Araştırma Makalesi

IMPACT OF SOCIAL SECURITY EXPENDITURES ON INCOME DISTRIBUTION: CASE OF TURKEY[1]

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Abstract

Income inequality is a significant hindrance to the growth and expansion of social welfare. Modern societies use many tools to overcome this hindrance. Social security system is one of the most known tools. The fact that social security spending improves the income distribution differently in each country, originating from the diversity of social security methods. In this study, the influence of social security expenditure on income distribution in Turkey is examined by Johansen and Juselius (JJ) Cointegration test for the period 1975-2010. The findings of the unit root tests show that all the variables are stationary at first difference and the findings of the cointegration test display that variables have a long run relationship. In addition, it is found that social security expenditure has a negative effect on income distribution in Turkey in the studied period, while economic growth has a positive effect on it.

Keywords: Social Security Models, Social Security Expenditure, Income Distribution, Turkey

SOSYAL GÜVENLİK HARCAMALARININ GELİR DAĞILIMI ÜZERİNE ETKİSİ: TÜRKİYE ÖRNEĞİ

Öz

Gelir dağılımı bozukluğu, toplumsal refahın artması ve yayılmasının önünde önemli bir engeldir. Modern toplumlar bu engeli aşmak için birçok araç kullanmaktadırlar. Bu araçların başında da sosyal güvenlik sistemleri gelmektedir. Sosyal güvenlik harcamalarının her ülkede gelir dağılımını farklı derecede iyileştirmesi sosyal güvenlik yöntemlerinin farklılığından kaynaklanmaktadır. Bu çalışmada, Türkiye'de sosyal güvenlik harcamalarının gelir dağılımı üzerine etkisi Johansen ve Juselius (JJ) Eşbütünleşme testi ile analiz edilmiştir. Birim kök testleri sonucuna göre değişkenler birinci farkta durağanlar ve koentegrasyon testi sonucuna göre değişkenler arasında uzun dönem ilişki mevcuttur. Ayrıca, Türkiye'de sosyal güvenlik harcamalarının gelir dağılımını olumsuz, büyümenin ise olumlu etkilediği tespit edilmiştir.

Anahtar Kelimeler: Sosyal Güvenlik Modelleri, Sosyal Güvenlik Harcamaları, Gelir Dağılımı, Türkiye

1. INTRODUCTION

It is considered to be a duty of social state to follow policies on reducing income inequality in order to build a peaceful society. Social security comes first among the tools used to that end. Social security is defined as the overall efforts to get in cash and kind

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[1] This study is an enlarged abstract from the PhD dissertation "Influence of Social Security Spendings On Income Distribution" approved by Kahramanmaraş Sütçü İmam University, Institute of Social Sciences.

benefits in order to compensate for the income insufficiency, inability to access health services, insufficient family support for the addicts, general poverty, and exclusion, which are all caused by social risks. Social security existed in every point of human history. Previously, social security used to be ensured by traditional methods, and then it has been institutionalized after industrial revolution.

Although, there is a substantial number of empirical works examining social security, and income distribution from different aspects, there are almost no empirical studies investigating the influence of social security spendings of Turkey on income distribution, which made it worth being studied.

This study primarily dwells upon the relationship between social security method and social security spending. Having treated the social security in Turkey, literature containing theoretical and empirical works measuring the influence of social security spendings on income distribution has been reviewed, and the influence of social security spendings on income distribution has been examined by VAR method.

2. RELATION BETWEEN TYPES OF PROGRAMS AND EXPENDITURE IN SOCIAL SECURITY

Social security has a definitive function on income distribution through providing allowances in cash and kind. In case that social security is financed through premiums, it provides "positive transfer " for the beneficiaries of the allowances while providing "negative transfer" for premium payers (Yazgan, 2011: 331). Premiums paid by the employer provide transfer from employer to employee; state contribution to social security system provides income transfer from government to people with low income. However, due to the reflections on premiums and taxes, it is not always easy to explain the clear influence of those transfers on income distribution. Strong employees leave all the burden on the back of working class, by making wage deduction in an amount equal to the premiums they paid. Also, state shifts the burden of social security on to the low income people, rather than high income people, through indirect taxes. Shortly, for enabling the net transfer of social security payments from high income people, to low income people, employers need not to reflect the premiums on the employees; and also the majority of the tax load must be constituted by direct taxes. Because beneficiaries of social security without premium have no contribution to the system, system provides only "positive transfer" to the beneficiaries.

Which segments of society will be covered by, or excluded from social security, is defined by types of social security programs. Accordingly, with types of social security programs to be followed, efficiency of the system on income distribution is defined too

(Lindert, 2002: 4).   Governments usually devise three broad approaches for providing the benefits of social security to the individuals or the household. Those approaches are; employment-related, universal, and means-tested systems (ISSA, 2012: 2). At present, many countries prefers combination of those systems most appropriate to them, instead of implementing a plain system

There is a close connection between social security approaches and social security spendings. For instance, ILO World Social Security Report 2010/2011 shows that the countries, implementing universal program, allocate highest share from their national income to the social security. Among them, Sweden allocates the highest share to the social security system. Sweden also allocates 29.4 % of its GDP to social security. In that respect, Sweden is respectively followed by Denmark, Finland, and Norway. The countries allocating the second highest share, implement employment-related program. Allocating 29.2% of its GDP to social security, France comes first among those countries adopted employment-related program. France is followed respectively by Germany and Italy (ILO, 2010: 263). When compared to other methods, the countries, implementing means-tested programs allocating the lowest share because those programs cover a narrower segment of society.

There is no consensus among economists about influence of social security expenditure on income distribution. A group of economists assert that because public social security spendings make excessive financial burden on the state, they will not work for improving income distribution. They argue that, because the taxes will also increase as they are the source of funding the public social security spendings, it will grow unfair income distribution and poverty. Another group claims that market is insufficient to ameliorate income distribution, and that government plays an active role in improving social security spendings and income distribution. Yet, there are studies available supporting the views of the both groups.

Though the relation between social security spendings and income distribution is not clear, it is seen that the countries where the income distribution inequality is smallest, are the ones implementing universal program. According to the data by OECD, the countries with the best income distribution are Denmark, Sweden and Finland (OECD, 10.04.2013. www.stats.oecd.org). Those countries are followed by countries using employment-related program, such as Germany and France. According to Korpi and Palme, the main reason behind the aforementioned fact is the scope and budget extensity of social security. The fact that scope and budget is large, reduces the exclusion from the system, and improves income distribution (Korpi & Palme, 1998: 672-674).
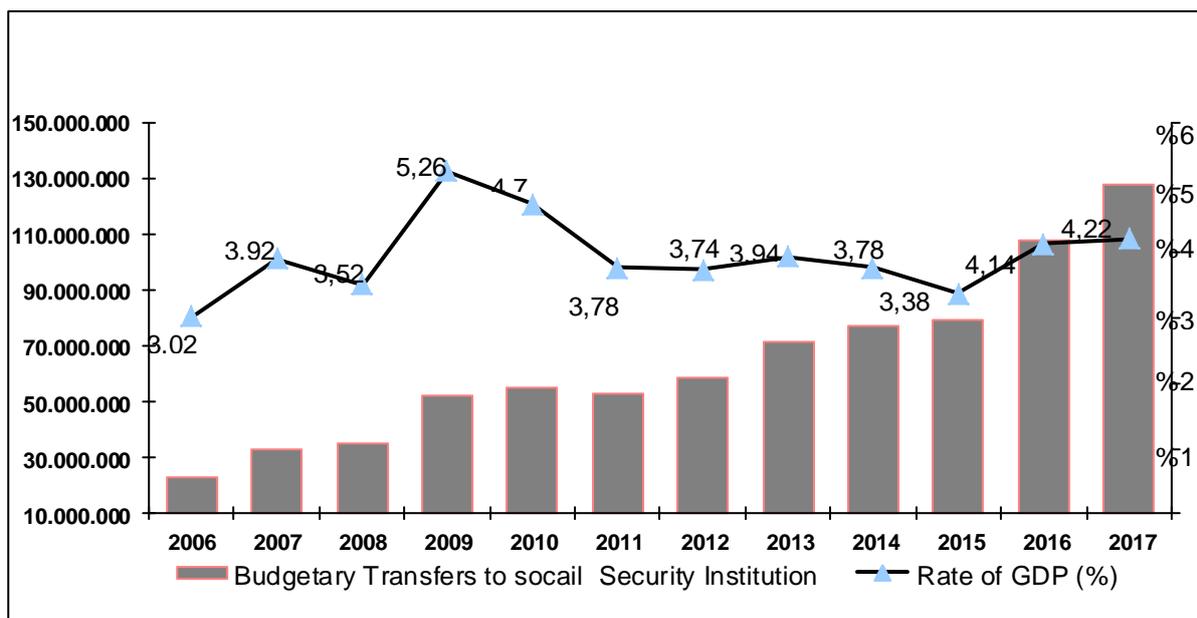
3. SOCIAL SECURITY SYSTEM IN TURKEY

Social security system in Turkey used to exhibit an irregular structure due to different institution, law, norm and standards until single law and roof. Industrial workers since 1936; public employees since 1949; self-employed people since 1971; and agricultural workers since 1983, benefit from the system through paying premiums. Those people not covered by any social security program, benefit from voluntary insurance since 1979. Unemployment insurance has a shorter history. Low-income or without-income people get benefit from social security services without premium. In other words, only those workers, civil servants or self-employed who have a continuous and regular job have been registered in the social insurance programs. In May 2006, the separate systems for public and private-sector employees and the self-employed were merged into one under the newly created Social Security Institution. Nevertheless, universal coverage cannot be the case. Yet, Turkish social security system scope have been ever widening. As indicated in Table 1 rate of excluded population was 61% in 1975, 32% in 2005, and 17% in 2012.   Between 1975- 2017, while the number of insured persons were grown by the rate 4,85, pensioners was grown nearly by the rate 16,4. In the same period, while the population of Turkey was grown by 1,87, Turkish social security system was quadrupled.

Table 1. Turkish Social Security System Coverage (1975-2017) (SGK, 28.06.2018, www.sgk.gov.tr)

	1975	1995	2005	2010	2015	2017
I- Insured Persons (Thousand)	3780	7952	11296	16196	20773	22280
II- Pensioners (Thousand)	635	4223	7580	9518	11384	12154
III- Dependents (Thousand)	11622	33546	31579	35470	34786	35522
IV-Funds (Thousand)	116	291	307	341	336	407
Social Security Coverage (I+II+III+IV)	16037	47833	52150	61526	67282	70463
Insured / Pensioner	5,95	1,9	1,5	1,83617	1,92	1,95
Population (Thousand)	40347	62304	68582	73722	78741	80810
Rate of Insured Population (%)	39	77	68	83	85,5	87,1
Rate of Unregistered Insured Population (%)	61	23	32	17	14,5	12,9

In Turkey, employment-related program combined with means-tested program is used for enabling households benefit from social security. Main source of financing for Turkish social security system are the premiums paid by employers and employees. Yet, premium incomes do not suffice to cover the expenses of the system. In addition to directly contributing to insurance premiums as employer, government also makes some transfers to insurance institutions, in order to cover institutional expenses and administrative expenses, and to close the gaps.

As seen in Figure 3.1, while the budgetary transfers to social security institutions has been three times in the last ten years, its share in GDP has not gotten the same level. Budget transfers in 2009 reached to the highest rate 5,26%. It declined in the following years, which was a significant incidence for budget balance, and weakened social aspect of the state. Including spendings on health, share of the social spendings on GDP was %12,8 by year 2009. This rate is much below the average of OECD countries, and falls much behind the European Countries, which are considered to be the representatives of social state (OECD, 2012).

Figure 1. Budgetary Transfers to Social Security Institution, 2006-2017 (Thousand TL) and Rate of GDP(%) (SGK, 28.06.2018, www.sgk.gov.tr)

Unfair income distribution is a significant problem in the economy of Turkey as well as all other economies. However not continuous, there have been some improvements in some years. According the findings of Income and Life Conditions Survey 2012, average disposable income in Turkey was 11.859 TL in 2012, and it was 10.774 TL in 2011 and 9.735TL in 2010. It increased 10% in 2012, 10,7% in 2011, and 3, 6% in 2010.

According to the distribution of annual equivalised household disposable incomes in Turkey, while the poorest group's (20%) share in only 6,1% in 2015, this rate increased to 6,2 in 2016. Income level of the wealthiest group (20%) increased by 0,1 when compared to 2015, it shared 47,2% of the total annual disposable income in 2016. Accordingly, the share of the last 20% group in the total income is nearly 8 times higher than the share of the first 20% group (P80/P20 indicator). This amount was 7.6 in 2015. The difference between the

shares of the wealthiest and the poorest 20% groups in the overall income has been slightly increased.

4. LITERATURE REVIEW

Income distribution and social security spendings keeps its importance in the literature. Researches about income distribution and social security spending have gain significance in the periods when economic and social discontents grow. Research on this field varies according to the factors such as set of data used, reviewed country, number of countries, covered period, and application methods. Such that, studies concluding that social security spendings improve income distribution, and the ones concluding that the it destabilize the income distribution are almost in the same number. A few studies found out that social security spedings do not influence income distribution.

Among the latest studies, Dolls et al. (2011), underlines the fact that social security payments are more efficient than income tax in achieving disposable income stabilization for low income people. Immervoll and Richardson (2011) stated that in 29 countries of OECD, social security payments were more efficient than tax system in improving income distribution. Bargain et al. (2010) found that social security payments absorbed, and clearly reduced the losses in the incomes of the low-income workers. According to Kanbur (2010) social security influenced the income distribution, and income distribution influenced the social security; and in practice. Indeed, it is practically impossible to disentangle the two. One of them cannot be assessed without taking account of the other. Heathcote et al. (2009) show public transfers compensating for the income losses constitute a substantial part of the disposable income of households in the percentage of the lowest rank in USA. The transfers decrease the inequality in the income distribution. According to Neubourg et al. (2007) income inequality was much greater before tax and transfer in in the Countries of Continental Europe, when compared to the income inequality after tax and transfer. Authors concluded that in achieving fair income distribution, interventionist and universal social protection systems had a significant role. Smeeding (2004) detected that social insurances in Sweden, Belgium, and Germany, and social aid in Finland and England were more efficient in reducing poverty. Smeeding pointed out that in countries with well-functioning social insurance system, social aids were not much needed. According to Tafner (2007), social security programs in Brazil, had a significant play in reducing family poverty. Tafner argues that those programs needed to target the poorest people in order to get more strengthened. According to Barrientos and DeJong (2006), who examined the connection between the child and poverty, cash transfers reduced the child poverty to a significant extent. Conditional

targeted transfers were more efficient in reducing vertical poverty, and family benefits and child allowances were more efficient in reducing horizontal poverty. According to Oshio (2002), social security spendings eliminated inequality in inter and intra generation income distribution. Social security programs have much more achievement on inter-age redistribution. Yet, its inter generations is much more than its intra generations achievement on income distribution. Also, Oshio detected that in ensuring income justice, public pension regime played a greater role than that of employer's pension regime in Japan.

Also, the numbers of studies arguing that the social security spendings disrupted income distribution are also in a much considerable amount. Among such studies, Moura et al. (2013), in their study questioned if the social security system of Brazil produced positive net transfer or negative net transfer. According to the findings of the study, social security system in Brazil reduced the income inequality between 1987 and 1996 but only for the elderly. For the remaining age groups, there was not an improvement in income distribution. As for the years between 1996 and 2006, the system of Brazil did not provide an improvement regarding income inequality for all age groups. According to authors, the major reason behind the aforementioned situation was that the Brazilian social security system features a highly cost for the Brazilian economy. Brown et al. (2009) claims that social security disrupted income distribution while poors pay net taxes. Avram (2009) thinks that social relieves are not efficient in reducing income distribution and poverty. Conte-Ruiz and Profeta (2007), argues that social security spendings further deteriorate income distribution. According to Cremer and Pestieau (2003), because the poor people are financed by again poor people, social security expenditures negatively influenced the income distribution.

Gokhale and Kotlikoff (2002a) found that social security spendings increased Gini by 20%. They relate such increase to two factors. The first is the fact that welfare provided by social security, is transferred among the generations through inheritance. The second is that social security disrupted intra generational welfare distribution by creating tax advantage. Again according to Gokhale et al. (2001), social security system, disrupts income distribution between generations for low and middle income families in USA, because after paying social security premiums for low income families, no sufficient amount of income remains after paying social security payments. However, while high income families, paying higher premiums, leave heritage to next generations, they widen the gap between the low and middle income families through their current higher incomes.

Studies examining the influence of social security spendings on income distribution in Turkey by modern econometric method have different findings. Arabacı (2007), Kar and

Elveren (2008), Pehlivan (2009) and Hazman (2011) found that social security spendings distrupted income distribution. However, according to Sarısoy and Koç (2010) and Kurtipek (2011), social security spendings in Turkey improve income distribution.

5. DATA AND METHODOLOGY

For the analysis of connection between social security expenditures and income distribution, annual series covering the years 1975-2010 were used. In the study, GDP percentage of budget transfers made to social security institutions (SSE) has been taken as social security spending; and THEIL Index has been taken as a measure of income distribution. The reason why Theil has been chosen is that it offers principle of transfers, income scale independence, population and decomposability. Theil index is not estimated by Turkey Statistical Institute (TÜİK). Therefore, for the years 1975-2008, data from Theil[2] index included in the work by Elveren and Galbraith (2009), has been accessed. Indexes belonging to the years 2009 and 2010 have been estimated by Elveren.

Theil index, used in the study, is the index of remuneration inequality in manufacturing industry, and the index is estimated by Theil T statistics and reflects the general trend of income distribution. Renumeration has a share more than 40% in annual income distribution according to the types of income in Turkey (TÜİK, 2014). In that respect, remuneration constitutes a basic source of "income" for a significant segment of society.

Again, because the renumeration is a continous part of income, it is a major indicator of general trend in income distribution. Also, because macro-economic policies differently influence the incomes of employees in different lines of work, trend of average incomes of people working in a certain industry will reflect a general income inequality prevalent in the related country (Galbraith, 2009: 189-206). Theil index is a commonly used method because it allows classification as inter group and intra group inequality within the overall inequality.

However, Theil index only indicates the inequality between the groups. As a growth variable, logarithmic difference of real GDP has been selected. In order to determine the influence of social security spendings on income distribution regression equation below has been formed.

$$THEIL = \alpha_0 + \alpha_1 SSE + \alpha_2 GDP_+ \mu_t$$

SSE and GDP have been obtained from Development Ministry and Social Security Institution. "Log" put before the variables indicates that logarithms of the variables have been taken.

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[2] The same data used in Elveren, Örnek and Akel (2012) "Internationalization, Growth and Pay Inequality: A Cointegration Analysis for Turkey, 1970–2007."

Table 2. Definition of the Variables

Variables	Defination of Variables	Symbols
Social Security Expenditure	Budgetary Transfers to Social Security Institution / Gross Domestic Product	LogSSE
Income Disrtibition	Wages in Manufacturing Industry	LogTHEIL
Economic Growth	Gross Domestic Product (Based on current prices in 1998)	LogGDP

5.1. Unit Root Analysis

Economic time series are not usually stationary. Augmented Dickey-Fuller (ADF) and Philips Perron (PP) tests were conducted to assess the stationarity of the series used in the study, in order to avoid from any spurious regression risk. Economic variables are not linear on their real values, and are usually linear on logarithmic values. Therefore, instead of real values of the series, logarithmic values are used (Şahin & Özenç, 2007: 208). In this study, logarithms of the series have been taken as well. When determining the most appropriate delay length, Akaike Information Criteria in ADF test, and New West estimator in PP test were applied to. For unit root test:

H_0 : Series contains unit root (not stationary)

H_1 : Series unit does not contain root (stationary)

have been hypothesized and tested. ADF and PP unit root testing results are given in Table 3 critical values were produced by Eviews 7 and the critical values were based on MacKinon value.

Table 3. Results of the Unit Root Tests

Variable	ADF		PP	
	Level Trend and Intercept	*Difference* Trend and Intercept	*Level* Trend and Intercept	*Difference* Trend and Intercept
LogTHEIL	-2,88	-5,48	-2,23	-5,49
LogSSE	-2,11	-5,57	-2,47	-5,57
LogGDP	-2,89	-6,22	-2,96	-6,22

Critical Values for ADF %1= -4,25; %5= -3,54; %10= -3,20
Critical Values for PP   %1= -4,25; %5= -3,54; %10= -3,20

Because the same level of stationarity cannot be achieved for each three series during ADF and PP tests conducted on level, H_0 hypothesis (series is not stationary) has been accepted. When their first degree difference has been found, they exhibited stationarity at the same time. Therefore, it is accepted as I (1). Because for each of the three ADF and PP test statistics values, are smaller than 1%, 5%, and 10% critical value, H_1 hypothesis has been accepted, and stationarity was achieved. Because all the series are integrated to the same

degree, Johansen cointegration test as another phase of the analysis will be applied, and the existency of long term relationship between the variables will be researched.

Johansen's Co-integration Test (Assuming intercept (no trend) in co-integration equation and test VAR)

5.2. Johansen - Jesulius Cointegration Method

In this part of the empirical study, existence of a relationship between Turkey's social security spendings, income distribution and growth variables will be questioned. In other words, existence of a cointegration relation among the variables will be searched.

In order to set the number of cointegrated vectors and to define the relevant error connection terms, Johansen (1988) and Johansen-Juselius (JJ) (1990), used multivariate cointegration test. For JJ test, vector autoregressive (VAR) model was used. Before moving on to the VAR model to be predicted, it is required to define delay length appropriate for the model.

LR (Likelihood), FPE (Final Prediction Error), AIC (Akaike Information Criterion), SC (Schwarz Information Criterion), HQ (Hannan- Quinn Information Criterion) were considered in order to determine the optimal VAR lag order selection.

Table 4. VAR Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-42.68235	NA	0.003488	2.855147	2.992560	2.900696
1	67.99755	193.6898*	6.09e-06*	-3.499847*	-2.950196*	-3.317653*
2	73.40812	8.454026	7.75e-06	-3.275508	-2.313619	-2.956669
3	77.83973	6.093464	1.08e-05	-2.989983	-1.615856	-2.534499
4	85.83966	9.499917	1.25e-05	-2.927479	-1.141113	-2.335349

*indicates lag order selected by the criterion

As seen on Table 4, 1 lag length is the most appropriate lag length. Because five criteria indicate 1 lag for optimum lag level. Therefore, the estimated value "1" will be used as a lag length in the analysis. Also, it has been detected through LM and White test that the model established on this lag length does not include autocorrelation and changing variance. In Table 5 below, for 1 lag value, JJ cointegrated test results are indicated.

Table 5. Johansen-Juselius Cointegration Tests Results

Variables: LogTHEIL, LogSSE, LogGDP				*Lag Order:1*	
Null Hypothesis	Eigenvalue	Trace Statistic	%5 Critical Value	Max-Eigen Statistic	%5 Critical Value
r=0	0.440571	28.10396*	24.27596	19.74849*	17.79730
r≤1	0.186806	8.355471	12.32090	7.030719	11.22480
r≤2	0.038214	1.324752	4.129906	1.324752	4.129906

In JJ test, in order to determine the number of cointegration vectors, track and maximum Eigen value statistics have been used. According to the test results, H_0 (null

hypothesis) indicating the existence of conintegration between three variables is rejected on 5% significance levels. Trace statistics is 28.10396> 24.27596, and maximum eigenvalue statistics is 19.74849> 17.79730. In other words, there is at least one cointegrating relationship between the variables.

Table 6. Normalized Cointegrating Coefficients

LogTHEIL	LogSSE	LogGDP	LogC
1.000000	-1.426192	5.023638	-3.691279
	(0.60240)	(1.03471)	(1.61938)

Significance level %5, natual lagorithms of the variables have been considered.
Note: Values within brackets show standard deviation.

LogTHEILL= 3,6912 +1,4261LogSSE -5,0236LogGDP

The results of normalized cointegration vector, obtained through JJ method, are given in Table 6. The results indicate that social security expenditure has a negative effect on income distribution in Turkey in the studied period, while economic growth has a positive effect on it. The estimated coefficients of social security expenditure and gross domestic product variables are statistically significant at 5% level.

6. CONCLUSION

Social security spendings influence country's economy from many aspects. In this study, impact of Turkey's social security spendings on income distribution have been investigated. Influence of Turkey's social security spendings on income distribution in years 1975-2010; and the long term relationship between the two have been analyzed through VAR Model. According to the results of the analysis, social security expenditure has a negative effect on income equality where as economic growth has a positive effect.

Given the structural nature of Turkish social security system, and of Turkish public revenues, such result of the analysis, supports theoretical and empirical studies. Such a result, mainly originates from the fact that employment-related method is preferred in enabling individuals to access social security benefits, and that the share allocated to the system from the budget is low. Also the fact that budget transfers make burden on the public, and that indirect taxes have a high share in total tax revenues might be predicted to be other factors accounting for the aforementioned result of the analysis. Therefore, so as to achieve a better income distribution in Turkey, first of all, it is needed to shift to the universal method in social security; to increase budget transfer as much as possible; and to increase the share of direct taxes in total taxes.

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TÜRKÇE GENİŞ ÖZET

Dengeli bir gelir dağılımı, toplumların gelecekte birlikte yaşaması ve sosyal barışın tesis edilmesinde hayati önem taşıdığından gelir dağılımı adaletsizliği modern dünyanın çözmeye çalıştığı sorunların başında gelmektedir. Bundan dolayı her ülke gelir dağılımını iyileştirmek ve sosyo-ekonomik refahın artmak için farklı mekanizmalar yaratmaktadırlar.

Sosyal-refah devletleri, gelir dağılımını düzenlemek için sosyal politika araçlarını kullanmaktadırlar. Bu araçların başında da sosyal güvenlik sistemi gelmektedir. Sosyal güvenlik sistemi, insanların karşılaşmış oldukları sosyal riskler sonucunda yaşadıkları gelir kaybı veya kesintisi nedeniyle hayat standartlarının telafi edilmesini, ekonomik eşitsizliklerin azaltılmasını, bireysel ve toplumsal refahın artırılmasını ve yaygınlaştırılmasını sağlayan bir sosyal politika aracıdır. Genel olarak, ülkelerin sosyal güvenlik sistemleri kapsam, hak kazanma şartları ve fayda düzeylerine göre İskandinav model, korporatist model veya liberal model çerçevesinde oluşturulmuştur. Bu modellerden İskandinav sosyal güvenlik modelinin en önemli özellikleri devletlik, evrensellik, eşitlik ve asgari gelirdir. İskandinav sosyal güvenlik modeli devletin geniş bir hâkimiyetine dayanmaktadır. Korporatist modelin en belirgin özelliği, aktif nüfusu kapsama almakta ve sosyal güvenlik hakkı belirli bir süre çalışma ile prim ödeme şartına bağlamaktadır. Sosyal sigorta tekniği ile çalışan model, prim ödeme gücü olmayanı kapsam dışında bıraktığından doğrudan gelir dağılımında eşitsizliği ve buna bağlı olarak yoksulluğu azaltmayı doğrudan amaç edinmemektedir. Liberal model ise en alttakilere yapılacak yardımlar hariç olmak üzere sosyal güvenliği tamamen piyasaya terk eden bir model olarak diğerlerinden farklılaşmaktadır.

Gelir dağılımı ekonomideki makro büyüklükler üzerinde önemli etkiye sahiptir. Etkin bir gelir dağılımı politikasının uygulanabilmesi için gelir dağılımındaki bozulmanın derecesini ve nedenini doğru tespit edilmesi gerekir. Bu nedenle, dönemler arası gelir dağılımını karşılaştırmak ve değişmelerin nedenini daha iyi analiz etmek için nitelikli, sürekli ve sağlam verilere ve göstergelere ihtiyaç duyulmaktadır. Gelir dağılımı göstergeleri içinden en çok Varyans, Gini, Yüzde Payları, Lorenz Eğrisi, Atkinson İndeksi ve Theil İndeksi

kullanılmaktadır. Göstergelerin birbirine karşı avantajları ve dezavantajları vardır. Ancak gelir dağılımı eşitsizliği ölçülerinin sahip olması gereken özellikler açısından en avantajlı olan Theil İndeksidir.

Sosyal güvenlik harcamaları ile gelir dağılımı arasında güçlü ilişkiler bulunmasına rağmen ilişkinin sonucu ve nedenselliğin yönü hala net değildir. Sosyal güvenlik harcamalarının gelir dağılımı üzerindeki etkisi farklı ölçülmesinde seçilen sosyal güvenlik modelinin, formülasyon ve parametrelerin, sistemin finansman yapısının ve demografik yapının önemli etkisi vardır. Türkiye sosyal güvenlik sistemi korporatist model üzerine inşa edilmiştir. 1946 yılında İşçi Sigortaları Kurumunun, 1950'de Emekli Sandığının ve 1972'de Bağ-Kur'un kurulması, üniversal kapsayıcılığın olmaması, prim ödeme ve sistemde belirli bir süre kalma zorunluluğu, sistem ödemelerinde parametre ve hesaplama formülleri yardımıyla doğrudan ödenen primlere bağ kurulması ve sosyal sigortaların yönetiminde sosyal tarafların temsil edilmesi bunun en önemli göstergeleridir.

Bu çalışmada, Türkiye'de sosyal güvenlik harcamalarının gelir dağılımı üzerine etkisi 1975-2010 arası yıllık veriler kullanılarak analiz edilmiştir. Analizde sosyal güvenlik harcama değişkeni olarak sosyal güvenlik kurumlarına yapılan transferlerin gayrisafi yurtiçi hâsılaya oranı (SSE); gelir dağılımı değişkeni olarak Theil İndeksi ve büyüme değişkeni olarak da TÜİK verilerine göre uyumlaştırılmış 1998 fiyatlarıyla reel gayri safi yurtiçi hâsıla (GDP) kullanılmıştır. Sosyal güvenlik harcamalarının gelir dağılımı üzerinde etkisi belirlemek için aşağıdaki regresyon denklemi oluşturulmuştur.

$$THEIL = \alpha_0 + \alpha_1 SSE + \alpha_2 GDP + \mu_t$$

İktisadi zaman serilerinin genellikle durağan olmadıklarından Genişletilmiş Dickey – Fuller (ADF) ve Philips Perron (PP) birim kök testleri yapılmıştır. ADF ve PP birim kök testi sonuçları Tablo 1'de verilmiştir.

Table 1. Birim Kök Testleri Sonuçları

Variable	ADF		PP	
	Level	Difference	Level	Difference
	Trend and Intercept	Trend and Intercept	Trend and Intercept	Trend and Intercept
LogTHEIL	-2,88	-5,48	-2,23	-5,49
LogSSE	-2,11	-5,57	-2,47	-5,57
LogGDP	-2,89	-6,22	-2,96	-6,22

ADF için Kritik Değerler %1= -4,25; %5= -3,54; %10= -3,20
PP için Kritik Değerler %1= -4,25; %5= -3,54; %10= -3,20

Seriler düzeyde durağan olmadığından, birinci derece farkları alındığında aynı anda durağanlık sağlanmıştır. Tüm serilerin aynı dereceden bütünleşik/entegre olmasından dolayı bu seriler arasında koentegrasyon testi yapılması mümkün olmaktadır. Bu durumda, analizin

diğer aşaması olan Johansen eş bütünleşim testi uygulanarak değişkenler arasında uzun dönemli ilişkinin varlığı araştırılacaktır.

Aşağıdaki Tablo 2'de 1 gecikme değeri için Johansen-Juselius eşbütünleşme test sonuçları gösterilmektedir.

Table 2. Johansen-Juselius Eşbütünleşme Testi Sonuçları

Variables: LogTHEIL, LogSSE, LogGDP				Lag Order:1	
Null Hypothesis	Eigenvalue	Trace Statistic	%5 Critical Value	Max-Eigen Statistic	%5 Critical Value
r=0	0.440571	28.10396*	24.27596	19.74849*	17.79730
r≤1	0.186806	8.355471	12.32090	7.030719	11.22480
r≤2	0.038214	1.324752	4.129906	1.324752	4.129906

İz istatistiği, 28.10396> 24.27596 ve maksimum özdeğer istatistiği, 19.74849> 17.79730'dir. Başka bir deyişle, denklemi oluşturan değişkenler arasında eşbütünleşim vardır.

Table 3. Normalize Edilmiş Denklem

LogTHEIL	LogSSE	LogGDP	LogC
1.000000	-1.426192	5.023638	-3.691279
	(0.60240)	(1.03471)	(1.61938)

Anlamlılık düzeyi %5, değişkenlerin doğal logaritmaları dikkate alınmıştır.
Not: Parantez içindeki değerler standart sapmayı göstermektedir.

$$LogTHEILL = 3,6912 + 1,4261 LogSSE - 5,0236 LogGDP$$

Johansen-Juselius yöntemiyle elde edilen normalize edilmiş eşbütünleşme vektörü sonuçlarına göre sosyal güvenlik harcamaları, incelenen dönemde, Türkiye'deki gelir dağılımını olumsuz, ekonomik büyüme ise olumlu etkilemektedir.

Sonuç olarak, çalışmada elde edilen bulgular teorik ve ampirik çalışmalarla desteklenmektedir. Böyle bir sonuç, sosyal güvenlik sisteminde istihdama dayalı metodun tercih edilmesinden ve sisteme bütçeden tahsis edilen payın düşük olmasından kaynaklanmaktadır. Ayrıca bütçeden transferlerin kamu yükünü artırması ve dolaylı vergilerin toplam vergi gelirleri içinde payının yüksek olması elde edilen sonucun diğer nedenleri arasında sayılabilir. Bu nedenle, sosyal güvenlikte İskandinav modele geçilmesi, bütçeden sisteme aktarılan payı çoğatılması ve dolaysız vergilerin toplam vergi içindeki payını artırılması Türkiye'de gelir dağılımına daha iyi bir konuma getireceği düşünülmektedir.