The Role of Internal Migration on Regional Inequality: Turkey Example

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Abstract

Internal migration, where individuals leave where they live and move to another residential area within the same country due to the social, political or economic reasons, affect the both the migration-receiving and emigrating regions. Internal migration that accompany regional differentiations depending on time and space, gave rise to social and economic differentiations on a regional basis with the redistribution of the population. The aim of this study is to analyze the effect of internal migration on regional inequality in Turkey.. In this context the effect of internal migration on regional inequality will be analyzed with panel data econometrics. Level 1 based migration data concerning the years of 2008-2015 was used for the migration statistics. The findings of the study are as follows; internal emigration increases regional inequality, whereas receiving internal migration decreases the regional inequality.

Keywords: Internal Migration, Regional Inequality, Income Inequality, Gini, Remittance

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İç Göçlerin Bölgesel Eşitsizlik Üzerindeki Rolü: Türkiye Örneği

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Öz

Toplumsal, siyasal veya ekonomik nedenlerle bireylerin aynı ülke sınırları içerisinde yaşadıkları yerleşim yerlerini bırakarak başka bir yerleşim yerine gitmelerini ifade eden iç göçler, sonuçları itibari ile hem göç alan bölgeleri hem de göç veren bölgeleri etkilemektedir. Zamana ve mekana bağlı olarak bölgesel farklılaşmaları beraberinde getiren iç göçler, nüfusun yeniden dağılımıyla bölgesel bazda sosyal ve iktisadi farklılaşmalara neden olmaktadır. Bu çalışmanın amacı, Türkiye'de iç göçlerin bölgesel eşitsizlik üzerindeki etkisinin analiz edilmesidir. Bu kapsamda iç göç hareketlerinin eşitsizlik üzerindeki etkisi panel veri ekonometrisi ile analiz edilecektir. Göç istatistikleri için 2008-2015 yılları arasında düzey 1 bazında göç verilerinden faydalanılmıştır. Çalışmanın bulguları şu şekildedir: Verilen iç göçler bölgesel eşitsizliği artırmakta, alınan iç göçler ise bölgesel eşitsizliği azaltmaktadır.

Anahtar Kelimeler: İç Göç, Bölgesel Eşitsizlik, Gelir Eşitsizliği, Gini, Göçmen Transferleri

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1. Introduction

Internal migration is the population movement that takes place due to economic, political and social reasons within the boundaries of a country between cities or villages. It is generally from underdeveloped regions to developed regions since internal migration is related to spatial redistribution of a country's population.

Since migration has a fundamental role in the redistribution of the population and regional development, there is significant literature related to it both in sociology and economy. Migration and inequality are interconnected concepts. The presence of regional inequalities and regional wage differences bring about migration; and migration contributes positively to the regional development[1] Many of the studies demonstrate that internal migration has a Significant role in economic development and poverty reduction.

The effect of internal migration on regional growth rates and inequalities is one of the controversial topics[2] Suggested that income inequality would increase if there was a shift of labor from the agricultural sector to non-agricultural sector during the first stages of economic development.[3]Migration causes income per capita to grow in immigrating regions and migration-receiving regions. The fact that the more developed regions incline to be more migration-receiving regions has an important role in this effect. On the other hand,[4] drew attention to the fact that migration between regions in the United States caused convergence in per capita income since 1860.[5] Suggested that it is theoretically impossible to measure the effect of migration on regional inequality. According to Okun, knowing the economic and

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[1] Xiaobo Zhang, *The effects of internal migration on regional inequality in China,Evidence from panel data analysis*., Unpublished PhD Thesis, University of Pittsburgh 2015, p.1.

[2] Simon Kudnetzs.“*Economic growth and income inequality*”, ”*American Economic Review*, 2015, 45(1): 1–28.

[3] Gunnar Myrdal,Economic Theory and Under-developed Regions, London: Duckworth, 1957.

[4] Richard A Easterlin,“Regional income trends,In S. Harris (Ed.), American Economic New York: McGraw-Hill, History, 1961, pp. 525-547.

[5] Bernard Okun,” *Interstate population migration and state income inequality*”,A simultaneous, equation approach. Economic Development and Cultural Change,1968, 16(2): 297–313.

demographic structures of the regions is one of the necessary conditions; however it is not sufficient by itself. In addition to this, it should be known whether the time dimension is short or long and whether the fast-growing regions are more developed regions or not. Okun analyzed this relationship by using the data concerning the years of 1940 and 1950 in the United States of America, however, concluded that more data and research would be required in order to confirm findings of the research.[6]

In many of the studies conducted for determining of the effect of migration on regional inequalities and income inequalities, internal migration and international migration differs from each other concerning their effects. Many determinants such as the socio-economic differences between people taking place in internal and international migration, differences in income obtained together with the migration, cause different results to emerge from the studies. Therefore, the effects of national and international migration on regional inequality may differ. Internal migration has a more effective role in decreasing inequality in comparison with international migration due to reasons such as their low costs and containing low risks. The fact that the international migrants are relatively rich and are a talented workforce, results in the differentiation of the results of internal and international migration.[7]

One of the significant studies in the literature about the relationship between migration and inequality was discussed[8] In accordance with the study that emphasized that there is an inverse u relationship between inequality and migration, the short-term and long-term results of migration differ from each other. During the first stages of migration, despite the willingness of poor families to migrate, only wealthy families may be able to afford migration costs and the fact that the post migration income is transferred to the wealthy families and this situation further increases inequality. However, the migration costs, which decrease along with the expanding and

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[6]   Xiaobo Zhang, The effects of internal migration on regional inequality in China,Evidence from panel data analysis. Unpublished PhD Thesis, University of Pittsburgh, 2015, p.24.

[7]   Hein De Hass, "Mobility and human development" New York: United Nations Development Programme 2009.

[8]   David Mackenzie and hillel Repaport," *Network effects and the dynamics of migration and inequality: Theory and evidence from Mexico. Journal of Development Economics*", 84(1), 1-24.

accreting migration networks in time, provide low-income families the opportunity to migrate; and therefore the inequalities reduce in conjunction with the transfer of the post migration income to the poor families.

In case the immigrants are very poor, one of the most significant factors for migration to decrease inequality is the network. In case there is a network, the very poor segment may have the chance to migrate depending on the decrease of the risks and costs; however, if the network is lacking, this segment may only be able to migrate if the related costs are very low[9] The households who migrated before or any of the family members migrated before, may have the opportunity to reduce their migration costs due to the relationships they developed with migration. Especially when the cost of international migration is taken into consideration, it is seen that this advantage has a clear role in migration. This situation, which allows both the wealthy and poor segments to migrate, brings about different results on inequality depending on the social conditions of the migrants. On the other hand, these networks reduce uncertainty for individuals and accelerate the migration movement.

The hypothesis that rises to prominence in the studies emphasizing that migration will reduce the regional inequality with remittance. In the studies emphasizing that remittance will decrease inequality, the argument stating that migration increases the income of the poor households more than wealthy households comes into prominence.[10] When developing countries are examined, internal migration has the characteristic of a valuable source with remittance to rural areas and also contributes to rural development.

Another significant channel of studies analyzing the effect of internal migration on inequality is labor mobility. When the relationship between labor mobility and regional inequality is examined, it can be stated that the labor channel may bring along two different consequences on regional inequalities. These are, consequences arisen by the migration between regions with regards both to labor demand and labor supply. On the side of labor supply,

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[9]   Christian Hubert Ebeke and Maelan Le Goff "*Why Migrants Remittances Reduce Income Inequality in some*Countries and not in Others ? ".Working paper, 1-41,2011. https://halshs.archives-ouvertes.fr/halshs-00554277/document

[10]   Lall Somik Vilay ,Selod Harris and Shalizi Zmarak "Rural-urban migration in developing countries" *A survey of theoretical predictions and empirical findings.* World Bank Policy Research Working Paper, 3915,2011.

workers may migrate to more developed regions and therefore reduce the regional inequality. In migration receiving regions, labor demand increases and later the wages decrease correspondingly. For immigrating regions, the situation is the exact opposite. For this reason, the wage differences between the regions decrease and therefore unemployment ratios reduce. When the situation is examined in terms of labor demand, the migrants cause the total spending to raise depending upon the increase in the demand for goods and services in migration receiving regions[11] The qualification of labor may lead to results that decrease or increase regional inequalities by generating inequalities in the labor market. In case the migrants comprise of qualified labor, efficient labor is clustered in developed regions, labor distribution in rural areas may be affected negatively due to the inefficient labor as well as reasons such as the inability of people who are old or in bad health to migrate and therefore this situation may lead these under-developed regions to be more stagnant. However, if not all the migrants comprise of qualified labor and not all the non-migrating individuals comprise of a dependent population; migrations may increase employment by extending job opportunities for the ones who stay in rural areas.

In studies explaining the effect of migration on regional imbalance with labor mobility, migration with employment purposes has a more efficient role than migration with climate, security and educational purposes. Migration with an employment purpose decreases inequality by means of improving living conditions through increasing income in rural areas and labor immigrating households with remittance. When the situation is examined with regards to non-migrating people, in view of immigrating regions that are rather underdeveloped and rural regions, migration may have an employment increasing effect in rural regions for the remaining people. In this sense, internal migration provides employment opportunities to migrating people as well as providing employment opportunities to the remaining people in rural regions.

One of the determinative factors in migration movement is the spatial inequalities. The geographical advantages and disadvantages between regions lead to population clustering in certain regions and therefore may

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[11]   ElenaVakulenko,"Does migration lead to regional convergence in Russia?". *International Journal of Economic Policy in Emerging Economies*, 2016,9(1), 1-25.

affect the labor distribution negatively or positively. In a similar manner the effect of geographical conditions, clustering of the tourist industry and business enterprises produce an increase of efficient labor and this may increase the inequality between regions in some countries whereas it may also have a decreasing effect on inequality in some other countries.

Primarily, the literature concerning the effect of internal migration on regional inequalities is discussed in this study. Data concerning the years 2008-2015 was used in order to analyze the effect of internal migration on regional inequalities and its results in the Turkish economy. In the study, the data concerning the level 1 based migration-receiving and immigrating internal migration and other variables was tested with panel regression analysis.

2. Literature

The effects of migration on regional inequalities may generally differ depending on whether the migration is national or international. When the studies concerning the relationship of internal migration and regional inequality are examined, it can be seen that the effect of migration on inequality may differ depending on social conditions, time and effect channels. The studies analyzing the effect of migration on regional inequalities generally emphasizes that migration increases inequality, while discussing migration within the context of internal migration, the view suggesting that it will decrease the inequality gains wide currency. However, there are some studies that emphasize that only internal migration increases regional inequality. Moreover, some studies suggest that migration does not have any effect on inequality. When the migration-inequality relationship is evaluated generally, it can be seen that the results may differ depending on the direction of the migration and the qualifications of the migrants as well as the time and country dimensions.

The most significant factor rising to prominence in the relationship between migration and inequality is the remittance. There are many studies in literature concerning the effect of post-migration remittance on inequalities. The fundamental view of many studies, which emphasize that inequality would decrease with remittance obtained along with the international migration, is that the poverty level of immigrating regions would de-

crease with the transfer of the income obtained by migration.[12] Suggest that inequality would decrease with remittance obtained after the migration;[13] suggest that inequality would decrease in rural regions with the additional income provided by the income transfers;[14] suggests that remittance would decrease the inequality between rural regions and urban regions by generating a multiplier effect in economy.

The same findings were reached in the study of[15] concerning developing countries. 20, in the study of concerning Latin American economies and in the study of [16]concerning African regions. While it was emphasized that internal and international migration decreases regional inequalities via remittance[17] in Guatemala,[18] in Nepal and[19] in Ghana[20] and [21] emphasized that remittance increases the regional inequality.[22]

When studies evaluating the functioning channel of migration on inequality from a different point of view are taken into consideration, it can be

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[12]   Xiaobo Zhang,*The effects of internal migration on regional inequality in China, Evidence from panel data analysis*., Unpublished PhD Thesis, University of Pittsburgh 2015, p.1

[13]   Nong Zhu veXubei Luo "*The impact of migration on rural poverty and inequality: A case study in China. Agricultural Economics,*" 2010, 41(2), 191-204.

[14]   Michael Philip Guest, "*Assessing the consequences of internal migration: Methodological ıssues and a case study on Thailand based on longitudinal survey data. Migration, Urbanization and Development: New Directions and Issues,*"*UNFPA*, New York, 1998.

[15]   Richard.Adams Jr, Alferdo Cuhecuecha and Jhon Page "The impact of remittances on poverty and inequality in Ghana", *World Bank Policy Working Research Paper*,2008, 4732.

[16]   Sanjevv Gupta, Catherine a Pattillo, and SmitaWagh, "Effect of remittances on poverty and financial development in Sub-Saharan Africa",*World Development*,2009, 37.

[17]   Richard Adams Jr, "Remittances and poverty in Guatemala", World Bank Policy Research WorkingPaper 3418, 2004.

[18]   Michael Lokshin, Mikhail Bonctch and Elena Glinskaya, "Work-Related migration and poverty reduction,in Nepa*," World Bank Policy Research Working Paper* 4231,2007

[19]   Richard Adams, J."Remittances and Poverty in Ghana"*World Bank Policy Working Research Paper 2006,* 3838.

[20]   Richard Adams, J. "*The effects of international remittances on poverty. Inequality and development in rural Egypt*, "Research Report 1991, 86.

[21]   Richard Adams, J., Alferdo Cuecuecha and Jhon Page "The impact of remittances on poverty and inequality in Ghana". *World Bank Policy Working Research 2008.*

[22]   Jeevanath Devkota, Impact of migrants' remittances on poverty and inequality in Nepal, Forum of International Development Studies, 2014, 44, 36-53.

seen that there are studies emphasizing the different factors in the migration and inequality relationship.[23] Concluded in their study, where they gave particular importance to the regional distribution of migration, that inequality would decrease if the migration movement is towards advanced industrial centers[24] concluded that together with the inequality decreasing effect, the remittance also decreases inequality by leading to a decrease in the population of rural areas and therefore resulting in the absorption of excess labor.[25] Emphasized that the migration with employment purposes decreases inequality and[26] reached to the conclusion that migration increases inequality by corrupting the educated labor distribution between regions.

When studies analyzing the effect of migration on inequality in accordance with the socio-economic conditions of the migrants are examined;[27] it can be seen that emphasized that regional inequality would increase after the migration due to the inability of the very poor segment to migrate because of the migration costs,[28] emphasized that the inequality would only decrease if the migrants are very poor, and[29] emphasized that migration would increase inequality due to it having a the high cost.

In Table 1, the literature study concerning the effect of internal migration on regional inequality is presented. When the results are examined, it can be seen that the migration effects vary from country to country. Within the studies conducted different post-migration transmission channels were emphasized, which brought along different results. Emphasizing remittance produced results stating that regional inequality would decrease, whereas

[23] Diep Phan, Coxhead,Inter-Provincial migration and inequalities during Vietnam's transition. Journal of Development Economics,2010, 91(1), 100–112.

[24] Nong Zhu ve Xubei Luo "The impact of migration on rural poverty and inequality: A case study in China. Agricultural Economics,"2010, 41(2), 191-204.

[25] Nguyen DucLoc, K.Raabe and U.Grote, Rural–Urban migration, household vulnerability,and welfare in Vietnam: World Development,2013,71, 79-93.

[26] Charles Ackah and Denis Medvedev, Internal migration in Ghana, Determinants and welfare impacts. International Journal of Social Economics,2012, (39) 10, 764-784.

[27] Xiaoqıan Wang, Migration, remittances, poverty and inequality in China: A counterfactual analysis. GATE Lyon Saint-Etienne Research Center of UniversitLumire Lyon,2014.

[28] Fleur Stephainie Wouterse," *Migration, poverty, and inequality: Evidence from Burkina Faso*," *IFPRI Discussion*, 2008, Paper 00788.

[29] Michael Lipton, "Migration from rural areas of poor countries: The impact on rural productivity and income distribution," World development, 1980,8(1), 1-24.

giving prominence to the inequalities within labor distribution was considered as a factor increasing the regional inequality. The qualifications of the migrants were shown up as one of the effect channels that lead to differentiation of the results.

Table 1. Literature Study Concerning the Effect of Internal Migration on Regional Inequality

Author (s)	Period	Country	Method	Conclusion
Zhang (2015)	1992-2008	China	Panel data analysis	Intraprovincial migration decreases inequality, Interprovincial migration increases inequality
Wang (2014)	2007	China	Heckman model	Inequality decreases if very poor people migrate
Nguyen et. al. (2013)	2007-2010	Vietnam	Panel data analysis	Ineffective
Ackah and Medvedev (2012)	2005	Ghana	Regression analysis	Inequality increases
Zhu and Luo (2010)	2002	China	Heckman model	Inequality decreases
Phan and Coxhead (2010)	1984–1989 and 1994–1999	Vietnam	Regression analysis	Inequality decreases
Wouterse (2008)	2003	Burkina Faso	Gini and concentration coefficient decomposition	Inequality decreases
Du et. al. (2005)	1997-2001	China	Panel data analysis	Inequality decreases
Yang (2004)	1988-2000	Thailand	Cross-sectional OLS regression	Inequality decreases
Yang (2003)	1986-1999	China	Panel data analysis	Inequality decreases
Zhai et. al. (2003)	1998-2007	China	Computable general equilibrium model (CGE)	Inequality decreases
Guest (1998)	1992	Thailand	Gini coefficient	Inequality decreases
Adams (1996)	1986-1989	Pakistan	Panel data analysis	Inequality decreases
Stark et. al. (1986)	1982	Mexican	Pearson correlation analysis	Inequality decreases
Oberai and Singh (1981)	1977	India	Multiple regression analysis	Inequality decreases

Lipton (1980)	1955-1970	India	Cross-section analysis	Inequality increases

The widest literature concerning the relationship between migration-regional inequalities are the studies on the Chinese economy. When the strict measures against migrating from urban areas and settling in rural areas in China are taken into consideration, the internal migration regional inequality problem stands out as a significant problem due to the destabilizing effect of this practice on rural and urban areas. This situation leads to many studies to be conducted about the Chinese economy. The main view of many of these studies conducted on China is that internal migration decreases regional inequality. The high levels of income inequalities in rural and urban areas of China play a significant role in this result. One thesis of these studies is the conditional hypothesis, which emphasizes that whether migration increases or decreases inequality may differ under certain conditions.[30]

When the internal migration in Turkey is analyzed; it can be seen that the migration movements showed an increase after the year 1990 due to terrorism. Moreover, while an increase in migration movements was observed after the transformation of agriculture together with the industrialization process, the direction of the migrations was from the rural regions to the coastal regions and to developed regions and cities. On the other hand, the need for a labor force in agriculture disappeared along with the mechanization and as a result of this, people who became unemployed started to migrate to the cities that were going through an industrialization process. As a consequence, the geographical inequalities between regions in Turkey, terrorism and clustering of industrialization in certain regions contributed towards a concentrated internal migration flow and the relationship between the migration movements and regional inequality lead to a vicious cycle. Within this cycle, internal migration may cause regional inequalities to decrease or increase and regional inequalities may cause an increase in the migration ratios.

Employment problems are significant in order to analyze the reasons and results of migration movements. Because the individuals with the highest

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[30] Xiaoqıan Wang, *Migration, remittances, poverty and inequality in China: A counterfactual analysis.* GATE Lyon Saint-Etienne Research Center of Universit Lumire Lyon, 2014.

migrating tendency in immigrating regions are unemployed people, migration of these individuals from underdeveloped regions, where the unemployment ratio is high, to developed regions, where the unemployment ratio is low, is expected[31] In the General Consensus of Population conducted in the year 2000, the participants were asked the reasons for migration and it was understood that 20% of the migrating population migrated in order to look for employment or because they found employment. It is observed that when migration due to appointments and assignation are added, migration with employment purposes correspond to 33,5% of the total migration. It may also be seen that, when dependent population is added to this group, the part of the population migrated due to economic reasons is at a very large scale[32] When the fact that the migration movements in Turkey are mostly done with employment purposes is taken into consideration, these employment-based migrations have an active role in decreasing the imbalances between regions by decreasing the income inequality in migration-receiving regions. The migration, which is in parallel with labor demands an increase in migration-receiving developed regions, may result in deduction of wages in these regions and a decrease in income inequality. As for the immigrating regions, the most important factor underlying the fact that migration does not have any effect on inequalities is that in Turkey the migration movements are carried out with family members rather than on an individual level. This situation results in the inefficiency of remittance channel and therefore weakens the decreasing effect of migrations on inequality.

The inequality between regions in Turkey comes into prominence as a significant economic problem, depending on the quality of labor, investments, spatial inequalities and many other factors. When the relationship between migration and inequality in Turkey is analyzed; it is observed that the direction of migration is from underdeveloped regions such as Eastern Anatolia, Southeastern Anatolia and Eastern Black Sea to industrialized regions with high income per capita such as Western Anatolia, Eastern Marmara, İstanbul and the Aegean region. The inequality difference between regions concerning the years of 2008-2015 was examined by tak-

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[31] Pınar Narin Emirhana,"Göreli yoksunluk ve bölgelerarası göçler: Türkiye örneği," *Business and Economics Research Journal,2015,*6(2), 79-89.

[32] Alpay Filiztekin,*Türkiye de bölgesel farklar ve politikalar.* İstanbul: Türk Sanayicileri ve İşadamları Derneği Yayını 2008, No: 471.

ing the average of 8 years of gini data, and the region that had the highest regional inequality ratio was found to be the Mediterranean Region with 0.390. The regions following the Mediterranean Region were Northeastern Anatolia with 0.387, the Aegean region with 0.385, Western Anatolia with 0.379, Southeastern Anatolia with 0.373, Middle Eastern Anatolia with 0.369, Western Marmara with 0.368, İstanbul and Middle Anatolia with 0.363, Western Black Sea with 0.350 and Eastern Black Sea with 0.342. The lowest regional inequality belongs to Eastern Marmara with 0.340. When the data is examined, it is seen that the inequality is high in coastal regions such as the Aegean and Mediterranean regions. The differences between the cities of the region and the clustering in the tourism industry play a significant role in this observation. Eastern Marmara, which is one of the leading regions, is the region with the lowest regional inequality ratio. Herein, the high industrial and commercial volume of Kocaeli city has a primary importance.[33]

When the migration movements are evaluated in general, it can be seen that the migration from rural and underdeveloped regions to coastal and industrialized regions are more employment-oriented rather than migration with other purposes such as securety and educational purposes. Aside from the migration movements, the differences in private sector investments as well as unfavorable geographical conditions, securety concerns related to terrorism and labor differences of the underdeveloped regions lead to an increase in inequalities. Since it is one of the most significant problems of regional imbalances before regional development, to what extent these inequalities between regions are affected, finding solutions for these inequalities and policy implementations seeking solutions should be discussed.

3. Data Set and Method

In this study, the effect of internal migration on regional inequalities was attempted to be determined by using panel data regression analysis. Panel data set includes the data concerning the years of 2008-2015 based upon level 1 region (12 regions) in Turkey. The data used in the panel regression analysis is presented below.

Regional gini data was used as dependent variable. The gini inequality in-

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[33]   TUİK bölgesel verileri. https://biruni.tuik.gov.tr/bolgeselistatistik/2016.

dex is the leading inequality measurement method that is most commonly used in literature. Gini coefficientcan range from values 0 to 1 and when the coefficient value gets closer to 0 it means that the inequality decreases and when the coefficient value gets closer to 1 it means that inequality increases. The gini variable that is used to express regional inequality was obtained from the regional values of Turkish Statistical Institute[34]

The independent variables used in the study comprise of internal received migration and immigration, environmental expenditure and educated labor working in technology and intensive industries. Since internal received migration and immigration between regions has different effects on regional inequality, both migration receiving and immigrating variables are included in the study. The data concerning the internal migration receiving and immigrating of level 1, which consists of 12 regions, data set was obtained from the migration statistics of the Turkish Statistical Institute[35] and the data base of the Address-Based Population Registration System (ADNKS). The Public investment expenditures were used to represent public expenditures. Another independent variable is export per capita and import per capita. Figures concerning the educated labor working in technology and information intensive sectors were included as another independent variable. The related variable was obtained from the data base of the European Statistical Office.[36]

The model related to the variables used in the study, where panel regression analysis was used, is presented below.

$$G_t = \beta_0 + \beta_1 M_i + \beta_2 M_O + \beta_3 G + \beta_4 H + \beta_5 E + \beta_6 I + u_t$$

$G_t =$ Regional gini index

$M_i =$ Internal immigration variable

$M_o =$ Internal emigration variable

G = Regional government investment expenditures variable

H = Regional educated labor working in intensive technology and information sectors variable

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[34]   ibid

[35]   ibid

[36]   EUROSTAT http://ec.europa.eu/eurostat 2016.

E= Regional per capita exports variable

I = Regional per capita imports variable

4. Descriptive Statistics

The descriptive statistics used in the study are presented on Table 2. When Table 2 is examined, it can be seen that the average value of gini index stating the regional inequality is 0,36. The maximum gini value of the aforementioned years belong to Northeast Anatolia (data of year 2008) with 0,43 and the minimum gini value belongs to Eastern Black Sea region (data of year 2013) with 0,32. When the average of years 2008-2015 is examined, the region with the highest inequality level is the Mediterranean region with 0,39 and the regions with the lowest inequality level is the East Marmara region with 0,43. The average value of internal migration between regions is 171031, the lowest migration receiving figure belongs to Northeast Anatolia (data year of 2008) with 57012 and the highest migration receiving ratio belongs to İstanbul (data of year 2015) with 453407. The average of internal immigration ratio is 171031 and the lowest immigration ratio belongs to Western Marmara (data of year 2008) with 76453 and the highest immigration ratio belongs to İstanbul (data of year 2014) with 424662. The lowest average of educated labor working in technology and information intensive sectors belongs to Northeast Anatolia (2009) with 646 and the highest figure belongs to İstanbul (2015) with 5301. When the government investment expenditures are taken into consideration, it is observed that the highest public expenditures belong to Western Anatolia and the lowest public expenditures belong to North Eastern Anatolia. And the highest per capita export belongs to Eastern Marmara and the lowest to Istanbul; the highest per capita import belongs to Istanbul and the lowest is in Middle Eastern Anatolia.

Table 2: Descriptive Statistics

	GINI	LNGOV	LNINMIG	LNOUTMIGR	LNPEREXP	LNPERIMP	LNHTEC
Mean	0.367240	14.22372	11.91097	11.96207	6.545079	6.364444	5.728519
Max.	0.433869	15.53330	13.0179	12.95905	8.663715	9.228082	7.345042
Min.	0.322980	12.79367	10.95102	11.24443	4.290459	3.332205	4.371976
Obsv.	84						

The correlation matrix belonging to the variables used in the study concerning the years of 2008-2015 is presented on Table 3.

Table 3: Correlation Matrix

	GINI	LNGOV	LNINMIGR	LNOUTMIGR	LNPEREXP	LNPERIMP	LNHTEC
GINI	1						
LNGOV.	-0.081606	1					
LNINMIGR.	-0.074724	0.721074	1				
LNOUTMIGR	0.056835	0.730532	0.866036	1			
LNPEREXP	-0.203649	-0.055143	-0.109167	-0.127229	1		
LNPERIMP	-0.130065	0.628302	0.912088	0.738311	0.063709	1	
LNHTEC	0.001405	0.711319	0.954294	0.788566	-0.055069	0.915574	1

When the correlation analysis results are examined, it is observed that there is a positive correlation between gini variable and internal emigration. Similarly, there is a positive correlation between gini and labor working in technology and information intensive sector variables. However, there is a negative correlation between the gini index and migration receiving variables. In accordance with this, as the received migration increases, the gini coefficient increases correspondently and this means a decrease in regional inequalities. Besides, there is a negative relationship between gini and government expanditures; there is a negative relationship between gini and per capitaimport-export .

The analysis results are given on Table 4 below. In the study, the relationship between internal migration and regional inequality was tested with panel regression model by using data concerning the years 2008-2015.Internal migration receiving and emigrating migration were examined separately since they contain different results. In this study, where the gini index was used as the dependent variable, internal migration data, public investment expenditures, qualified labor working in technology and information intensive sectors, regional per capita import and export were taken as independent variables. In accordance with the results of the analysis, the relationship between regional per capita import and gini was statistically insignificant. Therefore, this finding let us conclude that regional per capita importhas no effect on regional inequalities. It is found that there is a statistically significant relationship between internal migration receiving

variable and gini. In accordance with this, within the relationship between migration and inequality, the migration receiving of regions decreases the regional inequality. Another significant relationship is between gini and regional internal emigration. It is found that there is a positive relationship between two variables. According to internal emigration, regional inequality increases.On the other hand there is positive relationship between gini and educated labor working in technology and information intensive sectors. In another sense, the increase in educated labor working in technology and information intensive sectors increases gini and this means there will be an increase in regional inequality. There is also a negative relationship between public investment expenditures and regional inequality. That is, public investment expenditure reduces regional disparities. Per capita exports are among the variables that reduce the regional inequality. As a result, it is observed that emigration increases regional ineqaulitybut migration receiving of the regions decreases gini coefficient and hence decreases regional inequality.

Tablo 4: Results of the Analyses

Dependent Variable: GINI **Method: Panel Least Squares**			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
LNINMIGR	-0.073588	-3.458106	0.0009
LNOUTMIGR	0.045141	3.428991	0.0010
LNGOV	-0.011877	-2.061026	0.0427
LNHTEC	0.043528	4.200355	0.0001
LNPEREXP	-0.003893	-1.769171	0.0808
LNPERIMP	-0.006409	-1.513621	0.1342
C	0.689605	4.383894	0.0000

5. Conclusions

When the inequalities between regions are taken into consideration, it is seen that regional policies have a supplementary role in the economic development process. In this regard, many countries give weight to regional policies within the context of regional development. Migration policies are

accepted as one of the primary topics within the context of the regional policies. The migration, which leads to different regional consequences in different countries, contributes positively to regional development by decreasing regional inequalities by way of executing efficient policies considering the countries' conditions. When evaluated generally migration decreases inequalities with labor migration in some regions, whereas it causes development differences to grow in certain regions.

While the studies emphasizing that inequality will be increasing in the relationship between migration and inequality accept factors such as the migration of qualified and productive labor, the ability of only middle and upper class segments to migrate due to the very high migration costs, the low remittance and remaining people being old, sick and helpless are determining factors; in the studies emphasizing that inequality will be decreasing the views, which suggest that income growth will be provided in the poor segment through the decrease in employment along with employment-oriented migration and remittance realized by the migrants, gain weight.

In this study, the effect of level 1 regional-based internal migration movements in Turkey on regional inequality was analyzed with panel regression by using data concerning years 2008-2015. In the analysis, it is concluded that internal emigration increases regional inequalities but migration receiving regions decreased inequalities. Inefficiency of remittance plays an important role in obtaining these findings. Because migration takes place more often with family members and this undermines the positive effect of remittance on regional income distribution in Turkey. Moreover, the more skilled workforce of migrants contributes positively to the regional equilibrium in migrating regions. On the other hand, no study analyzing the relationship between internal migration and regional inequality in Turkey has been found in the literature. Given the role of regional development of regional inequalities, it is expected that this article will make a significant contribution to the literature in terms of the regional development policy proposal.

When it is taken into consideration that the regional development difference is a significant problem in Turkey, all the factors that may contribute to the regional development gain importance with regards to the policy makers. When the historical process is examined, the process starting with

regional development plans in Turkey, presents the economic importance of the regional policies along with the activation of the development agencies and policies aimed at regional development. Within the context of these results and when the effects of the migration are taken into consideration on a national level, the migration policies that will be applied become more of an issue. Carrying out the migration practices both in migration receiving and immigrating regions, in the manner that will not cause any negative problems (unemployment insurances, agricultural supports or providing financial resources when it is necessary to support migration, and regulating the migration costs), has a significant role in migration – inequality relationship.

Therefore when considering the results of the study that internal emigration increases the regional inequality whereas receiving internal migration decreases the regional inequality, bringing rural areas to the status of migrated areas will reduce inequality in these regions. In this context, regulations under policies to encourage migration to rural areas are important. also, improvement of employment conditions are among the measures to be taken by increasing public investments in these regions. On the other hand, given the impact of security issues on internal migration, reducing the security problems is one of the measures that can be done. At this point, the living standards in developed regions are also related to the migration regions and it is important to improve regulations such as housing, fixed capital investments, agricultural support policies, and health and education investments with public support. If these policies are implemented effectively, it is expected to contribute to reducing the high level of regional disparities in emigration regions.

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