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Comparative analysis of poverty in Greece versus richer European Countries in the debt-crisis era

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Comparative analysis of poverty in Greece versus richer European Countries in the debt-crisis era[1]

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Abstract

This paper aims to analyze the impact of the reforms of the Greek Pension and Fiscal System on poverty, through a statistical analysis and to point out the changes in the main factors mentioned above and how they correlate. The analysis is achieved through the comparison of main identifiers between Greece and richer European countries.

Firstly, the macroeconomic variables are presented. Then, the data analysis on income, income from pension and its correlation with owned housing is conducted and finally the reconstruction of poverty thresholds and its large variations are depicted, with an attempt to explain the differences based on methodological approach and data collection.

[1] The research leading to these results has received support under the European Commission's 7th Framework Programme (FP7/2013-2017) under grant agreement n°312691, InGRID – Inclusive Growth Research Infrastructure Diffusion.

Introduction

In 2010, Greece, under the pressure of an increasing public debt, was forced to resort to the Troika, which is the designation of the triumvirate which comprises the European Commission (EC), the European Central Bank (ECB) and the International Monetary Fund (IMF).

The Troika agreed to provide Greece with financial help, on special terms recorded in a Memorandum of Understanding (MoU) between the Greek Government and the Troika.

One of the most important reforms that are recorded in the MoU is the Pension Reform since the Greek Social Security System had long showed signs of unsustainability and insolvency. The already implemented reforms had a great positive impact on pension expenditure, which was drastically reduced when projected until 2060. The projected reduction when taking into account all reforms until 2015, starting from 2009, exceeds 14% of GDP.

These fiscal changes are expected to take place under extreme demographic pressure, with both the total population and the working population projected to decline by a good 20% and 36% respectively, while at the same time pensioners are projected to increase by as much as 30%.

Along with fiscal and demographic effects, one has to also take into account the vicious circle of recession created in the Greek Economy. Such was the latter, that 1/3 of contributions were lost in the respective era bringing the amount of contributions to 12 billion euros yearly as opposed to 18 billion euros before the crisis, while at the same time pension expenditure exceeds 24 billion euros yearly.

The recession also caused further impoverishment of old-age people followed by the rest of the population and this became one of the main reasons that the reforms could not be fully implemented for fear of further impoverishment of pensioners and social exclusion in general, as well as political cost which is always a key factor (Symeonidis 2016).

This paper aims to further analyze and present the impact of the reforms of the Greek Pension and Fiscal System on poverty, through a statistical analysis and to point out the changes in the main factors mentioned above and how they correlate.

This will be achieved through the comparison of main identifiers between Greece and richer European countries, in order to allow the contrast to help the reader reach deeper understanding. The countries selected for this comparison are Denmark, Germany, the Netherlands, Norway, and Finland. These countries will be referred to as Richer Northern European Countries and the acronym RNEC will be used henceforth so as to avoid mentioning them repeatedly.

The data for the comparison have been accessed through a visiting grant supported under the European Commission's 7th Framework Programme (FP7/2013-2017) under grant agreement n°312691, InGRID – Inclusive Growth Research Infrastructure Diffusion. The

grant was utilized in LIS, a cross-national data centre which is located in Luxembourg and has been providing data on income and wealth for comparative research since 1983. There the Luxembourg Income Study (LIS) Database was created and appropriate variables were selected so that the comparison is made possible.[2]

The original data come from national surveys/administrative data, which have been harmonised to the variable list of the Luxembourg Income Study (LIS) Database. For our analyses we extracted and processed three different waves, namely 2007, 2010 and 2013. The waves are – historically – VII, VIII and IX. All data have been weighted so that cross-country comparisons are feasible.

Since some of the countries compared do not belong in the Euro Area, respective conversion rates to Euro amounts have been applied in order to succeed in providing comparable results.

Table 1: Conversion rates for Danish and Norwegian Krone

	Currency	Conversion date	Conversion rate
Euro	Danish Krone	31/12/2007	0,13414
	Danish Krone	31/12/2010	0,13415
	Danish Krone	31/12/2013	0,13404
	Norwegian Krone	31/12/2007	0,12604
	Norwegian Krone	31/12/2010	0,12815
	Norwegian Krone	31/12/2013	0,11960

Source: http://www.xe.com/

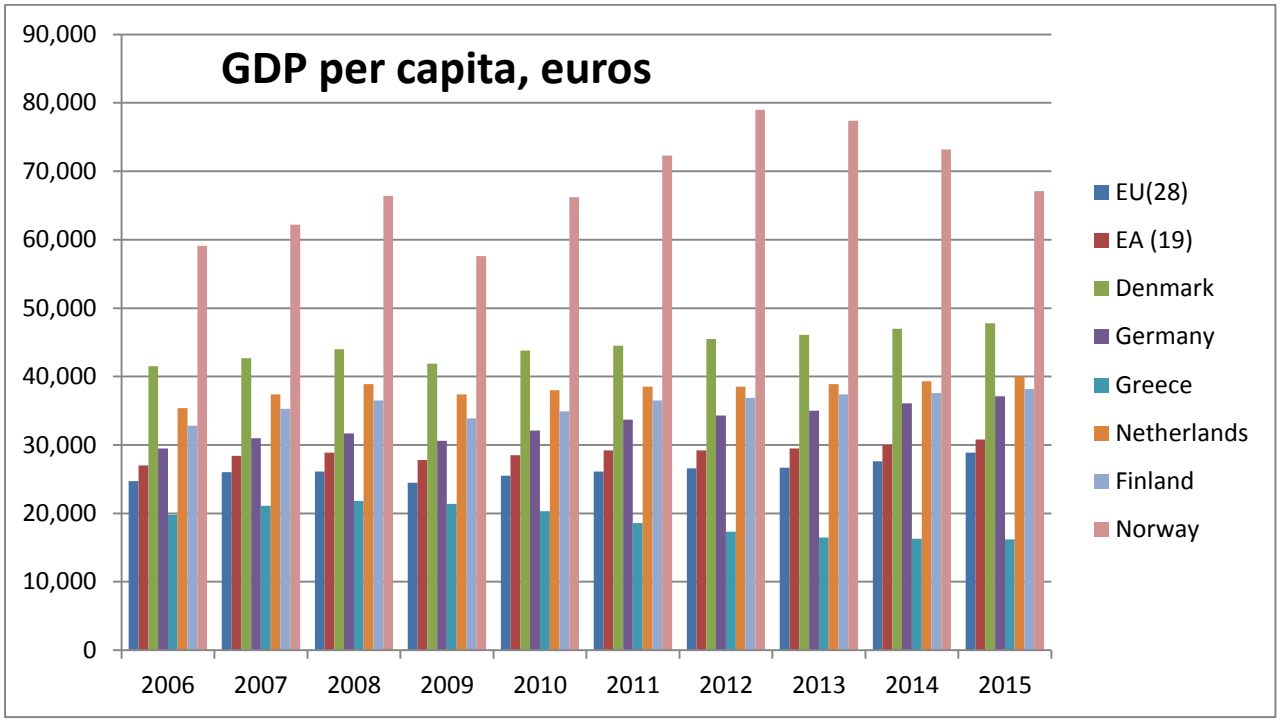
Macro-economic indicators

Using the gross domestic product (GDP) as a measure for economic activity, we compare the purchasing power parities in RNEC countries versus Greece. The GDP is defined as the value of all goods and services produced less the value of any goods or services used in their creation.

The GDP per capita in current prices, in Euro per capita is an important indicator of the fiscal deviation of Greece versus the RNEC. The Greek GDP per capita is 178% to 414% less than the countries in question and the EU28 and EA19 (Symeonidis, Venetsanakou 2016)

[2] The publication team would like to thank all the people working in LIS for their help and guidance. Special thanks should go to Thierry Kruten and Jörg Neugschwender for their valuable contributions.

Graph 1: GDP per capita in current prices, in Euro per capita for Greece and the RNEC



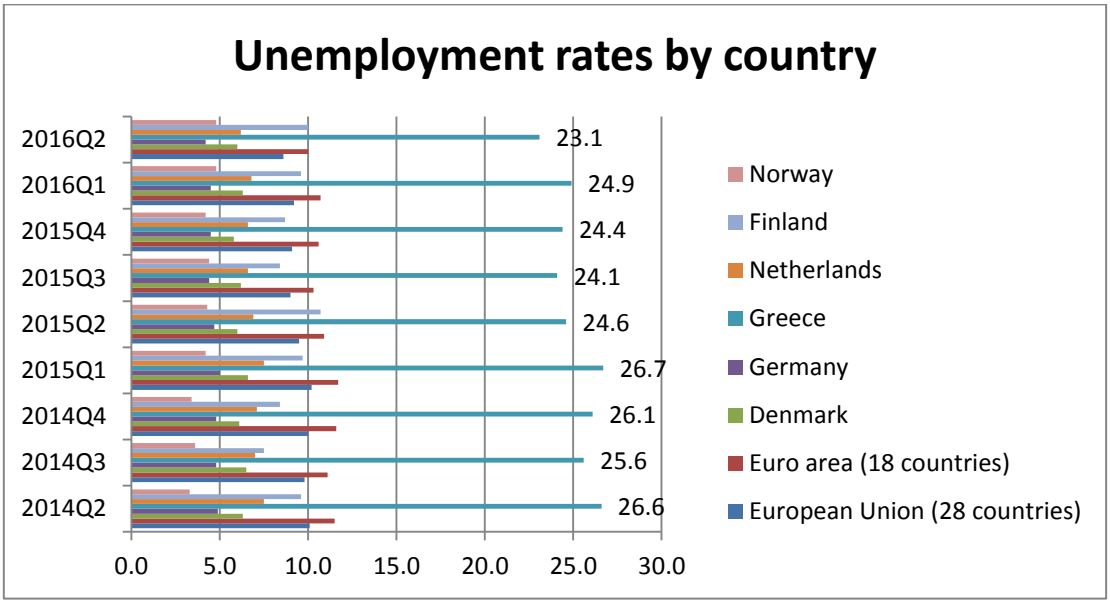
Source: Eurostat

One can confirm with the use of the abovementioned statistics, the intuitive perception that the chosen countries, NERC, are indeed richer than Greece.

As the recession became deeper, the European statistics for the Greek people depicted this deterioration when compared to the countries in question as regards poverty indicators and living conditions.

Unemployment rates by country are more than 200% higher for Greece than other European countries and the Euro Area.

Graph 2: Unemployment rates for Greece, the RNEC, the European Union and the Euro Area



Source: Eurostat

Of that unemployment, the long-term unemployment (12 months or more) as a percentage of the total unemployment also prevails in Greece with the staggering rate of 72% for the second quarter of 2016, as can be seen at the table below.

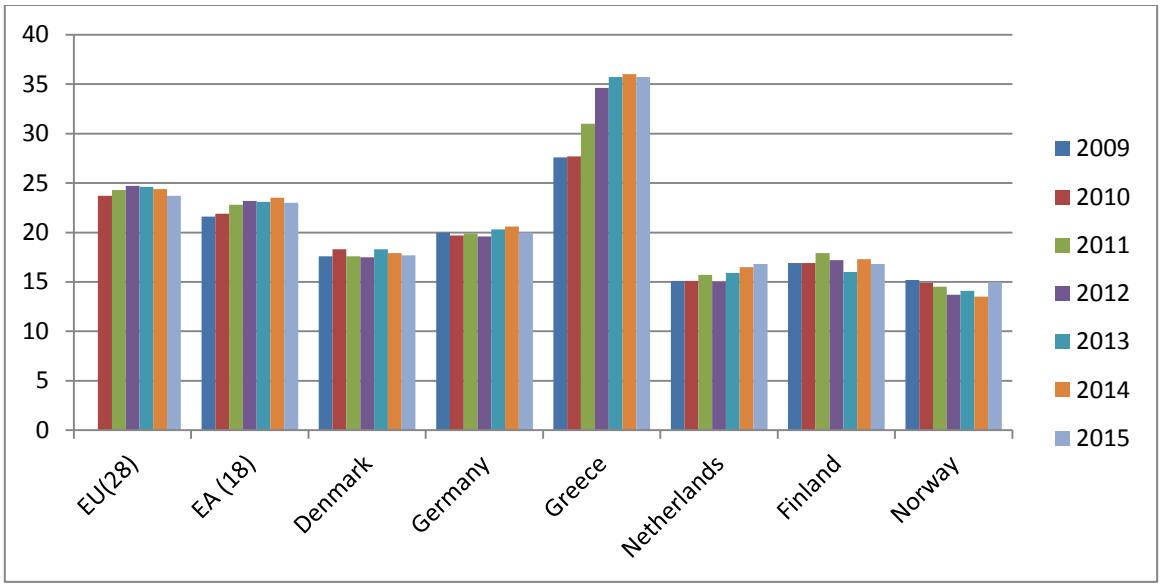
Table 2: Long-term unemployment as a percentage of the total unemployment

Long-term unemployment as a % of total	2016Q2
Denmark	22%
Finland	23%
Norway	31%
Germany	42%
Netherlands	45%
EU(28)	48%
EA (18)	51%
Greece	72%

Source: Eurostat

As regards people at risk of poverty or social exclusion, the percentages compared to the total population can be seen at the table below. Again, Greece is prevalent and shows a negative lead.

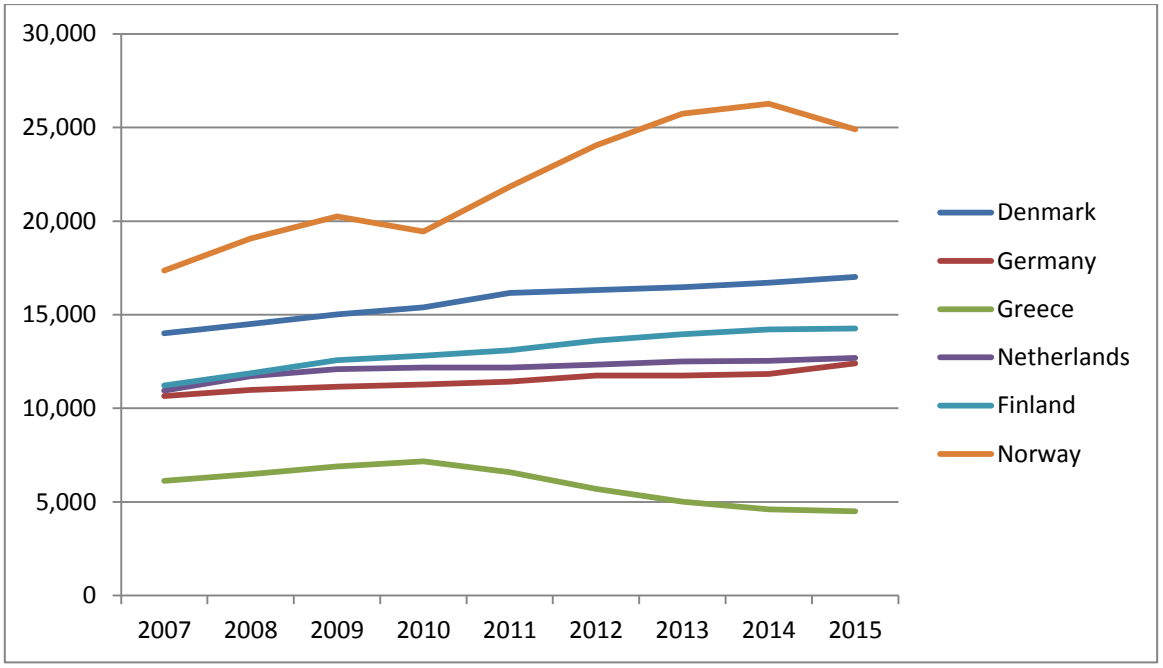
Graph 3: People at risk of poverty or social exclusion in Greece, RNEC, the EU (28) and the Euro Area



Source: Eurostat

Another interesting result can be reached when looking at the monetary threshold in euros for people at risk of poverty of the RNEC versus Greece. The analysis is two-fold. Firstly, the amount of money in euros for the Greek threshold is significantly less than any of the RNEC. Secondly, with the exception of the last year (2014) for Norway, Greece is the only country where the threshold has been declining since 2010, showing the tremendously dire situation of the fiscal evolution. As poverty is a relative indicator, one immediately draws the conclusion that the society in Greece is rapidly being impoverished, hence the relative monetary threshold continues to decline (Graph 4).

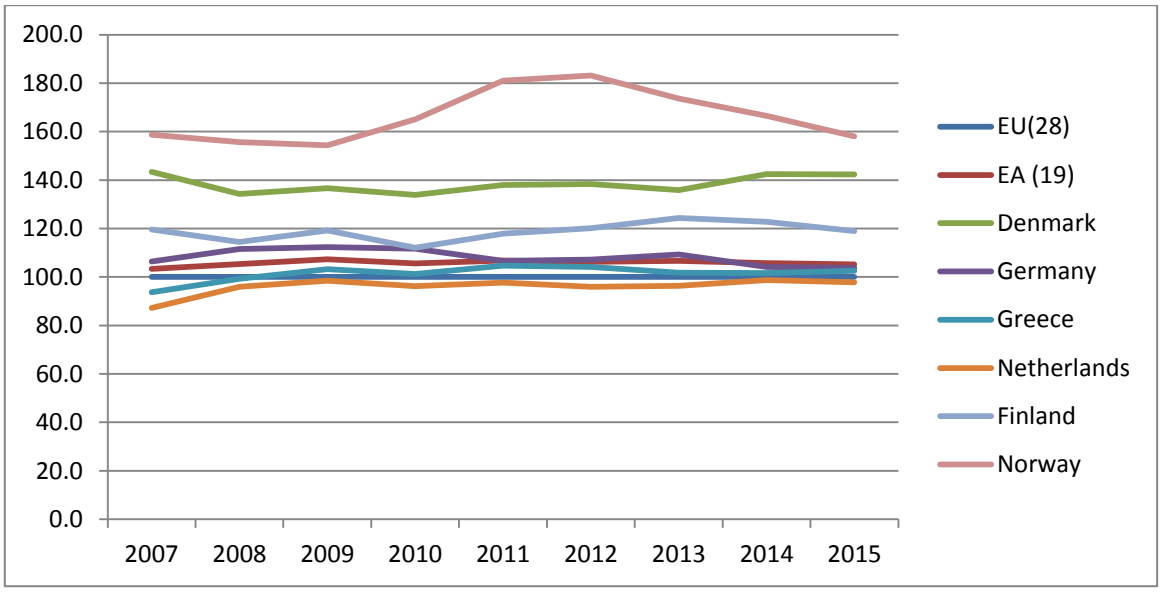
Graph 4: Monetary Threshold (euros) for People at Risk of Poverty in Greece and RNEC



Source: Eurostat

On the side of the analysis of price levels for food, however, the gap greatly closes and Greece appears to have prices levels close to the ones of Germany and the Netherlands, comparing at the same time to the EU28 and the EA19 averages (Graph 5). This shows that Greece may be ranking much lower in income, but Greek citizens still have to pay a great deal in order to sustain themselves comparing to the rest of the RNEC.

Graph 5: Price levels for Food for People at Risk of Poverty in Greece and RNEC



Source: Eurostat

An interesting analysis of the countries in question can be derived by making use of the International Comparison Program (ICP). The (ICP) was implemented as a global initiative for the second time, with the reference year 2011, after the initial implementation in 2005. It is based on the work of many institutions engaging in research and data analysis in the areas of price statistics and national accounts, and estimated purchasing power parities (PPPs) of the world's principal economies. It is part of the work that the World Bank provides.[3]

The idea behind the use of PPPs in international country comparisons is that they provide more accurate results with regard to the quantity of goods one can buy in one country in its own currency compared to the amount of money needed to buy the same amount of goods in another country, in the latter country's currency.

PPPs are more prudent to use in cross country comparison than exchange rates, as they normalize differences, especially for certain products not traded. More specifically, exchange rated converted GDPs can be misleading on the relative sizes of economies and levels of material well-being. High-income economies normally have higher price levels than low-income economies. As a result, differences in price levels are greater for non-traded products between high-income economies and low-income economies than they are for

[3] The ICP is financed by a consortium of international, regional and national development agencies. At the global level, the 2011 round of the ICP was financed by the Australian Agency for International Development, the International Monetary Fund, the Islamic Development Bank, Norway's Ministry of Foreign Affairs, the United Kingdom Department for International Development, and the World Bank.

traded products. This way, the size of high-income economies with high price levels is overstated and the size of low-income economies with low price levels is understated, where no account is taken of the larger price level differences for non-traded products when converting the GDPs to a common currency. Between traded products and non-traded products when exchange rates are used to convert the GDPs to a common currency there is no distinction. Thus, PPP-converted GDPs do not have this bias because PPPs are calculated for individual products first.

PPPs are designed specifically to make international comparisons of GDP, and this is why it is a topic of interest to this paper, as it sheds more light on the comparison at hand.

The table below includes some very interesting findings for analysis.

Table 3: Key components for Greece and the RNEC, stemming from the ICP program

GROSS DOMESTIC PRODUCT Economy	Expenditure (US$, billions) (1)	Expenditure per capita (US$) (2)	Price level index (world = 100.0) (3)	Expenditure per capita index (4)	Share (world = 100.0) (5)		PPP (US$ = 1.000) (6)	Reference data (7)	
				World = 100.0	Expenditure (5a)	Population (5b)		Exchange rate (US$ = 1.000) (7a)	Population (millions) (7b)
	Based on PPPs	Based on PPPs		Based on PPPs	Based on PPPs				
Denmark	233	41.843	185,0	310,9	0,26	0,08	7,689	5,360	5,57
Finland	208	38.611	162,6	286,8	0,23	0,08	0,907	0,719	5,39
Germany	3.352	40.990	139,6	304,5	3,70	1,21	0,779	0,719	81,78
Greece	301	26.622	124,3	197,8	0,33	0,17	0,693	0,719	11,30
Netherlands	720	43.150	149,1	320,6	0,79	0,25	0,832	0,719	16,69
Norway	306	61.879	206,4	459,7	0,34	0,07	8,973	5,606	4,95

Source: World Bank website, accessed April 15th 2017

Starting from the expenditure as a share of the world, compared to the respective population (column 5a divided by column 5b), we can see that Greece amounts to two times its population when at the same time the rest of the countries amount to almost 3 to 4,8 for Norway. As regards expenditure per capita, the trend follows likewise and Greece is again in the last position. The same stands for expenditure in capita based on PPPs (column 2) as well as expenditure and respective population comparisons (column 1 divided by column 6). All in all, Greece stands at the bottom of the financial pyramid when compared to the RNEC countries, and this is shown in another, more appropriate way for country-specific comparisons using the ICP.

Income and housing ownership analysis

The analysis in the paragraph uses data from the LIS analytical files. The data have been extracted and grouped, as well as homogenized (weighted) so that the country comparisons are deemed possible and provide respective results.

Analyzing the income of Greece and the RNEC and comparing the 2011 prices of the three different waves, it immediately becomes evident that the Greek people have lost an important amount of their income.

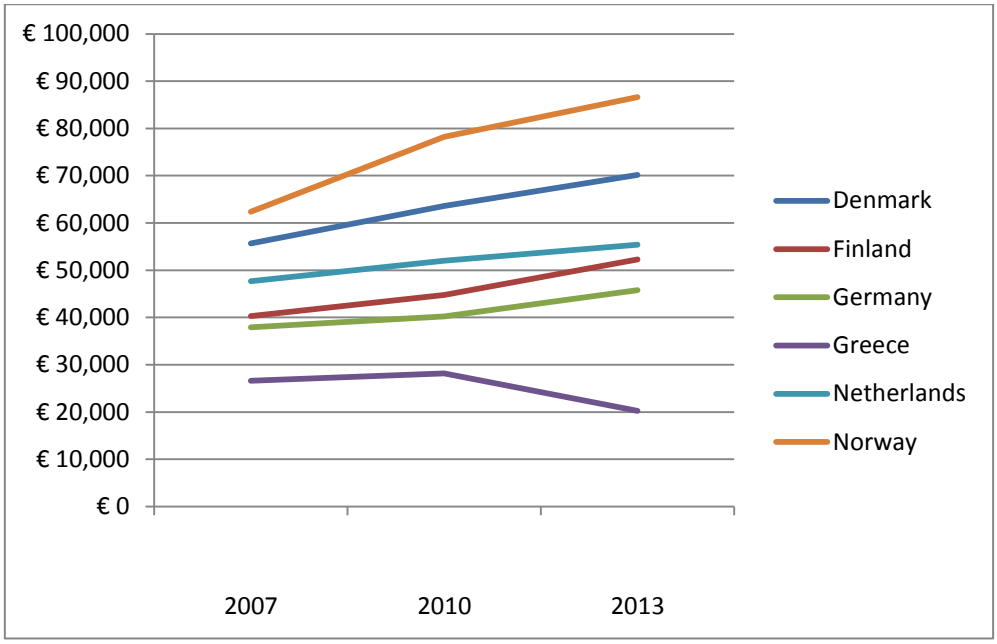
Table 4: 2011 values of average total income for Greece and the RNEC

	2011 values Average total income		
	2007	**2010**	**2013**
Denmark	€ 55.646	€ 63.592	€ 70.170
Finland	€ 40.300	€ 44.787	€ 52.302
Germany	€ 37.946	€ 40.257	€ 45.761
Greece	€ 26.626	€ 28.208	€ 20.260
Netherlands	€ 47.675	€ 51.989	€ 55.398
Norway	€ 62.367	€ 78.230	€ 86.649

Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

The graphical representation makes it easier for the reader to deduce that Greece is indeed the only country with a drop, namely an intense one, in total income.

Graph 6: 2011 values of average total income for Greece and the RNEC



Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

Since pensioners have been in the spotlight more than any other age group in Greece, with more than 12 rounds of pension reductions, not all applicable to all pensioners, the authors hold special interest in looking into income from pensions and total income of households with at least one pensioner. Since the age threshold in Greece in 2013 for a full pension right was 65 years, we will make the assumption that a household has a pensioner if a person above 65 exists in the household. The prudence of this assumption comes from the

fact that all countries appear to have a sufficient amount of people earning pensions in households with at least one person above 65.

The results are presented in the two tables below.

Table 5: 2011 values of average income of household with at least one person above 65 for Greece and the RNEC

	2011 values Average Income of households with at least one 65+					
	2007	**2010**	**2013**	**% difference 2007-2010**	**% difference 2010-2013**	**% difference 2007-2013**
Denmark	€ 36.083	€ 43.909	€ 50.512	22%	15%	40%
Finland	€ 26.317	€ 31.230	€ 38.087	19%	22%	45%
Germany	€ 27.242	€ 29.620	€ 33.456	9%	13%	23%
Greece	€ 19.637	€ 23.716	€ 16.434	21%	-31%	-16%
Netherlands	€ 30.458	€ 36.290	€ 42.339	19%	17%	39%
Norway	€ 44.287	€ 58.671	€ 69.120	32%	18%	56%

Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

Table 6: 2011 values of average income from pensions of household with at least one person above 65 for Greece and the RNEC

	2011 values Average Income from pensions of households with at least one 65+					
	2007	**2010**	**2013**	**% difference 2007-2010**	**% difference 2010-2013**	**% difference 2007-2013**
Denmark	€ 24.653	€ 29.966	€ 34.476	22%	15%	40%
Finland	€ 19.734	€ 24.195	€ 29.177	23%	21%	48%
Germany	€ 17.575	€ 19.397	€ 21.767	10%	12%	24%
Greece	€ 11.361	€ 14.771	€ 11.659	30%	-21%	3%
Netherlands	€ 24.675	€ 29.481	€ 33.450	19%	13%	36%
Norway	€ 30.401	€ 39.912	€ 45.836	31%	15%	51%

Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

Again, it becomes evident that the only country with remarkable reductions in both the total income and total income from pensions is indeed Greece.

Moving on to house ownership, Greece is mostly quoted as having one of the largest percentages of home ownership per household. This statement is confirmed by the data extracted by the household specimen below.

Table 7: Percentages of owned house for Greece and the RNEC

	Percentage of owned housing		
	2007	**2010**	**2013**
Denmark	43%	45%	45%
Finland	67%	68%	66%
Germany	43%	45%	45%
Greece	72%	72%	72%
Netherlands	57%	57%	57%
Norway	64%	64%	65%

Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

Greece seems to not only hold the higher percentage in owned housing before the crisis, but also retains this percentage throughout the recession years. An important factor which helped in that was legislation that prevented the primary residence of a debtor to be auctioned off, if it costs less than a significant amount of money.

Special interest has the analysis of households which meet the following two conditions, house ownership and at least one person aged over 65.

Looking into this particular group (at least one person aged 65 or over and owned house) we can see the average income in total and the average income from pensions in the two tables below.

Table 8: Average income of households with at least one person aged 65+ and an owned house for Greece and the RNEC in 2011 values

	2011 values Average Income of households with owned house and at least one 65+					
	2007	**2010**	**2013**	**% difference 2007-2010**	**% difference 2010-2013**	**% difference 2007-2013**
Denmark	€ 39.461	€ 49.629	€ 57.002	26%	15%	44%
Finland	€ 29.103	€ 34.132	€ 41.747	17%	22%	43%
Germany	€ 32.352	€ 34.464	€ 38.791	7%	13%	20%
Greece	€ 20.100	€ 24.319	€ 16.914	21%	-30%	-16%
Netherlands	€ 40.005	€ 46.124	€ 52.955	15%	15%	32%
Norway	€ 47.845	€ 63.758	€ 74.674	33%	17%	56%

Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

Table 9: Average income from pensions of households with at least one person aged 65+ and an owned house for Greece and the RNEC in 2011 values

	2011 values Average Income from pensions of households with owned house and at least one 65+					
	2007	**2010**	**2013**	**% difference 2007-2010**	**% difference 2010-2013**	**% difference 2007-2013**
Denmark	€ 25.782	€ 31.557	€ 36.313	22%	15%	41%
Finland	€ 21.593	€ 26.162	€ 31.629	21%	21%	46%
Germany	€ 20.429	€ 22.226	€ 24.798	9%	12%	21%
Greece	€ 11.550	€ 14.930	€ 11.862	29%	-21%	3%
Netherlands	€ 30.972	€ 36.701	€ 40.398	18%	10%	30%
Norway	€ 32.673	€ 42.959	€ 49.081	31%	14%	50%

Source: Calculations by the authors from Luxembourg Income Study Database (LIS)

Between 2007 and 2013, for Greece, the average income from pensions has increased slightly but the average total income has decreased. For the rest of the countries the exact opposite evolution is observed. Both average income from pensions and average total income have increased. Bearing in mind that for all the aforementioned countries the previous analysis is based on the prerequisite of at least one person over 65 per household (a person over 65 normally is eligible for pension in most countries until 2013), the evolution of incomes for Greece could also mean the added existence of another pensioner in the household.

In Greece, the average income from pensions within households which own their residence, seem to be almost the same, as the percentage of owned housing is very high indeed.

Also, the different growth in each country and also the potential financial decisions each household makes account for the great variation in the percentages of increase in income from pensions in this group.

The results above also depict a possible pension indexation retraction between 2007 and 2013. The increases in pensions between 2007 and 2010 seem to be inverted during the memorandum years, reducing the pensions to 2007 standards ultimately. Also, as mentioned before, the total income hence the income for the active workers seems to have taken a greater hit than the pensioners in Greece. This shows the priorities and politics behind the design of the reforms essential for the Greek financial bailout. To analyse further, in a dire financial situation where all groups cannot be protected equitably, pensioners seem to have been shielded against poverty in a more effective way than active workers have.

Reconstructing the Poverty Rates

Throughout the three different waves studied in this paper, it is deemed interesting to reconstruct the poverty rates for the specimen received by LIS for Greece and the RNEC and compare them to existing poverty rates calculated by Eurostat.

The first component to be recalculated is the median equivalized income. The calculation takes into account the disposable income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale.[4]

The scale adds 1.0 to the first adult, 0.5 to the second and each subsequent person aged 14 and over and 0.3 to each child aged under 14.

Using the LIS data file, we calculate the median equivalized income of the people in each specimen (Column D). In the next column (Column E) we put the median equivalized income from Eurostat (ilc_li01). We thus have two sets of different median equivalized incomes, one coming from the LIS analytical data files and the other from the Eurostat website.

The next columns are dedicated to the two sets of poverty rates, one (Column F) resulting from the application of the OECD equivalence scale to the median equivalized income scale from the LIS analytical data files and comparing the newly adjusted income to the one which serves as a poverty line (in column D). The other one in Column G, includes the at-risk-of-poverty rates provided by Eurostat (tessi010).

[4] http://www.oecd.org/els/soc/OECD-Note-EquivalenceScales.pdf

Table 10: Breakdown of elements of poverty rates

					Poverty Rate		
Country (A)	**Waves (B)**	**Specimen (C)**	**Median equivalized income using the LIS analytical data files (D)**	**EUROSTAT Median equivalized income (ilc_li01) (E)**	**Application of OECD equivalence scales using the MEQ of LIS (F)**	**EUROSTAT People AROP Total (tessi010) (G)**	**Difference in poverty rates (G-F)**
Greece	2007	16.869	6.791	6.120	19,0%	20,3%	1%
	2010	15.067	6.848	7.178	20,4%	20,1%	0%
	2013	20.995	4.914	5.023	21,0%	23,1%	2%
Finland	2007	26.481	12.330	11.222	13,9%	13,0%	-1%
	2010	23.018	13.246	12.809	13,6%	13,1%	-1%
	2013	27.142	14.388	13.963	12,9%	11,8%	-1%
Netherlands	2007	25.448	11.820	10.946	10,6%	10,2%	0%
	2010	25.461	12.300	12.175	10,7%	10,3%	0%
	2013	24.494	12.681	12.504	11,3%	10,4%	-1%
Germany	2007	24.999	10.600	10.666	13,8%	15,2%	1%
	2010	26.952	11.078	11.278	14,6%	15,6%	1%
	2013	41.657	11.681	11.749	14,3%	16,1%	2%
Denmark	2007	179.666	15.781	14.004	11,7%	11,7%	0%
	2010	180.266	17.138	15.401	11,5%	13,3%	2%
	2013	183.962	17.556	16.467	10,5%	11,9%	1%
Norway	2007	468.033	19.508	17.358	11,5%	11,9%	0%
	2010	489.750	22.458	19.438	11,3%	11,2%	0%
	2013	507.822	23.666	25.732	12,1%	10,9%	-1%

Source: Calculations by the authors from Luxembourg Income Study Database (LIS), Eurostat

It is obvious that the median equivalized income amounts calculated from the LIS analytical data are marginally close to the ones coming from the Eurostat calculations. Small differences in both the amount in income and rates show that there are some differences which can be attributed to collection, income definition, tax imputation etc.

Looking at the essence of these percentages, focusing on column F, the results once again show of the Greek negative leadership as regards poverty and living conditions. Percentages are almost double the ones for the Netherlands, Denmark and Norway, and far higher than the ones for Finland and Germany. Also, the trend is upward between the three waves and this is yet more proof of the worsening living conditions in Greece.

Conclusions

The first and foremost conclusion is the one that the reader intuitively has reached in their own mind, which is that Greece is economically far below the Northern European countries. Starting from the poverty rates, these are very high for Greece and totally not comparable with the RNEC countries. Macroeconomic indicators are also poor for Greece, not only when compared to the RNEC countries, but in absolute terms as well. With long-term unemployment soaring through the roof, increased rates of social exclusion and limited comparability when looking at the ICP factors, one realizes that it is unrealistic to expect Greece to rise above a dire financial situation with prices which are not following the rest of the economic indicators' downward spiral.

Finally, with the retraction of all indexation on pensions between 2007 and 2013, higher owned housing percentages for pensioners in Greece versus the RNEC countries seems to be one of the few alleviating factors in the lives of this group in the current crisis.

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