89	730805	-24202	-3,31	1596810	-1,7
43	KÜTAHYA	114683	1677	1,46	104395	-742	-0,71	312506	-5537	-1,77	531584	-0,87
44	MALATYA	257809	-4115	-1,6	110624	-20807	-18,81	298140	-10281	-3,45	666573	-5,28

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	pop_85_t	tot_rate
45	MANİSA	126701	9804	7,74	374915	11205	2,99	502822	-61	-0,01	1004438	2,09
46	K.MARAS	212220	-3503	-1,65	175174	-16784	-9,58	446553	-13660	-3,06	833947	-4,07
47	MARDİN	58357	-9465	-16,22	183366	-13001	-7,09	270873	-12282	-4,53	512596	-6,78
48	MUĞLA	34180	110	0,32	124695	7406	5,94	319668	8503	2,66	478543	3,35
49	MUŞ	53289	-11265	-21,14	62562	-9465	-15,13	237787	-13095	-5,51	353638	-9,56
50	NEVŞEHİR	50518	-2983	-5,9	57790	-5186	-8,97	157918	-2526	-1,6	266226	-4,02
51	NİĞDE	57709	-6424	-11,13	45772	-5235	-11,44	189365	-4198	-2,22	292846	-5,41
52	ORDU	104383	-7753	-7,43	239442	-19882	-8,3	463823	-15249	-3,29	807648	-5,31
53	RİZE	64615	-11769	-18,21	87225	-8255	-9,46	204591	-8693	-4,25	356431	-8,06
54	SAKARYA	157319	-832	-0,53	111230	2798	2,52	335278	4404	1,31	603827	1,05
55	SAMSUN	274174	3964	1,45	236359	-22493	-9,52	579617	-12670	-2,19	1090150	-2,86
56	SİİRT	64200	-5559	-8,66	49617	-12907	-26,01	124330	-12848	-10,33	238147	-13,15
57	SİNOP	28359	-3950	-13,93	67133	-10713	-15,96	170217	-7902	-4,64	265709	-8,49
58	SİVAS	216070	-14884	-6,89	169984	-36305	-21,36	374572	-25259	-6,74	760626	-10,05
59	TEKİRDAĞ	65386	1673	2,56	131476	10805	8,22	177735	5435	3,06	374597	4,78
60	TOKAT	83466	-8672	-10,39	223426	-19417	-8,69	393744	-17634	-4,48	700636	-6,53
61	TRABZON	142228	-7933	-5,58	184091	-30194	-16,4	458080	-13363	-2,92	784399	-6,56
62	TUNCELİ	27293	-3993	-14,63	32353	-8476	-26,2	82711	-7861	-9,5	142357	-14,28
63	ŞANLIURFA	245481	-3031	-1,23	262508	-14809	-5,64	400140	-8963	-2,24	908129	-2,95
64	UŞAK	92222	5797	6,29	38485	-3467	-9,01	135891	-1753	-1,29	266598	0,22
65	VAN	135486	260	0,19	101340	-9507	-9,38	321918	-11531	-3,58	558744	-3,72
66	YOZGAT	57491	-10074	-17,52	155721	-12655	-8,13	340554	-11769	-3,46	553766	-6,23
67	ZONGULDAK	124424	-14448	-11,61	282323	-7318	-2,59	605861	-7590	-1,25	1012608	-2,9
68	AKSARAY	83327	-5	-0,01	48226	-450	-0,93	161416	-1933	-1,2	292969	-0,82
69	BAYBURT	39229	-8713	-22,21	9306	-2111	-22,68	62050	-2973	-4,79	110585	-12,48
70	KARAMAN	68705	1303	1,9	27995	-955	-3,41	99802	592	0,59	196502	0,48
71	KIRIKKALE	169287	117	0,07	57554	-5778	-10,04	95321	-3151	-3,31	322162	-2,74
72	BATMAN	113815	11603	10,19	40739	-4740	-11,64	126713	-2936	-2,32	281267	1,4
73	ŞIRNAK	21690	-1826	-8,42	80310	705	0,88	109598	-4043	-3,69	211598	-2,44

DATA FILE 2

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	tot_rate	pop_85_t
1	ADANA	769756	43913	5,7	407329	-16278	-4	510096	-550	-0,11	1,61	1687181
2	ADIYAMAN	94449	-2923	-3,09	112651	-4990	-4,43	264281	-9456	-3,58	-3,68	471381
3	AFYON	95281	-5990	-6,29	191831	-3544	-1,85	409258	-16234	-3,97	-3,7	696370
4	AĞRI	58165	-9430	-16,21	100033	-12719	-12,71	251558	-15159	-6,03	-9,1	409756
5	AMASYA	56240	-6967	-12,39	103207	-6062	-5,87	183842	-6873	-3,74	-5,8	343289
6	ANKARA	2121829	107894	5,08	279661	-32270	-11,54	354847	-6004	-1,69	2,53	2756337
7	ANTALYA	271732	61595	22,67	164964	10821	6,56	444705	10383	2,33	9,39	881401
8	ARTVİN	22811	-4004	-17,55	53067	-9208	-17,35	140892	-7157	-5,08	-9,4	216770
9	AYDIN	95511	1930	2,02	229726	11479	5	370314	5722	1,55	2,75	695551
10	BALIKESİR	149843	1688	1,13	266723	3525	1,32	475929	-354	-0,07	0,54	892495
11	BİLECİK	19055	-765	-4,01	54255	3700	6,82	78994	87	0,11	1,98	152304
12	BİNGÖL	41604	-4067	-9,78	43753	-6623	-15,14	151318	-9223	-6,1	-8,41	236675
13	BİTLİS	40579	-7174	-17,68	95167	-5680	-5,97	159572	-7621	-4,78	-6,93	295318
14	BOLU	52457	45	0,09	127398	-1682	-1,32	305343	-2856	-0,94	-0,93	485198
15	BURDUR	49183	-921	-1,87	66808	-853	-1,28	127945	-7042	-5,5	-3,61	243936
16	BURSA	648885	64736	9,98	271677	18014	6,63	394961	920	0,23	6,36	1315523
17	ÇANAKKALE	45752	-473	-1,03	100951	-2851	-2,82	245478	1286	0,52	-0,52	392181
18	ÇANKIRI	45947	-4379	-9,53	63574	-7852	-12,35	152514	-3269	-2,14	-5,92	262035
19	ÇORUM	112373	-3128	-2,78	144491	-15140	-10,48	339802	-15624	-4,6	-5,68	596666
20	DENİZLİ	160147	16152	10,09	131424	-4722	-3,59	390388	-849	-0,22	1,55	681959
21	DİYARBAKIR	310046	2604	0,84	209206	-22766	-10,88	423636	-12048	-2,84	-3,42	942888
22	EDİRNE	82132	-223	-0,27	92257	-4114	-4,46	182612	-3152	-1,73	-2,1	357001
23	ELAZIĞ	189903	-4469	-2,35	78035	-10889	-13,95	202059	-5764	-2,85	-4,49	469997
24	ERZİNCAN	86660	-11413	-13,17	55162	-10588	-19,19	145045	-3566	-2,46	-8,91	286867
25	ERZURUM	227810	-23242	-10,2	177501	-34817	-19,62	419046	-30227	-7,21	-10,71	824357
26	ESKİŞEHİR	358135	15413	4,3	60973	-1163	-1,91	155573	-7732	-4,97	1,13	574681
27	GAZİANTEP	500889	21306	4,25	212748	-13475	-6,33	285712	-8304	-2,91	-0,05	999349

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	tot_rate	pop_85_t
29	GÜMÜŞHANE	31000	-6506	-20,99	36879	-6820	-18,49	108137	-8978	-8,3	-12,67	176016
30	HAKKARİ	25283	-798	-3,16	27376	-164	-0,6	85403	-3507	-4,11	-3,24	138062
31	HATAY	119019	-4389	-3,69	361794	-2466	-0,68	497139	2874	0,58	-0,41	977952
32	ISPARTA	97834	4	0	99930	-2370	-2,37	187721	-4106	-2,19	-1,68	385485
33	İÇEL	318283	54848	17,23	326530	6710	2,05	411722	13191	3,2	7,07	1056535
34	İSTANBUL	5776148	657239	11,38	,	,	,	,	,	,	,	,
35	İZMİR	1427289	127148	8,91	334385	-3728	-1,11	458366	22855	4,99	6,59	2220040
36	KARS	90407	-19549	-21,62	165615	-46803	-28,26	438651	-38663	-8,81	-15,12	694673
37	KASTAMONU	54494	-6055	-11,11	104556	-14513	-13,88	259422	-6210	-2,39	-6,4	418472
38	KAYSERİ	370849	749	0,2	172607	-6805	-3,94	313395	-9941	-3,17	-1,87	856851
39	KIRKLARELİ	40752	-3316	-8,14	85193	-1117	-1,31	142833	-1071	-0,75	-2,05	268778
40	KIRŞEHİR	73289	-3013	-4,11	58740	-10047	-17,1	122186	-6578	-5,38	-7,72	254215
41	KOCAELİ	230149	3170	1,38	229500	47123	20,53	268107	32997	12,31	11,44	727756
42	KONYA	432009	18230	4,22	433996	-21207	-4,89	730805	-24202	-3,31	-1,7	1596810
43	KÜTAHYA	114683	1677	1,46	104395	-742	-0,71	312506	-5537	-1,77	-0,87	531584
44	MALATYA	257809	-4115	-1,6	110624	-20807	-18,81	298140	-10281	-3,45	-5,28	666573
45	MANİSA	126701	9804	7,74	374915	11205	2,99	502822	-61	-0,01	2,09	1004438
46	K.MARAS	212220	-3503	-1,65	175174	-16784	-9,58	446553	-13660	-3,06	-4,07	833947
47	MARDİN	58357	-9465	-16,22	183366	-13001	-7,09	270873	-12282	-4,53	-6,78	512596
48	MUĞLA	34180	110	0,32	124695	7406	5,94	319668	8503	2,66	3,35	478543
49	MUŞ	53289	-11265	-21,14	62562	-9465	-15,13	237787	-13095	-5,51	-9,56	353638
50	NEVŞEHİR	50518	-2983	-5,9	57790	-5186	-8,97	157918	-2526	-1,6	-4,02	266226
51	NİĞDE	57709	-6424	-11,13	45772	-5235	-11,44	189365	-4198	-2,22	-5,41	292846
52	ORDU	104383	-7753	-7,43	239442	-19882	-8,3	463823	-15249	-3,29	-5,31	807648
53	RİZE	64615	-11769	-18,21	87225	-8255	-9,46	204591	-8693	-4,25	-8,06	356431
54	SAKARYA	157319	-832	-0,53	111230	2798	2,52	335278	4404	1,31	1,05	603827
55	SAMSUN	274174	3964	1,45	236359	-22493	-9,52	579617	-12670	-2,19	-2,86	1090150
56	SİİRT	64200	-5559	-8,66	49617	-12907	-26,01	124330	-12848	-10,33	-13,15	238147
57	SİNOP	28359	-3950	-13,93	67133	-10713	-15,96	170217	-7902	-4,64	-8,49	265709
58	SİVAS	216070	-14884	-6,89	169984	-36305	-21,36	374572	-25259	-6,74	-10,05	760626
59	TEKİRDAĞ	65386	1673	2,56	131476	10805	8,22	177735	5435	3,06	4,78	374597

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	tot_rate	pop_85_t
61	TRABZON	142228	-7933	-5,58	184091	-30194	-16,4	458080	-13363	-2,92	-6,56	784399
62	TUNCELİ	27293	-3993	-14,63	32353	-8476	-26,2	82711	-7861	-9,5	-14,28	142357
63	ŞANLIURFA	245481	-3031	-1,23	262508	-14809	-5,64	400140	-8963	-2,24	-2,95	908129
64	UŞAK	92222	5797	6,29	38485	-3467	-9,01	135891	-1753	-1,29	0,22	266598
65	VAN	135486	260	0,19	101340	-9507	-9,38	321918	-11531	-3,58	-3,72	558744
66	YOZGAT	57491	-10074	-17,52	155721	-12655	-8,13	340554	-11769	-3,46	-6,23	553766
67	ZONGULDAK	124424	-14448	-11,61	282323	-7318	-2,59	605861	-7590	-1,25	-2,9	1012608
68	AKSARAY	83327	-5	-0,01	48226	-450	-0,93	161416	-1933	-1,2	-0,82	292969
69	BAYBURT	39229	-8713	-22,21	9306	-2111	-22,68	62050	-2973	-4,79	-12,48	110585
70	KARAMAN	68705	1303	1,9	27995	-955	-3,41	99802	592	0,59	0,48	196502
71	KIRIKKALE	169287	117	0,07	57554	-5778	-10,04	95321	-3151	-3,31	-2,74	322162
72	BATMAN	113815	11603	10,19	40739	-4740	-11,64	126713	-2936	-2,32	1,4	281267
73	ŞIRNAK	21690	-1826	-8,42	80310	705	0,88	109598	-4043	-3,69	-2,44	211598

DATA FILE 3

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	pop_85_t	tot_rate
1	ADANA	769756	43913	5,7	407329	-16278	-4	510096	-550	-0,11	1687181	1,61
2	ADIYAMAN	94449	-2923	-3,09	112651	-4990	-4,43	264281	-9456	-3,58	471381	-3,68
3	AFYON	95281	-5990	-6,29	191831	-3544	-1,85	409258	-16234	-3,97	696370	-3,7
4	AĞRI	58165	-9430	-16,21	100033	-12719	-12,71	251558	-15159	-6,03	409756	-9,1
5	AMASYA	56240	-6967	-12,39	103207	-6062	-5,87	183842	-6873	-3,74	343289	-5,8
6	ANKARA	2121829	107894	5,08	279661	-32270	-11,54	354847	-6004	-1,69	2756337	2,53
7	ANTALYA	271732	61595	22,67	164964	10821	6,56	444705	10383	2,33	881401	9,39
8	ARTVİN	22811	-4004	-17,55	53067	-9208	-17,35	140892	-7157	-5,08	216770	-9,4
9	AYDIN	95511	1930	2,02	229726	11479	5	370314	5722	1,55	695551	2,75
10	BALIKESİR	149843	1688	1,13	266723	3525	1,32	475929	-354	-0,07	892495	0,54
11	BİLECİK	19055	-765	-4,01	54255	3700	6,82	78994	87	0,11	152304	1,98
12	BİNGÖL	41604	-4067	-9,78	43753	-6623	-15,14	151318	-9223	-6,1	236675	-8,41
13	BİTLİS	40579	-7174	-17,68	95167	-5680	-5,97	159572	-7621	-4,78	295318	-6,93
14	BOLU	52457	45	0,09	127398	-1682	-1,32	305343	-2856	-0,94	485198	-0,93
15	BURDUR	49183	-921	-1,87	66808	-853	-1,28	127945	-7042	-5,5	243936	-3,61
16	BURSA	648885	64736	9,98	271677	18014	6,63	394961	920	0,23	1315523	6,36
17	ÇANAKKALE	45752	-473	-1,03	100951	-2851	-2,82	245478	1286	0,52	392181	-0,52
18	ÇANKIRI	45947	-4379	-9,53	63574	-7852	-12,35	152514	-3269	-2,14	262035	-5,92
19	ÇORUM	112373	-3128	-2,78	144491	-15140	-10,48	339802	-15624	-4,6	596666	-5,68
20	DENİZLİ	160147	16152	10,09	131424	-4722	-3,59	390388	-849	-0,22	681959	1,55
21	DİYARBAKIR	310046	2604	0,84	209206	-22766	-10,88	423636	-12048	-2,84	942888	-3,42
22	EDİRNE	82132	-223	-0,27	92257	-4114	-4,46	182612	-3152	-1,73	357001	-2,1
23	ELAZIĞ	189903	-4469	-2,35	78035	-10889	-13,95	202059	-5764	-2,85	469997	-4,49

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	pop_85_t	tot_rate
24	ERZİNCAN	86660	-11413	-13,17	55162	-10588	-19,19	145045	-3566	-2,46	286867	-8,91
25	ERZURUM	227810	-23242	-10,2	177501	-34817	-19,62	419046	-30227	-7,21	824357	-10,71
26	ESKİŞEHİR	358135	15413	4,3	60973	-1163	-1,91	155573	-7732	-4,97	574681	1,13
27	GAZİANTEP	500889	21306	4,25	212748	-13475	-6,33	285712	-8304	-2,91	999349	-0,05
28	GİRESUN	67543	-6160	-9,12	152287	-14608	-9,59	268676	-14056	-5,23	488506	-7,13
29	GÜMÜŞHANE	31000	-6506	-20,99	36879	-6820	-18,49	108137	-8978	-8,3	176016	-12,67
30	HAKKARİ	25283	-798	-3,16	27376	-164	-0,6	85403	-3507	-4,11	138062	-3,24
31	HATAY	119019	-4389	-3,69	361794	-2466	-0,68	497139	2874	0,58	977952	-0,41
32	ISPARTA	97834	4	0	99930	-2370	-2,37	187721	-4106	-2,19	385485	-1,68
33	İÇEL	318283	54848	17,23	326530	6710	2,05	411722	13191	3,2	1056535	7,07
34	İSTANBUL	5776148	657239	11,38	,	,	,	,	,	,	,	,
35	İZMİR	1427289	127148	8,91	334385	-3728	-1,11	458366	22855	4,99	2220040	6,59
36	KARS	90407	-19549	-21,62	165615	-46803	-28,26	438651	-38663	-8,81	694673	-15,12
37	KASTAMONU	54494	-6055	-11,11	104556	-14513	-13,88	259422	-6210	-2,39	418472	-6,4
38	KAYSERİ	370849	749	0,2	172607	-6805	-3,94	313395	-9941	-3,17	856851	-1,87
39	KIRKLARELİ	40752	-3316	-8,14	85193	-1117	-1,31	142833	-1071	-0,75	268778	-2,05
40	KIRŞEHİR	73289	-3013	-4,11	58740	-10047	-17,1	122186	-6578	-5,38	254215	-7,72
41	KOCAELİ	727756	83290	11,44	,	,	,	,	,	,	,	,
42	KONYA	432009	18230	4,22	433996	-21207	-4,89	730805	-24202	-3,31	1596810	-1,7
43	KÜTAHYA	114683	1677	1,46	104395	-742	-0,71	312506	-5537	-1,77	531584	-0,87
44	MALATYA	257809	-4115	-1,6	110624	-20807	-18,81	298140	-10281	-3,45	666573	-5,28
45	MANİSA	126701	9804	7,74	374915	11205	2,99	502822	-61	-0,01	1004438	2,09
46	K.MARAS	212220	-3503	-1,65	175174	-16784	-9,58	446553	-13660	-3,06	833947	-4,07
47	MARDİN	58357	-9465	-16,22	183366	-13001	-7,09	270873	-12282	-4,53	512596	-6,78
48	MUĞLA	34180	110	0,32	124695	7406	5,94	319668	8503	2,66	478543	3,35
49	MUŞ	53289	-11265	-21,14	62562	-9465	-15,13	237787	-13095	-5,51	353638	-9,56

no.	name	a_pop85	a_netmig	a_rnet	b_pop85	b_netmig	b_rnet	c_pop85	c_netmig	c_rnet	pop_85_t	tot_rate
50	NEVŞEHİR	50518	-2983	-5,9	57790	-5186	-8,97	157918	-2526	-1,6	266226	-4,02
51	NİĞDE	57709	-6424	-11,13	45772	-5235	-11,44	189365	-4198	-2,22	292846	-5,41
52	ORDU	104383	-7753	-7,43	239442	-19882	-8,3	463823	-15249	-3,29	807648	-5,31
53	RİZE	64615	-11769	-18,21	87225	-8255	-9,46	204591	-8693	-4,25	356431	-8,06
54	SAKARYA	157319	-832	-0,53	111230	2798	2,52	335278	4404	1,31	603827	1,05
55	SAMSUN	274174	3964	1,45	236359	-22493	-9,52	579617	-12670	-2,19	1090150	-2,86
56	SİİRT	64200	-5559	-8,66	49617	-12907	-26,01	124330	-12848	-10,33	238147	-13,15
57	SİNOP	28359	-3950	-13,93	67133	-10713	-15,96	170217	-7902	-4,64	265709	-8,49
58	SİVAS	216070	-14884	-6,89	169984	-36305	-21,36	374572	-25259	-6,74	760626	-10,05
59	TEKİRDAĞ	65386	1673	2,56	131476	10805	8,22	177735	5435	3,06	374597	4,78
60	TOKAT	83466	-8672	-10,39	223426	-19417	-8,69	393744	-17634	-4,48	700636	-6,53
61	TRABZON	142228	-7933	-5,58	184091	-30194	-16,4	458080	-13363	-2,92	784399	-6,56
62	TUNCELİ	27293	-3993	-14,63	32353	-8476	-26,2	82711	-7861	-9,5	142357	-14,28
63	ŞANLIURFA	245481	-3031	-1,23	262508	-14809	-5,64	400140	-8963	-2,24	908129	-2,95
64	UŞAK	92222	5797	6,29	38485	-3467	-9,01	135891	-1753	-1,29	266598	0,22
65	VAN	135486	260	0,19	101340	-9507	-9,38	321918	-11531	-3,58	558744	-3,72
66	YOZGAT	57491	-10074	-17,52	155721	-12655	-8,13	340554	-11769	-3,46	553766	-6,23
67	ZONGULDAK	124424	-14448	-11,61	282323	-7318	-2,59	605861	-7590	-1,25	1012608	-2,9
68	AKSARAY	83327	-5	-0,01	48226	-450	-0,93	161416	-1933	-1,2	292969	-0,82
69	BAYBURT	39229	-8713	-22,21	9306	-2111	-22,68	62050	-2973	-4,79	110585	-12,48
70	KARAMAN	68705	1303	1,9	27995	-955	-3,41	99802	592	0,59	196502	0,48
71	KIRIKKALE	169287	117	0,07	57554	-5778	-10,04	95321	-3151	-3,31	322162	-2,74
72	BATMAN	113815	11603	10,19	40739	-4740	-11,64	126713	-2936	-2,32	281267	1,4
73	ŞIRNAK	21690	-1826	-8,42	80310	705	0,88	109598	-4043	-3,69	211598	-2,44