

Var, Elif Berna; Dokmeci, Vedia

Conference Paper

Age And Cohort Effects On Regional Migration In Turkey

53rd Congress of the European Regional Science Association: "Regional Integration: Europe, the Mediterranean and the World Economy", 27-31 August 2013, Palermo, Italy

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: Var, Elif Berna; Dokmeci, Vedia (2013) : Age And Cohort Effects On Regional Migration In Turkey, 53rd Congress of the European Regional Science Association: "Regional Integration: Europe, the Mediterranean and the World Economy", 27-31 August 2013, Palermo, Italy, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/123886>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

AGE AND COHORT EFFECTS ON REGIONAL MIGRATION IN TURKEY

Elif Berna Var
Vedia Dokmeci

Abstract

This article investigates current age cohort effects on regional migration in Turkey and compares the results of this study with the results of a similar study for 1985-1990. It has been widely investigated in developed countries for years whereas it is more recent subject in developing countries like Turkey. The waste amount of migration from economically backward east and southeastern regions of Turkey has been continuing during the half-century with a decreasing degree. This is not just an increase in urban population but also transformation of its economy, politics, urban structure, social fabric, public facilities, life style as well as its relationships to the international arena. It is expected that the new settlement system simultaneously generated a new pattern of growth and interaction. The results of the study illustrate that the division of regional migration among the age groups represents a similar pattern with different degrees except some points. The age group between the 20-24 has the highest amount of migrants with respect to other age groups between 2007-2011. However, the similar study made for 1985-1990 indicates that ages between 24 to 29 have the highest rates. Although, this study is made nearly 30 years after the older one, the highest age periods are almost the same. The reason why those groups have the highest migration rates is to find attractive jobs and to have higher education. The difference in this ratio is higher in developed regions compared to less developed regions of Turkey. On the other hand, later age migration is increasing towards whether the Marmara or Central Anatolian regions between 2007-2011. The reason is that some families migrate with their children coming to these regions for educational reasons. Moreover, some older migrants prefer accommodations in south due to low living costs and mild climate. However, older age cohorts mostly prefer Mediterranean region. The in-migration to Mediterranean region was increasing as the cohort shifts become older because of amenity reasons which are similar in the western countries. These amenity migrants are strongly attracted by pleasant climate and favorable economic conditions. Meanwhile, those older immigrants probably return to their hometown called return-migration. Both studies illustrate that developed regions grow more rapidly compared to less developed or developing regions. However, this trend is not something that is equally distributed among all accommodations.

Key Words: Cohort shift, migration, regional, age, immigrant, Turkey.

1. INTRODUCTION

The decision on migration alters depending on the potential migrant ages (Nelson and Sewall (2003). Several fundamental changes in migration behavior and regional population redistribution have been attributed to age-cohort effects. In order to understand inter-regional population movements more clearly, age cohort techniques have been used. Working age or retirement age groups are the key factors that are used by doing these analyses. (Plane, 1992; Plane, 1993). This subject is much more popular and has been widely investigated in developed countries whereas in developing countries, its importance cannot be realized as much as that of in developed countries. Thus, this paper indicates an analysis of age and cohort effects on inter-regional migration in Turkey in 2007-2011. To demonstrate these effects more clearly, the comparison is made between the outcomes of this study and the results of previous study made in 1985-1990 in Turkey.

Between 1970s and 1990s, Kulkarni and Pol (1994) investigated inter-state migration in the United States according to age groups. Their result illustrated that while there is an overall decline in migration, some age-specific mobility rates have remained relatively constant (e.g., 25-29 and 30-34); therefore, increasing the share of the total mover population from those age cohorts. Pellerini and Fotheringham (1999) investigated inter-metropolitan migration and hierarchical destination choice in the U.S. by taking into consideration the younger adult groups (25-29 years and 35-44 years old). According to the results of the study the higher ratio of migrants prefer to go to South West, Miami and New York, in contrast the lower ratio of migrants prefer North East and Midwest regions. This movement is constant with well-known inter-state migration trends in the recent past. Rogers et al. (2002) developed a model for decomposing a set of age-specific and origin-destination-specific migration flows in the United States for four periods between 1955 and 1990. According to Tobler (1995), the concepts of age and space form the basics of migration laws.

Baryla and Dotterweich(2001) examined factors that significantly impact student migration in different US geographic regions. The study found that higher education institutions that have regionally recognized quality programs have greater ability to attract non-resident students. In addition, it appears that there is a linkage between non-resident enrolment and the economic environment where the university is located.

In the study by Bartley(2006), age-specific migration rates indicate how the effect of independent variables such as employment and amenity factors vary over the life course. Thus, one can examine if younger workers differ from older workers and whether retirement migrants (60 and above) have a different pattern altogether. For instance, in Paris, while mainly retired people are departing the region in growing numbers, young adults are drawn to the capital to study or find job (Baccaïni, 2007). Moreover, social background of people also effects their migration during the old age. According to Lundholm (2012) people born in the rural areas are more prone to return at older age compared to those born in urban settings.

Dennett and Shillwell (2010) investigated age variations in origin-destination migration data from the 2001 UK Census. They do so using a national district classification as a framework for summarizing what is a series out matrices, each containing very large numbers of cells. The results demonstrate how migration propensities and patterns vary between types of district, providing new insights into the processes through which the population is redistributed throughout England. Bell and Rees (2006) compare migration in Britain and Australia through use of age-time plans. Nedomysl and Amcoff (2011) in Sweden and Andersen (2011) in Denmark explain old age return migration with respect to social considerations and amenities. With respect to developing countries, Bahar et al.,(2009) explain old age migration to the Mediterranean Region in relation to retirement, in Turkey.

Thus, two types of approach have been used for modeling migration (Shen, 1999). The first uses age, gender, origin and destination-specific migration rates. The second approach focuses on modeling migration flows directly, explicitly by using distance, origin, and destination populations to explain migration. By following the first group of research, the present paper analysis age and spatial structures of the observed inter-regional migration flows in Turkey and compares them with the results of the previous decade. In this paper, after the introduction part in here, the background information about regions and the government policy are discussed. Secondly, the demographic analysis of migration trend is investigated. The distribution of inter-regional migration according to the age groups is discussed in the third part where the findings of the study can be seen. And finally, the conclusion devoted to the discussion of results and suggestions for further researches.

2. BACKGROUND INFORMATION ABOUT THE REGIONS AND THE GOVERNMENT POLICY

In this part, the characteristics of the regions will be discussed with respect to regional policies in Turkey. When compared to previous periods, population movements within Turkey started to become higher from the beginning of 1950s which is a kind of outcomes of industrialization and liberalization movements in the country. People were changing their location due to several reasons depending on not only economic or educational; but also social, political or natural reasons. Because of the high migration rates, an efficient market system was developed to control migration during the 1980s. However, it caused some kind of problems like depopulation of less developed regions or over-population in metropolitan areas with increasing demand for housing, infrastructures and all kinds of other facilities (Gezici and Hewings (2004)).

The policies of “five-year national development” and “priority provinces for development” directly related to economic imbalances in Turkey must be understood in order to understand the situation in the country. All these policies tried to achieve equal goal for the regions, but they were not all effective in addressing the imbalanced structure of Turkey. Thus, the failure of the “priority provinces for development” policy was announced in 2000 and this is the situation which Turkey faces that periphery is less developed than the core. (Gezici and Hewings, 2004).

Turkey’s present migration mechanism also is in a state of transition. There are different mechanisms serving socio-economic processes in society in general and in particular segments. Any migration mechanism must be appropriate top the emerging market relations and, accordingly, serve their needs (Yazgi et al. (2013). Regulators of this mechanism reflect provincial differentiation in the development of new forms of economic activity and these are generated by the transition from traditional to market forms (employment and education). This group of factors has the strongest influence on migration (Yazgi et al.,2013). Balkir (1995) describes regional disparities into 3 different groups in Turkey: (i) Demographic disparities such as migration and urbanization; (ii) economic disparities such as income, industry and service sector; (iii) disparities in infrastructure which include public services like health and education. The present study deals with the first group of disparities by analyzing inter-regional migration according to age groups.

3. DEMOGRAPHIC ANALYSIS of MIGRATION TREND

Migration is a dynamic subject which can change depending on demographic, economical, and cultural factors. (Rogerson (1987), Milne (1993), Plane (1992)) Metropolitan areas attract younger cohort shift due to their educational and cultural facilities.

Demographers have observed that age and sex play an important role for the migration rates. However, the most important factor that makes difference for the numbers of migration is the age factor (Clark and Hunter, 1992). The probability of migration generally occurs when a person becomes his/her twenties. This age is usually the peak point of migration because of the reasons like entering a university, beginning a career, and so on. However, after twenties, this mobility sharply declines until the retirement. There can be a slight increase in the mobility as people get retired. (Rogers (1979), Pandit and Whithers (1997), Walters (2000)). In addition to that expression of the role of age in migration, existing facilities in a location may also play an important role for the multiple movements during people's life cycle. In other words, some specific locations may provide opportunities just for a short period of human life which cause people to move from there to another place. For instance, it is a kind of possibility for an individual to accommodate a place near his/her college where will be emptied after graduation to obtain a job. In that case he/she may prefer a metropolitan area. After years, this accommodation may change according to his retirement preferences like returning to his/her hometown or moving on to a retirement area. Another reason that younger people have higher mobility rates is that they take fewer responsibilities related to community, family, real estate etc. which enables them to change their accommodations more often. Thus, it is proven by the studies that the probability of inter-regional migration for the families with working wives is less when compared to other groups.

4. ANALYSIS OF REGIONAL MIGRATION ACCORDING TO AGE GROUPS IN TURKEY

In this study, by adopting an age-disaggregate decomposition of migration pattern changes, the differences in migrant destination choices among various age groups may be highlighted as well as the interdependency that exists between the patterns than by people of different stages in the life cycle.

In the analysis of migration, it is hypothesized that labor market variations should be mostly originated from younger cohort shifts whereas higher-amenity regions should be preferred by older cohorts.



Figure.1: Geographical Regions of Turkey.

(Source: <http://www.gototurkey.co.uk/wp-content/uploads/2012/08/009-Districts-1.jpg>)

In each decade, the younger populations show higher cohort movements in the direction of metropolitan areas whereas the age of immigrants becomes higher, they start to move towards non-metropolitan areas. Cohorts between the ages of 20 to 24 show the largest shifts in both 2007 and 2011 whereas in the period of 1985-1990, the largest shifts were made by the cohorts between the ages of 25-29. Although it can be seen on the table showing the in-migration with respect to age groups between 2007-2008 that the cohorts between the ages of 25 and 29 has the highest shifts in Eastern and Southeastern Anatolia; still the ages of 20-24 has the highest shifts for the next of the regions. With the increasement in the numbers of universities in Eastern Anatolian region, 20-24 ages of immigrations have become higher than the rates of immigrants related to job opportunities in 2010-2011.

The numbers indicate that after the age of 20-24, the number of people migrating from one region to another is decreasing until the age of 65+. After the age of 65, the number of internal migration with respect to age groups increase as it can be seen on the Figure.2 and Figure.3. However, for Blacksea region at the ages of 50 - 54 there is an increase in the Figure.2 which is an exception. Similar situation can be seen in the Figure.3 not only for the

ages of 45-54, but also for the 55-59 which shows that older cohorts shift towards non-metropolitan destinations for amenity reasons or return to hometowns. After these, it is clear that age of immigrants determine the cohort shift towards whether a metropolitan or non-metropolitan area.

The inter-provincial in-migrants of Turkey were 1.903.234 people between 2007-2008 which gradually increased year by year and finally reached to 2.045.720 people in the period of 2010-2011. The regional distribution of these in-migrants is given below.

The regional in-migration for the period of 2007-2008 is that Marmara region has the highest percentage with the value of %27 whereas Eastern Anatolia has the smallest in-migration percentage with %8. Marmara region is followed by Central Anatolia region (%17), Mediterranean region (%15), Blacksea region (%12), Aegean region (%11), Southeastern Anatolia region (%10) and finally Eastern Anatolia region (%8).

When the period comes to 2010-2011, small differences can be realized. Still, Marmara region takes the highest in-migration but its percentage increased to %29. It is still followed by Central Anatolia (%17) where capital city of Turkey is situated. Other regions can be ranked by their percentages like; Mediterranean (%14), Southeastern Anatolia region (%12), Blacksea (%10) and Aegean (%10) regions, Eastern Anatolia (%8).

These percentages show that Marmara and Central Anatolia regions where various universities, industries and facilities are located have protected their places for the period during 2007-2011. Moreover, ages of people migrating to Southeastern Anatolia shows that this place where Southeastern Anatolia Project has taken place is mostly preferred for job-related reasons. Although this fact was also true for Eastern Anatolia region in the period of 2007-2008, people aging from 20 to 24 have started to migrate Eastern Anatolia region at the highest level in 2010-2011 period. The reason why highest immigrant ages changed from 25-29 to 20-24 is that the number of universities in Eastern Anatolian region is increasing day by day. Thus, the number of university students compound highest immigration rates for Eastern Anatolian region nowadays.

The numbers of in- migration with respect to age groups between 2007-2008 in Turkey:

<u>Age</u>	<u>Turkey</u>	<u>Marmara</u>	<u>Mediterranean</u>	<u>Aegean</u>	<u>Central Anatolia</u>	<u>Blacksea</u>	<u>Eastern Anatolia</u>	<u>Southeastern Anatolia</u>
'0-4'	151.271	40915	21740	16340	24990	18.112	11435	15706
'5-9'	189.436	56344	27656	21000	30752	20.402	12780	18413
'10-14'	156.814	49759	22416	17566	24727	16.396	9784	14365
'15-19'	203.583	70714	25091	23112	34867	20.049	10778	16603
'20-24'	388.970	126887	51289	47043	66268	42.748	20965	28956
'25-29'	356.705	112518	47179	40571	56218	40.622	23832	31109
'30-34'	234.004	66515	33849	27690	37955	28.213	16466	20091
'35-39'	159.815	45214	23496	19594	26804	19.851	10276	12511
'40-44'	110.211	32956	15853	14024	18624	14.516	5800	7136
'45-49'	91.224	27605	12549	11648	15301	13.404	4114	4888
'50-54'	74.864	21666	9457	9366	12591	13.723	3453	3482
'55-59'	55.289	15201	6634	6841	9517	10.741	2714	2699
'60-64'	37.112	10271	4160	4301	6658	7142	2051	1783
'65+'	64.194	17513	6388	7602	11558	11.933	4200	2948

(Source:TUIK (Turkish Statistical Institute) – Migration Statics)

The numbers of in- migration with respect to age groups in 2010-2011 in Turkey:

<u>Age</u>	<u>Turkey</u>	<u>Marmara</u>	<u>Mediterranean</u>	<u>Aegean</u>	<u>Central Anatolia</u>	<u>Blacksea</u>	<u>Eastern Anatolia</u>	<u>Southeastern Anatolia</u>
'0-4'	162.438	46709	23102	15649	26899	16.335	13863	19881
'5-9'	165.117	49038	24308	16423	27289	16.876	12895	18288
'10-14'	144.430	45325	20768	14744	24370	14.611	10391	14221
'15-19'	266.753	82356	30615	29161	54204	31.806	20830	17781
'20-24'	465.604	145525	52780	47149	89484	49.892	44011	36763
'25-29'	378.287	123330	46200	37525	60637	35.755	35887	38953
'30-34'	251.670	77534	34331	26922	40352	26.187	21987	24357
'35-39'	153.012	47725	21712	17711	25896	16.633	11346	11989
'40-44'	99.146	32507	14040	11921	17051	11.079	6175	6373
'45-49'	85.565	28448	11369	9935	14626	11.524	4795	4868
'50-54'	66.909	22232	8024	8024	11270	10.510	3692	3157
'55-59'	60.647	19219	6704	6589	10119	11.260	4037	2719
'60-64'	42.062	13187	4502	4480	7104	7837	3045	1907
'65+'	78.541	26080	7679	8348	13769	13.260	6043	3362

(Source:TUIK (Turkish Statistical Institute) – Migration Statics)

These numbers shows that although years pass one by one, the migration trend in Turkey stays nearly the same during the periods of 2007-2011. These indicators also match up with the results of the study made for the period of 1985-1990. The corresponding results of these both studies also prove that the migration is a kind of traditional habit which cannot be easily change by a short period of time. And it is also complex and dynamic subject which depends on various factors.

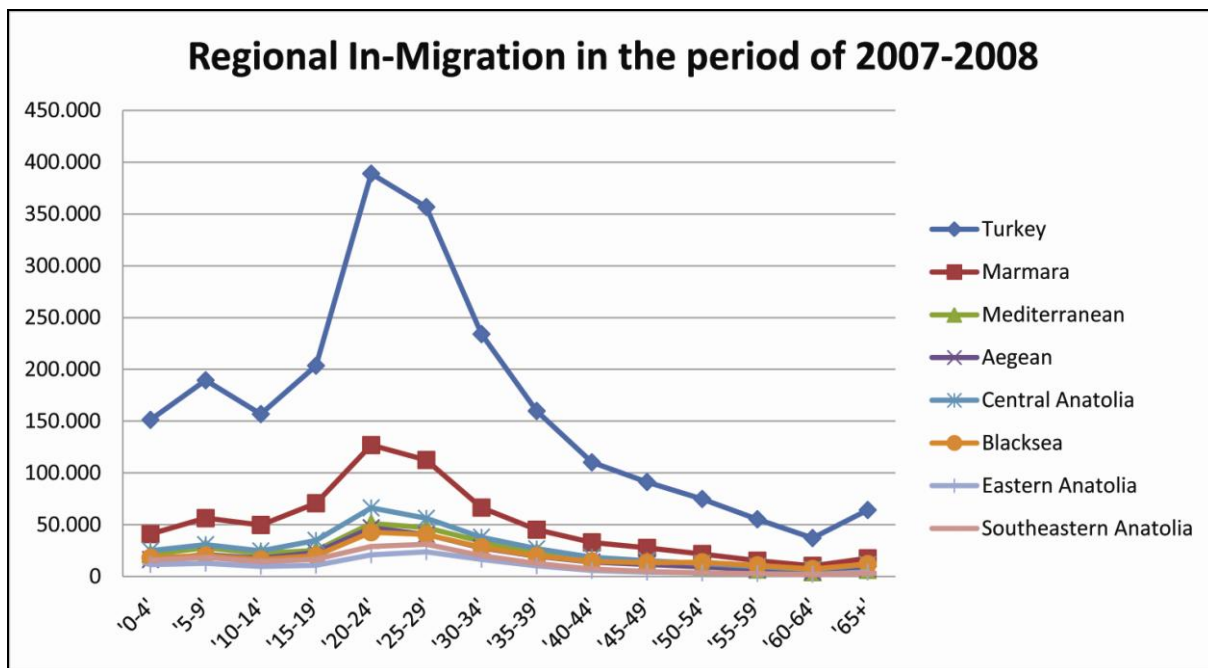


Figure.1: Age distribution of in migration (2007-2008) in Turkey.

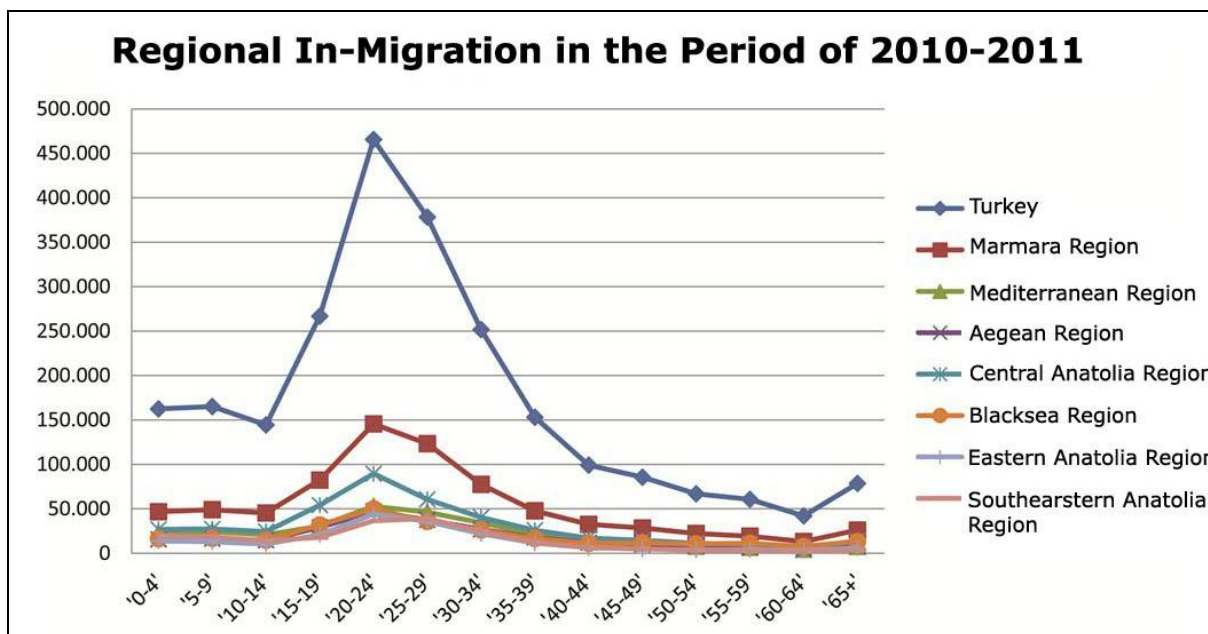


Figure.2: Age distribution of in migration (2010-2011) in Turkey.

These tables and figures indicate a more detailed picture of migration in Turkey during the periods of 2007-2011. It can be easily said that in each time period, the 20 to 24-year-old migrants prefer to move towards urban cores due to educational, cultural, social or job related reasons.

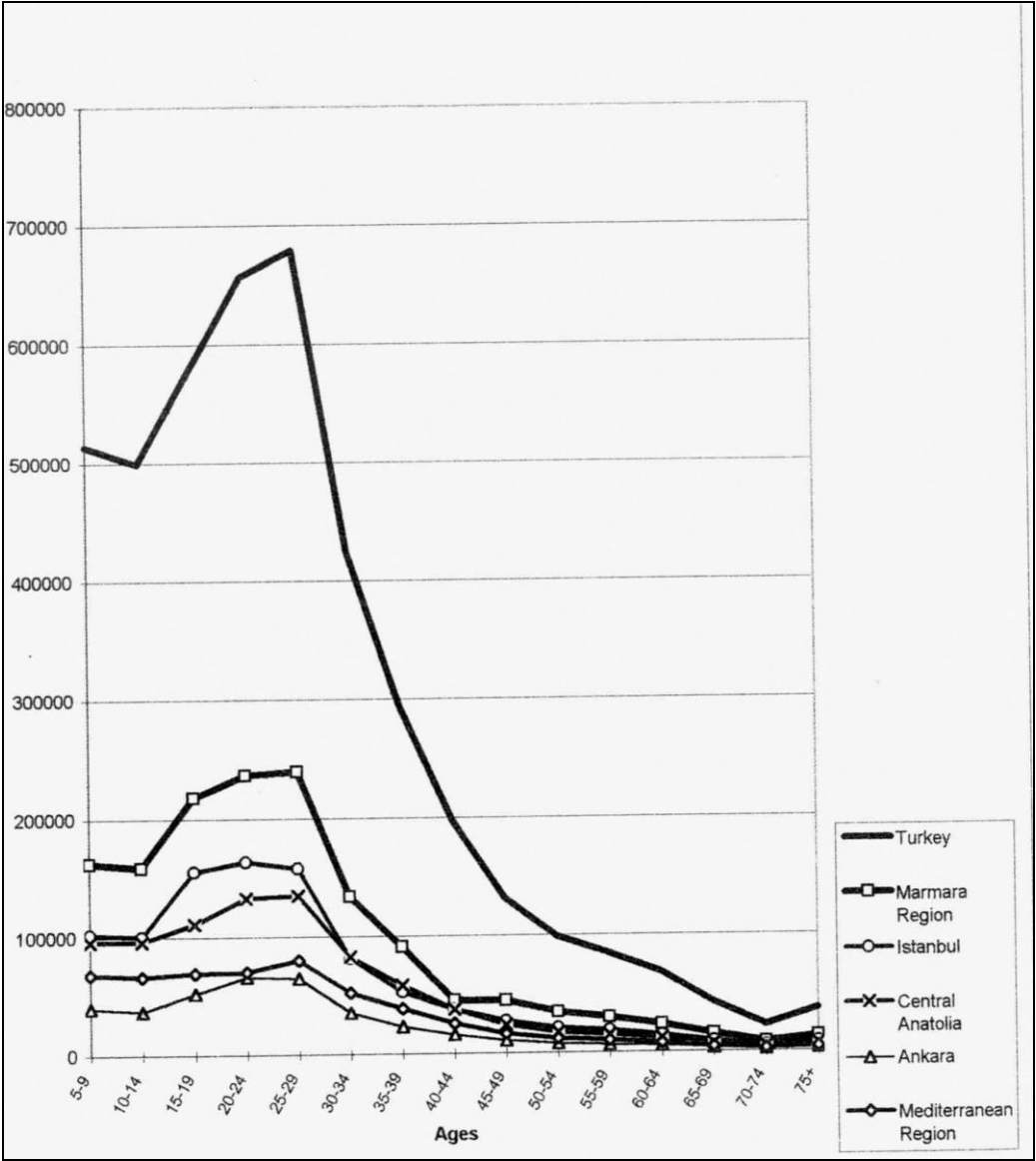


Figure.3: Age distribution of in-migration (1985-1990).

(Source: Census of Population 1990, Internal Migration by Permanent Residence, State Institute of Statistics, Prime Ministry of Turkey)

The regions can be ranked by their out-migration percentages for the 2007-2008 period like: Marmara region (%23), Southeastern Anatolia Central Anatolia regions (%15), Eastern Anatolia region (%14), Blacksea and Mediterranean regions (%12), and Aegean region (%9). When we come to 2010-2011 period, regional out-migration percentages can be listed like that: Marmara region (%23), Eastern Anatolia and Central Anatolia regions (%15), Southeastern Anatolia region (%14), Blacksea and Mediterranean regions (%12), and Aegean region (%9). Thus, for both periods, the ratio of out-migration stays same with the exception, the Southern Anatolia region's migration rate is replaced by that of Eastern Anatolian region.

Age distribution of out-migration (2007-2008) in Turkey:

<u>Age</u>	<u>Turkey</u>	<u>Marmara</u>	<u>Mediterranean</u>	<u>Aegean</u>	<u>Central Anatolia</u>	<u>Blacksea</u>	<u>Eastern Anatolia</u>	<u>Southeastern Anatolia</u>
'0-4'	151.271	35383	17799	13291	23.075	18213	21728	21782
'5-9'	189.436	41294	22941	16350	28.523	24.267	27932	28129
'10-14'	156.814	34847	19461	14255	23.619	20.416	21511	22705
'15-19'	203.583	44977	26395	19372	31.675	30.215	25610	25339
'20-24'	388.970	82002	52918	45293	77.322	58.481	41014	31940
'25-29'	356.705	84189	46385	37446	60.181	48.901	43849	35754
'30-34'	234.004	59634	29363	23605	36.948	29.943	28817	25694
'35-39'	159.815	41505	20469	16634	25.598	20.539	18273	16797
'40-44'	110.211	29917	14584	12114	18.323	14.867	10568	9838
'45-49'	91.224	27726	11674	10273	15.336	12.028	7740	6447
'50-54'	74.864	25699	9086	7989	12.601	9.305	5875	4309
'55-59'	55.289	20718	6379	5730	9.293	6.212	3924	3033
'60-64'	37.112	14395	3973	3751	6.381	4.089	2687	1836
'65+'	64.194	23470	6280	6504	11.362	8684	5024	2870

(Source:TUIK (Turkish Statistical Institute) – Migration Statics)

Age distribution of out-migration (2010-2011) in Turkey:

<u>Age</u>	<u>Turkey</u>	<u>Marmara</u>	<u>Mediterranean</u>	<u>Aegean</u>	<u>Central Anatolia</u>	<u>Blacksea</u>	<u>Eastern Anatolia</u>	<u>Southeastern Anatolia</u>
'0-4'	162.438	36513	20177	14306	24370	19.877	24763	22432
'5-9'	165.117	37046	20936	14737	24240	20.523	25776	21859
'10-14'	144.430	32532	18395	13207	20865	18.976	22339	18116
'15-19'	266.753	58484	39895	27858	42597	39.563	31046	27310
'20-24'	465.604	97360	67332	53027	87271	67.212	49483	43919
'25-29'	378.287	85812	50414	41301	67439	51.937	45036	36348
'30-34'	251.670	62742	32315	26238	39647	32.282	31680	26766
'35-39'	153.012	38681	19400	16237	24039	20.531	18994	15130
'40-44'	99.146	25840	12810	11045	16435	14.128	10729	8159
'45-49'	85.565	24649	10651	9300	14289	12.830	8264	5582
'50-54'	66.909	22306	7830	7519	11397	9.508	5060	3289
'55-59'	60.647	22406	6525	6242	10012	8.168	4685	2609
'60-64'	42.062	16202	4304	4259	6951	5290	3221	1835
'65+'	78.541	27045	7346	7681	13691	12.346	7000	3432

(Source:TUIK (Turkish Statistical Institute) – Migration Statics)

The figures above represent that older age groups are much more spatially dispersed. Although younger cohort shifts prefer to move towards metropolitan areas, 30-year-old or older immigrants choose to move into suburban of metropolitan areas. The 50 or 54-year-old shifts are even more spread out and older cohort shifts prefer to move away from the labor market.

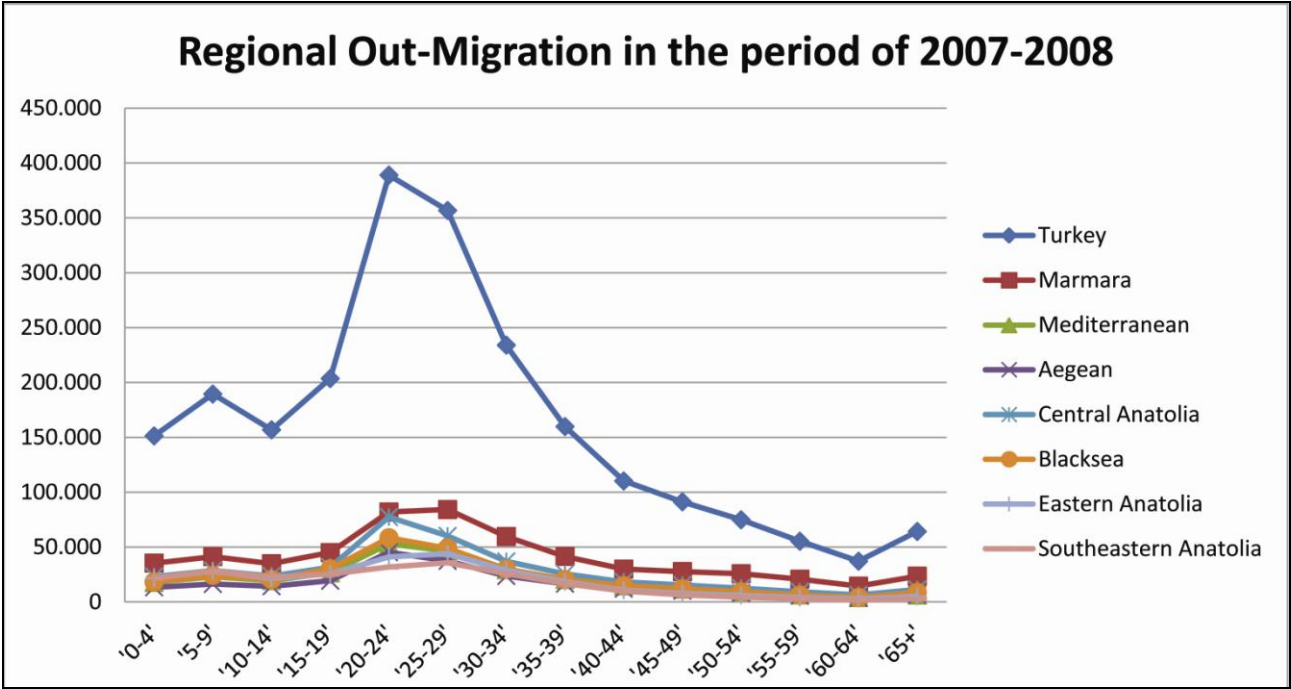


Figure 4. Age distribution of out-migration (2007-2008) in Turkey.

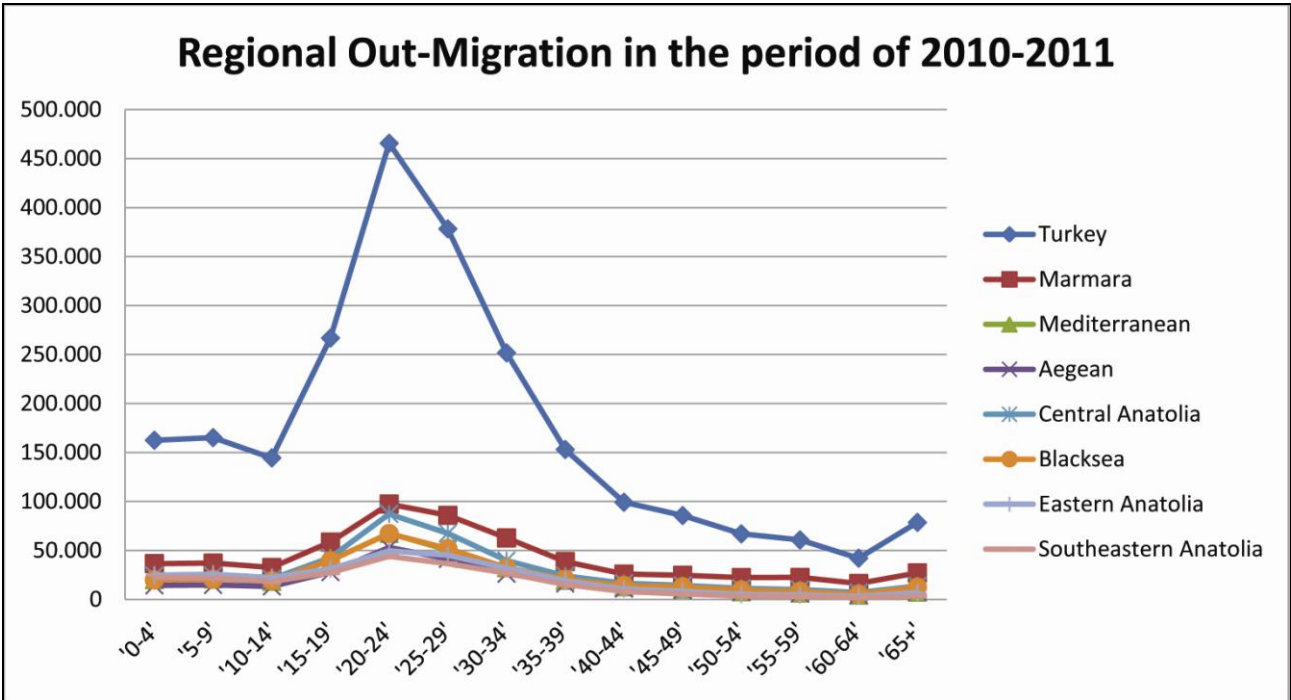


Figure 5. Age distribution of out-migration (2010-2011) in Turkey.

5. CONCLUSION

The analysis in this article furthers our understanding of several related population phenomena, including regional population redistribution, and the relationship between age and inter-regional migration patterns.

One of the cornerstones of geographic analysis is recognition of different spatial scales, and migration studies can be greatly enhanced by adopting different scales of analysis (Pandit and Withers, 1999). By focusing on age differences in the inter-regional migration and comparing with the previous results, this article adds a new perspective on the scale at which these age-cohort dynamics and period effect explanations are at work. In the aggregate, developed areas grew more rapidly than less developed regions during the 1980s. This analysis, however, demonstrates that such aggregate trends are not uniform across all regions (Nelson and Sewall, 2003).

The age composition of the in-migrants and out-migration for the years 2007-2011 is investigated at the country and at the regional level and in-migrants are compared with the trend in the period between 1980-1985. As it is shown on the graphs, in-migration reaches its peak point at the age of 20-24 with the exception of Southeastern and Eastern regions; then it falls sharply until the 40-44. After 44, the number of in-migrants is still decreasing but with a slower acceleration until the age of 60-64. And after that point in-migration line shows a slow increase in terms of retirement migration as shown on the figures which is also experienced by the developed countries. Moreover, as the regional analysis of the age composition of in-migrants verifies, Marmara and Central Anatolia has highest migration rates due to large amount of job alternatives and educational facilities which are the major reasons for attracting migrants as already shown by Yazgi et al.2013. Although they have different characteristics, the age composition of in-migrants does not differ significantly in these regions.

While the in-migration is higher than out-migration for the regions with a higher level of socio-economic background, this trend is reversed for the less-developed regions. It is observed that in 2007 the highest in-migration was 25-29 for the southeastern and eastern regions; in 2011 the highest in-migration was between 20-24 due to increasing number of universities in the eastern regions.

In sum, the results of the analysis have notable implications for decision-makers. Additional work which focuses on industrial and service sector investments in the regions will shed more light on the inter-regional migrations.

REFERENCES

- Andersen, H.S.(2011) “Explanations for long-distance counter-urban migration into fringe areas in Denmark,” **Population, Space and Place** 17, 5, 627-641.
- Baccaïni, B.(2007) “Inter-regional migration flows in France over the last fifty years,” **Population** 62, 1, 176.
- Bahar, H.I., S. Laciner, I. Bal, M. Ozcan (2009) “Older migrants to the Mediterranean : The Turkish Example,” **Population, Place and Space** 15, 6, 509-522.
- Balkir, C.(1995) “Less developed regions and regional development policies in Turkey,” **European Urban and Regional Studies** , 1995/2, 253-264.
- Bartley, K. F.(2006) “Technology and the convergence of U.S. urban migration patterns: 1970-2000,” **Growth and Change** 37, 1, 82-106.
- Baryla, E.A. and D. Dotterweich (2001) “Student migration: Do significant factors vary by region? **Education Economics** 9, 3, 269-280.
- Bell, M. and P. Rees (2006) “Comparing migration in Britain and Australia: Harmonization through use of age-time plans,” **Environment and Planning A** 38, 959-988.
- Clark, D.E. and W.J.Hunter (1992) “The impacts of economic opportunity, amenities and fiscal factors on age-specific migration rates, **Journal of Regional Science** 32, 349-365.
- Dennett, A. and J. Shillwell (2010) “Internal migration in Britain, 2000-01, examined through an area classification framework,” **Population, Space and Place** 16, 6, 517-538.
- Gezici, F. and G.J.D Hewings (2004) “Regional convergence and the economic performance of peripheral areas in Turkey,” **Review of Urban and Regional Development Studies** 16, 113-132.
- Kulkarni, M. and L.G. Pol (1994) “Migration expectancy revisited: Results for the 1970s, 1980s and 1990s,” **Population Research and Policy Review** 13, 195-203.
- Lundholm, E. (2012) “Returning home? Migration to birthplace among migrants after age 55,” **Population, Space and Place** 18, 1, 74-84.

- Milne, W.J. (1993) "Macroeconomic influences on migration", **Regional Studies** 27, 4, 365-373.
- Nelson, P.B. and A. Sewall (2003) "Regional comparisons of metropolitan and non-metropolitan in the 1970s and 1980s: Age and place implications," **The Professional Geographer** 55, 1, 83-99.
- Niedomysl, T. and J. Amcoff (2011) "Why return migrants return: Survey evidence on motives for internal return migration in Sweden," **Population, Space and Place** 17, 5, 656-673.
- Pandit, K. and S. Withers, eds. (1999) **Migration and Restructuring in the United States: A Geographic Perspectives**. New York: Rowan and Littlefield.
- Pellegrini, P.A. and A.S. Fotheringham (1999) "Intermetropolitan migration and hierarchical destination choice: A disaggregate analysis from the U.S. Public Use Microdata Samples," **Environment and Planning A** 31, 1093-1118.
- Plane, D. (1992) "Age composition change and geographical dynamics of inter-regional migration in the U.S." **Annals of the Association of American Geographers**, 82, 64-85.
- Plane, D. (1993) "Demographic influences on migration," **Regional Studies** 27, 375-83.
- Rogers, A. (1979) "Migration patterns and population redistributions" **Regional Science and Urban Economics** 9, 4, 275-310.
- Rogers, A., J. Raymer and F. Willekens (2002) "Capturing the age and spatial structures of migration," **Environment and Planning A** 34, 341-359.
- Rogerson, P. A. (1987) "Changes in U.S. National mobility levels" **The Professional Geographer** 39, 3, 344-351.
- Shen, J. (1999) "Modelling regional migration in China: Estimation and decomposition" **Environment and Planning A** 31, 1223-1238.
- Tobler, W. (1995) "Migration: Ravenstein, Thornthwaite, and beyond" **Urban Geography** 16, 327-343.
- Walters, W. H. (2000) "Types and patterns of later-life migration" **Geografiska Annaler** 82, 8, 129 – 147.
- Yazgi, B., V. Dokmeci, K. Koramaz and G. Kiroglu (2013) "Impact of characteristics of origin and destination provinces on migration: 1995-2000," **European Planning Studies** 21, 2, (in progress).