

# **From dictatorship to crisis: The evolution of top income shares in Greece (1967-2013)**

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## **Abstract**

The paper presents the top income shares in Greece from 1967 (the seizure of power by the military dictatorship) until 2013 (the trough of the recession following the debt crisis) and follows their evolution in the context of the major political and economic events that occurred in this almost half-century. Overall, the top income share (top ten percent) declined slightly under the dictatorship, stabilized after the restoration of democracy and declined further during social democracy, yet with lots of internal diversity between different ranks of the rich population. The subsequent stabilization/financialisation period was particularly beneficial for all ranks of the rich but this trend was reversed in the years after the entrance to the Eurozone. The recent crisis period was also beneficial, especially for the higher ranks of the rich.

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## 1. Introduction

The paper presents the evolution of top income shares in Greece from 1967 until 2013. This 46-year period includes important moments of economic and political history that would in principle affect income distribution<sup>3</sup>.

In particular, we consider five such moments: Starting with the dictatorship in 1967, we move to the restoration of democracy in 1974, the election of the social democratic government in 1981, the macro-stabilization policies initiated in the early-1990s along with financial deregulation and credit activity, the entrance into the Eurozone in 2002 and the eruption of the crisis in 2008. Accordingly, we split our long period in six shorter periods, namely the “Dictatorship” 1967-1974, the “Democracy” 1974-1981, the “Social Democracy” 1981-1991”, the “Stabilisation/Financialisation” 1991-2002, the “Eurozone” 2002-2008 and the “Crisis” 2008-2013. Evidently, this periodization is arbitrary and the years are generally overlapping. Nevertheless, we consider it sufficient for the purposes of this study.

Our study follows the evolution of the broadly defined rich population through each of these periods. Our basic measure is the top income share, i.e. the percentage of total income accruing to the richest 10 percent of population (top decile) which we decompose further to the “low” ranks, i.e. the top 10-6 percent, the “middle” ranks or the top 5-2 percent and the “high” ranks, i.e. the top 1 percent (top centile). We also report the evolution of the “ultra-rich” or the top 0.1 percent of the population.

Why care for the rich, one may rightfully ask. The rich have been historically the dominant economic actors in all societies, not less so in advanced market democracies. While an obvious minority, they still hold disproportionate political power through their influence and resources and are usually far more visible than the rest of the population. Therefore, the study of the evolution of their economic position offers an interesting insight to the recent economic and political history and enough scope for a “consistent analytical narrative” (Piketty, 2007).

The next three sections present the evolution of the income share for each segment of the rich population throughout our period. In particular, the next section presents the evolution of the aggregate top decile, section three discusses its internal composition and section four reports the evolution of the “ultra-rich” (top 0.1 percent). The final section concludes. The methodology and calculations of our main variables are described in the appendix.

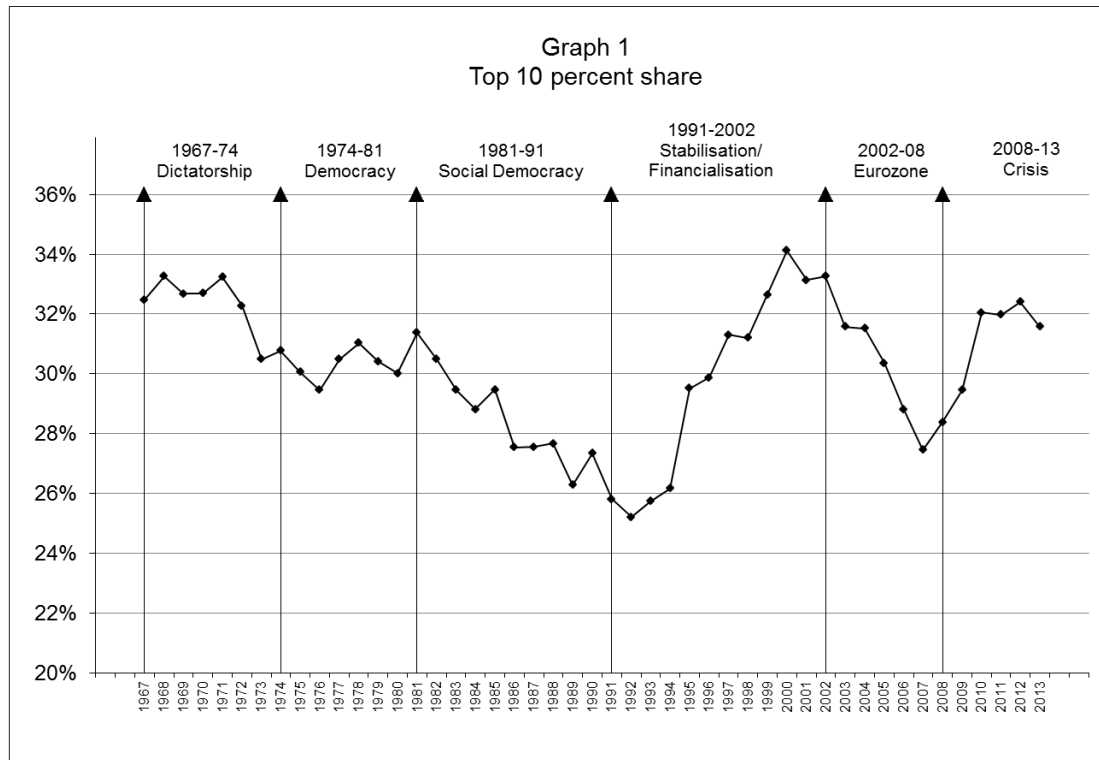
## 2. The top decile

The evolution of the top decile income share is shown in Graph 1. In the first years of the dictatorship their share was close to 33 percent of total income, fell slightly to about 30 percent in the last two years of the dictatorship (1972-73) and fluctuated around this level until the early 1980s. Interestingly, the restoration of democracy (1974) did not trigger any radical redistribution, at least in the aggregate share of the

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<sup>3</sup> The first series of top income shares in Greece have been constructed by Chrissis et. al. (2011) and Chrissis and Livada (2014)

top decile. It took a decade of social democratic government (elected in 1981) to generate the first serious decline of the top decile share: by 1989 their share stood at 26 percent which was close to the historical low of the whole period (the actual historical low was 25.2 percent in 1992). However, this aggregate picture hides a lot of internal redistributions that will be examined in the next section.



The next decade was particularly beneficial for the top 10 percent: during the stabilization policies<sup>4</sup> of the 1990s they fully recovered their previous losses and reached a historical high of about 34 percent at the turn of the century. This time, all segments of the top decile experienced similar trends in the evolution of their income shares.

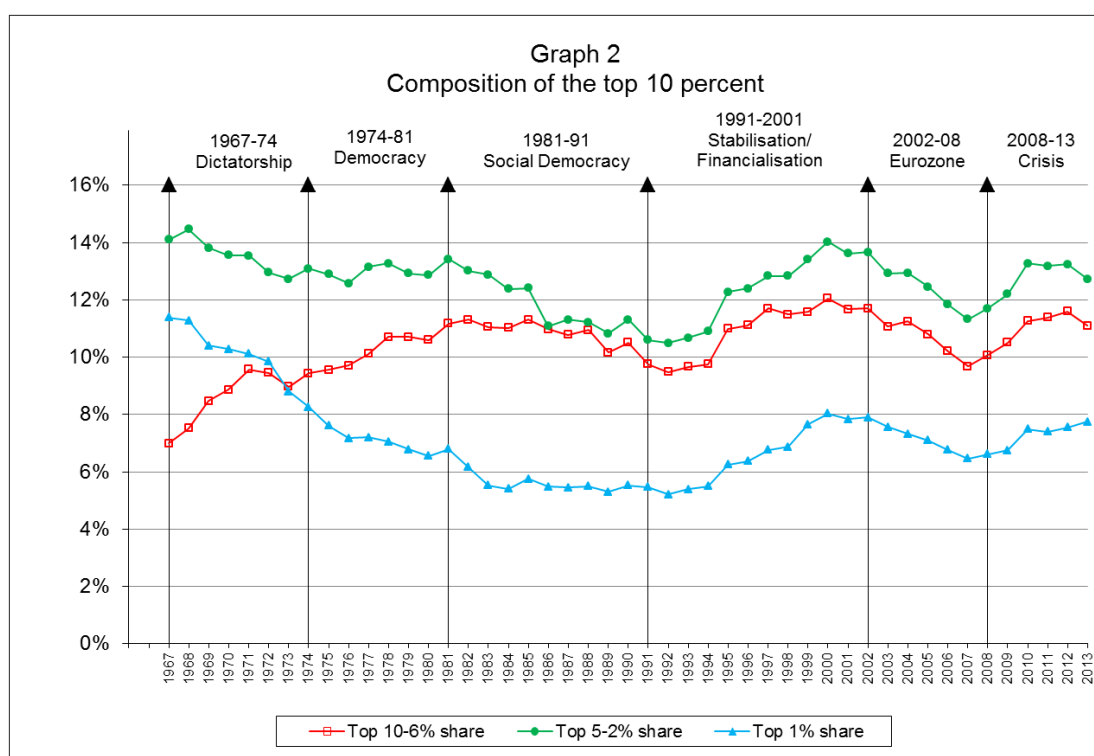
This did not last long, the formal accession into the Eurozone resulted in a major drop of the top decile share, something uncommon to the European experience. Most of these losses were recovered during the first years of the crisis, but after the initiation of the adjustment policies (2010) the top decile share stabilized around 32 percent. Again there was some internal diversity to be discussed below.

<sup>4</sup> The “traditional” recessionary stabilization policies of the early nineties (monetary and fiscal contraction) were replaced in the second half of the decade by the rather “unconventional” exchange-rate-based-stabilization policy (i.e. anchoring the exchange rate) that was generally expansionary (Detragiache and Hamann, 1997). Consistent to that, the period was also characterized by increased financialisation, both in terms of domestic credit expansion and exposure to international capital markets.

### 3. Inside the top decile

Among the different ranks of the top decile, things did not evolve towards the same direction. Graph 2 presents these differences separating the top decile to the bottom half (i.e. the top 10-6 percent), the middle 5-2 percent and the top 1 percent.

As we can see, during the dictatorship, it was the upper half (5-2 percent and 1 percent) of the top decile that suffered the major income losses, while the bottom half (10-6 percent) made some gains, especially in the earlier years. The restoration of democracy continued the same trend. The most obvious finding for both periods was the redistribution from the top 1 percent to the bottom half, a trend already established in the later years of the dictatorship. Interestingly, during both periods, changes in the income distribution among the rich were much more intense than changes in the the evolution of the top decile. In quantitative terms, during the period 1967-1980 the low ranks of the top decile (top 10-6 percent) gained about four percentage points of national income, mostly at the expense of the top 1 percent.



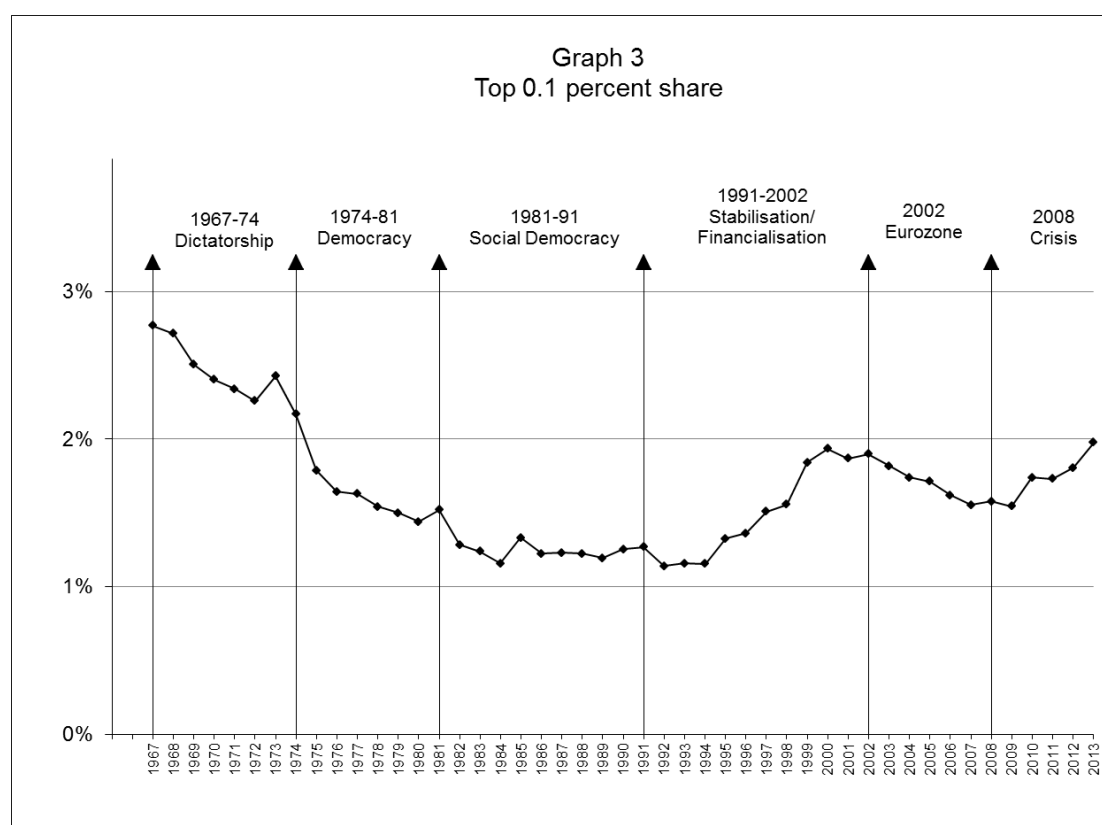
As we already saw in the previous section, the aggregate share of the top 10 percent declined substantially during the social democratic period. In the first (more radical) years the major losses were concentrated in the upper half of the top decile (5-2 percent and 1 percent) leaving the bottom half stable. This changed in the later years of social democracy when the bottom half began to decline too, while the top 1 percent stabilized its share.

Changes in the internal distributions of the top decile income came to an end by the late 1980s. The substantial increase since the 1990s was more or less similar among the different ranks of top incomes, as well as the decline during the Eurozone period and the recovery in the first crisis years. However, we can observe that after 2010 (initiation of the economic adjustment programme) the share of the low and the

middle ranks stabilized or even declined, while the share of the top 1 percent continued to increase. We will see in the next section that this latter finding is much more evident for the top 0.1 percent.

#### 4. The ultra rich

As we can see in Chart 3, the share of the top thousandth (0.1 percent) of the population evolved similarly to the top percentile. In the beginning of our period, it stood slightly below 3 percent of total income. This dropped consistently throughout the dictatorship and continued to do so during the restoration of democracy and the first years of social democracy. It remained constant somewhere between 1-1.5 percent for almost a decade and rose significantly during the stabilization policies of the 1990s, reaching almost 2 percent. Like the rest of the top decile, it declined during the Eurozone period. Nevertheless, unlike the low and middle ranks of the top decile, it increased during the crisis, especially in the latest – and most difficult – years. It appears that the income sources of this economic elite are less sensitive to domestic economic conditions.



#### 5. Conclusions

The paper examined the evolution of the top income shares in Greece for a period of almost half-century. Our main findings are that major political events had substantial impact on the income share of the rich, albeit not always what one may have expected nor to the same direction for all segments of the rich population.

During the “Dictatorship” period we observe a falling trend of most top income shares. Only the top 10-6 percent made some significant gains, mostly in the early years of the dictatorship. The higher ranks, i.e. the top 1 and 0.1 percent, were losing ground throughout the dictatorship. Unsurprisingly, the restoration of democracy did not help these high segments, as they kept losing throughout the “Democracy” period. On the contrary, the lower ranks had diverging trends. The restoration of Democracy stabilized the share of the top 5-2 percent and increased the share of the top 10-6 percent. The combined effect was a rather stable share of the top 10 percent. Things changed in the “Social Democracy” period, when the decline of the top 10 percent share is quite evident. However, it was the high ranks (top 1 and 0.1 percent) that suffered in the early years to be stabilized afterwards. The opposite happened to the low and middle ranks (top 10-6 and 5-2 percent) who recorded most losses in the later years of the Social Democracy. After that, all segments of the rich population follow similar trends. The “Stabilisation” period was beneficial for all ranks at the top of the income distribution, especially after the early years. The trend was reversed in the “Eurozone” period, when all shares declined. Interestingly, the “Crisis” period was proven less detrimental to the rich compared to the rest of the population. Moreover, it was the highest ranks of the top 10 percent those who made the most significant gains in their income shares.

Our study does not offer much of explanation regarding the mechanisms through which political and economic events affected the changes in the income distribution. This would require far more elaborate analysis concerning the details of the prevailing economic conditions, the implemented policies and the specific effects on different income sources. The ambition of this paper is to identify the evidence that could inspire future research for interpretation.

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## **Appendix: Methodology**

We calculate the top income shares following the Pareto methodology, as developed by Kuznets (1953) and Piketty (2001). We use data from income tax returns published by the Greek Statistical Authority (ELSTAT) and the Independent Authority for Public Revenues (AADE). These publications began in 1957 but we omit the first decade and begin our calculations in 1967 because from this date onwards tax data were declared (and published) on individual basis<sup>5</sup>. Beginning from this year makes our results homogeneous, or at least this is the earliest we can apply the individual income approach of this study without seriously compromising the validity of our results.

There are certain methodological problems regarding the estimation of the top income shares when grouped tax data are utilized. The first problem is that the thresholds of income shares do not coincide with the percentiles, so interpolation estimation is required. The second issue is the need to relate the number of persons to a control total in order to estimate the percentage of persons that represent the top income share. The third problem refers to the definition of income and the relation to an income control total used as the denominator in the top income share estimation. These issues are presented in the following sections, where the interpolation technique, the control total for population and control total for income are described

### *Interpolation*

The issue with the tabulated tax data is that the thresholds of income classes do not coincide with the percentiles which are necessary for the estimation of top income shares. The standard approach to tackle this issue is to assume that the top end of the income distribution is well described by the Pareto distribution. The first economist to use this methodology in a systematic way was Kuznets (1953) but the major recent revival is attributed to Piketty (2001).

In brief, the Pareto distribution specifies that the share of population (cumulative distribution function) with income (y) above some threshold (k) is given<sup>6</sup> by:

$$1-F(y) = (k/y)^a \quad (k>0, a>1) \quad (1)$$

(where F(y) is the cumulative distribution function). The two parameters are k, the minimum income that the Pareto distribution applies to (k>0) and a, the exponent that determines the shape of the distribution.

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<sup>5</sup> The problem with pre-1967 data is that the wife’s income (above some threshold depending on the source) was added to husband’s income and taxed accordingly. This practice was abolished in the first months of the dictatorship with the income tax reform 239/1967 that effectively established the individual-based income tax that is still in place.

<sup>6</sup> For details see Piketty (2001, 2007) and Piketty and Saez (2007).

The density  $f(y)$  of the distribution therefore has the form  $f(y) = ak^a/y^{1+a}$ . If the distribution of taxable income has this form, then the average income  $y^*(y)$  of the households whose income is greater than  $y$  is given by:

$$y^*(y) = ay/(a-1) = yb \quad (2)$$

According to (2) the ratio  $y^*(y)/y$  is equal to a constant  $b = a/(a-1)$ . Since  $y^*(y)$  is observed in the tax data, we can easily calculate the parameter  $b$  (or  $a$ ) and derive the income shares.

#### *Control Total for Population*

Control total for population is needed since the amount of ‘fillers’ of tax returns were low especially in the beginning of the period under investigation. The control total used is the population over the age of 18. The data sources are from Eurostat.

#### *Control Total for Income*

To estimate income shares in total income a control total for aggregate income is needed that is derived from National Accounts data. There are certain differences in the definition and coverage of income in the National Accounts versus income tax statistics. Nevertheless, the National Accounts figures are correlated with income tax data, since the latter are one of the sources used in the compilation procedure of national accounts. In order to produce time series that are comparable (to the best possible extent) with the declared tax income certain transactions of the Households Sector were utilized. These transactions (from the scope of received income – that is Resources) are the Wages, Property Income, Social Benefits (mainly pensions of all kinds; main and auxiliary) and Other Current Transfers. Employers’ actual social contributions, employers’ imputed social contributions and Subsidies are not included. The time series used in this paper have been compiled by ELSTAT for the years 1988-1995 (mixed system), 1995-2000 (ESA95), 2000-2010 (ESA95 – base year 2005) and 2011-2013 (ESA2010). The Wages illustrate gross income, meaning that the employees’ social contributions are included. These amounts are deducted from the Wages for the years 1988-2013. The net income of self-employed is not captured by the figures mentioned so far. From the National Accounts point of view, this income is the Gross Operational Surplus (GOS) of self-employed, which is relatively close to the concept of tax income of self-employed (declared income provided that respective tax payer has profits). These amounts were incorporated for the years 1988-2013. This new ‘sum of income’ is calculated as a percentage of the GDP (Gross Value Added at market prices). For consistency reasons this percentage was applied to the GDP series that has been compiled by the Eurostat. Linear extrapolation was applied for the missing years (1967-1987), i.e. by applying the average income/GDP of the years 1988-2013.