



# Income Inequality Measurement in Greece and Alternative Data Sources: 1957-2010

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## Abstract

The main objective of this paper is the estimation of income inequality in Greece for the period 1957-2010. Alternative income sources are used for the estimation of aggregate and disaggregate measures. Empirical evidence from tabulated tax data indicates an increase on aggregate income inequality. This view is not supported by estimates derived from other data sources (i.e. Household Expenditure Survey). The level of aggregate inequality, also, differs from other empirical results. These findings imply that different data sources and/or methodological approaches could lead to different conclusions for the direction and/or level of aggregate income inequality. Nevertheless, top income shares yield similar trend (for certain periods) and level (to the possible extend) regardless the data sources. This view is consistent with [1] that top income shares may be a useful substitute for other measures of inequality.

*Keywords:* Income Inequality; Top Income Shares; Greece

## Introduction

This paper provides empirical evidence for income inequality in Greece. Alternative data sources and methodologies are applied and inequality measures are provided. More specifically, empirical time-series evidence on economic inequality from grouped tax data will be presented. The time period of the analysis is from the year 1957 to the year 2010. In the next section micro data from EU SILC for the period 2002-2010 are utilized. In all cases corresponding evidence from other countries are presented. Empirical findings from other studies utilizing other sources [European Community Household Panel (ECHP) and Household

Expenditure Survey (HES) micro data] are also discussed. Then a comparison for all results of aggregate income inequality is conducted. The summary of the empirical findings are presented in the last section.

## AGGREGATE MEASURES OF INCOME INEQUALITY FROM GROUPED TAX DATA

### *Estimation of aggregate measures of income inequality from grouped tax data*

Tax data provide detailed information on nominal family income and its sources, as reported annually in tax declaration forms. Family income is the sum of income received by the husband and/or wife. This definition also includes single persons. These data are compiled by the Tax Authorities and have been published annually by the National Statistical Service of Greece (NSGG, now ELSTAT) since 1958. From 2003 onwards the publication is conducted by General Secretariat of Informatics Systems of Ministry of Finance.

Total family income is the sum of one or more of the following components:

- Income from employment
- Income from buildings and lease of land
- Income from securities
- Income from commercial and industrial enterprises
- Income from agricultural enterprises
- Income from self-employment
- Income from abroad

The tax declarations are submitted in the following year of the year of reference. The term 'economic year t' refers to income that was acquired in the previous year. Thus, 'economic year 2011' refers to the calendar year 2010. Tax data are reported in tabulated form (grouped tax data). During the whole period the number of classes has changed, being more analytical in the latter years. For more details on Greek tax data see [2].

The following summary inequality measures have been estimated for the declared income of the physical persons (grouped tax data).

- Gini Coefficient (G)
- Relative Mean Deviation (M)
- Atkinson Index ( $\epsilon=0,5$ )
- Atkinson Index ( $\epsilon=1,5$ )
- General Entropy (GE(0)=Theil's L or Mean Log Deviation) ( $a=0$ )
- General Entropy (GE(1)= Theil's T) ( $a=1$ )
- General Entropy (GE(2)=type of Coefficient of Variation- CV) ( $a=2$ )

The choice of these indices is based on the underlying properties. Furthermore, these aggregate indices are widely used for the empirical measurement of inequality.

The distribution of the data within each class is not known. This issue is being tackled using interpolation methods [3]. Two interpolation methods were used: the split-histogram interpolation method and the linear interpolation method. The mean value of the computation of these two techniques provides the final estimation of the measure. The lower and upper bounds of the estimation have been also compiled. The compiled index of Relative Mean Deviation refers only to lower bound. Figure 1 presents the estimated time series of each individual index.

The evolution of these alternative inequality indices estimated for Greece for the period 1957-2010 (reference years) shows that:

Both Atkinson indices yield almost the same results, indicating an increase in income inequality. Atkinson (0,5) and (1,5) are 0,150620 and 0,313287 respectively for the year 1957 and 0,237057 and 0,912739 respectively for the year 2010. However A(0,5) shows a rather constant trend till early 1990 while A(1,5) not.

Mean Log Deviation (GE(0)) implies a continuous increase of income inequality for the whole period, with values of 0,282220 and 0,812106 for the years 1957 and 2010.

Theil's Index (GE(1)) suggests, a mixed pattern since it decreased till late '80s then increases till late '90s and then is almost stable. It starts at 0,392954 in 1957 and reach the level of 0,459359 in 2010.

The monotonic transformation of Coefficient of Variation (GE(2)) suggests also a mixed pattern: a decline of inequality till mid '80s, then a constant trend till early '90s and an increase afterwards. It, also presents cases of outliers, especially for years 1957, 1973 and 1974.

Gini coefficient implies an increase of inequality. It arises from 0,413949 in 1957 to 0,501893 in 2010. The upward trend seems to take place from the early 1990s, being relatively steady in the previous period.

Relative Mean Deviation suggests an increase as well, starting with a value of 0,591613 in 1957 and reaching the level of 0,719574 in 2010. The upward trend, as in the case of Gini, emerges from the early 1990s.

According to the empirical findings, six indices indicate an increase of income inequality while one (GE (2)) indicates the opposite (decrease).

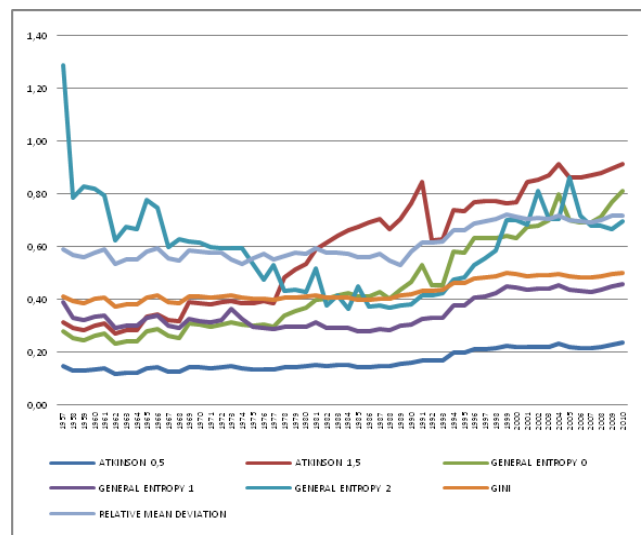


FIG. 1. AGGREGATE INEQUALITY MEASURES FOR GREECE, 1957-2010

### International experience

There is an enormous amount of empirical research on income inequality. As a result several cross-national datasets have been compiled; for a review, see [4]. Some of the most influential projects are the

Luxemburg Income Study (LIS), the dataset compiled by [5], the World Income Inequality Database (WIID) created by [6] and its successor (WIID2), the Standardized Income Distribution Database (SIDD) (compiled by [7]) and the Standardized World Income Inequality Database (SWIID) compiled [8].

The comparison of Gini 's estimates (grouped tax data) for Greece is conducted with two country groups (SWIID ver. 3.1). The first group consists of South European countries such as Italy, Spain, Portugal and France (although France could be considered part of Central Europe). The second group includes countries from Central and North Europe (Germany, Switzerland, Netherlands and Sweden) as well as UK and USA.

The results of the comparison of Greece with the first group (Italy, France, Spain, Portugal) are presented in the Figure 2. Looking at the whole period, aggregate income inequality in Greece is lower than Portugal, higher than Spain (with the exception of late 60s and mid-70s), France (with the exception of first half of 90s and second half of the decade of 2010) while is lower than Italy until 1980 and higher from mid 90s and onwards. It is noticeable that Gini coefficient is in higher level in Greece from the mid 1990s with the exception of Portugal and partly France; in France is higher only in the second half of the last decade.

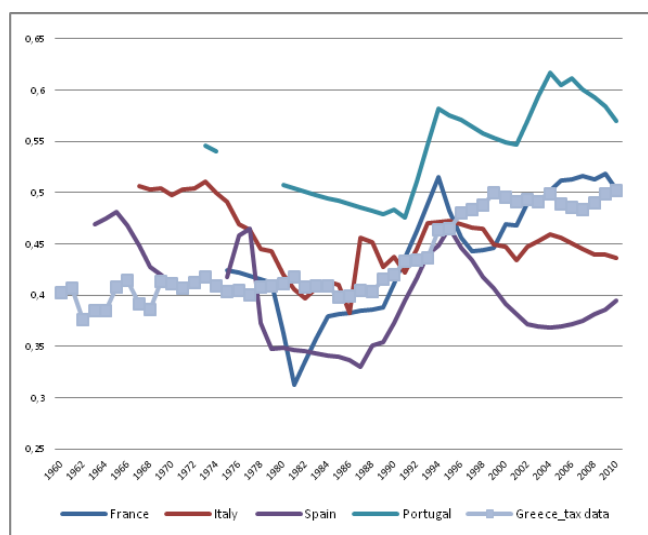


FIG. 2. INTERNATIONAL COMPARISON I – GINI COEFFICIENT

The outcome of the comparison of Greece with the second group (Germany, Switzerland, Netherlands, Sweden, UK and USA) is presented in the next Figure 3. Until 1980, inequality in Greece is higher than in UK

and in the same levels with USA (though in USA is higher prior to 1970) and lower than other countries with the exception of certain years (almost equal for Germany in 1972 and 1977, Sweden in 1975 and Netherlands in 1973 and 1977) or periods (lower in Sweden in the late 60s). In the decade of 1980 inequality in Greece is higher only compared to Netherlands and partly Germany (only for the first half of the decade) and in the same level with Switzerland and partly USA and UK (both in the beginning of the decade). Greek Gini increases more intensely in the beginning of 90s. In the second half of 1990s aggregate income inequality in Greece is higher than every country. It is exceeded only by Germany (late 90s) and Netherlands (early 00s). Finally in the second half of the last decade the level are similar to UK and slightly above USA, Sweden and Switzerland.

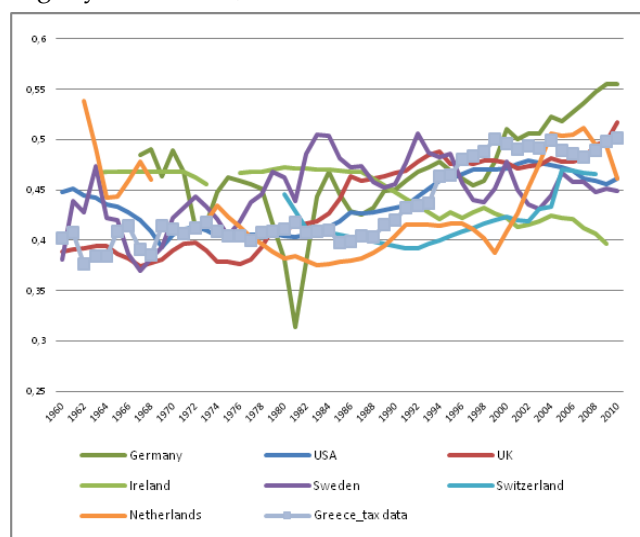


FIG. 3. INTERNATIONAL COMPARISON II – GINI COEFFICIENT

The broader conclusion could be that after the mid 1990s aggregate income inequality in Greece is in high levels compared with other countries, while it was a 'medium' case in the previous period.

#### AGGREGATE MEASURES OF INCOME INEQUALITY FROM EU SILC DATA

##### Estimation of aggregate measures of income inequality from EU SILC data

The European Union has set up a survey for collecting data on income, poverty, social exclusion and living conditions. The European Union Survey on Income and Living Conditions (EU SILC) includes micro data on income on household and personal level that can be used for the estimation of income distribution. This

survey replaced the European Community Household Panel (ECHP). The EU SILC project was launched in 2003 for Greece. The data are produced on annual basis and the reference population is all private households and their current members residing in the territory of the Member State at the time of data collection. The year of the survey contains data for the previous year; thus survey for 2011 illustrates information for the year 2010 (reference year).

These variables describe the concept of income on household level. The size of the household and the age of its members are important factors, therefore the use of an equivalence scale is appropriate. In this study the "OECD-modified scale" is utilized. This scale, first proposed by [9], assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child.

The time period of the analysis is from the year 2002 to the year 2010 (reference years).

The variable used for the estimation of income distribution is the 'Total net household income'. This variable includes net income on household level taking into account, also, components of personal net income; it is noted that we do not take into account the negative values in the variable net cash benefits or losses from self-employment (including royalties). It has been adjusted for the size of household and the age of the members of household with the OECD-modified scale.

The indices that indicate the gap between the income shares of certain portions of population are S80/S20 and S90/S10, which is simply the ratio between the income share of upper and lower income classes. There has been a small decrease in both indices; nevertheless the trend is not stable for the whole period. The decrease is more obvious in the year 2009 especially for S90/S10. Both ratios indicate increase for the year 2010. This implies that the recession, which is more apparent from 2009, seems to affect the distribution of income with ambiguous results.

The behavior of the aggregate inequality indices (GINI, Atkinson (0,5), Atkinson (1,5), General Entropy (0), General Entropy (1), General Entropy (2) and Coefficient of Variation) is rather stable with miniscule decline. In all cases the absolute values are slightly changing in both directions (increase or decrease); nevertheless, in all cases a small decrease is noted

from 2008 to 2009 and a small increase from 2009 to 2010. This element, also, implies a miniscule decline in inequality in the beginning of economic recession in Greece and a small increase onwards.

Figure 4 contains the indices of S90/S10 and S80/S20 and Figure 5 illustrates the trend of the seven aggregate inequality indices.

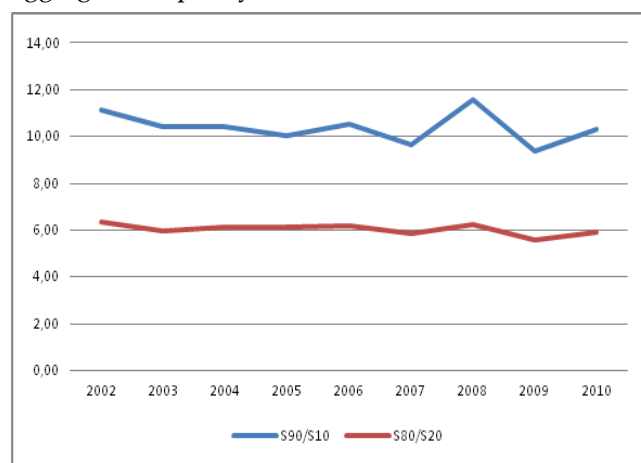


FIG. 4. S90/S10 AND S80/S20 FOR GREECE (EU-SILC DATA)

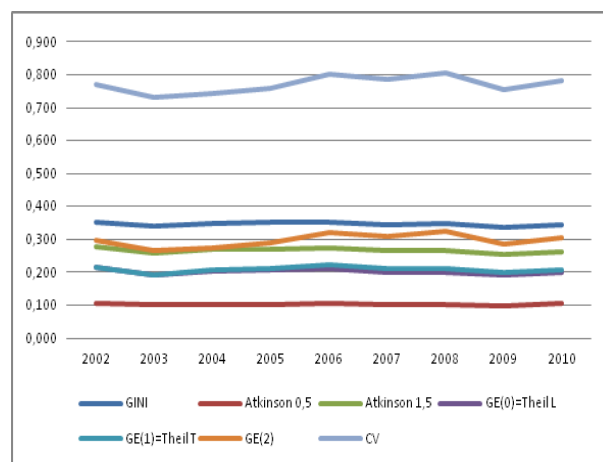


FIG. 5. AGGREGATE INEQUALITY INDICES FOR GREECE (EU-SILC DATA)

### International experience

The main variable used in this paper for the estimation of income distribution is the 'Total net household income', which incorporates the net components of household income without taking into account negative values for net cash benefits or losses from self-employment (including royalties). This variable is slightly different in interpretation and in compilation procedure from the corresponding one (Total disposable household income (HY020)) used by ELSTAT.

Figures 6 and 7 illustrate the ratio S80/S20 and Gini coefficient for total disposable household income for Greece and European Union 27 and Euro Area 17. The reason for the sort period for comparison is due to the lack of data for European averages.

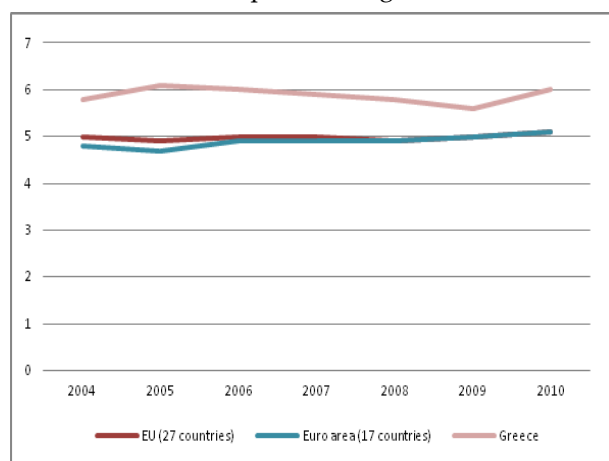


FIG. 6. S80/S20 – INTERNATIONAL COMPARISON I (EU-SILC DATA)

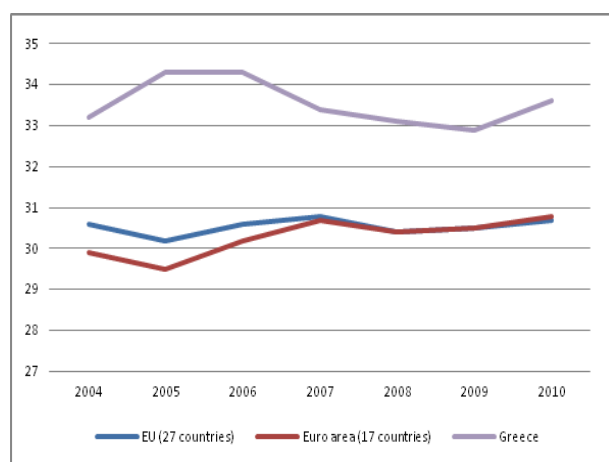


FIG. 7. GINI COEFFICIENT – INTERNATIONAL COMPARISON II (EU-SILC DATA)

The empirical findings indicate that aggregate income inequality in Greece is in higher level than the average of both European Union and Euro area.

## RESULTS FROM OTHER DATA SOURCES

### Household Expenditure Survey (HES)

Micro data from Household Expenditure Survey (HES) have been utilized for the estimation of income inequality. According to [10] available data exist for the HES of 1974, 1981/82, 1987/88, 1993/94, 1998/99, 2004/05 and 2008. The concept of income includes monetary incomes from all sources, such as wages,

self-employment earnings, pensions, rents, interest payments dividends, cash benefits (net of tax paid). Moreover, the definition of income includes the non-cash components, namely, imputed rents, other non-cash incomes (consumption of own farm and non-farm production, in-kind transfers from other households and fringe benefits). Adjustments were made for the size of the household; the equivalence scale used was 1,0 for head of household, 0,5 for other member above 13 years and 0,3 for under 13 years.

It should be noted that the authors compile, also, the distribution of consumption expenditures and they state that income information from HES is considered less reliable from ELSTAT. Nevertheless the results regarding inequality do not differ substantially using the two alternative definitions. Other researchers utilize only consumption data [11].

Tables 1-3 present aggregate and disaggregate inequality measures based on HES income micro data.

TABLE 1. INCOME SHARES FROM HES MICRO INCOME DATA

INCOME SHARES	1974	1982	1988	1994	1999	2004	2008
1	2,3	3,2	3,0	3,1	3,0	3,5	3,7
2	4,0	4,9	4,8	4,8	4,7	5,1	5,2
3	5,1	6,0	6,0	5,9	5,9	6,1	6,2
4	6,1	7,0	7,0	7,0	6,8	7,1	7,1
5	7,2	8,0	8,0	8,1	7,9	8,1	8,2
6	8,4	9,1	9,1	9,3	9,0	9,3	9,3
7	9,9	10,4	10,5	10,6	10,4	10,6	10,5
8	12,0	12,2	12,3	12,3	12,1	12,2	12,1
9	15,3	14,8	15,0	14,9	15,0	14,7	14,6
10	29,7	24,3	24,4	24,0	25,1	23,2	23,3
1 TIS	2,3	-	3,0	3,1	-	3,5	-

TABLE 2. AGGREGATE INEQUALITY MEASURES FROM HES MICRO INCOME DATA

	1974	1982	1988	1994	1999	2004	2008
GINI	0,382	0,309	0,314	0,310	0,322	0,292	0,288
VAR. OF LOG. (L)	0,497	0,314	0,339	0,322	0,346	NA	NA
THEIL (T) INDEX	0,274	0,170	0,176	0,170	0,187	NA	NA
MLD (N)	0,255	0,161	0,170	0,163	0,177	NA	NA
ATKINSON (0,5)	0,123	0,079	0,082	0,079	0,086	NA	NA
ATKINSON (2,0)	0,407	0,274	0,295	0,279	0,300	NA	NA

Furthermore, [10] estimate the Gini coefficient without imputed personal income from HES. As expected coefficient is larger.

TABLE 3. GINI FROM HES MICRO INCOME DATA WITHOUT IMPUTED COMPONENTS

	1994	1999	2004	2008
GINI	0,340	0,347	0,325	0,310

### European Community Household Panel (ECHP)

The European Community Household Panel (ECHP) is a survey based on a standardized questionnaire covering a wide range of topics such as income, health, education etc. The survey was launched in 1994 and ended at 2002. According to Eurostat the characteristics of ECHP is the multi-dimensional coverage, the cross-national comparability and the longitudinal or panel design. The definition of income refers to total household income. Total household income is taken to be all the net monetary income received by the household and its members at the time of the interview (t) during the survey reference year (t-1). This includes income from work (employment and self-employment); private income (from investments, property and private transfers to the household), pensions and other social transfers directly received. No account has been taken of indirect social transfers (such as the reimbursement of medical expenses), receipts in kind and imputed rent for owner-occupied accommodation. In order to take into account differences in household size and composition in the comparison of income levels, the amounts given are per "equivalent adult". It should be noted that equivalised income is defined on the household level, so that each person (adult or child) in the same household has the same equivalised income. The year of the survey contains data for the previous year; thus survey for 2002 illustrates information for the year 2001.

The empirical findings for the Gini coefficient and for the S80/20 ratio are presented in Table 4.

TABLE 4. GINI COEFFICIENT AND RATIO S80/20 FROM ECHP MICRO DATA

	1994	1995	1996	1997	1998	1999	2000	2001	2002
GINI	0,37	0,35	0,34	0,35	0,35	0,34	0,33	0,33	0,35
S80/20	7,6	6,5	6,3	6,6	6,5	6,2	5,8	5,7	6,6

### COMPARISONS

In the previous sections different data sources and methodological approaches have been applied for the estimation of income inequality in Greece. Moreover, results from other selected studies have been presented. The main differences can be categorized as follows:

- Data sources: Grouped tax data, Household Expenditure Survey (HES) micro data, European

Community Household Panel (ECHP) micro data and European Union Survey on Income and Living conditions (EU-SILC) micro have been used

- Methodology: There are certain variations in the methodology applied. The usage of grouped or micro data dictates the application of different statistical specification of the aggregate inequality indices (interpolation techniques have, also, been used in the case of grouped tax data). Moreover different compilation procedure was employed in the case of top income shares in tax data (interpolation techniques, control total for population and income).
  - Unit of analysis: The unit of analysis is the household in all cases. The equivalence scale is only used when micro data are available.
  - Income: The definition of income is not the same for every data source. For instance, studies using HES include also items of imputed person income.
- Despite these differences it is interesting to compare the alternative empirical findings.

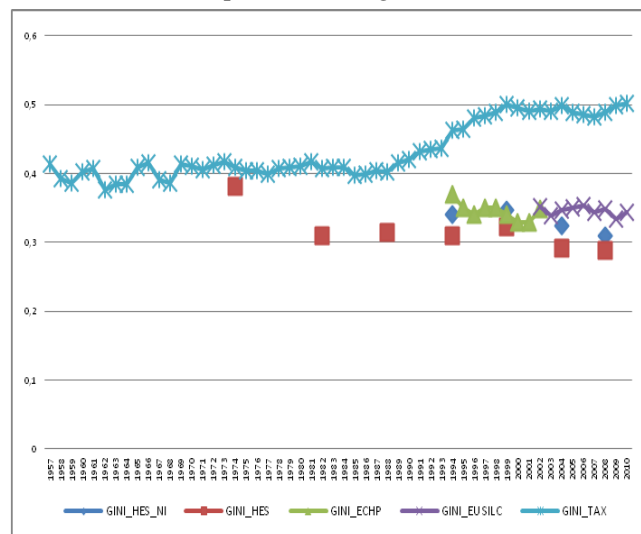


FIG. 8. GINI COEFFICIENT FOR GREECE FROM VARIOUS DATA SOURCES

Note 1: Gini\_HES\_NI: Gini from HES micro data with no imputed personal income items – [10]

Note 2: Gini\_HES: Gini from HES micro data – [10], [12], [13]

Note 3: Gini\_ECHP: Gini from ECHP micro data – ELSTAT various bulletins, Eurostat website

Note 4: Gini\_EU SILC: Gini from EU-SILC micro data – authors' calculations

Note 5: Gini\_TAX: Gini from grouped tax data – authors' calculations ([14] approach)

Figure 8 illustrates the results for the estimation of Gini coefficient from tabulated tax data and micro data

from HES, ECHP and EU-SILC.

Gini coefficient derived from tabulated tax data (GINI\_tax) is in higher level compared with all other cases. As expected Gini from HES micro data (GINI\_HES) yields the smaller values, since it includes non cash components. For the common period (1994-2008) small differences appear among alternative estimates (ECHP, HES and EU-SILC) of Gini (probably mainly due to different definitions). In detail, we notice that data from HES with no imputed personal income (GINI\_HES\_NI) result in higher values of the coefficient. The coefficient is both lower (1994) and higher (1999) compared with the corresponding one from ECHP data (GINI\_ECHP). Furthermore, Gini is higher (compared to HES in 2004 and 2008) when is derived from EU-SILC micro data (GINI\_EU SILC).

According to HES data, there is an impressive decrease from 1974 to 1982. For the period 1982-1999 the level of the income inequality does not alter significantly. On the contrary a decreasing trend exists for the period 1999-2008. The trend is similar for HES data when imputed personal income is not included for the period 1994-2008: a small increase is detected for 1994-1999 followed by a small decrease for the remaining period. Micro data from ECHP indicate a relative constant trend for the period 1994-2001. The coefficient derived from EU-SILC micro data yields a rather constant pattern until 2006 and presents a slight decrease until 2009 followed by a small increase for 2010. On the contrary, Gini coefficient from tabulated tax data implies an increased inequality. The upward trend seems to take place from the early 1990s, being relatively steady in the previous period.

Gini from tax and HES data show a similar trend for the period 1982-1988, while trend similarities exist for the period 2000-2010 for all cases (with small variations as described previously).

Figures 9-10 illustrate the results for the estimation of the upper shares of income distribution from tabulated tax data and micro data from HES and EU-SILC. The 10%, 1% , 0,5% and 0,1% top income shares (tis) are presented (only the first two cases are available for HES data).

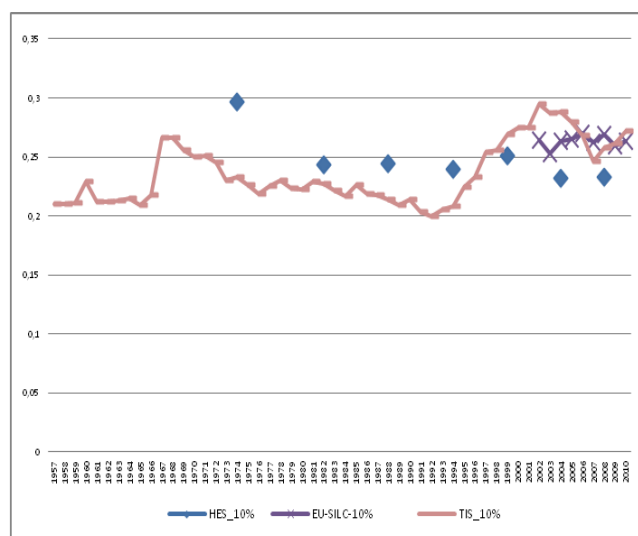


FIG. 9. 10% TOP INCOME SHARES FROM VARIOUS DATA SOURCES

Note 1: HES\_10%: 10% TIS from HES micro data – [10]

Note 2: EU SILC\_10%: 10% TIS from EU-SILC micro data – authors’ calculations

Note 3: TIS\_10%: 10% TIS from grouped tax data – authors’ calculations ([14] approach)

The top 10% derived from micro HES data is around 30% in 1974, drops drastically in 1982 (24,3%) and then it remains relatively stable for the period 1982-1994 (between 24%-24,3%). A slight increase in 1999 (25,1%) and then a decrease from 2004 onwards (23,2 and 23,3) is detected for the period 1994-2008. In general the trend for the period 1982-2008 is rather constant. Micro data from EU-SILC indicate a relative constant trend (with minor fluctuations) for the period 2002-2010, where 10% top income share is approximately 26% with lower value in 2003 (25,3%) and higher value in 2006 (27%). The top 10% share derived from tabulated tax data [according to [14] approach – for more details see [2]] initiates from a value of 21% (year 1957) and ends up around 27,2% (year 2010). TIS\_tax is relatively constant until the late sixties; after this period there is an increase for some years. From the mid 1970s the share declines and is in the level of 21%-22% until the end of 1980s. In the beginning of the next decade the income share of the 10% rises exceeding the initial levels. This trend seems to be interrupted in 2002-2003 and it continues rising after 2008.

We notice that 10% top income share derived from tabulated tax data and micro data from HES and EU-SILC do not yield such differences as in the case of

Gini coefficient. This justifies the generally adopted argument that tax data can be used for estimation of top income shares. The level of 10% top share from HES micro data is higher until 1994 and lower for the remaining period. The corresponding values derived from EU-SILC micro data are in lower level for 2002-2005, 2009-2010 and higher for 2006-2008. Moreover, EU-SILC values are above HES values both in 2004 and 2008 (years that HES data are available). This could be attributed mainly to the whole advanced methodological structure that EU-SILC adopts.

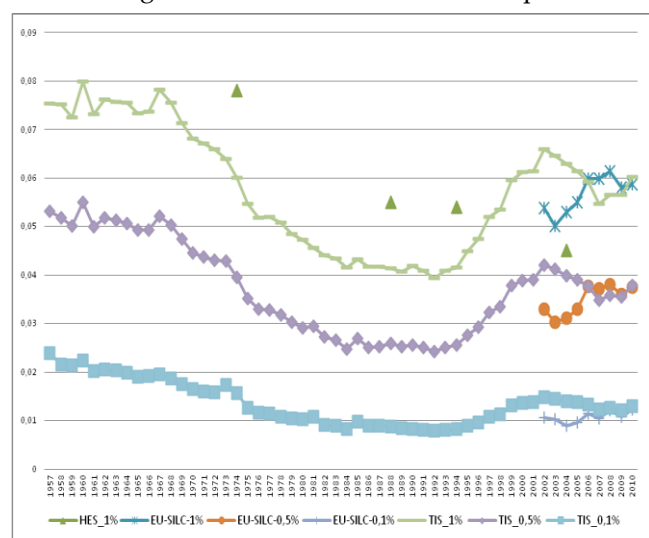


FIG. 10. 1%-0,5%-0,1% TOP INCOME SHARES FROM VARIOUS DATA SOURCES

Note 1: HES\_1%: 1% TIS from HES micro data – [15]

Note 2: EU SILC\_1%-0,5%-0,1%: 1% - 0,5% - 0,1% TIS from EU-SILC micro data – authors calculations

Note 3: TIS\_1%-0,5%-0,1%: 1% - 0,5% - 0,1% TIS from grouped tax data – authors' calculations ([14] approach)

Figure 10 illustrates the empirical findings for the 1%, 0,5% and 0,1% of top income shares.

The 1% top share from HES data is 7,8% in 1974 and drops to 5,5% in 1982. It remains almost unchanged for 1984-1988 (5,4%) and it decrease for the period 1988-2004 (4,5%). EU-SILC data indicate a small decrease from 2002 to 2003 and then a gradual increasing trend which seems to be interrupted in 2008 and re-emerged in 2010. The top 1% share from tabulated tax data initiates from a value of 7,5% and ends up around 6%. The level is relatively constant until the late sixties; after this period a slow but steady decline emerges. This trend remains until the beginning of 1980s; during this decade the top 1% is

around 4%. In the beginning of the next decade the income share of the 1% rises without nevertheless reaching the initial levels. This trend seems to be interrupted in 2002-2003 and it re-emerges in 2008.

Three out of four HES give us estimates of top 1% at higher level than that of tax data. Data from EU-SILC yield a different pattern compared to the tax data for the period 2002-2010 despite the fact that respective values are quite similar for 2006, 2009 and 2010.

The 0,5 % and 0,1% top income shares are available for tax and EU-SILC data. Both for 0,5% and 0,1% top income shares the estimates for the period 2006-2010 are quite comparable. There are differences for previous common years. This diversity is rather attributed to the reasons mentioned at the beginning of this section.

## CONCLUSIONS

This paper provides empirical evidence for income inequality in Greece. Various data sources and statistical techniques have been used for the compilation of aggregate and disaggregate measures of income inequality. Furthermore, empirical findings from other studies have been presented and compared.

Tabulated tax data for the period 1957-2010 have been utilized for the compilation of aggregate income inequality measures. Seven indices have been estimated. According to the empirical findings, six indices indicate an increase of income inequality while one (GE (2)) indicates the opposite (decrease). All summary inequality measures, except GE(2), indicate an upward trend for the period 1957-2010, whereas GE(2) indicate a decline followed by an increase (explaining thus the quadratic model of description). Nevertheless, the value of GE(2) never reached its initial level.

Our results were compared with data from Standardized World Income Inequality Database (SWIID) compiled by Solt (2009). The comparison of Gini 's estimates for Greece is conducted with two country groups. The broader conclusion could be that after the mid 1990s aggregate income inequality in Greece is in high levels compared with other countries, while it was a 'medium' case in the previous period.

Another data source is the European Union Survey on Income and Living Conditions (EU SILC). This survey includes micro data on income on household and

personal level that can be used for the estimation of income distribution. The time period of the analysis is from the year 2002 to the year 2010. The indices S80/S20 and S90/S10, which are the ratios between the income share of upper and lower income classes, suggest that there has been a small decrease; nevertheless the trend is not stable for the whole period. The decrease is more obvious in the year 2009 especially for S90/S10. Both ratios indicate increase for the year 2010. The behavior of the aggregate inequality indices is rather stable with miniscule decline. In all cases the absolute values are slightly changing in both directions (increase or decrease); nevertheless, in all cases a small decrease is noted from 2008 to 2009 and a small increase from 2009 to 2010. This element, also, implies a miniscule decline in inequality in the beginning of economic recession in Greece and a small increase onwards.

The ratio S80/S20 and Gini coefficient for total disposable household income for Greece and European Union 27 and Euro Area 17 are compared. The empirical findings indicate that aggregate income inequality in Greece is in higher level than the average of both European Union and Euro area.

Empirical findings from studies that utilize Household Expenditure Survey (HES) and European Community Household Panel (ECHP) micro data are, also, presented. In both cases income data are used.

Despite the differences (data sources, methodological differences such as estimation procedure, unit reference, definition of income) a comparison analysis was conducted for the empirical findings; specifically for the Gini coefficient and the top income shares.

The Gini coefficient derived from tabulated tax data is in higher level in all cases. As expected Gini from HES micro data yields the smaller values, since it includes non cash components. For the common period (1994-2008) small differences appear among alternative estimates (ECHP, HES and EU-SILC) of Gini (probably mainly due to different definitions).

We notice that the values of top income shares between tabulated tax data and micro data from HES and EU-SILC do not yield such differences as in the case of Gini coefficient. This justifies the generally adopted argument that tax data can be used for estimation of top income shares. The fact that top

income shares yield similar trend (for certain periods) and level (to the possible extend) regardless the data sources, is consistent with [1] that top income shares may be a useful substitute for other measures of inequality.

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