



TURKISH INDUSTRIALISTS' AND BUSINESSMEN'S ASSOCIATION

INDIVIDUAL INCOME DISTRIBUTION IN TURKEY

A COMPARISON WITH THE EUROPEAN UNION

Executive Summary



TURKISH INDUSTRIALISTS' AND BUSINESSMEN'S ASSOCIATION

INDIVIDUAL INCOME DISTRIBUTION IN TURKEY

A COMPARISON WITH THE EUROPEAN UNION

Executive Summary

December 2000

(TÜSİAD Publication No-T/2000-12/296)

Meşrutiyet Caddesi, No.74 80050 Tepebaşı/İstanbul

Phones: (0212) 249 54 48 - 249 07 23 • Fax: (0212) 249 13 50

“All rights reserved. No part of this publication shall be processed/adapted, reproduced, circulated, re-sold, rent, lent, represented, performed, recorded, transmitted with cord/cordless or any technical, digital and/or electronic devices without prior written permission from the author(s)/right holder subject to Article 52 of Law No.4110 amended by Law No.5846 for Intellectual and Artistic Works.”

ISBN : 975-8458-13-2

Lebib Yalkın Yayınları ve Basım İşleri A.Ş.

FOREWORD

TÜSİAD (Turkish Industrialists' and Businessmen's Association), founded in 1971, according to rules laid down by The Constitution and the Association Act, is a non-governmental organisation working for the public interest. Committed to the universal principles of democracy and human rights, along with the freedoms of enterprise, belief and opinion, TÜSİAD tries to foster the development of a social structure which conforms to Atatürk's principles and reforms, and strives to fortify the concept of a democratic civil society and a secular state of law in Turkey, where the government primarily attends to its main functional duties.

TÜSİAD aims to establish the legal and institutional framework of the market economy and to ensure the application of internationally accepted business ethics. TÜSİAD believes in and works for the idea of integration within the international economic system, by increasing the competitiveness of the Turkish industrial and services sectors, thereby guaranteeing itself a well-defined and permanent place in the economic arena.

TÜSİAD supports all the policies aimed at the establishment of a liberal economic system which uses human and natural resources more efficiently by means of latest technological innovations and which tries to create the proper conditions for a permanent increase in productivity and quality, thus enhancing competitiveness.

TÜSİAD, in accordance with its mission and in the context of its activities, initiates public debate by communicating its position supported by scientific research on current issues.

"Individual Income Distribution In Turkey: A Comparison with the European Union", commissioned by the Board of Directors of TÜSİAD, was written by Prof. Seyfettin Gürsel, Assist. Prof. Haluk Levent, Assist. Prof. Raziye Selim and Assistant Expert Özlem Sarıca. Associate Prof. Seyfettin Gürsel coordinated the project. This research paper would have been impossible without the contributions of SIS. The English version is the extensive summary of the original report, which is in Turkish.



Dr. SEYFETTİN GÜRSEL, Professor

Born in 1949, Seyfettin Gürsel graduated from Galatasaray Lisesi in 1968. He then studied at the Faculty of Economics in the University of Grenoble, France. He received his MA and Ph.D in economics from the University of Nanterre in Paris. Between 1980-83 he lectured at the Faculty of Economics, Istanbul University. He worked for the *Encyclopedia of Turkey in the Republican Period*. Since 1994, he has been lecturing at Galatasaray University, where he is the Chairman of the Department of Economics.

Gürsel has published many books, articles and research papers on economic history, economic theory, economic policies and election systems.

Dr. HALUK LEVENT, Assistant Professor

Born in 1961, Haluk Levent graduated from Galatasaray Lisesi in 1981. He studied Management Engineering at Istanbul Technical University and graduated in 1986. After completing his MA in economics at I.T.U., he obtained his Ph.D in 1995 from Istanbul University. Between 1987 and 1997, he was a member of the Faculty of Business Administration, in I.T.U. Since 1997, he has been teaching in the Department of Economics at Galatasaray University.

Levent has published several books, articles, reports and research papers on development economics, financial economics and regional science.

Dr. RAZIYE SELİM, Assistant Professor

Born in 1969, Raziye Selim graduated from Management Engineering, Istanbul Technical University in 1990. She completed her MS and Ph.D in the Faculty of Business Administration in I.T.U. She has been teaching in the Department of Management Engineering in ITU.

Selim has published articles on consumption types, income distribution and inequality.

ÖZLEM SARICA, Assistant Expert

Özlem Sarıca was born in 1970 in Ankara. She graduated from the Department of Statistics, Hacettepe University in 1991. She joined the State Institute of Statistics in 1991, where she continues to work. She is pursuing her postgraduate study in the Department of Statistics in Hacettepe University. She has worked in the research team of the World Bank on issues relating to Turkish Economic Reforms, Standards of Living and Social Wealth.

1. INTRODUCTION

In recent months, the problem of income distribution has become one of the foremost discussed matters. At the end of the first year of the three-year stability program, expectations for combating inflation have increased. However, worries have arisen concerning the unequal distribution of income and its risk is worsening under the stability program. Turkey is not an exception. In recent years, inequality has increased in all countries, both developed and undeveloped.

In this research paper, income distribution will be analyzed from the perspective of personal income level. However, first we have to shed light on the concept of personal income distribution and clarify it. All income types are individual, but consumption occurs both on an individual and household level. Because of this common characteristic of consumption, the household has generally been accepted as the basic unit of analysis in income distribution dynamics in Turkey until today. When all individual incomes are aggregated at the household level, it is obvious that individual welfare comparisons became impossible. **In this research, total household income is transformed to the "equivalent disposable income per household member (individual income distribution in short)" using different types of equivalence scales. This method is what differentiates this research from others.** In this manner, various aspects of income distribution in Turkey are evaluated more accurately. Moreover, it is the only procedure available that enables us to compare income distribution in Turkey with that of EU countries.

The *Gini coefficients* calculated by the State Institute of Statistics (SIS)* indicate a serious increase in inequality between 1987 – 1994. But SIS calculations consider the households as the basic unit, not distinguishing the effects of scale economies at the household level; and because of this "lack of correction" the Gini computed by SIS can be considered "insignificant".

One of the aims of this research is to analyze the sources of income distribution and poverty in Turkey. In this context, regional and urban / rural differences, the educational level, work attachment and family type are utilized as tools of analysis to determine the main social characteristics of income distribution and poverty. This information is highly important to design dynamic social transfer policies.

* It would be impossible to carry out this research without the precious contributions of SIS President Mr. Şefik Yıldızeli, Vice President Nurgül Ögüt and Branch Manager of Income and Consumption Statistics Institution Murat Karakaş. We are duly grateful to all.

2. INCOME DISTRIBUTION IN TURKEY

Income inequality over time can be investigated based on different income definitions. In this research the concept "disposable income" will be used as the main definition of income. The disposable income concept can be criticized due to the possible difference between the survey data and the GNP data. In Turkey disposable income stands at 83 % of the national income in 1987 and was 85 % in 1994 (calculated with the numbers available in the "General Equilibrium of the Economy" prepared by the State Planning Organization; TÜSIAD, 1994: 186). Total disposable income in 1987 according to the income distribution survey is 70 % of the national income for the same year. Consequently, the disposable income data gathered through the public survey can only account for 84 % of real disposable income. In 1994, total disposable income data gathered through public survey was 58 % of the national income for the same year. That portends that the disposable income values gathered through the survey could only account for 68 % of real disposable income.

According to OECD standards, the ratio of survey data to GNP data is considered "good" for 90 % or more, "*moderate*" between 70 % - 89 % and "*ambiguous*" below 70 % " (OECD, 1995: 39). Thus, the result of the 1987 public survey is "*moderate*"; the result of 1994 is "*ambiguous*".

At this point, another feature to be emphasized is that different surveys will contain different results, as SIS possesses two different data sets for the 1987 and 1994 Household Income and Consumption Survey (HICES) and Income Distribution Survey. Both surveys contain information on incomes of household members. Nevertheless, they hold different application methods. In the consumption survey, within the survey year, 2600 families are chosen every month to derive the data on their consumption and income behavior. In the income distribution survey, within the following survey year, the selected families are asked their income for the previous year. Within this perspective, income data gathered through the consumption survey can be corrected according to the monthly inflation data. On the other hand, data gathered through the income distribution survey is more detailed. In the consumption survey, different households with similar sampling features are visited every month to gather the income data. In the research completed by the World Bank on Turkey, monthly income data gathered

through the HICES is employed rather than the preferred data in our research. (See: World Bank, 2000: 25, Chart 6 footnote). As two different data sets and other methods are applied, the above mentioned surveys naturally record differing results (i.e. the Gini coefficient of 1987 and of 1994 calculated by the World Bank as 0.47, whereas in this research it is calculated as 0.46 and 0.45 accordingly). Nonetheless, in both studies, the main findings are the same. For instance, in both sets of research it is accepted that the income inequality between 1987 - 1994 has not changed.

Meanwhile, the research commissioned by the World Bank on the individual income distributions are considered, based on the OECD scale (See. World Bank, 2000: 18, Figure 1, footnote). In our research, the Eurostat and Oxford equivalence scales are also employed, besides the OECD, the scale used by the World Bank and the scale sensitivity of the inequality indexes is analyzed.

Different Scales and the Inequality Indices

A comparison between income distributions are distorted because inequality indices' sensitivities to the equivalence scales are different. Before comparing two different income distributions, they have to be recalculated by using appropriate scales. However, another problem occurs: there is no research to calculate equivalence scale for Turkey. So in this research, different equivalence scales are utilized and income inequality indices' sensitivities to these scales are determined.

Table 2.1 gives the income inequality index values for three different equivalence scales (OECD scale, Eurostat scale, Oxford scale). All income inequality indices yield similar results for the OECD scale (**e**) and Eurostat scale (**e'**). Yet, each inequality index based on the Eurostat scale (Table 2.2. third column) is greater than the inequality index based on the OECD scale (Table 2.2 second column). Therefore, there is no need to re-evaluate the results obtained by the OECD scale. It is sufficient to note that, Eurostat scale (**e'**), which assumes lower economies of scale when compared with the OECD scale (**e**), yields higher values for income inequality and hence, a more unequal income distribution.

Table 2.1. Comparison of Individual Equivalent Disposable Income Inequality Indices for Different Economies of Scales

	Year	e ($N^{0.5}$)	e' ($1+0.5N_a+0.3N_c$)	e'' ($1+0.7N_a+0.5N_c$)
<i>Gini coefficient</i>	1987	0.455	0.462	0.445
	1994	0.447	0.457	0.465
<i>Mean Log Deviation (MLD)</i>	1987	0.360	0.372	0.342
	1994	0.343	0.358	0.373
<i>Squared coefficient of variation (GV)</i>	1987	1.82	1.87	1.85
	1994	5.76	6.29	6.66
<i>Theil Index</i>	1987	0.420	0.430	0.405
	1994	0.482	0.506	0.523
<i>P90/P10</i>	1987	6.76	7.09	6.44
	1994	6.07	6.42	6.71
<i>P75/P25</i>	1987	2.66	2.72	2.59
	1994	2.59	2.61	2.68
<i>P90/P50</i>	1987	2.82	2.86	2.65
	1994	2.63	2.70	2.75

N = number of household members

e = OECD scale

N_a = number of adults

e' = Eurostate scale

N_c = number of children

e'' = Oxford scale

Lorenz Curves for Individual Equivalent Disposable Income and Income Inequality – Indices

Lorenz curves for 1987 and 1994 individual equivalent incomes based on Eurostat scale, intersect each other. The intersection point is positioned at the high income area of the Lorenz curve. Thus, we may claim that income inequality worsened in 1994 compared to 1987 within the high-income level. At the same time, the Lorenz curve in 1994 of the middle and low-income groups is closer to perfect equality than the 1987 curve. This can be interpreted as improved income distribution within middle and low-income groups in 1994 when compared with 1987.

When inequality indices are examined (Table 2.1), it is seen that the Gini coefficient, which is sensitive to income changes in the middle and low income

groups, and the mean log deviation decrease (Gini coefficient decreases from 0.462 to 0.457, Mean Log Deviation from 0.372 to 0.358). On the other hand, Theil Index, which generally weights the distribution equally, increases from 0.430 to 0.506 and Squared Coefficient of Variation, which is dominated by the high-income groups, increases from 1.87 to 6.29. Apparently, the first two indices show an improvement, but the other two indices indicate deterioration in income distribution, through 1987 to 1994.

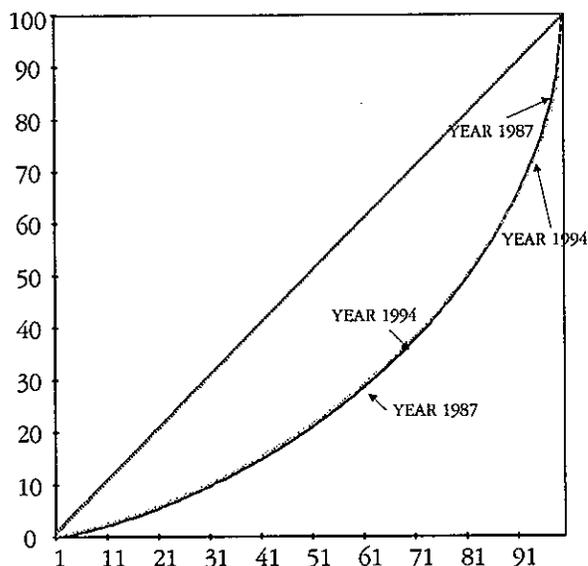
In order to determine the reasons behind differences, incomes of each centile of the population for 1987 and 1994 should be analysed. The income shares of the first and the last five centile are presented in Table 2.2. The income shares of the bottom centiles have increased in 1994 compared to 1987, and inversely, the income shares of the upper centiles have decreased in 1994, except for the highest income group (100th centile). The income share of the 100th centile has increased to 12.83% in 1994 compared to 10.14% in 1987.

Table 2.2. Individual Income Shares by Centile Groups (Eurostate Scale)

<i>Centile Groups of the Population</i>	1987 Income (%)	1994 Income (%)
<i>1st Centile</i>	0.05	0.10
<i>2nd Centile</i>	0.10	0.15
<i>3rd Centile</i>	0.14	0.18
<i>4th Centile</i>	0.17	0.20
<i>5th Centile</i>	0.20	0.22
<i>96th Centile</i>	2.90	2.66
<i>97th Centile</i>	3.29	2.96
<i>98th Centile</i>	3.86	3.47
<i>99th Centile</i>	5.28	4.47
<i>100th Centile</i>	10.14	12.83

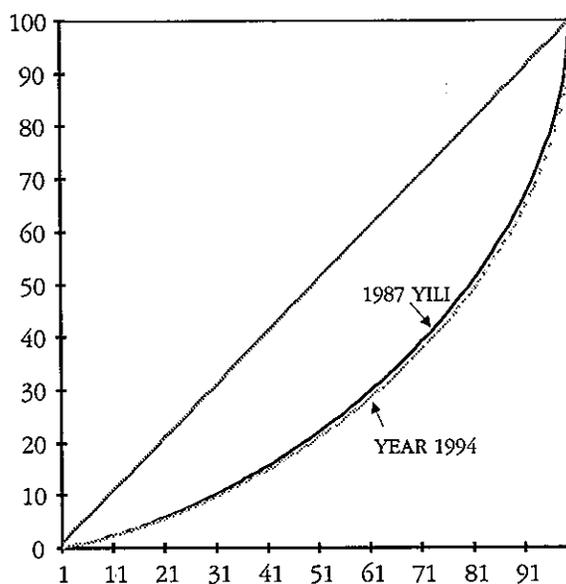
When income inequality indices are calculated by using the Oxford scale (e''), the comparison of 1987 with 1994 is much easier. All indices indicate that the income distribution in 1994 is more unequal anyway. Lorenz curves drawn as based on the same scale do not intersect as expected (Graph 2.1); the 1987 Lorenz curve is slightly dominant to the 1994 Lorenz curve (Graph 2.2).

Graph 2.1. Lorenz Curves of Individual Equivalent Disposable Income in 1987 and 1994 (Eurostat Scale)



These results are in conformity with the results of the income inequality indices when the households' incomes are considered as the basic unit (SIS 1987 and 1994). The Gini coefficient employed as the income inequality measure by the SIS, increased from 0.43 in 1987 to 0.49 in 1994, which also indicates a 14 % distortion

Graph 2.2. Lorenz Curves of Individual Equivalent Disposable Income in 1987 and 1994 (Oxford Scale)



in income distribution. Nonetheless, the results presented here indicate that the distortion is not of the same degree (Gini coefficient increased from 0.445 in 1987 to 0.465 in 1994 and inequality increased by 4.5%).

The contradictory results of these income inequality indices and intersection of the Lorenz Curves (Graph 2.1), make it impossible to make a preference between the 1987 and 1994 distributions. The suggested method would be to make use of the Atkinson index having a normative feature.

In order to determine which individual equivalent disposable income distribution of Turkey in 1987 and in 1994 is better in terms of social welfare, Atkinson index should be analyzed (Table 2.3).

Table 2.3. Atkinson Index for Individual Equivalent Disposable Income

<i>Atkinson Index Parameters</i>	Eurostat Scale (e')		Oxford Scale (e'')	
	1987	1994	1987	1994
$\epsilon=0.5$	0.179	0.185	0.168	0.191
$\epsilon=1.0$	0.311	0.301	0.290	0.311
$\epsilon=1.5$	0.420	0.390	0.390	0.403
$\epsilon=2.0$	0.527	0.466	0.483	0.481

Should income inequality be interpreted using the Atkinson index, (Table 2.3), it is impossible to provide a clear commentary. Based on Eurostat scale values, and assuming low sensitivity against inequality ($\epsilon=0.5$) in the society, income distribution in 1994 is less equal compared to 1987. (Atkinson index increases from 0.179 to 0.185). The increase in the index indicates the increase in income inequality. If the income in the society were distributed absolutely equally, it will be possible to reach the same social welfare level with just 82 % of the total annual income in 1987. In 1994, the same social welfare level will be attained by 81.5 % of total annual income. In other words, the loss of welfare due to inequality in 1987 was 17.9 % and rose to 18.5 % in 1994.

On the other hand, when the sensitivity of the society against income inequality increases ($\epsilon=1.0, 1.5, 2.0$) a situation quite contrary will occur. In 1994, the Atkinson

index values decreased quite rapidly compared to 1987. For instance, when the society is over sensitive to inequality ($\epsilon = 2.0$), the decrease of the Atkinson index in 1987 from 0.527 to 0.466 in 1994, actually demonstrates improvement of income distribution with a rate of 11.6 %. In 1987, when it was possible to reach social welfare level with 47.3 % of total annual income, in 1994 it would also be possible to reach the same welfare level with 53.4 % of total annual income of that year- if the income was distributed absolutely equal. In this case, the loss of welfare due to inequality has fallen from 52.7% to 46.6%, meaning an improvement in income distribution

When the two income distributions are compared using the Atkinson index, we observe contradictory results due to weight attached by society to inequality in the distribution (ϵ). Although it is hard to make a final evaluation, we may infer that if the Turkish society is insensitive to inequality, then income inequality increased in 1994 compared to 1987, and if over sensitive, then income inequality decreased in 1994 compared to 1987.

Three main conclusions can be derived:

1. It cannot be concluded clearly that, in Turkey, income inequality has increased from 1987 to 1994.
2. It is obvious that income distribution has been more unequal in the highest 20% income group. As explained in Part 3, this improvement is due to the extraordinary increase in the interest income and the highly unequal distribution of these earnings.
3. In order to reach a firm conclusion, research must be undertaken to determine level of economies of scale for the households in Turkey. The results of this research should be utilized to estimate a proper scale for Turkey, and income inequality must be recalculated and reinterpreted using this new scale.

3. SOURCES OF INCOME INEQUALITY IN TURKEY

Table 3.1 gives basic distribution properties of income components that are used. *OECD Scale* is used in calculations in order to enable a comparison with EU countries that are presented in Part 5. The first column shows the income share of the bottom 30% of the population for each income component. The second column portrays the earnings share of the middle forty centile of the population and the third column shows the income share of the top thirty centile. The last column reflects the income shares of the income components in total income. In rows, the total income shares of the income components in 1987 and 1994 can be seen as well as the difference between these two years.

According to the table, the most unequally distributed income components are Non-agricultural Capital and Self-employment Income (NCSI), Agricultural Capital and Self-employment Income (ACSI) Interest Income and surprisingly Transfer Income. Labor income is distributed relatively more equally. Beyond these general remarks, comparisons in or between periods, reveal the following conclusions:

- 1- NCSI was the most unequally distributed income component in 1987 as well as in 1994; but in 1994 NCSI inequality decreased compared to 1987. Among the NCSI earners, the top thirty centile received 86% of total NCSI income in 1987; in 1994, this rate fell to 76.6%. This decrease is the highest decrease in any group and this has occurred due to a decrease of total income share (from 41% to 35%). Contrary, in interest incomes, the share of highest 30% income group in total interest income was 72.6% in 1987 which increased to 88% in 1994, increasing 15.5%. Meanwhile, the interest income share has tripled from 1.3% to 4%. Although the share of interest income is very low, the increase is extraordinary.
- 2- In ACSI a similar effect is observed not as intensive as the NCSI incomes had been. In 1994 ACSI have been distributed less equally than in 1987. Especially, when the shares of bottom and middle income groups have increased, the top 30% income group's share has decreased nearly 6%.
- 3- There has not been any significant distribution change in labor income between these two periods. However, labor earnings is the more equally distributed income component; it has also the highest distribution stability among the income types. Additionally, through 1987 to 1994 labor income share in total income increased from 24% to 35%.

4- The most remarkable aspect of the transfer income inequality is that, the largest share belongs to the top 30% group with an income share over 75%. This situation is in sharp contrast with the developed welfare states. One explanation for this is that, retirement pension payments make a great part of the social transfers in Turkey; and other transfer payments usually holding a big share in all EU countries, do not exist in Turkey.

Table 3.1. Income Components by Decile Groups (OECD Scale: e)

	Bottom %30	Middle %40	Top %30	Factor Shares
Labor Income				
1987	0,103	0,313	0,584	0,241
1994	0,095	0,316	0,589	0,355
<i>Difference</i>	-0,008	0,003	0,005	0,114
Capital and Self Employment Income in Agriculture				
1987	0,037	0,238	0,725	0,240
1994	0,054	0,262	0,684	0,149
<i>Difference</i>	0,017	0,024	-0,059	-0,091
Capital and Self Employment Income				
1987	0,012	0,127	0,861	0,409
1994	0,031	0,203	0,766	0,350
<i>Difference</i>	0,019	0,076	-0,095	-0,059
Interest Income				
1987	0,055	0,219	0,726	0,013
1994	0,032	0,087	0,881	0,040
<i>Difference</i>	-0,023	-0,132	0,155	0,027
Transfer Income				
1987	0,050	0,188	0,762	0,098
1994	0,018	0,187	0,796	0,106
<i>Difference</i>	-0,032	-0,001	0,034	0,008
	0,018	0,164	0,818	
Private transfer (94)				
Government transfer (94)	0,019	0,173	0,808	

Source: Our calculations are based on the SIS 1987 and 1994 data

Table 3.2 gives the results of Shorrocks Decomposition Analysis. This analysis calculates to total inequality. The Shorrocks Decomposition approach independent of all indexes

The first column of Table 3.2 presents 1987 findings, and the second column those of 1994. The third column displays the change between the two years. The minus signs in this column demonstrate that the effect of the income component in question has decreased and the plus signs portray that it has increased in this period. The first block in the table shows the contribution of every income component in aggregate inequality. In other words, every number in this block represents the centileage of the relevant income components in total inequality. In the second block, there is the ratio of income components in aggregate individual equivalent disposable income. The numbers in the third block are obtained by dividing the numbers in the first block by the numbers in the second block. These numbers reflect the marginal change in total inequality as a result of a change in the share of the given income component in total disposable income. Minus (plus) sign indicates that an increase in transfer incomes will have a reducing (increasing) effect on income inequality.

Table 3.2. The Contribution of Income Components to Inequality: Shorrocks Decomposition Analysis

	Year 1987	Year 1994	Difference
Income Components	(%)	(%)	(94 - 87)
Labor income	3,58	1,77	-1,81
Capital and Self Employment Income in Agriculture	19,04	3,24	-15,8
(1) Capital and Self Employment Income	71,51	47,30	-24,21
Interest income	2,38	46,89	44,51
Transfer income	3,48	0,79	-2,69
Labor income	24,07	35,50	11,43
Capital and Self Employment Income in Agriculture	23,96	14,89	-9,07
(2) Capital and Self Employment Income	40,91	35,00	-5,91
Interest income	1,27	4,03	2,76
Transfer income	9,79	10,56	0,77
Labor income	0,15	0,05	-0,10
Agricultural entrepreneurial income	0,79	0,22	-0,57
(3) Entrepreneurial income	1,75	1,35	-0,4
Interest income	1,87	11,62	9,75
Transfer income	0,35	0,07	-0,28

Source: Calculations are made by us based on 1987 and 1994 data of DIE

(1) Contribution of each income component to total inequality

(2) Shares of income component in disposable income

(3) Relative inequality indicator (1) / (2)

From Table 3.2, it is apparent that the highest contributing component to estimated income inequality is NCSI (71.5%), next comes ACSI (19%). The contributions of other components, compared with the two income components, can be ignored. The share of the two "capital and self employment incomes" in aggregate income in 1987 is 65%. Capital and self-employment incomes in Turkey, by definition, reflect heterogeneous properties in terms of level of income. Within this group are those who work in marginal sectors together with middle and large shareholders who obtain capital income. That is why, in this group, estimated income distribution inequality is so elevated.

According to Table 3.2, transfer incomes contribute positively to inequality, that is they have a deteriorating effect on inequality. This surprising result is in line with the results of the research by the World Bank on income distribution in Turkey (World Bank, 2000). Above (Table 3.1) we observe that the share of transfer incomes in the particularly lower income groups remains extremely low. Just as a reminder, the narrow limits of social groups affected by the welfare state in Turkey, the absence of many social transfer mechanisms and intervention in market prices instead of direct transfers as a way of subsidy policies are reasons why transfers do not produce their expected results. However, it should be noted that this negative effect remains low in general and that in 1994, compared to 1987; this effect has decreased to large extent. Therefore, the figures in the first block of Table 3.2., point out that positive contribution of transfers (3.5%) in 1987 has been reduced to 0.7% in 1994. **Therefore increasing transfer payments are effective reducing inequality. Furthermore, social policies should be designed properly that, they will work to reduce inequality even with the same level of expenditure.**

The third block in Table 3.2 displays the results of total inequalities calculated by the weighted rates of income components to factor shares. Between 1987 and 1994, all income components' contribution to inequality have fallen except for interest income. However, there is a large increase in interest income's contribution to inequality. *Consequently given that the inequality in interest income remain the same,* as the share of interest income in total income increases.

To sum up, while in 1987 income distribution inequality was determined to a large extent only by NCSI, in 1994 the case is that NCSI together with interest earnings determines 90% of inequality.

Decomposition According to Household Characteristics

In this section five variables are selected for decomposition analysis; rural-urban difference geographic region. Education, work attachment and family type. The decomposition analysis made according to these variables is uses on 1994 data and individual income distribution for households. In order to compare the results, the OECD scale is used in this analysis, and the unit of analysis. Main purposes of the decomposition analysis is to help construct social policies. These policies target the household, not the individual- another reason for household-based analysis.

When inequality is investigated according to household characteristics, the most outstanding factor turns out to be the education variable. As the level of education increases the average level of income also rises. On the other hand, as the level of income increases the inequality within the group also increases. The main reasons for this is that, education in Turkey is not sufficient to provide a profession and there is an extreme imbalance between public and private sector wages. In all the other factors apart from education, inequalities within groups contribute more to aggregate inequality than inequalities among groups.

4. POVERTY IN TURKEY

In this research, the relative poverty approach is utilized to determine the income poverty in Turkey. Relative poverty in 1987 and 1994 was analysed in order to determine the dynamics of change in time.

While investigating the level of relative poverty in Turkey, as in the investigation of income distribution in Part two, "individual equivalent income" is used as the unit of analysis. The Oxford and the Eurostat scales have been utilized as equivalence scales in calculating 1987 and 1994 individual income distributions.

In studying the characteristics of the "poor", individuals obtaining less than 50% of individual median income (those under the level of poverty) according to the Eurostat scale have been included into the analysis. In this case, the rate of poverty is found to be 15.3% in 1994. Individuals included in this definition are classified according to the main income sources (50% or more) of the household they belong.

The first column of Table 4.1 demonstrates what centileage of each income source is defined as poor. 16.4% of the individuals from the households, that the main source of income is wages or salaries are classified as poor. In this sense, the group composing the maximum number of the poor (22%) is the one composed of households whose main source of income is capital and self-employment income from agriculture. The ratio of poor for the entrepreneurial income and interest income are 7.5% and 7% respectively. Almost one fifth (19.5%) of individuals from households, obtaining mainly transfer income, can be regarded as poor. Lastly, 11.7% of individuals earning coming from household income from various sources are in the group of the poor. These numbers demonstrate that, small farmers followed by transfer income and wage income earners have a higher probability of being included in the poor category.

Table 4.1. Composition of the Poor

Main Sources	Income Rate of Poverty in the Group (%)	Composition of the Poor (%)
Labor (Waged/Salaried)	16.4	48.3
Capital and Self Employment Income in Agricultural	22.2	22.6
Capital and Self Employment Income	7.5	9.7
Interest	7.0	0.2
Transfer	19.5	11.8
Mixed	11.7	7.4
Total	-	100.0

The distribution of the total number of the poor according to the main income sources is also calculated. The second column of Table 4.1 shown as the composition of poverty demonstrates these rates. When this column is examined, it will be seen that almost half (48.3%) of the poor are from the households obtaining mainly labor income and more than one fifth (22.5%) are from households mostly capital and self employment income in agricultural income. As expected, among the poor, the rate of those earning interest income is insignificantly low.

4.1. Rate of Poverty by Household Characteristics

In order to fight poverty through income transfer, the social characteristics of the poor households have to be investigated.

The effect of education is analysed by studying the average level of education income earning members of households. Households are divided into five groups in terms of their average level of education. Table 4.2 gives the centileage of those who fall below the level of poverty across the country for that education level. According to these rates, 16.9% of the members of households with an education level of primary school or lower remain below the poverty line. The poverty rates of those having a lower, middle and upper level of education are close to each other and range around 13%. Only 1.8% of those who have a very high level of education (over 15 years education) remain below the line of poverty. It is striking to see that the poverty rate of the households whose average level of education is up to university (12.5%) is approximately the same as those whose average level of education is high school and the secondary school. In Turkey, a university degree is no a guarantee of an escape from poverty.

Table 4.2. Rate of Poverty by Level of Education

Level of Education	Rate of Poverty by Groups (%)
Very Low	16.9
Low	12.3
Middle	13.0
High	12.5
Very High	1.8

For work attachment, for each family the number of employed individuals is divided to the potential number of individuals in the labour force and these and figures are grouped into five levels ranging from very insufficient to those of a very high level of work attachment. Since the level of work attachment is extremely high in small farming households, only urban households are taken into account in this calculations. The rate of poverty, for those living in urban areas is 12.9%. As the level of work attachment increases, the rate of poverty declines. However, this decline is not proportional. In families, where the work attachment is "very insufficient" (20% and below) and only "insufficient" (between 20% and 40%), the respective poverty rates are very close to each other (15.6% and 15.5%). In the middle group, where almost half of those at working age are working, the poverty rate (13.5%) decline considerably. The 'rate of poverty' in high (60%-80%) and very high (above 80%) employment attachment groups is close to each other and around 10%.

Table 4.3. Rate of Poverty by Employment Level

Level of Employment	Rate of Poverty by Groups (%)
Very insufficient	15.6
Insufficient	15.5
Middle	13.5
High	9.7
Very high	10.0

In Table 4.4, families are grouped into six in order to study how family type affects the rate of poverty. The group which bears the highest risk (19.6%) is the large family group possessing at least two children. The individual members of the nucleus families with one child and large families with one child bear the lowest risk (13%) of being under the level of poverty. Nevertheless, it is not possible to state that family type is a distinguishing factor in terms of poverty.

Table 4.4. Rate of Poverty by Family Type

Family type	Rate of Poverty by Groups (%)
Single parent family	14.1
Large family* without children	13.9
Couple with one child	13.0
Large family *with one child	13.0
Couple with two or more children	15.8
Large* family with two or more children	19.6

*: Large family includes grand parents

According to geographical distribution, the greatest risk of poverty is seen in South-eastern Anatolian. 34.5% of individuals in this region have an income below the poverty line. In this sense, the regions with the lowest risk of poverty are the Marmara and Aegean Regions.

4.2. Conclusion

The analysis of the relative poverty concept demonstrates that there is a little decline in the rate of poverty from 1987 to 1994. If poverty rates are estimated using individual income distributions obtained using by the Eurostat scale (if 50% of the median income is the accepted the level of poverty), the rate of poverty falls at 16.1% in 1987 and 15.3% in 1994.

While determining the level of poverty, the relative poverty rate can be criticized on the basis of not referring to a minimum expenditure level as for the absolute poverty and due to its dependence on median income. Yet, it is useful in determining who is poor and therefore to which social groups the state transfers should primarily go.

Individuals, running the greatest risk of being defined as poor, are actually those belonging to a household who depend on capital and self-employed income in agriculture, transfer income and waged-salaried income. The fact that one fifth of those obtaining transfer incomes still remain below the level of poverty demonstrates that state transfers are useful, though insufficient, in reducing poverty.

Individuals who are defined as poor according to their social characteristics come from households characterised with low education level, not-employed, large

families with many children. In terms of regions, South-eastern Anatolia is the region where more than one third of its individuals are defined as poor.

The above analysis on the social characteristics of the poor highlights that income transfers in order to fight poverty should give priority to large families with many children who have a low educational level and are not employed in South-eastern Anatolian region. In this respect, transfer mechanisms such as insurance of unemployment and child allowance practices can be utilized. Current state transfer practices should also be made for effective so that it could reduce inequality and poverty.

On the other hand, arrangements made to increase the income of small farmers and the waged-salaried earners will also help to reduce the poverty rate.

5. INCOME DISTRIBUTION IN TURKEY AND IN EU

In Table 5.1, inequality measures (Gini, LSO, GV and Atkinson) for Turkey and the 12 EU members (except Portugal, Spain and Greece) are shown*. To make a right comparison, the income taken into account in the OECD research and the one utilized for Turkey have been standardized. The OECD study does not include incomes in kind and imputed rental incomes. Therefore, these corrections are made for Turkey to define disposable income, excluding incomes in kind and imputed rental incomes.

In Table 5.1, countries are ranked according to their Gini coefficients in the 1990s from low to high (i.e. from the least unequal to the most unequal) in the case where the rank is altered by the use of other inequality measures, these values are shown in bold and italic. What is striking is that Turkey is the most unequal country compared to the 12 EU countries in terms of income distribution no matter which inequality measurement is used.

Table 5.1. Income Distribution Inequality in the 1980s and 1990s in the EU countries and Turkey (OECD measure:e)

Countries	Gini Coefficient		MLD		SCV		Atkinson (e=0.5)	
	1980s	1990s	1980s	1990s	1980s	1990s	1980s	1990s
Denmark (1983-1994)	0.229	0.217	0.103	0.088	0.225	0.229	0.046	0.041
Sweden (1983-1995)	0.216	0.230	0.089	0.110	0.137	0.217	0.041	0.049
Finland (1986-1995)	0.212	0.231	0.078	0.090	0.165	0.243	0.038	0.045
The Netherlands (1985-1994)	0.234	0.253	0.096	0.116	0.225	0.239	0.047	0.055
Luxemburg (1985- -)	0.236*	-	-	-	-	-	0.046*	-
Belgium (1983-1995)	0.259	0.272	0.136	0.140	0.325	0.416	0.062	0.066
Germany (1984-1994)	0.265	0.282	0.119	0.135	0.346	0.324	0.065	0.085
France (1984-1990)	0.296*	0.291	0.342	0.295	-	-	0.077*	-

Countries	Gini Coefficient		MLD		SCV		Atkinson (e=0.5)	
	1980s	1990s	1980s	1990s	1980s	1990s	1980s	1990s
Italy (1986-1993)	0.310	0.345	0.170	0.240	0.404	0.584	0.079	0.105
UK (1986- -)	0.304*	-	-	-	-	-	0.082*	-
Ireland (1987- -)	0.330*	-	-	-	-	-	0.093*	-
Turkey (1987-1994)	0.466	0.463	0.383	0.375	2.14	6.76	0.186	0.190

Source: the income distribution inequality measures based on OECD (1998) Table 2.1 (p.35), Table 3.2 (p. 39) and Table 4.9 (p. 50). From Atkinson (1995), p.55. comparable with OECD figures.

Of the 12 countries, the most unequal one in the 1990s is Italy with the Gini coefficient 0.345 while Turkey's coefficient is 0.463. This difference of 34% is extremely high according to the OECD standards (differences larger than 15% are considered as "considerably high" according to the OECD). According to the other measures the situation is even worse: LSO is 56% and Atkinson is 81% higher. According to SCV in 1994, it is 11 times in 1987 and it is 5 times higher. This picture reflects that inequality in upper and lower income is greater than in middle-income group in Turkey. Meanwhile, it is worth noting that the most egalitarian countries are Denmark, Sweden and Finland.

Another important point in terms of comparing income distribution of Turkey and the EU countries is how direct taxes (primarily income taxes) and social transfers affect income distribution. The income distribution measures used in our comparisons up to now, can be said to base on final distribution, i.e. after-tax and -transfer figures. The income distribution prior to state intervention through tax and transfer policies is called the "market distribution." This distribution is also named "before tax and transfer distribution".

The effect of redistribution by the state through taxes and transfers can be determined by observing the changes in inequality measures. Table 5.3 evaluates the OECD figures for market distribution data of 7 EU countries and compares them with Turkey. The reason utilizing the Gini coefficient is just for simplification, since the other measures also yields similar results.

The most striking conclusion drawn from the inequality measures in Table 5.1 is that, in the EU countries redistribution policies reduce the income inequalities of the market distribution significantly.

Table 5.2 Before and After Taxes and Transfers Inequalities and Turkey (OECD Measure: ϵ)

Countries	Before-tax and transfer Gini coefficient	After-tax and transfer Gini coefficient	Effect of tax and transfers on income distribution (%)
Denmark (1994)	0.420	0.217	-48.3
Sweden (1995)	0.487	0.230	-52.8
Finland (1995)	0.392	0.231	-41.1
The Netherlands (1994)	0.421	0.253	-39.9
Belgium (1995)	0.527	0.272	-48.4
Germany (1994)	0.436	0.282	-35.3
Italy (1993)	0.510	0.345	-32.4
Turkey (1994)	0.474*	0.447	-5.7

Source: the Gini coefficients in the figure are taken from OECD (1998), page 39.

- * Since Turkish data is not appropriate to analyse the effect of taxes on income distribution inequalities, the Gini coefficient here just shows the Gini coefficient prior to state transfers.

Since we do not know the pre-tax income distribution for Turkey, our evaluation has to be limited to transfers. The redistributive effect of transfers, as it is in the EU countries, remains quite limited as seen in Table 5.2. In fact, the inequality of the market distribution in the EU is more or less the same as Turkey's pre-transfer inequality; in some countries (Finland, Denmark, The Netherlands, Germany) inequality is a little lower, in the others (Sweden, Belgium, Italy) it is a little more higher. If in Turkey taxes have no if any little improving effects on distribution, we cannot hold that this due to the market distribution being much more unequal compared to the EU countries. On the other hand, if taxes have inequality reducing effect, it will be understood that the market distribution in Turkey is very unequal. If income distribution inequalities are to be reduced in Turkey, more than anything, the effects of taxes on income distribution first have to be studied.

Sources of Income Distribution Inequalities in the EU and Turkey

In this section, data for EU countries come from the OECD study in 1998 which the data for Turkey is based on our calculations. Main findings of this study can be summarized as follows:

- a) In the EU countries, labor earnings has the major share in total disposable income and so is the principal source of income inequality- the ground for this being that dispersion of labor earnings is high.
- b) Tax and transfer systems, reduce to a very large extent, income distribution inequalities.
- c) The growth of inequalities over time in labor income increases the contribution it makes to general inequality.
- d) In many of the countries that were studied, the increasing redistributive effects of taxes and transfers have, over time, increased. However, they did not fully offset the market distribution of incomes (OECD, 1998).

Before comparing EU countries with Turkey, methodology have to be underlined. First, the income distribution survey in Turkey, do not include information on tax payments, being one of the most important instruments in redistribution policies. Thus, there is no healthy database on taxes for Turkey. Therefore, the effect of tax on income distribution can not be studied. Secondly, in the OECD study, analyses based on groups have been mainly carried out according to the characteristics of the head of the household. On the other hand, in Turkey, the characteristics of the head of the household can not be assumed to represent the household, so that we estimate an index, which comprises all of the household members' features. The differences between Turkey and the OECD countries can be summarized as follows.

- a) In Turkey, the largest share in total income belongs to capital and self-employment incomes. This income component also contributes the most to inequality in 1987. However, in 1994 interest incomes become the largest contributor of inequality.
- b) In Turkey, the market income distribution is almost the same as in the EU countries. However, while in the EU countries this inequality is reduced at

least to its half through taxes and social transfers, in Turkey the effect of taxes cannot be clearly observed. Moreover, it is observed that social transfers exert an increasing effect on inequality. The same conclusion was reached also in the World Bank study (2000).

- c) Over time (1987-1994) the biggest source of inequality in Turkey is the interest component. Within this period, while it has tripled its share in total income, inequality within group has also increased. In this sense, it had a significant distortionary effect.
- d) Transfer policy, as in the EU countries, have a positive effect on inequality.

Whereas there is an important difference between the EU countries and Turkey in terms of income inequalities, EU countries also differ among themselves. In the EU, according to the Gini coefficient, the country, having the most unequal distribution of income, is Portugal. However, when compared to Portugal, Turkey's income distribution is substantially distorted.

Another point worth mentioning is that in terms of "Market Income Distribution", which is the income inequality in the market prior to state intervention, the level of inequality is quite the same in Turkey as for the EU countries. Market income distribution in some EU countries is better than Turkey, while in some others it is worse. Including Turkey, the income inequality measured with the Gini coefficient for the European countries differs between 0.40 and 0.53. The interesting point is that Sweden, which has the worst market income distribution, becomes one of the best after redistribution. However, as it is known, Sweden is the one with a highly developed market EU country. The state hardly intervenes in market distribution but through taxes and transfer policies, it reduces income inequality to almost two fifths of market the inequality. The same can be observed in all European countries, mainly north European.

Main problem in Turkey is that, there is no effective taxes and transfer policy to alter the market distribution. Therefore, Turkey cannot make the required interventions and lags behind the European countries in terms income equality.

While Turkey has a far more unequal income distribution compared to the EU countries, in terms of relative poverty rates, it is in better condition than Portugal and Greece, which have the worst rates in the EU. Yet, it should not be forgotten

that the reference point in relative poverty is the median income in a particular country and that therefore, although Portugal's relative poverty rate is lower than Turkey's, in terms of living standards the poor in Portugal are three times better off than those in Turkey.

In fact, poverty studies are interested not in how many people live under the poverty line, but in why some groups cannot make use of economic opportunities. Bearing this in mind, it would be more useful to look at who is under the poverty line than at the number itself. In this sense, Turkey and Portugal are the same in that those mainly facing the risk of poverty are large families with many children and those having to finance their living from transfers.

6. INCOME DISTRIBUTION AND REDISTRIBUTION POLICIES TODAY

In the previous sections, the analysis of income distribution in Turkey, based on the surveys of SIS conducted in 1987 and 1994, has been explained in detail. It has been six years since the last survey and the forthcoming one is scheduled for 2002. It might be claimed that arriving at any current income distribution with the data set of 6-13 years ago will not be appropriate. However, it should not be forgotten that the factors affecting income distribution are either structural - therefore, gradually changing or macroeconomic variables that reflect the current economic situation. Consequently, if the direction and magnitude of the changes in these macroeconomic variables well analysed for the period of 1994-2000, the changes in income distribution could be figured out roughly. . In this section, the reader should not expect quantitative estimations for inequality measures. However, with qualitative projections, one can at least have an understanding on the direction of change of income inequality.

6.1. Structural changes and their effects on Income Distribution: 1994-2000

The Customs Union and deviation from foreign trade in industrial products

Theoretically, the liberalization of international trade affects commodity composition of the countries according to their comparative advantages. As a result in the sectors will develop more than the others. Therefore, the change in wages will depend on each sector's composition of production factors -mainly the labour (skilled/unskilled). The unemployment rate will change according to the structure of labour market (rigid/flexible).

The experiences of developed and some developing countries show that, the liberalisation process work in favour of demand for skilled labour force. This impose an extra pressure on the wages of unskilled labour, increases the skill-education premium increases. Therefore, ceteris paribus, trade liberalization increase wage inequalities. However, if we drop the ceteris paribus assumption, the effect will depend on the institutional characteristics of the labour market, especially with the flexibility of the labour market.

The effect of the trade liberalisation process on income distribution has been different for Spain and Portugal, which became members of the EU in the mid-80s,

while the income distribution in both countries improved slightly following their membership in 1986, the inequality increased considerably in Portugal while it remained unchanged in Spain (Jimeno et al., 2000) in the 1990s. The main reason for this evolution is the initial improvement in inequality in wages and unemployment in Portugal because of the European foreign direct investments in this relatively less-developed country. In Spain, this effect was not observed. However, in the 1990s, the distribution inequality rose, as a result of increasing concentration of exports in unskilled labour intensive sectors (like textiles) and soared skill-education premium due to the adoption of modern technologies and consequently inequalities within labour earnings increased significantly causing a rise in aggregate inequality. Yet, the point, which should be emphasized, is that unlike many countries, in Portugal the inequality within the wage is lower than the total inequality as observed in Turkey. Furthermore, the transfer expenses have risen, in Rodrick's findings for this period in Portugal, but it has been inadequate in covering the inequality increase, which occurred in the market distribution. Since the trade diverting effects of the integration into EU in Spain caused intensification in the metal goods industry, the constraints that increase the inequality within the wage have not arisen. The fact that Spain has a relatively high education level has also caused the quality premium to remain limited. Additionally, the powerful syndicated organizations have grasped the wage differences and the increase in the social transfers has been much stronger in Spain than in Portugal. Consequently, although Spain has broken all the unemployment records in the EU and while it keeps its inequality at the income dispersion, inequality has considerably increased in Portugal, a country that has one of the lowest unemployment rates in the EU (Jimeno, 2000: 35-40).

The change in the real wages

The changes in real wages and inequality within wages are directly proportional. While the inequality within wages decreases when wages are reduced, it rises when the wages are increased. Since the labour market is split as registered and unregistered, while the wages in the unregistered part reflects the market balances (flexible market), as a result of collective bargains and other protective institutions in the registered sector (rigid market), the wages are often set quite above the market balance wage. Conceptually, as the real wage increases belong to the registered sector, it is natural that the differentiation within wages increases in periods of their real increase and vice versa in periods of real decline.

Another culprit behind the increase in inequality within wages is the relative increase in educational premium. In Turkey, as the share of younger generations holding graduate degree in the labour force increases, the inequality within wages also increases (World Bank, 2000, 29).

Consequently, it can be concluded that the inequality within wages has increased from 1994 to 2000. This is due to the real increase in aggregate wage level, the increase in the share of sectors having higher wages and finally the increase in the share of university graduates in the labour force.

Unemployment

In 1994, the rate of unemployment jumped from 12% to 13% due to the severe economic crisis. The unemployment rate excluding agricultural sector had risen continuously since 1997 and the main reasons were structural. When the structural drawbacks had been coupled by the economic recession of 1999, the rate increased to 11.2 %. Since the economic activity was vigorous in 2000, it is estimated that the poor performance of 1999 has been offset. However, considering the structural status qua has not changed significantly, hoping an important improvement in the unemployment rate would be too much optimistic. In sum, when compared with 1994 the unemployment rate has fallen in 2000 and this positively affects the distribution within wages and total incomes.

Agricultural income and agricultural support policies

Since 1983, agricultural incomes and agricultural support policies have a certain political cycle in Turkey. In the pre-election periods, the state purchasing prices and input subsidies are set considerably above the inflation rate and in the period following the elections the expansionary policies are reversed and substituted by contractionary ones. Consequently, in post-election periods, the share of agriculture in GNP decreases and the inequality between income groups increases. In part three, it was shown that, intra-group inequality is more important than inter-group inequalities. This is due to the high share of agriculture in employment (40%) and inefficient support policies. Agricultural support policies are in favor of relatively rich farmers producing in big scales, rather than poor ones having limited opportunities (World bank, 2000, 60).

Direct Taxes

One of the most striking components of the economic program embarked upon in 2000 was the set of direct one-off taxes. These supplementary taxes have been levied on income of real persons, corporative earnings, real estates, motor vehicles and telecommunication services at increased rates. Those taxes were mainly imposed on the high-income groups. The main culprit behind the better-than-expected primary surplus in 2000 was the one-off taxes. There is no doubt that analyzing how these taxes affected the market distribution requires the knowledge of the micro-composition of distributions. However, it is also possible to say that these supplementary taxes have the largest role in the income inequalities. Unfortunately, it is not possible to determine the degree of these decreasing effects.

Struggle to overcome inflation and interest rates

It was discussed in part three that one of the two factors that affected the distortion in income distribution from 1987 to 1994 was interest income. Among the income types, the interest income is the most unequally distributed one and only a minority receives this. According to the SIS surveys of 1994, the share of households receiving interest income was 26.6%. Since there has not been any structural change to affect this situation for six years we do not assume any significant change in the share in 2000. On the other hand, the interest incomes have the worst within group distribution among other types of incomes. The government domestic debt stock snowballed dramatically since 1994 and during this period it is expected that its within group distribution has been deteriorated further.

Real interest incomes were negative in the first half of 1994. Due to the important hike in nominal interest rates, the real interest incomes soared in the second half of the year. However, since some of the stock had not been matured in 1994, the survey did not cover all the interest incomes occurred. Unfortunately, 1999 was a year of high real interest rates due to the intensive domestic borrowing. Since the political instability boosted the risk premium in the nominal interest rates, the slackened inflation caused the real interest rates to stay at a level of 25-30% throughout the year. When compared with 1994, the interest payments in the consolidated budget were almost doubled in 2000 and its share in GNP rose to

approximately 17%. Consequently, it may be claimed that the inequality in the distribution of interest incomes deteriorated dramatically in 2000 while its share in total incomes increased.

Government Transfers

The SIS survey of 1994 shows that, the government made 69% of total transfers. The share of households benefited from these transfers was 59.8%. Considering that the 79% of government transfers are the pensions, it might be concluded that the government transfers in Turkey is not adequate. The fact that the agricultural and informal sectors are not included in the social security system contributes to the explanation of this inadequacy. Since 1994, the only significant change in the social security system had occurred in 1999 as an increase in the retirement age. However, the effects of this change may occur only in the long run.

In the third part, it was concluded that total transfers (private transfers are also included) made a very limited corrective effect on the total distribution inequality. When compared with 1994, it is seen that the share of government transfers in GNP has increased from 4% to 7% in 2000. Considering the increasing share of transfers worked in favor of equality in 1997, it is expected that the correction will continue in 2000.

Policy of Income

In fighting with inflation two measures were adopted in light of income policies: forward indexation in wages of civil servants and public sector workers and 25% ceiling of increase in rents. Since the end-year inflation exceeded the targets and only the wages have been adjusted, the probable consequences will be as follows: The real decrease in wages when compared with previous years will deteriorate both the total income distribution and within group equality of wages. Curbing the rental increases, on the other hand, will decrease the total inequality.

The Dynamics of Kuznets

According to the pioneering studies of Kuznets in the field of income distribution, it's claimed that the inequality in income distribution stays at relatively low levels during the initial phases of development process. However, through out the transition from agriculture-oriented economy to the industrialized one via shifts in employment and incomes, the inequality increases.

As the time passes, with the decrease in the share of agriculture in total economy the adverse effect of this mechanism fades out, diminishes and finally is reversed (the reverse U-curve). The important thing is the vagueness in, at which level of per capita income the trough will be reached and the mechanism will be reversed. This timing depends not only to the characteristics of the countries but also the time-dependency of development process.

According to the level of development in Turkey, the share of agricultural employment is still too high; despite the share of its income is quite low (Gürsel and Ulusoy, 1999, 22). In addition, it was concluded in part three that the inequality within agriculture sector was less than the inequality in sectors rather than agriculture. In light of these facts, it can be said that Turkey is in the first part of Kuznets's reversed U curve.

The general Kuznets dynamic is valid for Turkey. The wage differences among education levels and the quite high wages in the newly developed technological sectors are the indirect proofs of this conclusion. With respect to Kuznets dynamics, there had been a little increase in total inequality since 1994.

The evaluations we have made and conclusions we have reached in terms of changes in inequality so far are summarized in Table 6.1. In Table 6.1, the structural and conjuncture variables thought having an effect on inequality could be observed. Corresponding to the effect of these variables, 1-3 of (+) (if it increases inequality) and 1-3 of (-) (if it decreases inequality) signals were stated. Also, the strength of the effect of the variable on aggregate inequality is shown by (*) indicator varying from one to three. In the last line the net result estimated according to weighed averages of the variables can be seen (* x (+/-)). Thus, when net 3 (+) are compared to 15 strength units, **it can be estimated that in 2000 compared to 1994, there has been a limited increase in income distribution inequality.**

Table 6.1. Estimation of Income Inequality in Turkey, 2000-2001

Variables Affecting Inequality	Strength of Affecting Inequality¹	Effect on Inequality in 2000²	Effect on Inequality in 2001³
<i>A- Within Income Type Inequality</i>			
Labor	(**)	(++)	(++)
Agriculture	(**)	(.)	(-)
Entrepreneur	(***)	(-)	(-)
Interest	(*)	(+++)	(+)
Transfer	(*)	(-)	(-)
<i>B- Between Income Equality</i>			
Wage	(*)	(--)	(-)
Agriculture	(*)	(+)	(+)
Unemployment	(*)	(-)	(.)
Salary	(*)	(++)	(+)
Rent	(*)	(-)	(-)
<i>C- Kuznets Dynamics</i>			
	(*)	(+)	(+)
<i>D- Net Effect</i>			
		(+++)	(.)

1. According to the strength of the variable to affect aggregate inequality, strength indicators vary from (*) one to three.
2. According to the importance of the effect, if the variable increases inequality numbers 1-3 of (+), if it reduces inequality numbers 1-3 of (-) have been shown.
3. Under the assumption that the stabilization programme will be conducted successfully.

6.2. Redistribution policies in Turkey and suggestions

The redistribution policies in Turkey and policy recommendations for improvement can be examined in two different dimensions. The first dimension consists of the case for improving the unequal market distribution via tax and transfer policies without any deviation from optimal growth. The second aspect comprises the improvement of the market distribution directly through macroeconomic policies and institutional arrangements.

Tax and transfer policies

In light of the new political economic theory, the Turkish case can be summarized as follows: according to the SIS surveys, the rate of per capita average

income/median income was 1.5 in 1987 and 1.54 in 1994. If these rates are estimated as individual equivalent incomes, the outcomes are 1.41 and 1.48 respectively. Beside the fact that the rate is too high, it increased from 1987 to 1994. In light of the new political economy theory, it can be claimed that the redistribution policies are heavily imposed to political constraints. In fact, this can be confirmed without the help of theory just by examining the macroeconomic policies, especially in the last 25 years in which political players have proliferated and engaged in political competition.

However, instead of transparent tax and transfer policies, the redistributive policies have been handled by politically manipulated decisions, interventions to markets and price subsidies (high agricultural purchase prices, input subsidies, administrated negative interest rates, public employment, public sector collective bargain contracts) . It has become obvious that such interventionist policies are unsustainable in the long run and have adverse effects on micro-level, such as inefficiency. Briefly, on contrary to their mission, in practice they work as a deteriorative factor on distributive equality. In the fifth section, supported by the EU country cases, it was shown that the tax policies are the main instruments of redistributive policies in reducing market inequalities. It has been stressed several times in the report that, the data required to measure the redistributive effects of tax policies in Turkey is not available. Nevertheless, examining the direct taxes may partially enlighten the tax-wise effects on market income distribution.

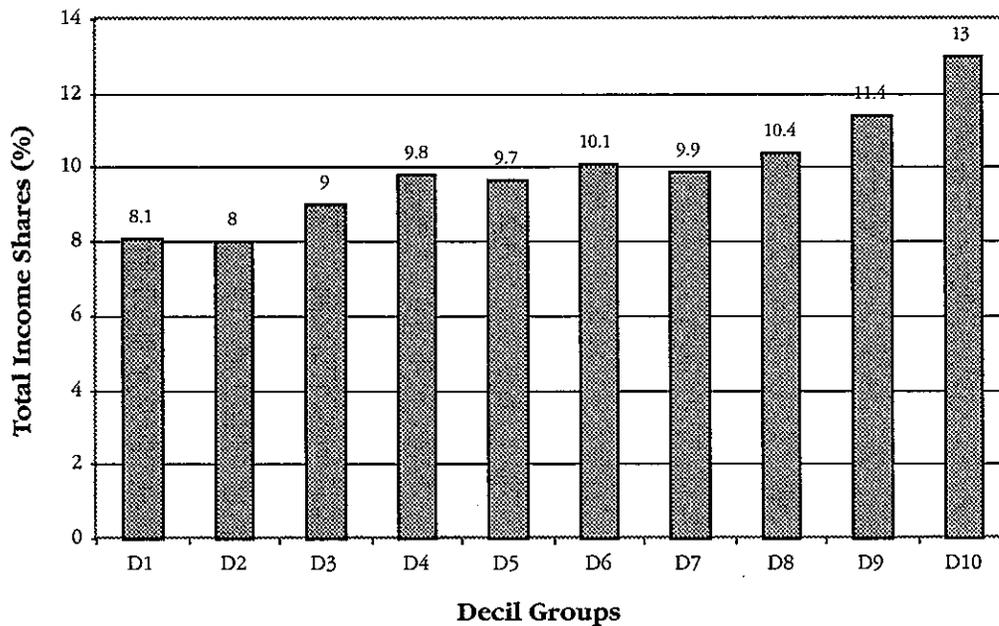
Income taxes on wages cannot be said it's observed the income taxes levied on to be progressive in Turkey (Selim, 1999, 97). Therefore, it can be claimed that the effect of income taxes is not in favour of distributive equality. On the other hand, the argument can be supported by "income tax pressure coefficient" which is simply the ratio of tax share of various income groups to their total shares in GNP (Şenatar et al., 1990; Oyan, 1998). Between the period of 1988-1994, this coefficient shows that income tax imposed on wage earners is 1.5 times of their shares in GNP (Selim and _enesen, 2000, 160). The significant differentiation in tax burdens of the ones carrying income tax on their wages and the other tax payers (those earning profit, interest, rent) signals the shift to inequality with respect to tax policies.

In order to reconstruct the income tax in the scope of equal distribution, it is necessary to reform the tax system. The exception and exemptions that have been

spreading since 1980 should be limited and the tax base should be broadened. Also, to prevent any inflationary deterioration on income tax groups, indexation should be employed till the inflation comes down to reasonable levels.

The social transfer policy of the government is also inefficient. As mentioned in part three, government transfers boost inequality rather than decreasing it (Graph 6.1). In Graph 6.1, the population is ranked in ten equal groups from D1 to D10, where D1 shows first 10% of the individuals with the lowest disposable income and D10 shows the last 10% with the highest income. According to the figures, the poorest 10% receives 8.1% of government transfers whereas the richest 10% receives 13% of government transfers. Considering the fact that the transfers are made in order to improve distribution equality, the figures prove that the tool is used just the opposite way. The government should restructure its transfer policy, satisfying the necessity to supply the greatest portion of the transfers to the poorest people, especially the ones not involved in social security system.

Graph 6.1 Distribution of Transfer Incomes Among Income Groups:



There are also problems in the social security system, regarding the insufficient income and services provided. The World Bank statements related to the evaluation of the social security system are quite clear. According to the World Bank, there are three major problems:

1. As the system is focused on social security rather than social support, only the "working poor" are supported and this does not serve to decrease the unequal income distribution.

1. Since the inflation tax affects the lowest income group-that is not involved in social security system- most, social security system can be evaluated as a tool of transferring income from low to middle income groups with its current structure.

2. As the members of the lowest income group cannot participate in the education system, the current inequality in income distribution cannot be improved. In parallel with the conclusions of the third section of this study which proofs that education has a significant effect on average income (World Bank 2000,52-53), the above argument consists of a great importance.

On the premise of above evaluations, it is clear that employing efficient state transfers will work in favour of equality in income distribution. In order to achive this, the social security system should be transferred to a sustainable evolution model and direct income transfers to the poor people should be instituted with satisfactory funds, giving the priority to the ones that are not involved in social security system.

It would be appropriate to adopt EU practices, such as so called "citizenship income" (Insel 2000) that guarantees a minimum level of income to everyone or negative tax applications.

Macroeconomic stability

It's widely known that the high chronic inflation in Turkey had a deteriorating effect an income distribution for 25 years. The outcomes of the research show that the main culprits behind the deterioration are high chronic inflation and soared real interest rates due to snowballed domestic debt stock and high budget deficits. If the inflation rate can be stabilised at a one-digit level, than the contribution of interest earnings on total inequality will be minimised. Assuming that the tax burden will not decrease and public finance discipline will be instituted, primary surpluses can leave more room to shift the transfer payments to fields such as education, health etc.

It's probable that a significant and sustainable decrease in inflation will work primarily in favour of the poorest population who cannot avoid inflation taxation.

Therefore, it can be claimed that macroeconomic stability will contribute to the decline in total inequality without sacrificing any economic efficiency.

Institutional regulations

Developing the arguments constructed in the third section, it can be claimed that the institutional regulation requirements are focused in three main fields: agricultural subsidies, education and public sector personnel policies. Due to the short-term politically manipulated decisions taken in the agricultural sector, a set of significant problems has become unsustainable to carry forward. There is great mismatch between the level of employment in agricultural sector and Turkey's degree of development. Even the most optimistic estimations indicate that the share of agricultural employment, which is still around 40% (over ten million workers), should have been decreased to approximately 35% (Gürsel and Ulusoy, 1999, 22). This 5% deviation means that 2 million agricultural workers actually work with zero marginal efficiency and these "workers" comprise shadow employment. The culprit behind this economic inefficiency is the agricultural subsidy policies such as determining purchase prices considerably above international market prices, subsidising input prices, credits with negative interest rates, etc.

Since the subsidy policy of the state has ignored the fact that the current distribution of lands and capital contributes the inequality in agricultural sector, the political investment oriented subsidies have exacerbated the income distribution rather to correct it. Considering the important share of the agricultural sector, it is seen as an efficient field for political investment. In the lack of transparent policies, though only the small share of transfers are received by majority of farmers, who produce in small and medium sizes, the current system is still advocated for getting as much as it is possible. Therefore, although all knows the economic disadvantages of the agricultural support system, it is quite challenging to reform this sector resisting the political pressures.

In 1999, as it became more obvious that Turkey could not continue with the subsidy policies under strict budget constraints, the agricultural support system has been reformed and direct income transfers to low-income farmers is adopted. Nonetheless, beside the technical difficulties (to whom and in what amount the direct transfers will be made), the sufficient amount of funds to sustain political support for the reform program seems to be lacking under the strict constraints of

the stabilization program. The credit trenches that will be released by World Bank constitute great importance in this sense. However, considering that these short-term policies are planned for the transition in agricultural sector, there is still a necessity to restructure the share of agriculture in Turkish economy. In the long run, to decrease the share of agricultural employment at least to 25% (Poland's level), the EU candidacy supplies useful benchmarks for what should and could be done in the accession process.

The second institutional regulation is required in education. Though it is important, to what extent education should be maintained by the state has not touched in this report. The situation in Turkish education system can be briefly summarised as follows: The average level of education, which is the prerequisite for sustainable development, is quite low in Turkey. The important point is improving the university and vocational education levels, in order to achieve significant efficiency gains and required skilled labour force. In the near future, Turkey has to invest more in education. . As argued by Sen, education is the most valuable endowment of individuals and in the long run, it is the first best strategy of achieving more equal and just distribution of income without sacrificing economic efficiency via fiscal and monetary policies.

In the third section, it was shown that as the education level increases the inequality within the same group increases. Therefore, it may be argued that as the average education level rises, total inequality will also increase. Though it seems paradoxical, following the theory of Kuznets (Kuznets' Dynamic), it may be claimed that after the initial phase of increasing inequality, the corrective effects will be in charge in the long run. The fact that the income inequality is above the average within the groups of graduate degree and post-graduate degree holders (Graph 3.3, groups 4 and 5) signals some structural instability in Turkish labour market, the characteristics and reasons of which require a detailed research.

6.3. Conclusion

Analysing the economic developments, it can be inferred that the income inequality increased from 1994 to 2000, the year of this study had been done. The current arguments about the increasing income inequality and the discussions on the tension it created shows that the inequality also had been felt extensively in the society. 2000, is also the year that Turkey had launched the most pretentious

economic stabilization program. With an optimistic perspective, the success of this program could decrease the level of income inequality at most to the level of 1994.

Analysing Turkey and the Portugal, having the most unequivalent income distribution in the EU, and taking into account that more equivalent distribution had been obtained by taxes and policies, it will be an exaggerated optimism to expect an improvement in the short term by such policies.

Undoubtly, the intervention to the market distribution is possible and is needed. But, this intervention can be harmful on economic activity and economic growth unless carried on properly.

However, we think that Turkey has good margins to affect the market distribution. For example, it is possible to arrange the income tax rates obtain improvement. But this arrangement must be in the form that will not to make the investors and small enterprises to give up economic activity. Otherwise, rising in unemployment rate and falling in growth will cause an opposite effect which will prevent the desired improvement.

To institute of government transefers and to increase the transfer budget are all possible. If these new forms and increases are directed correctly, in other words if it is directed to low income groups with an increasing rate, it is possible to achive a success in struggling with inequality. But, these policies must be financed in a stable and low-inflation economic environment not to distort the market balances.

It seems possible to reduce income distribution inequalities with institutional / structural reforms. Especially with less use of price intervention in order to give income transfers to agriculture, but with greater use of direct income transfers for poor agricultural workers, it is possible to reduce the distributional inequality significantly in the midium-term. In the long-term, if the inequality determined directly by market distribution is to be permanently reduced, the most effective method would be to increase public education expenses aiming to provide the skills and professions for the younger generation.