

“Income inequality in Europe. Analysis of recent trends at the regional level”

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Abstract

The evolution of income inequality is becoming a great concern all over the World, particularly since the start of the Great Recession. In this work we analyse the main trends of income inequality in Europe over the last decade, both at the national and regional level. Our results point to a large diversity in inequality patterns, as we observe both increases and decreases in inequality both at the regional and at the national level. The EU2020 Strategy aims achieving an inclusive economic growth, benefitting the largest possible number of people. We briefly analyse the main factors impacting inequality and finally derive several policy implications.

JEL classification: R11, R12, O15, O3, F61

Keywords: Inequality, Globalisation, Technological change, European regions.

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1. Introduction

Income inequality is a natural result of individual and economic performance of individuals. Individual heterogeneity in talent and effort will result in a variety of income results and consequently in a certain level of overall inequality. Nevertheless, there is also a wide list of circumstances that may also affect economic outcomes without being related to personal talent or effort. The economic literature usually points to different incentives to work, barriers to physical and human capital accumulation or heterogeneous effects on the income distribution of aggregate shocks.

Inversely, income inequality can be a factor potentially affecting economic growth. On one side, inequality can be growth enhancing because richer people enjoy higher savings rate, or simply for being the result of higher incentives for risk taking. On the other side, income inequality may result in higher taxes, political conflict, lower capital accumulation and a smaller market size of the middle income class, what would result in smaller economic growth.¹

Both academics and policy makers are concerned with the evolution of inequality and its negative effect on development. On the one side, works such as Krugman (2008), Stiglitz (2009) and Rajan (2010) have emphasized the role of inequality in the growth process and particularly on the evolution of inequality as a cause and natural consequence of the Great Recession. On the other side, the EU2020 Strategy aims achieving an inclusive economic growth, benefitting the largest possible number of people, while other international institutions are also fully concerned with inequality issues: for instance, the OECD is involved in the Inclusive Growth Initiative (De Mello and Dutz, 2012), while since 2011 the Human Development Report of the United Nations considers the *inequality-adjusted* Human Development Index.

In this work we analyse the main trends of income inequality in Europe over the last decade, both at the national and regional level. We also analyse the main factors explaining inequality regional distribution and its recent evolution. In the remainder of the present work we first review the evolution of income inequality in Europe since the early nineties up to the Great Recession. Next, we propose a simple regression model

¹ As there is a vast literature analysing such effects, we propose the reader to check Ehrhart (2009), Galor (2009), Neves and Silva (2014) and Castells-Quintana and Royuela (2014b) for comprehensive overviews of theoretical and empirical evidence on the relationship between inequality and economic growth.

where we try to analyse the main factors affecting income inequality in Europe at the regional level. We conclude with the main findings and several policy conclusions.

2. Analysis of the recent evolution of inequality in the EU

The main objective of this section is to analyse the evolution of inequality in the income distribution in European countries and regions since the early nineties up to the Great Recession. The first part of the period was characterised by the convergence process by an important part of EU countries before the adoption of the euro while the last years of the period are characterised by the impact of the global downturn, together with the bursting of housing bubble and the need to undertake a major fiscal adjustment in several EU countries. The focus of the section is on the short-run evolution of income inequality in Europe both from a national and regional perspective.

Database and variable definition

In order to analyse inequality trends we use the information contained in the European Community Household Panel (ECHP) and the European Union Survey on Income and Living Conditions (EU-SILC).

The ECHP survey contains data on individuals and households for 15 European countries, with eight waves available (1994–2001). The information is homogeneous across countries, as the questionnaires are similar and the procedures to collect the information were coordinated by Eurostat. The EU-SILC provides information of a wider sample of European countries (28 EU member states plus Iceland, Norway and Switzerland) starting in 2004. Currently, seven waves are available covering the period from 2004 to 2012. Data for the 2004 wave is only available for a few countries and the 2012 wave does not provide information for Belgium and Ireland. Data for 2005 and 2006 is also incomplete for some EU member states. Both surveys provide detailed information on annual income. Appendix 1 shows the list of countries from ECHP and EU-SILC considered here.

In order to compare income inequality across countries and its evolution, we have calculated inequality measures based on the concept of “equivalised” household disposable income according to Eurostat. The definition of household annual disposable

income includes income from wages and salaries, self-employment incomes, realised property incomes, cash transfers from the general government less taxes and social security contributions paid by the households. So, equivalised disposable income is the total 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 age using the modified OECD equivalence scale as suggested by Eurostat. This scale gives a weight to all members of the household (and then adds these up to arrive at the equivalised household size): 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 under the age of 14.

In order to analyse income inequality using ECHP and EU-SILC microdata we have calculated four different measures of inequality. In particular, we have calculated the Gini coefficient, the decile ratio (P9010, the ratio between the ninth and the first decile), the P5010 (the ratio between the fifth and the first decile) and the P9050 (the ratio between the ninth and the fifth decile). All calculations have been carried out using personal cross-sectional weights.

The geographic breakdown used in the paper is defined according to the NUTS-1 regional classification. The choice is mainly related by practical considerations on data availability and comparability across ECHP and EU-SILC. The list of considered regions is shown in Appendix 2.

Recent evolution of income inequality in European countries and regions

Table 1 shows the value of the Gini index for annual equivalised household income for European countries in four particular reference years: 1996, 2000, 2007 and 2011². It also shows changes in the Gini index from 1996 to 2000, from 2000 to 2007 and from 2007 to 2011. For the first two years, 15 countries are analysed while for the two second periods, the sample is enlarged up to 30 countries due to differences in geographical coverage from ECHP to EU-SILC. Full details for the rest of the period and for the other inequality measures different to the Gini index are shown in Appendix 3.

² From ECHP 1997 and 2001 waves and EU-SILC 2008 and 2012 waves, respectively.

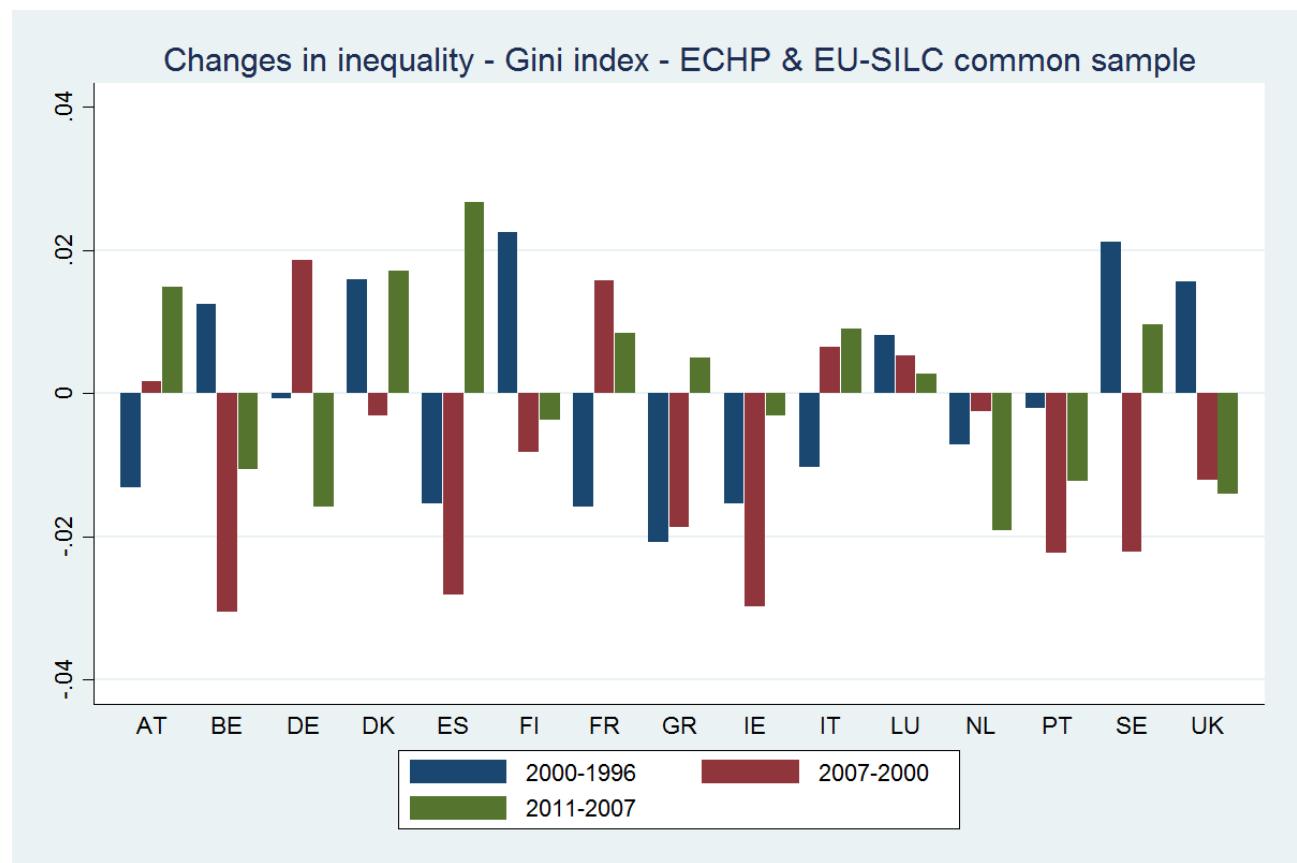
If we look at the first column of table 1, we can see that according to the values of the Gini index we can group the fifteen considered countries into three categories: the first group would be composed of Denmark, Sweden and Finland, that is, those countries with the smallest degree of inequality (Gini index below 0.25). Luxembourg, Austria, the Netherlands, Germany, Belgium and France would form a second group (Gini index between 0.25 and 0.30). Finally, Italy, the United Kingdom, Ireland, Spain, Greece and Portugal have the highest levels of inequality (Gini index above 0.30). If we move across columns up to more recent years, we can see two relevant features: first, that relative positions have not changed too much (Netherlands and Denmark exchanged their positions and France and Ireland) and, the second, that although the evolution of inequality has been rather heterogeneous among countries, the predominant trend has been to decrease. As we can see in figure 1, between 1996 and 2000 inequality decreased in 9 out of the 15 considered countries, in 10 out of the 15 between 2000 and 2007 and, last, in 8 out of 15 between 2007 and 2011.

If we now focus on the period 2007-2011 and the 30 considered countries, average inequality levels among new EU members and other European countries in 2007 was quite similar to the one observed in old EU members with an average of the Gini index close to 0.29. Slovenia, Slovakia and Norway have low levels of inequality; the Czech Republic, Hungary, Iceland, Malta and Cyprus are part of the intermediate inequality group: and, last, Estonia, Switzerland, Poland, Lithuania, Bulgaria, Romania and Latvia are the ones with higher levels of inequality. Croatia will also be part of this group if we consider 2011 data. Figure 2 shows the changes in the Gini index from 2007 to 2011 in the considered countries. Inequality has increased in nearly half of the sample. The country with a higher absolute change in the index is Spain, followed by Cyprus, Hungary, Slovakia, Denmark, Austria and Estonia. In all these countries the Gini index has increased in more than 1 point between 2007 and 2011. The countries where the index has shown more pronounced reductions are Iceland, Romania, the Czech Republic and Bulgaria. It is worth mentioning that the evolution of inequality in the EU countries more affected by the sovereign debt crisis has been diverse: while in Spain inequality has substantially increased, in Greece has just slightly increased and in Portugal and Ireland has decreased.

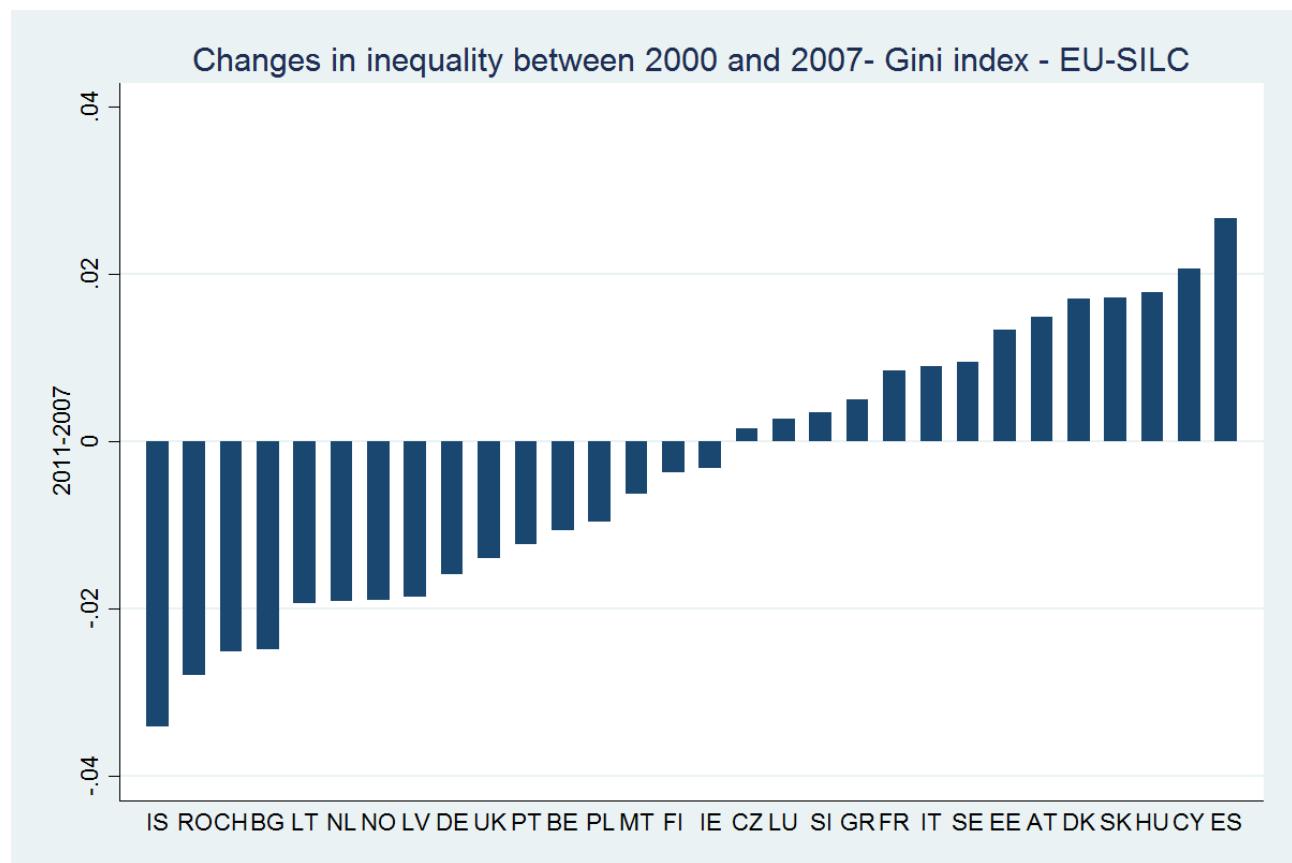
Table 1. Gini index and changes in Gini index in European countries

Reference year	Gini index				Changes in Gini index		
	1996	2000	2007	2011*	1996-2000	2000-2007	2007-2011
AT	0.2725	0.2594	0.2611	0.2759	-0.0131	0.0017	0.0149
BE*	0.2897	0.3021	0.2715	0.2609	0.0124	-0.0306	-0.0107
DE	0.2796	0.2789	0.2976	0.2816	-0.0007	0.0186	-0.0159
DK	0.2311	0.2470	0.2439	0.2610	0.0159	-0.0032	0.0171
ES	0.3530	0.3377	0.3095	0.3362	-0.0154	-0.0282	0.0266
FI	0.2478	0.2703	0.2621	0.2584	0.0225	-0.0082	-0.0037
FR	0.2958	0.2798	0.2956	0.3040	-0.0159	0.0157	0.0084
GR	0.3655	0.3446	0.3259	0.3309	-0.0209	-0.0187	0.0050
IE*	0.3445	0.3291	0.2993	0.2961	-0.0154	-0.0298	-0.0032
IT	0.3092	0.2990	0.3054	0.3143	-0.0103	0.0064	0.0090
LU	0.2610	0.2691	0.2743	0.2769	0.0080	0.0052	0.0027
NL	0.2785	0.2713	0.2688	0.2496	-0.0072	-0.0025	-0.0191
PT	0.3821	0.3800	0.3577	0.3454	-0.0021	-0.0223	-0.0123
SE	0.2357	0.2568	0.2346	0.2442	0.0211	-0.0222	0.0096
UK	0.3312	0.3467	0.3346	0.3205	0.0155	-0.0122	-0.0140
BG			0.3593	0.3344			-0.0248
CH			0.3114	0.2863			-0.0251
CY			0.2891	0.3097			0.0207
CZ			0.2472	0.2488			0.0015
EE			0.3079	0.3212			0.0133
HR				0.3033			
HU			0.2510	0.2689			0.0179
IS			0.2716	0.2375			-0.0341
LT			0.3362	0.3168			-0.0194
LV			0.3729	0.3543			-0.0186
MT			0.2772	0.2710			-0.0063
NO			0.2424	0.2234			-0.0190
PL			0.3187	0.3091			-0.0096
RO			0.3601	0.3322			-0.0279
SI			0.2342	0.2378			0.0035
SK			0.2355	0.2527			0.0171

Note: Own calculations from ECHP and EU-SILC micro data. Detailed results are shown in appendix 3.
As 2011 data for Belgium and Ireland is not currently available, we have used the value of the Gini Index for 2010 as a reference year.

Figure 1. Changes in Gini index in selected EU countries

Note: Own calculations from ECHP and EU-SILC micro data. As 2011 data for Belgium and Ireland is not currently available, we have used the value of the Gini Index for 2010 as a reference year.

Figure 2. Changes in Gini index from 2000 to 2007 in European countries

Note: Own calculations from EU-SILC micro data. As 2011 data for Belgium and Ireland is not currently available, we have used the value of the Gini Index for 2010 as a reference year.

Table 2 provides a similar overview of the evolution of inequality measured by the Gini index as in table 1, but instead of focusing on European countries, it provides evidence for NUTS1 regions. In particular, it contains information for the 39 regions available both in ECHP and EU-SILC. These regions belong to the same countries shown in the top panel of table 1 with the only exception of Germany and the United Kingdom. In the first case, no regional data is provided in EU-SILC for 2007 and 2011 and in the second case, changes in the definition of regions has not allowed us to calculate comparable inequality indicators. Details for the different waves of ECHP and EU-SILC and the whole set of NUTS1 regions available in EU-SILC (84 regions) is provided in Appendix 4 and Appendix 5, respectively.

Inequality trends observed at the regional level are similar than those observed at the country level. In most regions, inequality has decreased between 1996 and 2007, but

from 2007 and 2010, inequality has increased in 29 out of the 39 regions available both in ECHP and EU-SILC.

Differences in intraregional inequality measured by the Gini index for disposable income are higher than between countries. For instance, in 1996, the range of the national Gini index is 15 points while when looking at regions is 17 points. A similar result is observed when looking at the common sample of regions and countries in ECHP and EU-SILC: in 2011 the range of the Gini index is 10 points for countries but 14 points for regions.

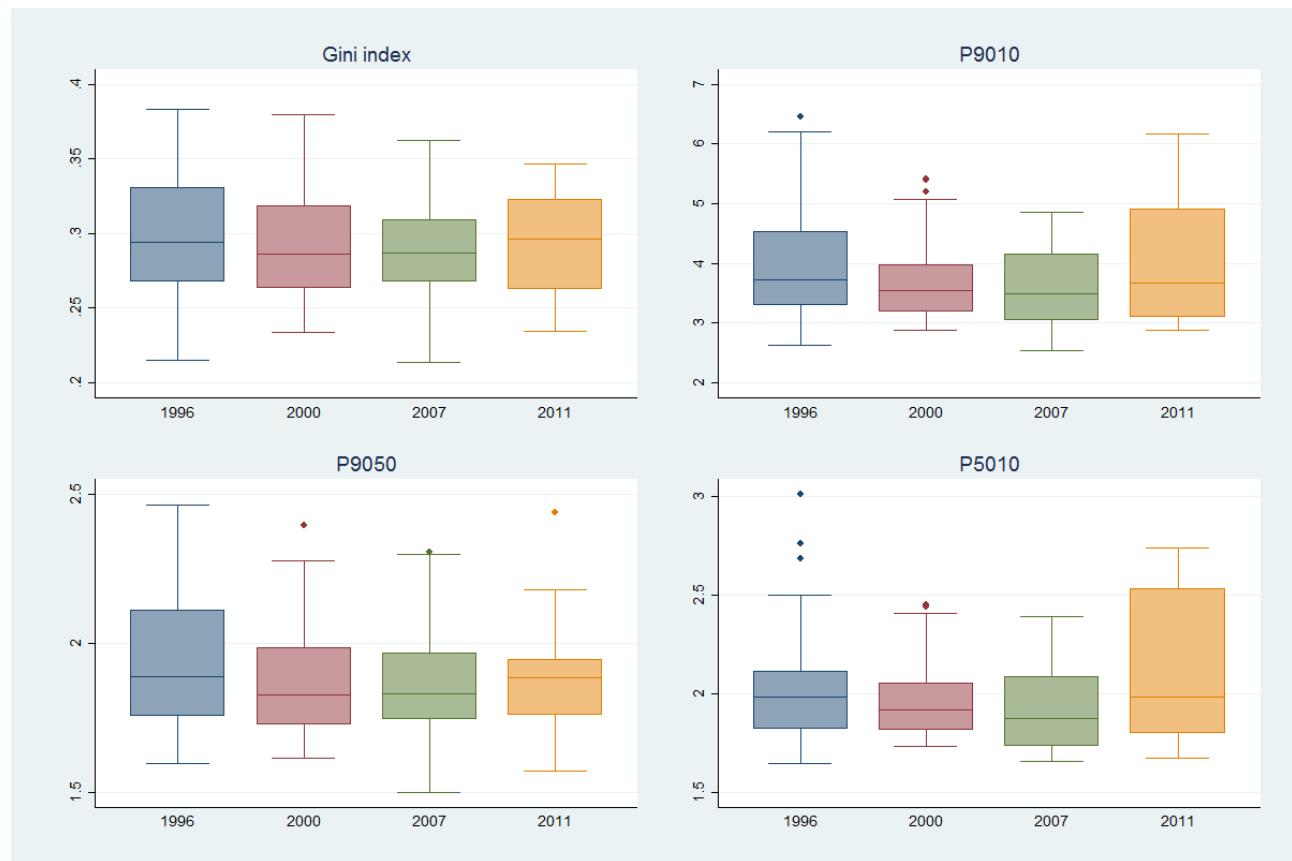
Figure 3 shows the box plots of the four inequality measures considered (Gini, P9010, P5010, P9050) for those regions available both in ECHP and EU-SILC. From these figures, we can see that the main results already described for the Gini index also hold for the other three measures. However, there is one result that is worth to highlight: from 2007 and 2011, regional differences have clearly increased when looking at inequality in the left side of the distribution (lower income levels) but not so much in the right side of the distribution (higher income levels). This result could be clearly related to the differential effect of the Great Recession in European regions.

Table 2. Gini index and changes in Gini index in selected European regions (ECHP & EU-SILC common sample)

	Gini index				Changes in Gini index		
	1996	2000	2007	2011	1996-2000	2000-2007	2007-2011
AT1	0.2756	0.2761	0.2729	0.2975	0.0005	-0.0033	0.0246
AT2	0.2616	0.2452	0.2384	0.2544	-0.0164	-0.0068	0.0160
AT3	0.2675	0.2417	0.2585	0.2606	-0.0258	0.0167	0.0021
BE1	0.2941	0.3186	0.3624	0.3587	0.0245	0.0438	-0.0037
BE2	0.2840	0.2853	0.2500	0.2432	0.0013	-0.0353	-0.0069
BE3	0.2941	0.3214	0.2734	0.2535	0.0272	-0.0480	-0.0199
DK0	0.2304	0.2457	0.2439	0.2610	0.0153	-0.0019	0.0171
EL1	0.3833	0.3414	0.3076	0.3103	-0.0418	-0.0338	0.0027
EL2	0.3642	0.3448	0.3447	0.3095	-0.0194	0.0000	-0.0353
EL3	0.3307	0.3084	0.3200	0.3331	-0.0223	0.0115	0.0132
EL4	0.3501	0.3049	0.2898	0.2915	-0.0452	-0.0151	0.0018
ES1	0.3466	0.3149	0.2732	0.3169	-0.0317	-0.0417	0.0437
ES2	0.3225	0.3097	0.2715	0.3145	-0.0128	-0.0382	0.0430
ES3	0.3408	0.3161	0.3101	0.3248	-0.0246	-0.0060	0.0147
ES4	0.3296	0.3363	0.3158	0.3360	0.0066	-0.0204	0.0202
ES5	0.3258	0.3292	0.3007	0.3231	0.0034	-0.0285	0.0224
ES6	0.3501	0.2940	0.3145	0.3404	-0.0561	0.0205	0.0259
ES7	0.3794	0.3584	0.3119	0.3465	-0.0210	-0.0465	0.0345
FI	0.2478	0.2703	0.2621	0.2584	0.0225	-0.0082	-0.0037
FR1	0.3042	0.2969	0.3282	0.3461	-0.0073	0.0313	0.0180
FR2	0.2752	0.2467	0.2675	0.2764	-0.0286	0.0208	0.0089
FR3	0.2620	0.2565	0.2676	0.2809	-0.0054	0.0111	0.0133
FR4	0.2487	0.2355	0.2665	0.2784	-0.0132	0.0310	0.0119
FR5	0.2825	0.2633	0.2766	0.2625	-0.0192	0.0133	-0.0141
FR6	0.3063	0.2830	0.3092	0.3290	-0.0233	0.0262	0.0199
FR7	0.2753	0.2645	0.2965	0.2882	-0.0107	0.0320	-0.0084
FR8	0.3016	0.2768	0.2950	0.2952	-0.0248	0.0182	0.0002
IE0	0.3445	0.3291	0.2993	0.2961	-0.0154	-0.0298	-0.0032
ITC	0.2734	0.2562	0.2872	0.2963	-0.0172	0.0310	0.0091
ITF	0.3153	0.3021	0.3089	0.3216	-0.0132	0.0068	0.0127
ITG	0.3271	0.3267	0.3081	0.3165	-0.0004	-0.0186	0.0084
ITH_ITD	0.2861	0.2882	0.2749	0.2831	0.0021	-0.0133	0.0081
ITI_ITE	0.2990	0.2863	0.2932	0.3013	-0.0127	0.0069	0.0081
LU0	0.2610	0.2648	0.2743	0.2769	0.0038	0.0094	0.0027
NL	0.2785	0.2713	0.2688	0.2496	-0.0072	-0.0025	-0.0191
PT	0.3821	0.3800	0.3577	0.3454	-0.0021	-0.0223	-0.0123
SE1	0.2474	0.2761	0.2518	0.2543	0.0287	-0.0243	0.0025
SE2	0.2332	0.2425	0.2242	0.2347	0.0093	-0.0183	0.0105
SE3	0.2150	0.2341	0.2139	0.2353	0.0191	-0.0202	0.0214

Note: Own calculations from ECHP and EU-SILC micro data. Detailed results are shown in Appendix 4 and Appendix 5. As 2011 data for Belgian and Irish regions is not currently available, we have used the value of the Gini Index for 2010 as a reference year.

Figure 3. Box plot of inequality measures in selected European regions (ECHP & EU-SILC common sample)



Note: Own calculations from ECHP and EU-SILC micro data. Detailed results are shown in Appendix 4 and Appendix 5. As 2011 data for Belgian and Irish regions is not currently available, we have used the value of the Gini Index for 2010 as a reference year.

3. Factors affecting income inequality

The literature points to a list of factors related to the existence of inequality. Barro (2000) points that the main theoretical approach to assessing the determinants of inequality involves the idea of the Kuznets (1955) curve, further developed by Robinson (1976). In this model, a rural and agriculturally based country moves to industrialisation and urbanisation and increases both per capita income and inequality. Thus, initially dominant effect is the increase of a small and rich group of people in industrial and urbanized areas. As the agriculture sector decreases and the industrial and urban sector increases, initially poor people increase their income, what results in a decrease of aggregate inequality. The shifting relationship between development and inequality is

known as the Kuznets inverted-U curve. More recent models such as Greenwood and Jovanovic (1990) include sectoral changes from basic to more sophisticated tasks services, such as financial services. Overall, introducing technological innovations will follow the inverted-U pattern, initially rising inequality as a result of high incomes owned by few persons who get extra benefits of the new technology. Subsequently, as more people moves into the sector enjoying the new technology, inequality is expected to decrease while expanding overall per capita income. Consequently, the level of inequality will be related to the period when modern production techniques are introduced in the economy and on the long run economic development (and other socioeconomic and political aspects) should reduce income inequality (Marrero and Rodríguez, 2014).

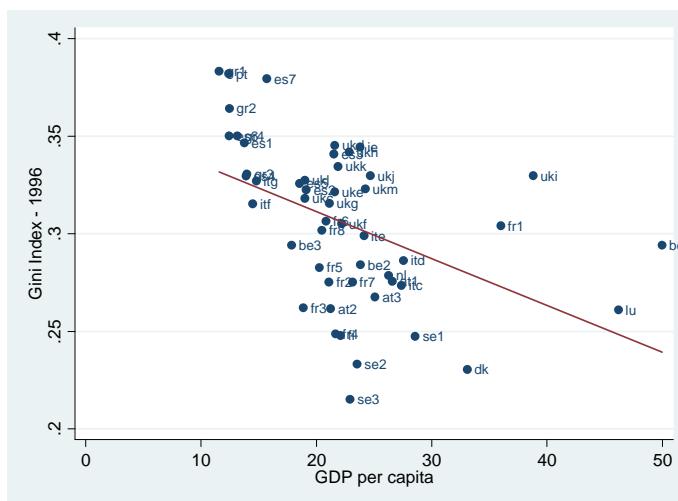
The typical way to test the existence of the Kuznets curve is the inclusion of the linear and the quadratic form of the log of the GDP. In addition, a list of control variables is considered. Barro (2000) includes education attainment levels of population, continental dummies and several institutional variables, such as ethnicity, language, religion, democracy and an indicator of openness, which can be linked to the idea of globalization. The Heckscher-Ohlin and Stolper-Samuelson theorems provide a theoretical support for it: increasing openness shift labour demand from unskilled to skilled workers in developed economies, as they are specialized in the production of skill-intensive products and realize their comparative advantage. In contrast, the effect for the less developed areas is ambiguous. Recently, Jaumotte et al. (2008) and Afonso et al. (2013) report evidence that technological progress and globalisation tend to increase the returns to skills and subsequently inequality, being much more important the contribution of technology.

Most of the works analysing inequality are developed at the country level and very few are devoted at the regional level, usually, as a result of reliable data. We believe that the use of regional data is particularly important, as individual can be more affected by local conditions than by national issues. Relevant works analysing the relationship between inequality and economic development are Partridge (2005) for the US, Rodríguez-Pose and Tselios (2008) for Europe and recently Royuela et al. (2014) for the OECD.

Figures 4a to 4d summarises the relationship between the Gini Index and GDP per capita over several years. Clearly, the more developed countries display, on average, lower inequality levels, as predicted by the Kuznets model in the long run. The relationship maybe non-linear, but at a first view it is hard to see any inverted U shape relationship between development and inequality. It is reasonable to think that Europe is already a developed region in the world and that, as a consequence, we only see the negative slope of the inverted-U pattern of the Kuznets curve.

Figure 4. Relationship between inequality (Gini Index) and economic development (GDP per capita)

Figure 4a. 1996.



The final empirical model we estimate considers an inequality measure against a list of factors. First we include the linear and the quadratic form of the log of the GDP per capita and subsequently we include a list of controls linked to the usual procedure in the empirical literature. In a first stage we estimate the model for several years, in line with the previous section, including initially the log of GDP per capita and its square, sectoral controls (agriculture, construction, financial and business services, and market services) together with a measurement of technological change (persons with tertiary education and/or employed in science and technology) population density, and finally a list of institutional variables (family structure, proportion of Christianity and the unemployment rate, as a composite or reduced form measurement of labour market institutions). Appendix 6 displays the definitions, sources and the descriptive statistics for the variables considered in the empirical analysis.

Table 3 shows the cross section estimates where the Gini index of European regions is regressed against the considered factors over several years. As was previously observed in Figure 4, the Gini index is negatively associated with economic development while we cannot observe any inverted-U shaped curve in any of the considered years. On the contrary, in several models in 1996 and in 2000 we observe higher inequality in more developed regions, what can be linked to the idea of development through innovations associated to increasing inequalities.

As expected, the sectoral composition of the economy matters. Once several new countries are included in the sample associated to the EU-SILC survey (most of them new EU member states), the agriculture sector is associated with higher inequality levels. The construction sector is positively linked with inequality only in the period previous to the Great Recession (2007), what can be linked to the increase of small and rich groups of people in countries with significant housing bubbles. The weight in services associated with commerce, transport communications and tourism (% Trad Serv), what one could link to globalisation in services, is significantly positive in 1996 and in 2011, while the weight in financial and business services (% Finan Serv) is significantly positive in the first periods. The variable associated with technological innovation when significant, is positively associated with inequality.

Density matters and is associated positively with higher levels of inequality. This is somehow a conflicting but important result, as urbanisation is usually linked to

development, and we expect less inequality in more developed regions. Nevertheless, Castells-Quintana and Royuela (2014a) show how inequality associated to agglomeration economies can be a growing factor, particularly when it is observed at initial stages of development with low starting inequality levels. Finally institutions do play a role in determining inequality levels, particularly the second factor associated to family structure. As one can expect, unemployment is positively associated with inequality during the Great Recession (2011), but interestingly is not significant in the remainder periods.

Overall we see inequality negatively associated with development (negatively associated with GDP and positively associated with higher shares in agriculture), positively associated with sectors opened to global competition (agriculture, commerce, transportation and tourism), higher in regions with higher value added services and highly educated workers and/or employed in science and technology, and conditioned by a list of institutions.

We have also performed the estimates considering the time series dimension of the data. Table 4 displays the results of the full model considering the between, the fixed effects and the random effects models. The basic results replicate the basic outcomes of the cross section models. The fixed effects model, which removes all the cross section information of the data, reports again the same results as before. Actually, the only significant differences³ between parameters in the fixed effects and random effects estimates are the ones associated with the linear and the quadratic forms of GDP per capita. In our view this a robust result for the rest of the variables considered in the analysis.

³ These differences have been tested by means of the difference in parameters and the square root of the main diagonal of the joint variance matrix that uses the Hausman test.

Table 3. Inequality regressions. Cross section estimates. 1996, 2000, 2007 and 2011

	1996				2000				2007				2011			
	Eq 01	Eq 02	Eq 03	Eq 04	Eq 01	Eq 02	Eq 03	Eq 04	Eq 01	Eq 02	Eq 03	Eq 04	Eq 01	Eq 02	Eq 03	Eq 04
IGDPpc	-0.0702*** (0.0150)	-0.576*** (0.181)	-0.260 (0.239)	-0.882*** (0.249)	-0.0320** (0.0159)	-0.488** (0.200)	0.199 (0.320)	-0.508 (0.341)	-0.0180** (0.00699)	-0.0633 (0.0449)	-0.0203 (0.0432)	0.0547 (0.0793)	-0.0130** (0.00563)	-0.0258 (0.0355)	0.0202 (0.0439)	-0.0236 (0.0756)
IGDPpc2		0.0815*** (0.0291)	0.0221 (0.0383)	0.123*** (0.0424)		0.0703** (0.0308)	-0.0477 (0.0498)	0.0478 (0.0563)		0.00837 (0.00821)	-0.000228 (0.00801)	-0.0120 (0.0148)		0.00248 (0.00678)	-0.00652 (0.00837)	0.0109 (0.0146)
agr_s		0.114 (0.105)	0.111* (0.0633)			0.157 (0.153)	0.134 (0.110)			0.391*** (0.110)	0.423*** (0.118)			0.306*** (0.0889)	0.395*** (0.120)	
con_s		0.0993 (0.426)	-0.326 (0.308)			0.988** (0.397)	0.702* (0.395)			0.600*** (0.182)	0.769*** (0.241)			0.541 (0.348)	1.286*** (0.463)	
sel_s		0.229* (0.120)	0.208** (0.0786)			0.169 (0.128)	0.0393 (0.0967)			0.165 (0.111)	0.122 (0.114)			0.342*** (0.0970)	0.214** (0.0986)	
se2_s		0.615** (0.234)	0.232 (0.205)			0.717** (0.262)	0.579** (0.252)			0.308* (0.169)	0.455** (0.218)			0.217 (0.162)	0.184 (0.210)	
em_sct		-6.95e- 06 (9.26e- 06)	2.23e- 06 (7.56e- 06)			-6.91e- 06 (8.75e- 06)	3.26e- 06 (9.80e- 06)			9.14e-06* (5.45e- 06)	8.09e-06 (5.91e- 06)			0.02e- 06* (4.80e- 06)	3.28e-06 (5.05e- 06)	
dens		7.65e- 07 (8.07e- 06)	-7.89e-06 (5.73e- 06)			1.57e- 05** (6.91e- 06)	1.38e- 05** (6.54e- 06)			2.02e- 05*** (5.60e- 06)	2.45e- 05*** (5.95e- 06)			5.70e- 05 (2.06e- 05)	1.11e-05 (2.80e- 05)	
fam_01			0.00332 (0.0256)				-0.119*** (0.0362)				0.00484 (0.0189)				0.0346** (0.0169)	
fam_02				-0.223*** (0.0296)				-0.261*** (0.0469)				-0.0646* (0.0328)			0.103*** (0.0371)	
christ				0.0932 (0.0668)				0.372*** (0.101)				0.0482 (0.0367)			0.0154 (0.0328)	
unemp				-0.0714 (0.0472)				-0.0866 (0.0835)				0.0832 (0.0612)			0.201*** (0.0587)	
Constant	0.520*** (0.0460)	1.296*** (0.281)	0.742* (0.385)	1.815*** (0.381)	0.402*** (0.0509)	1.134*** (0.324)	-0.0689 (0.533)	1.432** (0.556)	0.342*** (0.0210)	0.398*** (0.0595)	0.175** (0.0691)	0.0247 (0.112)	0.334*** (0.0165)	0.350*** (0.0447)	0.0969 (0.0710)	-0.00776 (0.104)
Obs	50	50	36	36	50	50	41	41	58	58	56	53	71	71	59	51
R-squared	0.314	0.412	0.741	0.930	0.078	0.170	0.613	0.829	0.106	0.123	0.544	0.585	0.071	0.073	0.444	0.586

Table 4. Inequality regressions. Panel estimates 1993-2011

	Between	Fixed Effects	Random Effects
ln GDPpc	0.0954 (0.0632)	-0.211*** (0.0548)	-0.0513 (0.0409)
ln GDPpc ²	-0.0164 (0.0122)	0.0264*** (0.00897)	0.00829 (0.00715)
% Agricult	0.318*** (0.0869)	0.305*** (0.0625)	0.368*** (0.0510)
% Construc	0.273 (0.288)	-0.00688 (0.108)	0.0540 (0.0930)
% Trad Serv	0.308*** (0.0996)	0.367*** (0.102)	0.278*** (0.0651)
% Finan Serv	0.209 (0.170)	-0.141 (0.0866)	-0.0967 (0.0799)
Empl S&T	-1.12e-06 (5.99e-06)	9.84e-06** (4.38e-06)	4.74e-06 (3.40e-06)
Density	1.67e-05*** (4.98e-06)	8.44e-05*** (1.48e-05)	2.41e-05*** (3.88e-06)
Fam_1	0.0240 (0.0162)		0.00348 (0.0118)
Fam_2	-0.101*** (0.0258)		-0.0588** (0.0244)
Christ.	0.0145 (0.0321)		-0.0113 (0.0276)
Unemp	4.51e-05** (2.09e-05)	-0.0443* (0.0261)	0.0459** (0.0212)
Constant	-0.0124 (0.0923)	0.549*** (0.0810)	0.307*** (0.0682)
Observations	699	699	699
Regions	67	67	67
R-squared	0.606	0.222	

Regarding the fixed effects estimates, we observe a significant and positive parameter for the quadratic form of GDP per capita. We interpret that result as evidence that regions where inequality has increased more are the ones with higher GDP per capita growth rates. In addition, the proportion of highly educated employees working in science and technology also report a significant and positive parameter. In our view, these results evidence that the current process of economic growth is linked to the introduction of new technologies, which in turn results in increasing inequalities. This is a conflicting result, as would imply a trade-off between equity and efficiency.

Finally, we have also performed cross section and panel estimates of the rest of inequality measures. The results can be found in Appendix 7. As can be expected, the p9010 measurement of inequality estimates report very similar results to the Gini index estimates. The inequality associated to the left side of the distribution (lower income levels, p5010) reports a negative parameter associated with the share in construction in 2011. Thus, in those regions where the Great Recession has been associated with a housing bubble, the decrease in the employment in the construction sector has finally resulted in a significant increase in inequality and this has finally impacted in lower incomes. A similar and related result is found for unemployment, being the result particularly strong in 2011 and on average levels rather than on the cyclical component. In these estimates we also see a strong significant parameter associated with tradable sectors, what we interpret as a strong impact of globalisation in the inequality associated to the lower part of the distribution at the regional level.

On the right side of the distribution (higher income levels, p9050) we find different results in the share of employment in the construction sector, as it is countercyclical. The variables associated with globalisation and technological intensity do not seem to be strongly associated with inequality. On the contrary, we observe a strong impact of the institutional variable associated with the familiar structure. Although here the interpretation can only be made in terms of significance, this result is linked with the fact that institutional failures are usually associated with rents appropriated by elites, in line with the Acemoglu and Robinson (2008) theories.

4. Concluding remarks and policy issues

Income inequality may be the result of market forces but also an outcome of institutional failures. Besides, its effects can be harmful for economic growth and development. International organisations such as the European Union or the OECD are concerned with inequality issues and try to design policies capable of being at the same time efficient and inclusive.

In this work we have made a description of the evolution of income inequality. By using the micro data available at the European Community Household Panel (ECHP) and the European Union Survey on Income and Living Conditions (EU-SILC), we have computed several inequality measures for European countries and NUTS-1 regions in Europe since 1993 until 2011.

The evolution of inequality picture is far from homogeneous, both across countries and over time. In comparison with inequality levels all over the world, the European inequality measured by the Gini index is reasonably low and around 0.3. We have found a group of countries with low levels of

inequality, such as Norway, Iceland, Slovenia, Sweden and Netherlands (all of the below 0.25 in 2010). At the other extreme we find Spain, Romania, Portugal, Latvia and Bulgaria (all of them above 0.33 in 2010). In the 1996-2000 period the Gini index decreased in 9 out of the 15 considered countries in the SILC survey. On the contrary, in the 2007-2011 period the Gini index increased in nearly half of the sample. It is worth mentioning that the evolution of inequality in the EU countries more affected by the sovereign debt crisis has been diverse, with a substantial increase in Spain, no significant changes in Greece and decreases in Portugal and Ireland.

The regional analysis of inequality is far from extended in the empirical literature, usually due to data availability issues. Of course, inequality trends observed at the regional level are similar than those observed at the country level, although now the trends are even magnified: if in most regions, inequality has decreased between 1996 and 2007, in the 2007-2010 period inequality has increased in 29 out of the 39 regions available both in ECHP and EU-SILC.

We have developed an empirical exercise in order to find out the factors that mainly influence income inequality. As predicted by the Kuznets theoretical approach, inequality decreases with development, although in our sample we do not observe the positive relationship predicted by the model at initial stages of economic development (however, as our sample only contains European regions this is not a surprise). In line with this approach, introducing technological innovations will follow the inverted-U pattern, initially rising inequality. According to our estimates, we find that a sectoral composition in high value added services or a higher proportion of high educated people and/or employed in science and technology have an increasing impact in inequality.

In addition we find that regions specialized in sectors potentially opened to global competition (commerce, communication, tourism...) experience higher inequality levels and increases, in line with the predictions of the Heckscher-Ohlin and Stolper-Samuelson theorems.

Regions with higher density have higher inequality levels, and both variables evolve positively over time. As shown in Castells-Quintana and Royuela (2014a) inequality can be associated to agglomeration economies and the spatial concentration of resources, what in particular circumstances can be a positive factor for economic development.

Finally, institutional factors do play a role in explaining inequality, particularly at right side of the distribution (higher income levels, p9050). This result is linked with the fact that institutional failures are usually associated with rents appropriated by elites.

The policy implications of our results are somehow conflicting. On the one side we understand and support the policy initiatives supporting inclusive economic growth. But at the same time most of

the factors explaining inequality (globalisation, technological change, spatial agglomeration of activity) cannot be separated from economic development. One of the more important results of our analysis is that inequality is negatively related with economic development, what would imply an automatic self-correcting process of inequality. These results would imply that no correction mechanism would be needed from a policy perspective, although it is worth mentioning that our view is only focused on short-run developments. An analysis of long-run trends could provide different results and different conclusions.

Still, there is some room for policies compatible with the joint objective of promoting a strong and inclusive economic growth. Koske et al (2012) report a list of policies in this regard: facilitating the accumulation of human capital, making educational achievement less dependent on personal and social circumstances, reducing labour market dualism and promoting the labour market integration of immigrants and women. Other policies that are capable of reducing inequality at the same time than promoting economic growth are the ones associated with institutional issues. Many of them are associated with labour market regulations and the structure and size of fiscal and social security systems. All in all, they are policies aiming at reducing the inequality of opportunities while allowing the inequality arising from returns to effort.

5. References

- Acemoglu, D. and Robinson, J. (2008) “Persistence of power, elites and institutions”. *American Economic Review*, 98(1), 267-293.
- Afonso, O., Albuquerque, A.L, and Almeida, A. (2013) “Wage inequality determinants in the European Union” *Applied Economics Letters*, 20, 1170-1173.
- Barro, R. J. (2000) “Inequality and growth in a panel of countries” *Journal of Economic Growth*, 5, 5-32.
- Berthoud, R. and Iacovou, M. (2004). *Social Europe: Living Standards and Welfare States*. Cheltenham: Edward Elgar
- Castells-Quintana, D. and Royuela, V. (2014a) “Agglomeration, Inequality and Economic Growth” *Annals of Regional Science*, 52, 343-366.

Castells-Quintana, D and Royuela, V. (2014) "Tracking positive and negative effects of inequality on long-run growth", IREA Working Paper 2014/01. Available at http://www.ub.edu/irea/working_papers/2014/201401.pdf

De Mello, L., Dutz M.A. (2012) (eds) *Promoting inclusive growth. Challenges and Policy*. OECD Publishing, Paris.

Ehrhart, C. (2009) "The effects of inequality on growth: a survey of the theoretical and empirical literature" ECINEQ Working Paper Series 2009-107.

Galor, O. (2009) *Inequality and Economic Development: The Modern Perspective*. Edward Elgar Publishing Ltd.

Greenwood, J., and B. Jovanovic. (1990) "Financial Development, Growth and the Distribution of Income" *Journal of Political Economy* 98(5), 1076–1107

Jaumotte F, Lall S, Papageorgiou C (2008) "Rising income inequality: Technology, or trade and financial globalization?" IMF Working Papers 08/185.

Krugman, P. (2008) *The return of depression economics and the crisis of 2008*. Penguin. London.

Koske, I., Fournier, J.-M. and I. Wanner (2012) "Less Income Inequality and More Growth – Are They Compatible? Part 2. The Distribution of Labour Income", *OECD Economics Department Working Papers*, No. 925.

Kuznets, S. (1955). "Economic Growth and Income Inequality," *American Economic Review* 45, 1–28.

Marrero, G. and Rodríguez, J.G. (2014) "Inequality of opportunity and growth", *Journal of Development Economics*, 104, 107-122.

Neves, P.C., and Silva, S.M.T. (2014) "Inequality and Growth: Uncovering the Main Conclusions from the Empirics", *Journal of Development Studies*, 50(1), 1-21.

Partridge, M. (2005) "Does income distribution affect US State economic growth?" *Journal of Regional Science*, 45(2), 363-394.

Rajan, R. (2010) *Fault Lines: How hidden fractures still threaten the world economy*, Princeton University Press.

Robinson, S. (1976) "A Note on the U-Hypothesis Relating Income Inequality and Economic Development," *American Economic Review* 66(3), 437–440.

Rodriguez-Pose, A., Tselios, V. (2008) "Inequalities in income and education and regional economic growth in Western Europe", *Annals of Regional Science*, 44, 349-375.

Royuela V., Veneri P. and Ramos R. (2014) "Inequality and economic growth in OECD regions" OECD Regional Development Working Papers (forthcoming).

Stiglitz, J. (2009) "The global crisis, social protection and jobs" *International Labour Review*, 148(1-2), 1-13.

APPENDIX 1. List of considered countries in ECHP and EU-SILC

	Country	ECHP	EU-SILC
AT	Austria	X	X
BE	Belgium	X	X
DE	Germany	X	X
DK	Denmark	X	X
ES	Spain	X	X
FI	Finland	X	X
FR	France	X	X
GR	Greece	X	X
IE	Ireland	X	X
IT	Italy	X	X
LU	Luxemburg	X	X
NL	Netherlands	X	X
PT	Portugal	X	X
SE	Sweden	X	X
UK	United Kingdom	X	X
BG	Bulgaria		X
CH	Switzerland		X
CY	Cyprus		X
CZ	Czech Republic		X
EE	Estonia		X
HR	Croatia		X
HU	Hungary		X
IS	Iceland		X
LT	Lithuania		X
LV	Latvia		X
MT	Malta		X
NO	Norway		X
PL	Poland		X
RO	Romania		X
SI	Slovenia		X
SK	Slovakia		X

APPENDIX 2. List of considered NUTS 1 regions in ECHP and SILC

NUTS 1 REGION		ECHP	EU-SILC
1	AT1 OSTÖSTERREICH	1 AT1	1 AT1
2	AT2 SÜDÖSTERREICH	2 AT2	2 AT2
3	AT3 WESTÖSTERREICH	3 AT3	3 AT3
4	BE1 RÉGION DE BRUXELLES-CAPITALE/BRUSSELS HOOFDSTEDELIJK GEWEST	4 BE1	4 BE1
5	BE2 VLAAMS GEWEST	5 BE2	5 BE2
6	BE3 RÉGION WALLONNE	6 BE3	6 BE3
7	BG3 SEVERNA I YUGOIZTOCHNA BULGARIA		7 BG3
8	BG4 YUGOZAPADNA I YUZHNA TSENTRALNA BULGARIA		8 BG4
9	CH SWITZERLAND		9 CH0
10	CY0 KYΠΙΟΣ (KÝPROS)		10 CY0
11	CZ0 ČESKÁ REPUBLIKA		11 CZ0
12	DE1 BADEN-WÜRTTEMBERG	7 DE1	12 DE1
13	DE2 BAYERN	8 DE2	13 DE2
14	DE3 BERLIN	9 DE3	14 DEA
15	DE4 BRANDENBURG	10 DE4	15 DECE
16	DE5 BREMEN	11 DE5	16 DENE
17	DE6 HAMBURG	12 DE6	17 DENW
18	DE7 HESSEN	13 DE7	
19	DE8 MECKLENBURG-VORPOMMERN	14 DE8	
20	DE9 NIEDERSACHSEN	15 DE9	
21	DEA NORDRHEIN-WESTFALEN	16 DEA	
22	DEB RHEINLAND-PFALZ	17 DEX	
23	DEC SAARLAND		
24	DED SACHSEN	18 DED	
25	DEE SACHSEN-ANHALT	19 DEE	
26	DEF SCHLESWIG-HOLSTEIN	20 DEF	
27	DEG THÜRINGEN	21 DEG	
28	DK0 DANMARK	22 DK0	18 DK0
29	EE0 EESTI		19 EE0
30	EL1 VOREIA ELLADA	23 GR1	20 EL1
31	EL2 KENTRIKI ELLADA	24 GR2	21 EL2
32	EL3 ATTIKI	25 GR3	22 EL3
33	EL4 NISIA AIGAIOU, KRITI	26 GR4	23 EL4
34	ES1 NOROESTE	27 ES1	24 ES1
35	ES2 NORESTE	28 ES2	25 ES2
36	ES3 COMUNIDAD DE MADRID	29 ES3	26 ES3
37	ES4 CENTRO (ES)	30 ES4	27 ES4
38	ES5 ESTE	31 ES5	28 ES5
39	ES6 SUR	32 ES6	29 ES6
40	ES7 CANARIAS	33 ES7	30 ES7
41	FI FINLAND	34 FI	31 FI
42	FR1 ÎLE DE FRANCE	35 FR1	32 FR1
43	FR2 BASSIN PARISIEN	36 FR2	33 FR2
44	FR3 NORD - PAS-DE-CALAIS	37 FR3	34 FR3
45	FR4 EST	38 FR4	35 FR4
46	FR5 OUEST	39 FR5	36 FR5
NUTS 1 REGION		ECHP	EU-SILC

47	FR6	SUD-OUEST		40	FR6	37	FR6
48	FR7	CENTRE-EST		41	FR7	38	FR7
49	FR8	MÉDITERRANÉE		42	FR8	39	FR8
50	HR0	CROACIA				40	HR0
51	HU1	KÖZÉP-MAGYARORSZÁG				41	HU1
52	HU2	DUNÁNTÚL				42	HU2
53	HU3	ALFÖLD ÉS ÉSZAK				43	HU3
54	IE0	IRELAND		43	IE0	44	IE0
55	IS0	ICELAND				45	IS0
56	ITC	NORD-OVEST		44	ITC	46	ITC
57	ITF	SUD		45	ITF	47	ITF
58	ITG	ISOLE		46	ITG	48	ITG
59	ITH	NORD-EST		47	ITH_ITD	49	ITH_ITD
60	ITI	CENTRO (IT)		48	ITI_ITE	50	ITI_ITE
61	LT0	LIETUVA				51	LT0
62	LU0	LUXEMBOURG		49	LU0	52	LU0
63	LV0	LATVIA				53	LV0
64	MT0	MALTA				54	MT0
65	NL	NETHERLANDS		50	NL	55	NL
66	NO0	NORWAY				56	NO0
67	PL1	REGION CENTRALNY				57	PL1
68	PL2	REGION POŁUDNIOWY				58	PL2
69	PL3	REGION WSCHODNI				59	PL3
70	PL4	REGION PÓŁNOCNO-ZACHODNI				60	PL4
71	PL5	REGION POŁUDNIOWO-ZACHODNI				61	PL5
72	PL6	REGION PÓŁNOCNY				62	PL6
73	PT	PORTUGAL		51	PT	63	PT
74	RO1	MACROREGIUNEA UNU				64	RO1
75	RO2	MACROREGIUNEA DOI				65	RO2
76	RO3	MACROREGIUNEA TREI				66	RO3
77	RO4	MACROREGIUNEA PATRU				67	RO4
78	SE1	ÖSTRA SVERIGE		52	SE1	68	SE1
79	SE2	SÖDRA SVERIGE		53	SE2	69	SE2
80	SE3	NORRA SVERIGE		54	SE3	70	SE3
81	SI0	SLOVENIJA				71	SI0
82	SK0	SLOVENSKO				72	SK0
83	UKC	NORTH EAST (ENGLAND)		55	UK1	73	UKC
84	UKD	NORTH WEST (ENGLAND)		56	UK8	74	UKD
85	UKE	YORKSHIRE AND THE HUMBER		57	UK2	75	UKE
86	UKF	EAST MIDLANDS (ENGLAND)		58	UK3	76	UKF
87	UKG	WEST MIDLANDS (ENGLAND)		59	UK7	77	UKG
88	UKH	EAST OF ENGLAND		60	UK4	78	UKH
89	UKI	LONDON				79	UKI
90	UKJ	SOUTH EAST (ENGLAND)		61	UK5	80	UKJ
91	UKK	SOUTH WEST (ENGLAND)		62	UK6	81	UKK
92	UKL	WALES		63	UK9	82	UKL
93	UKM	SCOTLAND		64	UKA	83	UKM
94	UKN	NORTHERN IRELAND		65	UKB	84	UKN

APPENDIX 3. Income inequality measures at the country level

Gini index	1993	1994	1995	1996	1997	1998	1999	2000	2003	2004	2005	2006	2007	2008	2009	2010	2011
AT	0.2919	0.2777	0.2725	0.2643	0.2856	0.2629	0.2594	0.2576	0.2605	0.2533	0.2610	0.2611	0.2560	0.2607	0.2627	0.2759	
BE	0.3136	0.3100	0.3083	0.2897	0.2904	0.3105	0.3158	0.3021	0.2563	0.2785	0.2724	0.2601	0.2715	0.2564	0.2585	0.2609	
DE	0.3159	0.3167	0.2945	0.2796	0.2778	0.2761	0.2790	0.2789		0.2582	0.2604	0.2946	0.2976	0.2904	0.2893	0.2858	0.2816
DK	0.2552	0.2459	0.2422	0.2311	0.2453	0.2444	0.2457	0.2470	0.2324	0.2273	0.2299	0.2405	0.2439	0.2333	0.2464	0.2596	0.2610
ES	0.3495	0.3440	0.3413	0.3530	0.3440	0.3384	0.3361	0.3377	0.3030	0.3152	0.3082	0.3089	0.3095	0.3137	0.3275	0.3318	0.3362
FI		0.2496	0.2478	0.2590	0.2719	0.2655	0.2703	0.2522	0.2570	0.2579	0.2606	0.2621	0.2580	0.2527	0.2577	0.2584	
FR	0.3534	0.3032	0.2947	0.2958	0.2876	0.3029	0.2892	0.2798	0.2814	0.2764	0.2718	0.2641	0.2956	0.2984	0.2968	0.3077	0.3040
GR	0.3813	0.3648	0.3572	0.3655	0.3676	0.3618	0.3465	0.3446	0.3162	0.3257	0.3367	0.3393	0.3259	0.3234	0.3234	0.3284	0.3309
IE	0.3417	0.3568	0.3528	0.3445	0.3532	0.3519	0.3356	0.3291	0.3157	0.3184	0.3192	0.3132	0.2993	0.2866	0.3004	0.2961	
IT	0.3336	0.3312	0.3233	0.3092	0.3098	0.3031	0.2945	0.2990	0.3276	0.3232	0.3164	0.3166	0.3054	0.3107	0.3068	0.3141	0.3143
LU		0.2701	0.2577	0.2610	0.2642	0.2786	0.2676	0.2691	0.2621	0.2632	0.2752	0.2734	0.2743	0.2909	0.2758	0.2693	0.2769
NL	0.2854	0.3017	0.3111	0.2785	0.2721	0.2787	0.2617	0.2713		0.2567	0.2555	0.2683	0.2688	0.2656	0.2500	0.2493	0.2496
PT	0.4034	0.3922	0.3812	0.3821	0.3845	0.3734	0.3671	0.3800	0.3773	0.3809	0.3767	0.3692	0.3577	0.3531	0.3357	0.3424	0.3454
SE			0.2357	0.2558	0.2471	0.2569	0.2568	0.2243	0.2272	0.2308	0.2320	0.2346	0.2434	0.2381	0.2403	0.2442	
UK	0.3417	0.3600	0.3468	0.3312	0.3500	0.3446	0.3528	0.3467		0.3410	0.3201	0.3259	0.3346	0.3207	0.3251	0.3261	0.3205
BG											0.3527	0.3593	0.3334	0.3319	0.3497	0.3344	
CH												0.3114	0.3003	0.2948	0.2952	0.2863	
CY									0.2871	0.2876	0.2977	0.2891	0.2935	0.3005	0.2916	0.3097	
CZ									0.2598	0.2530	0.2523	0.2472	0.2504	0.2488	0.2523	0.2488	
EE								0.3674	0.3348	0.3283	0.3324	0.3079	0.3123	0.3107	0.3171	0.3212	
HR															0.3070	0.3033	
HU									0.2741	0.3272	0.2552	0.2510	0.2461	0.2402	0.2678	0.2689	
IS								0.2398	0.2499	0.2587	0.2801	0.2716	0.2949	0.2566	0.2335	0.2375	
LT									0.3593	0.3473	0.3363	0.3362	0.3520	0.3650	0.3254	0.3168	
LV									0.3553	0.3860	0.3509	0.3729	0.3721	0.3558	0.3473	0.3543	
MT											0.2772	0.2720	0.2819	0.2730	0.2710		
NO								0.2510	0.2810	0.2821	0.2349	0.2424	0.2397	0.2336	0.2277	0.2234	
PL									0.3539	0.3319	0.3209	0.3187	0.3139	0.3108	0.3100	0.3091	
RO											0.3793	0.3601	0.3483	0.3331	0.3337	0.3322	
SI									0.2374	0.2373	0.2329	0.2342	0.2273	0.2380	0.2383	0.2378	
SK									0.2588	0.2801	0.2440	0.2355	0.2475	0.2584	0.2567	0.2527	

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P9010	1993	1994	1995	1996	1997	1998	1999	2000	2003	2004	2005	2006	2007	2008	2009	2010	2011	
AT	3.5838	3.4382	3.4094	3.2570	3.3090	3.1982	3.1260		3.1043	3.0787	3.0443	3.0902	3.1231	3.0657	3.1818	3.0947	3.3859	
BE	3.7833	3.6245	3.4716	3.4376	3.4279	3.2224	3.3075	3.4198	3.2622	3.1131	3.2602	3.2133	3.1659	3.1322	3.1648	3.1886		
DE	4.3661	4.2995	3.7184	3.5133	3.4362	3.3517	3.2997	3.2464		3.0475	3.0851	3.6499	3.6395	3.6128	3.5943	3.6196	3.6045	
DK	2.8846	2.8358	2.7774	2.8644	3.0892	2.9965	2.9459	3.1071	2.6849	2.7115	2.6811	2.7556	2.7724	2.8207	2.9410	2.9980	3.0323	
ES	4.8180	4.5706	4.5728	4.8580	4.5696	4.6169	4.4961	4.4989	4.1702	4.4180	4.3504	4.2581	4.4003	4.7118	5.2248	5.3859	5.4301	
FI		2.8006	2.8978	3.0625	3.2224	3.1757	3.2463		2.8517	2.9069	2.9330	3.0193	3.0927	3.0620	2.9789	3.0524	3.0771	
FR	4.0797	3.8430	3.7341	3.7015	3.6109	3.5905	3.6157	3.5701	3.3280	3.2516	3.2477	3.2196	3.3685	3.3755	3.4463	3.5239	3.4606	
GR	6.9565	6.3339	5.6855	5.9125	6.0610	5.6433	5.3777	5.2181	4.4444	4.5385	4.6345	4.6477	4.4591	4.2716	4.2424	4.5457	4.9086	
IE	4.2039	4.3347	4.2662	4.2743	4.2658	4.5000	4.5047	4.3985	4.0006	3.9440	3.8432	3.8547	3.5977	3.4510	3.5672	3.7134		
IT	4.5264	4.1731	4.3258	4.1460	4.0085	3.8885	3.7311	3.8725	4.2821	4.1555	4.2517	4.1774	3.9902	4.0700	4.0687	4.2145	4.1896	
LU		3.3091	3.0822	3.1132	3.1498	3.3266	3.2265	3.3039	3.2782	3.3142	3.4324	3.4384	3.3229	3.5324	3.3831	3.2731	3.4212	
NL	3.3840	3.4335	3.5866	3.2443	3.1201	3.1859	3.1452	3.1857		2.9234	2.9135	2.9504	3.0196	3.0459	2.9278	2.9763	2.8774	
PT	6.8897	6.2960	5.6713	5.7382	5.7108	5.4588	5.4067	5.4127	5.3909	5.4792	5.1383	5.2335	4.8529	4.6468	4.5410	4.5713	4.6109	
SE			2.7563	3.0256	2.8146	3.1091	2.9895		2.7618	2.6459	2.8285	2.7460	2.8241	2.9514	2.9166	2.9747	3.0110	
UK	4.9293	4.8623	4.7332	4.3979	4.7006	4.5446	4.5241	4.5463		4.4507	4.2950	4.2438	4.2592	4.0898	4.0776	3.9527	3.8711	
BG											5.4588	4.9604	4.8847	4.7896	5.1341	4.8556		
CH												3.8561	3.5621	3.5065	3.4982	3.6233		
CY									3.6231	3.5224	3.5287	3.4849	3.5767	3.6614	3.6428	3.7316		
CZ									2.9966	2.8481	2.8881	2.7802	2.7242	2.7922	2.9060	2.8696		
EE									5.3964	4.5533	4.3476	4.3018	4.0958	4.0659	4.0760	4.3374	4.3874	
HR															4.5571	4.5594		
HU									3.1978	3.7504	3.0753	2.9847	3.0095	2.9533	3.3664	3.2992		
IS									2.6969	2.7224	2.8003	2.9866	2.9604	3.0325	2.8493	2.5940	2.6292	
LT									5.3950	5.2782	4.7535	4.5433	4.8127	5.7441	4.8165	4.4261		
LV									4.8750	5.4027	5.0974	5.7487	5.6913	5.3134	5.2389	5.0708		
MT												3.4501	3.4295	3.4599	3.3812	3.2858		
NO									2.7065	2.7156	2.7965	2.8515	2.8015	2.8139	2.7285	2.6818	2.6293	
PL										5.1966	4.5819	4.2589	4.0482	3.9427	3.9742	3.9349	4.0102	
RO												6.3010	5.8487	5.4405	5.0459	5.4007	5.4479	
SI										2.9760	2.9223	2.8901	2.9173	2.7962	2.9788	3.0556	3.0147	
SK										3.1199	2.9816	2.8171	2.7955	3.0600	3.1219	3.1374	3.1844	

P5010	1993	1994	1995	1996	1997	1998	1999	2000	2003	2004	2005	2006	2007	2008	2009	2010	2011	
AT		1.9010	1.9168	1.9212	1.8590	1.8674	1.8345	1.8477	1.8005	1.7601	1.7959	1.7745	1.7845	1.7688	1.7918	1.7917	1.8750	
BE	2.0221	2.0000	1.9378	1.8982	1.9061	1.8297	1.8426	1.8264	1.9106	1.8539	1.8853	1.8926	1.8660	1.8633	1.8607	1.8890		
DE	2.2299	2.2439	1.9868	1.9031	1.8681	1.7818	1.8008	1.7815		1.7935	1.8088	1.9775	1.9471	1.9548	1.9448	1.9812	1.9767	
DK	1.7375	1.7361	1.7248	1.7899	1.8944	1.8839	1.8547	1.9225	1.7127	1.7315	1.7229	1.7415	1.7572	1.8009	1.8377	1.8081	1.8231	
ES	2.1388	2.0581	2.0421	2.1432	2.0433	2.1058	2.0576	2.1180	2.2040	2.2223	2.2429	2.1828	2.2313	2.3568	2.5548	2.5700	2.5605	
FI		1.6545	1.6642	1.7743	1.8290	1.8315	1.8821		1.6998	1.7279	1.7597	1.7749	1.8145	1.8141	1.7832	1.7912	1.8004	
FR	2.0793	2.0203	1.9813	1.9620	1.9349	1.9375	1.9296	1.9388	1.8205	1.7746	1.8046	1.8031	1.7470	1.7815	1.8166	1.8284	1.8246	
GR	3.2653	2.8441	2.6540	2.6516	2.7222	2.5931	2.4855	2.4507	2.2110	2.1732	2.2655	2.2634	2.2227	2.1772	2.1751	2.3068	2.5859	
IE	1.8641	1.9293	1.9576	1.9994	2.0466	2.1317	2.1888	2.2870	2.0978	2.0776	1.9536	1.9462	1.8947	1.8582	1.8311	1.8694		
IT	2.2981	2.0929	2.2324	2.1652	2.1197	2.0802	2.0514	2.1309	2.1737	2.1433	2.1780	2.1415	2.1150	2.0975	2.1143	2.2269	2.2018	
LU		1.8094	1.7351	1.7201	1.7532	1.7806	1.7320	1.7538	1.7965	1.8492	1.8699	1.8356	1.8152	1.9047	1.8750	1.7801	1.8581	
NL	1.7687	1.8080	1.8657	1.7667	1.7285	1.7774	1.7296	1.7460		1.7052	1.6622	1.6812	1.6936	1.7256	1.6781	1.7123	1.6712	
PT	2.7557	2.5422	2.3793	2.3293	2.3653	2.2677	2.3043	2.2599	2.2306	2.2210	2.1082	2.1326	2.1116	2.0927	2.0769	2.0827	2.1161	
SE		1.6845	1.7729	1.6973	1.8329	1.7886		1.7256	1.6451	1.7918	1.7074	1.7693	1.8288	1.8150	1.8402	1.8542		
UK	2.2767	2.1861	2.1429	2.0769	2.1822	2.1416	2.1463	2.1302		2.1272	2.1379	2.1178	2.0885	2.0245	2.0082	1.9647	1.9588	
BG											2.7031	2.3265	2.3694	2.4070	2.4864	2.5029		
CH												1.9927	1.9111	1.9190	1.9081	1.9798		
CY									1.9397	1.9220	1.9485	1.8916	1.9117	1.9152	1.8829	1.8790		
CZ									1.6961	1.6595	1.6508	1.6311	1.6016	1.6184	1.6538	1.6503		
EE									2.2711	2.0987	2.0708	2.0717	2.0712	2.0054	1.9571	2.1038	2.0864	
HR															2.3458	2.3930		
HU										1.8308	2.0026	1.8084	1.7578	1.7845	1.7732	1.8574	1.8890	
IS									1.6688	1.6529	1.6517	1.6737	1.6670	1.6712	1.6471	1.6207	1.5835	
LT										2.3598	2.3502	2.2250	2.2445	2.1991	2.4803	2.2961	2.1113	
LV										2.2348	2.3520	2.2742	2.5740	2.5751	2.3724	2.3634	2.2788	
MT													1.9139	1.8638	1.8617	1.8893	1.8709	
NO									1.7140	1.7405	1.7584	1.8114	1.7505	1.7601	1.7297	1.6991	1.6749	
PL										2.4266	2.1796	2.0879	2.0132	2.0330	2.0409	2.0342	2.0290	
RO												2.8721	2.7054	2.6313	2.4597	2.6354	2.6319	
SI										1.7897	1.7581	1.7471	1.7806	1.7355	1.7952	1.8662	1.8365	
SK										1.8432	1.7495	1.6884	1.7033	1.7420	1.7818	1.8104	1.8351	

P9050	1993	1994	1995	1996	1997	1998	1999	2000	2003	2004	2005	2006	2007	2008	2009	2010	2011	
AT		1.8852	1.7937	1.7746	1.7520	1.7719	1.7433	1.6918	1.7242	1.7492	1.6952	1.7414	1.7501	1.7332	1.7758	1.7272	1.8058	
BE	1.8710	1.8123	1.7915	1.8110	1.7984	1.7612	1.7950	1.8724	1.7074	1.6792	1.7293	1.6979	1.6966	1.6810	1.7008	1.6879		
DE	1.9579	1.9161	1.8716	1.8461	1.8394	1.8811	1.8323	1.8223			1.6992	1.7057	1.8457	1.8692	1.8482	1.8482	1.8269	1.8235
DK	1.6602	1.6334	1.6103	1.6003	1.6307	1.5906	1.5883	1.6162	1.5676	1.5660	1.5562	1.5823	1.5777	1.5663	1.6003	1.6581	1.6632	
ES	2.2526	2.2207	2.2393	2.2667	2.2364	2.1925	2.1852	2.1241	1.8921	1.9881	1.9396	1.9508	1.9721	1.9992	2.0451	2.0957	2.1207	
FI		1.6927	1.7413	1.7260	1.7619	1.7339	1.7248		1.6776	1.6823	1.6668	1.7011	1.7045	1.6879	1.6705	1.7041	1.7092	
FR	1.9620	1.9022	1.8847	1.8866	1.8662	1.8532	1.8738	1.8414	1.8280	1.8323	1.7997	1.7856	1.9282	1.8948	1.8971	1.9273	1.8966	
GR	2.1304	2.2270	2.1422	2.2298	2.2265	2.1763	2.1636	2.1292	2.0102	2.0883	2.0457	2.0534	2.0062	1.9620	1.9505	1.9706	1.8982	
IE	2.2552	2.2468	2.1794	2.1377	2.0843	2.1110	2.0581	1.9232	1.9071	1.8983	1.9672	1.9806	1.8988	1.8572	1.9482	1.9864		
IT	1.9696	1.9939	1.9377	1.9148	1.8911	1.8693	1.8188	1.8173	1.9699	1.9388	1.9521	1.9507	1.8866	1.9404	1.9243	1.8925	1.9028	
LU		1.8288	1.7764	1.8099	1.7966	1.8682	1.8628	1.8838	1.8248	1.7922	1.8356	1.8732	1.8306	1.8546	1.8043	1.8388	1.8412	
NL	1.9133	1.8990	1.9224	1.8364	1.8051	1.7924	1.8184	1.8245		1.7144	1.7527	1.7549	1.7829	1.7651	1.7447	1.7382	1.7218	
PT	2.5002	2.4765	2.3836	2.4634	2.4143	2.4072	2.3463	2.3951	2.4168	2.4670	2.4373	2.4540	2.2983	2.2205	2.1865	2.1948	2.1789	
SE		1.6363	1.7065	1.6583	1.6963	1.6715		1.6005	1.6084	1.5785	1.6083	1.5961	1.6138	1.6069	1.6165	1.6239		
UK	2.1651	2.2242	2.2088	2.1175	2.1541	2.1221	2.1079	2.1342		2.0922	2.0090	2.0039	2.0394	2.0202	2.0304	2.0119	1.9763	
BG											2.0194	2.1321	2.0616	1.9899	2.0649	1.9400		
CH												1.9351	1.8638	1.8272	1.8333	1.8301		
CY									1.8679	1.8326	1.8110	1.8423	1.8710	1.9117	1.9347	1.9859		
CZ									1.7668	1.7163	1.7495	1.7045	1.7009	1.7253	1.7572	1.7388		
EE									2.3762	2.1696	2.0995	2.0764	1.9775	2.0274	2.0827	2.0617	2.1028	
HR															1.9426	1.9053		
HU										1.7467	1.8727	1.7006	1.6980	1.6865	1.6655	1.8125	1.7465	
IS									1.6161	1.6471	1.6953	1.7845	1.7758	1.8146	1.7298	1.6005	1.6604	
LT										2.2862	2.2458	2.1364	2.0242	2.1884	2.3159	2.0977	2.0964	
LV										2.1814	2.2971	2.2414	2.2334	2.2101	2.2397	2.2167	2.2252	
MT													1.8026	1.8401	1.8585	1.7897	1.7563	
NO									1.5791	1.5602	1.5904	1.5742	1.6004	1.5988	1.5774	1.5783	1.5698	
PL										2.1415	2.1022	2.0398	2.0109	1.9394	1.9473	1.9343	1.9765	
RO												2.1939	2.1619	2.0676	2.0514	2.0493	2.0700	
SI										1.6629	1.6622	1.6543	1.6384	1.6111	1.6593	1.6373	1.6415	
SK										1.6927	1.7043	1.6685	1.6413	1.7566	1.7521	1.7330	1.7353	

APPENDIX 4. Income inequality measures at the regional level from ECHP

GINI index	1993	1994	1995	1996	1997	1998	1999	2000
AT1		0.2934	0.2797	0.2756	0.2666	0.2974	0.2654	0.2761
AT2		0.2919	0.2564	0.2616	0.2679	0.3032	0.2734	0.2452
AT3		0.2873	0.2825	0.2675	0.2526	0.2538	0.2498	0.2417
BE1	0.3689	0.3053	0.3342	0.2941	0.3282	0.3255	0.3330	0.3186
BE2	0.2988	0.3123	0.3144	0.2840	0.2817	0.3147	0.3306	0.2853
BE3	0.3107	0.3037	0.2850	0.2941	0.2859	0.2935	0.2739	0.3214
DE1	0.3175	0.3253	0.2915	0.2787	0.2772	0.2746	0.2634	0.2712
DE2	0.3045	0.3165	0.3028	0.2929	0.2733	0.2672	0.2703	0.2750
DE3	0.2611	0.2918	0.2870	0.2763	0.2818	0.2719	0.3174	0.3669
DE4	0.3061	0.2682	0.2216	0.2105	0.2184	0.1926	0.2116	0.2176
DE5	0.2705	0.3299	0.2565	0.2176	0.2378	0.2019	0.1691	0.1955
DE6	0.2793	0.2558	0.2623	0.2519	0.2452	0.2412	0.2822	0.3097
DE7	0.3379	0.3351	0.3283	0.2921	0.3092	0.3050	0.2939	0.3360
DE8	0.2720	0.2624	0.2588	0.2458	0.2626	0.2925	0.2925	0.2492
DE9	0.3040	0.2970	0.2788	0.2725	0.2694	0.2641	0.2957	0.2520
DEA	0.3301	0.3343	0.3155	0.2972	0.2966	0.3013	0.2944	0.2774
DEX	0.2858	0.2318	0.2212	0.2029	0.1992	0.2355	0.1985	0.2001
DED	0.2513	0.2610	0.2004	0.1962	0.2002	0.2046	0.2020	0.1963
DEE	0.3001	0.3322	0.2662	0.3082	0.2978	0.2758	0.3160	0.2907
DEF	0.2275	0.2093	0.1952	0.2150	0.2152	0.2101	0.2216	0.2057
DEG	0.2906	0.3001	0.2792	0.2377	0.2418	0.2560	0.2351	0.2427
DK0	0.2551	0.2456	0.2416	0.2304	0.2422	0.2416	0.2446	0.2457
EL1	0.4028	0.3740	0.3684	0.3833	0.3754	0.3638	0.3443	0.3414
EL2	0.3979	0.3825	0.3596	0.3642	0.3796	0.3606	0.3504	0.3448
EL3	0.3271	0.3262	0.3205	0.3307	0.3333	0.3323	0.3139	0.3084
EL4	0.3685	0.3687	0.3614	0.3501	0.3415	0.3341	0.3351	0.3049
ES1	0.3247	0.3200	0.3288	0.3466	0.3231	0.3178	0.2946	0.3149
ES2	0.3187	0.3234	0.3048	0.3225	0.3149	0.3116	0.2990	0.3097
ES3	0.3278	0.3193	0.3347	0.3408	0.3329	0.3452	0.3294	0.3161
ES4	0.3391	0.3339	0.3437	0.3296	0.3317	0.3315	0.3361	0.3363
ES5	0.3362	0.3357	0.3199	0.3258	0.3186	0.3054	0.3259	0.3292
ES6	0.3554	0.3333	0.3331	0.3501	0.3373	0.3316	0.3153	0.2940
ES7	0.3812	0.3345	0.3375	0.3794	0.3689	0.3176	0.3419	0.3584
FI		0.2496	0.2478	0.2590	0.2719	0.2655	0.2703	
FR1	0.3998	0.3144	0.3056	0.3042	0.3052	0.3330	0.3192	0.2969
FR2	0.3128	0.2772	0.2831	0.2752	0.2663	0.3297	0.2654	0.2467
FR3	0.3306	0.2702	0.2690	0.2620	0.2704	0.2607	0.2586	0.2565
FR4	0.3283	0.2688	0.2625	0.2487	0.2486	0.2457	0.2397	0.2355
FR5	0.2745	0.2726	0.2697	0.2825	0.2603	0.2609	0.2615	0.2633
FR6	0.4013	0.3039	0.3000	0.3063	0.2880	0.2749	0.2850	0.2830
FR7	0.3051	0.3103	0.2723	0.2753	0.2726	0.2755	0.2749	0.2645
FR8	0.3360	0.3051	0.2944	0.3016	0.2798	0.2715	0.2734	0.2768

GINI index	1993	1994	1995	1996	1997	1998	1999	2000
IE0	0.3417	0.3568	0.3528	0.3445	0.3532	0.3519	0.3356	0.3291
ITC	0.3031	0.2976	0.2936	0.2734	0.2845	0.2712	0.2583	0.2562
ITF	0.3374	0.3273	0.3240	0.3153	0.3042	0.3007	0.2980	0.3021
ITG	0.3666	0.3763	0.3563	0.3271	0.3260	0.3266	0.3252	0.3267
ITH_ITD	0.3184	0.3189	0.3052	0.2861	0.2852	0.2834	0.2782	0.2882
ITI_ITE	0.3123	0.3072	0.2946	0.2990	0.2935	0.2811	0.2713	0.2863
LU0	0.3200	0.2718	0.2577	0.2610	0.2642	0.2786	0.2676	0.2648
NL	0.2854	0.3017	0.3111	0.2785	0.2721	0.2787	0.2617	0.2713
PT	0.4034	0.3922	0.3812	0.3821	0.3845	0.3734	0.3671	0.3800
SE1				0.2474	0.2633	0.2587	0.2850	0.2761
SE2				0.2332	0.2556	0.2430	0.2417	0.2425
SE3				0.2150	0.2353	0.2236	0.2268	0.2341
UK1	0.3598	0.3352	0.3020	0.3180	0.3095	0.3219	0.3215	0.3121
UK8	0.3496	0.3558	0.3364	0.3452	0.3418	0.3355	0.3229	0.3163
UK2	0.3488	0.3511	0.3445	0.3215	0.3499	0.3094	0.3157	0.3203
UK3	0.3271	0.3390	0.3149	0.3051	0.3446	0.3341	0.3203	0.3176
UK7	0.3508	0.3360	0.3178	0.3155	0.3556	0.3451	0.3152	0.3421
UK4	0.3352	0.3230	0.3375	0.3419	0.3496	0.3162	0.3198	0.3120
UK5	0.3774	0.3684	0.3569	0.3297	0.3543	0.3623	0.3831	0.3728
UK6	0.3636	0.3320	0.3400	0.3345	0.3352	0.3322	0.3367	0.3227
UK9	0.3392	0.3821	0.3314	0.3275	0.3373	0.3243	0.3400	0.3519
UKA	0.3625	0.3692	0.3651	0.3230	0.3408	0.3199	0.3124	0.3115
UKB	0.3453	0.4338						

P9010	1993	1994	1995	1996	1997	1998	1999	2000
AT1		3.8168	3.5250	3.4232	3.3709	3.6442	3.3413	3.4028
AT2		3.1731	3.0460	3.1300	3.1743	2.9160	3.0484	2.9034
AT3		3.5499	3.4986	3.3170	3.0732	2.9931	2.9877	2.9530
BE1	4.6440	3.8058	3.7687	3.7052	3.8355	3.7399	3.9067	3.9421
BE2	3.5856	3.5466	3.4259	3.3153	3.3373	3.2072	3.1873	3.2868
BE3	3.9322	3.6696	3.3333	3.4506	3.3128	3.2770	3.2092	3.4694
DE1	7.6936	5.6740	3.7783	4.3575	3.9951	3.8096	3.3123	3.5318
DE2	4.0324	4.5156	4.2595	3.8740	3.7410	3.2990	3.1630	3.4519
DE3	3.4652	4.2526	3.9674	3.9362	4.3749	3.4537	3.5096	3.6257
DE4	3.8104	3.4597	2.8495	2.6182	2.8232	2.3011	2.4291	2.6899
DE5	5.5641	6.5534	12.9013	3.5528	4.2312	2.5774	2.0640	2.2040
DE6	4.2234	2.9988	3.7944	3.3081	3.1206	2.5993	3.0549	4.8421
DE7	4.4412	4.3640	4.4475	4.1681	3.4352	4.1174	3.7300	3.5291
DE8	3.5552	3.8402	5.2294	3.3222	3.4375	6.2227	3.7569	3.5862
DE9	3.9369	4.0537	3.4811	3.7184	3.6787	3.2129	3.7089	3.0531
DEA	4.5497	4.0441	3.7594	3.6877	3.7615	3.5656	3.5419	3.3567
DEX	3.6505	2.9646	2.8353	2.4822	2.5393	2.4247	2.2461	2.3503
DED	3.5762	3.2582	2.3392	2.2573	2.4669	2.6507	2.6460	2.5232
DEE	4.1012	6.2455	3.2713	3.0506	3.4662	2.7459	3.0618	2.7024
DEF	2.7871	2.6921	2.7506	2.8981	3.0123	2.9050	3.0744	2.5692
DEG	4.1998	5.3856	4.8977	2.8917	3.0198	3.2369	2.8136	2.8906
DK0	2.8846	2.8397	2.7743	2.8539	3.0167	2.9669	2.9383	3.0785
EL1	8.1277	6.5795	6.0250	6.1974	6.1512	5.7950	5.1768	5.0732
EL2	7.8431	5.9866	6.4089	6.4509	6.6211	6.2162	5.4201	5.3947
EL3	4.3412	4.6305	4.2187	4.3507	4.5785	4.2020	3.9576	3.8889
EL4	7.1276	6.7000	6.3993	6.2079	6.4472	5.1970	5.0798	4.5018
ES1	4.0929	4.2255	4.0993	4.6667	4.0267	4.3266	3.7245	3.8333
ES2	4.4782	3.9956	3.9589	4.2301	4.1637	4.0316	3.6967	3.8594
ES3	4.1816	4.4822	4.8787	5.1116	4.7552	5.2857	4.3123	4.6585
ES4	4.3033	4.3338	4.1160	3.9235	4.0063	4.3207	3.8067	3.9815
ES5	4.5870	4.4064	4.1370	4.2176	4.2607	3.9857	4.0178	3.9594
ES6	4.9405	4.4738	4.8910	5.2001	4.7974	4.3101	3.8532	3.8228
ES7	5.0556	4.7524	4.4055	5.3685	4.6801	4.3804	4.1482	4.4444
FI			2.8006	2.8978	3.0625	3.2224	3.1757	3.2463
FR1	4.8734	4.3256	3.9641	3.8364	3.9755	4.0207	4.0626	3.6560
FR2	3.6609	3.5653	3.3808	3.2859	3.2472	3.2860	3.2348	3.0895
FR3	3.9490	3.5393	3.4390	3.5199	3.7585	3.2002	3.1973	3.1824
FR4	3.4920	3.4393	3.1689	3.0460	3.2487	3.1976	3.1245	2.9526
FR5	3.4268	3.3921	3.4112	3.6244	3.3747	3.4031	3.4407	3.3735
FR6	4.3743	3.9410	3.5056	4.1024	3.6477	3.5577	3.8054	3.8035
FR7	4.0102	3.8338	3.6296	3.7640	3.4589	3.3964	3.3325	3.1314
FR8	4.2990	3.8822	3.7445	3.7265	3.5397	3.3465	3.5058	3.5477

P9010	1993	1994	1995	1996	1997	1998	1999	2000
IE0	4.2039	4.3347	4.2662	4.2743	4.2658	4.5000	4.5047	4.3985
ITC	3.9240	3.8083	3.7085	3.5618	3.6687	3.2000	3.2217	3.0203
ITF	5.1096	4.5540	4.5943	4.5292	4.2468	4.3000	4.0816	4.2121
ITG	5.8163	6.3100	6.0408	5.0854	4.7593	4.5548	5.0244	5.1932
ITH_ITD	4.0326	3.8502	3.6174	3.3800	3.3732	3.3087	2.9639	3.3572
ITI_ITE	3.8115	3.9222	3.8408	3.9029	3.7167	3.3842	3.2892	3.6169
LU0	4.1312	3.3240	3.0822	3.1132	3.1498	3.3266	3.2265	3.2188
NL	3.3840	3.4335	3.5866	3.2443	3.1201	3.1859	3.1452	3.1857
PT	6.8897	6.2960	5.6713	5.7382	5.7108	5.4588	5.4067	5.4127
SE1				2.8854	3.1045	2.9411	3.5284	3.2083
SE2				2.7025	3.0904	2.7134	2.9571	2.9050
SE3				2.6254	2.7050	2.6915	2.7323	2.8802
UK1	4.7502	4.2059	3.9333	4.0827	3.7548	4.5117	4.2520	3.9387
UK8	4.9000	5.0091	4.8508	4.6401	4.5553	4.5822	4.2977	4.2970
UK2	4.6310	4.7420	4.4292	3.9774	4.5709	4.3007	3.7124	3.9135
UK3	4.1855	4.2156	4.2457	3.8878	4.7219	4.1419	4.4352	4.4114
UK7	5.0958	4.4132	4.3473	4.6008	4.7727	4.4975	4.4906	4.7201
UK4	5.1391	4.2617	4.5102	4.9735	5.0260	4.6388	4.5534	4.6590
UK5	5.5690	5.1531	5.0634	4.3561	4.7055	4.7000	5.2332	4.8485
UK6	5.2692	4.6942	4.8680	4.0305	4.7562	4.1622	4.5321	4.3087
UK9	4.5525	4.5952	4.4034	4.4236	4.3760	3.9363	4.1713	3.6382
UKA	4.8665	4.6305	4.4140	4.0400	4.2179	4.0039	3.6129	3.8758
UKB	4.0414	6.7417						

P5010	1993	1994	1995	1996	1997	1998	1999	2000
AT1		1.9631	1.9692	1.9826	1.8665	1.9695	1.8317	1.8758
AT2		1.7769	1.7804	1.8186	1.7859	1.6995	1.7598	1.7793
AT3		1.9015	1.9450	1.9416	1.8946	1.8370	1.8313	1.8075
BE1	2.3762	2.0307	2.1290	2.0548	2.0560	1.7295	2.0384	1.9196
BE2	1.9603	2.0025	1.9168	1.8855	1.8648	1.8634	1.8071	1.8169
BE3	2.0956	1.9720	1.8983	1.8686	1.8602	1.7886	1.7735	1.7779
DE1	4.1848	2.6020	2.0079	2.3588	2.3008	2.1024	1.9031	1.8544
DE2	1.9957	2.3137	2.0800	1.9637	1.9975	1.7955	1.7680	1.8243
DE3	2.0569	2.4671	2.1074	2.1261	2.1328	1.9063	1.9226	2.0051
DE4	2.1861	1.8624	1.6866	1.6369	1.7495	1.4841	1.4828	1.5370
DE5	3.5572	2.5744	7.1020	2.4216	2.7846	1.6087	1.5146	1.4119
DE6	2.2436	1.6369	1.9307	1.9062	1.8067	1.6000	1.6966	2.5404
DE7	2.3833	2.3019	2.4182	2.2064	1.7913	2.1724	1.8611	1.7443
DE8	2.0096	2.3906	3.2763	2.1897	2.1611	3.6293	2.0766	1.9485
DE9	1.9000	2.2763	1.9476	2.0026	2.0523	1.7814	1.9393	1.8594
DEA	2.2506	2.0886	1.9219	1.9200	1.9056	1.8010	1.8488	1.8267
DEX	2.1833	1.9146	1.7914	1.6090	1.6606	1.5264	1.5126	1.5202
DED	2.2724	2.0983	1.5231	1.5709	1.5977	1.7044	1.7034	1.6677
DEE	2.0297	2.7841	1.6654	1.7138	1.8024	1.5205	1.5491	1.5673
DEF	1.8091	1.7192	1.8634	1.8528	2.0106	1.9104	2.0113	1.7425
DEG	2.2753	2.8638	2.9371	1.7424	1.7326	1.7537	1.6227	1.6765
DK0	1.7370	1.7348	1.7233	1.7863	1.8566	1.8702	1.8558	1.9050
EL1	3.5745	2.9348	2.6923	2.6837	2.6944	2.5200	2.3661	2.3902
EL2	3.4963	2.6652	2.9372	2.7602	2.9274	2.6749	2.3293	2.4407
EL3	2.1914	2.1921	2.1488	2.1139	2.2273	2.0364	1.9733	2.0556
EL4	3.6508	3.1525	2.8688	3.0144	3.0023	2.5263	2.5975	2.3224
ES1	1.9565	1.9641	1.9630	2.0890	1.8610	2.0553	1.9703	2.0993
ES2	2.0932	1.9878	1.8877	2.0027	1.9368	2.0565	1.8901	1.9432
ES3	2.0130	2.0349	2.2793	2.3548	2.1766	2.5872	2.2152	2.4541
ES4	1.9468	1.9970	1.9289	1.8348	1.8260	1.9103	1.7802	1.8573
ES5	2.0730	2.0039	1.9597	1.9983	1.9548	1.9168	1.9126	1.9888
ES6	2.2053	2.0636	2.3104	2.3844	2.2393	2.1300	1.9115	2.0026
ES7	2.1664	2.1014	2.0183	2.1928	2.0552	2.1329	1.9187	1.9541
FI		1.6545	1.6642	1.7743	1.8290	1.8315	1.8821	
FR1	2.2475	2.1895	2.0208	1.9799	2.0976	2.1751	2.0555	1.9157
FR2	2.0246	1.9312	1.8419	1.8143	1.8122	1.8447	1.8529	1.8164
FR3	2.0277	1.9101	1.8713	1.8929	2.1361	1.8918	1.8403	1.8000
FR4	1.9647	1.9110	1.8337	1.7895	1.9108	1.8696	1.8402	1.7952
FR5	1.9539	1.8915	1.8399	1.9217	1.8809	1.9259	1.9223	1.9463
FR6	2.2723	2.1053	1.9114	2.1139	1.9322	1.9121	1.9471	1.9553
FR7	2.1864	2.0999	2.1019	2.0870	1.9312	1.9007	1.8869	1.8280
FR8	2.0309	1.9497	1.9020	1.9176	1.8467	1.8210	1.8734	1.9672

P5010	1993	1994	1995	1996	1997	1998	1999	2000
IE0	1.8641	1.9293	1.9576	1.9994	2.0466	2.1317	2.1888	2.2870
ITC	2.1000	2.1168	1.9993	2.0308	2.0156	1.8167	1.8742	1.8281
ITF	2.4863	2.2868	2.2802	2.2958	2.1595	2.1231	2.1048	2.0779
ITG	2.7066	2.8000	2.7771	2.5034	2.4184	2.3100	2.4486	2.4084
ITH_ITD	2.1237	2.0468	1.9511	1.9118	2.0000	1.8709	1.7507	1.8588
ITI_ITE	2.0471	1.9928	2.0655	2.0583	1.9556	1.8711	1.9113	2.0194
LU0	1.7721	1.8088	1.7351	1.7201	1.7532	1.7806	1.7320	1.7325
NL	1.7687	1.8080	1.8657	1.7667	1.7285	1.7774	1.7296	1.7460
PT	2.7557	2.5422	2.3793	2.3293	2.3653	2.2677	2.3043	2.2599
SE1				1.7511	1.7880	1.7141	1.9982	1.8573
SE2				1.6494	1.8162	1.6638	1.8119	1.7706
SE3				1.6451	1.6849	1.6732	1.6935	1.7453
UK1	2.2102	2.1446	1.9349	2.0692	1.9270	2.0739	1.9271	1.9544
UK8	2.3813	2.1863	2.1873	2.1902	2.1402	2.3174	2.1580	2.2026
UK2	2.1510	2.1235	1.9894	2.0716	2.2099	2.0481	1.9339	1.9889
UK3	2.1665	2.0188	1.9815	1.9447	2.0508	2.0309	2.1707	2.1068
UK7	2.4186	2.1509	2.0577	2.2248	2.2191	2.1258	2.2075	2.0472
UK4	2.3660	2.1554	1.9451	2.1488	2.3388	2.1117	2.2767	2.1566
UK5	2.4021	2.2143	2.2705	2.0825	2.1582	2.1306	2.2920	2.1874
UK6	2.3503	2.1938	2.2266	2.0217	2.3371	2.0544	2.2430	2.1131
UK9	2.0938	2.0688	1.9456	1.8529	1.9069	1.9329	1.9839	1.8135
UKA	2.2943	2.1277	1.9951	2.0781	2.1341	2.0615	1.8121	1.9684
UKB	1.9024	2.0949						

P9050	1993	1994	1995	1996	1997	1998	1999	2000
AT1		1.9443	1.7900	1.7266	1.8060	1.8504	1.8241	1.8141
AT2		1.7857	1.7109	1.7212	1.7774	1.7157	1.7322	1.6317
AT3		1.8669	1.7988	1.7084	1.6221	1.6294	1.6315	1.6338
BE1	1.9543	1.8741	1.7702	1.8032	1.8655	2.1625	1.9166	2.0536
BE2	1.8291	1.7710	1.7873	1.7583	1.7896	1.7211	1.7637	1.8091
BE3	1.8764	1.8609	1.7560	1.8466	1.7808	1.8321	1.8095	1.9513
DE1	1.8385	2.1807	1.8817	1.8473	1.7364	1.8120	1.7405	1.9045
DE2	2.0205	1.9517	2.0479	1.9728	1.8728	1.8374	1.7890	1.8922
DE3	1.6847	1.7237	1.8826	1.8514	2.0513	1.8118	1.8254	1.8082
DE4	1.7430	1.8577	1.6895	1.5995	1.6138	1.5505	1.6382	1.7501
DE5	1.5642	2.5456	1.8166	1.4671	1.5195	1.6021	1.3627	1.5611
DE6	1.8824	1.8321	1.9653	1.7355	1.7273	1.6246	1.8007	1.9061
DE7	1.8635	1.8958	1.8392	1.8891	1.9177	1.8953	2.0042	2.0232
DE8	1.7690	1.6064	1.5961	1.5172	1.5906	1.7146	1.8092	1.8405
DE9	2.0720	1.7808	1.7874	1.8567	1.7925	1.8036	1.9125	1.6420
DEA	2.0215	1.9362	1.9561	1.9206	1.9740	1.9798	1.9157	1.8376
DEX	1.6720	1.5484	1.5828	1.5427	1.5292	1.5885	1.4849	1.5460
DED	1.5738	1.5528	1.5358	1.4370	1.5441	1.5552	1.5534	1.5129
DEE	2.0206	2.2433	1.9643	1.7800	1.9231	1.8058	1.9765	1.7243
DEF	1.5406	1.5659	1.4761	1.5642	1.4982	1.5206	1.5286	1.4744
DEG	1.8459	1.8806	1.6675	1.6596	1.7430	1.8457	1.7339	1.7242
DK0	1.6607	1.6369	1.6098	1.5977	1.6249	1.5864	1.5833	1.6160
EL1	2.2738	2.2419	2.2379	2.3093	2.2830	2.2996	2.1879	2.1224
EL2	2.2432	2.2462	2.1820	2.3372	2.2618	2.3239	2.3269	2.2103
EL3	1.9810	2.1124	1.9633	2.0582	2.0556	2.0635	2.0056	1.8919
EL4	1.9523	2.1253	2.2307	2.0594	2.1474	2.0571	1.9557	1.9385
ES1	2.0919	2.1514	2.0883	2.2340	2.1638	2.1051	1.8903	1.8260
ES2	2.1395	2.0100	2.0972	2.1122	2.1498	1.9604	1.9558	1.9861
ES3	2.0773	2.2026	2.1405	2.1707	2.1847	2.0431	1.9467	1.8983
ES4	2.2105	2.1702	2.1339	2.1384	2.1941	2.2618	2.1384	2.1437
ES5	2.2128	2.1989	2.1110	2.1106	2.1796	2.0793	2.1006	1.9908
ES6	2.2403	2.1679	2.1170	2.1809	2.1424	2.0236	2.0157	1.9089
ES7	2.3336	2.2615	2.1828	2.4482	2.2772	2.0537	2.1620	2.2744
FI		1.6927	1.7413	1.7260	1.7619	1.7339	1.7248	
FR1	2.1684	1.9756	1.9617	1.9376	1.8952	1.8485	1.9765	1.9084
FR2	1.8082	1.8461	1.8355	1.8111	1.7918	1.7813	1.7458	1.7009
FR3	1.9475	1.8529	1.8378	1.8595	1.7595	1.6916	1.7374	1.7680
FR4	1.7774	1.7997	1.7282	1.7021	1.7002	1.7103	1.6979	1.6447
FR5	1.7538	1.7933	1.8540	1.8860	1.7942	1.7670	1.7899	1.7332
FR6	1.9251	1.8720	1.8340	1.9406	1.8879	1.8606	1.9544	1.9452
FR7	1.8341	1.8257	1.7268	1.8035	1.7910	1.7869	1.7662	1.7131
FR8	2.1168	1.9912	1.9687	1.9433	1.9168	1.8377	1.8713	1.8035

P9050	1993	1994	1995	1996	1997	1998	1999	2000
IE0	2.2552	2.2468	2.1794	2.1377	2.0843	2.1110	2.0581	1.9232
ITC	1.8686	1.7991	1.8549	1.7539	1.8201	1.7615	1.7190	1.6521
ITF	2.0550	1.9914	2.0149	1.9729	1.9666	2.0254	1.9392	2.0271
ITG	2.1489	2.2536	2.1752	2.0314	1.9679	1.9718	2.0520	2.1563
ITH_ITD	1.8988	1.8810	1.8541	1.7680	1.6866	1.7685	1.6930	1.8061
ITI_ITE	1.8619	1.9682	1.8595	1.8962	1.9006	1.8087	1.7209	1.7910
LU0	2.3313	1.8376	1.7764	1.8099	1.7966	1.8682	1.8628	1.8579
NL	1.9133	1.8990	1.9224	1.8364	1.8051	1.7924	1.8184	1.8245
PT	2.5002	2.4765	2.3836	2.4634	2.4143	2.4072	2.3463	2.3951
SE1				1.6478	1.7362	1.7158	1.7658	1.7274
SE2				1.6385	1.7015	1.6308	1.6321	1.6406
SE3				1.5959	1.6054	1.6085	1.6134	1.6502
UK1	2.1492	1.9612	2.0328	1.9730	1.9485	2.1755	2.2064	2.0153
UK8	2.0577	2.2912	2.2177	2.1186	2.1285	1.9773	1.9915	1.9509
UK2	2.1530	2.2332	2.2264	1.9199	2.0684	2.0999	1.9196	1.9677
UK3	1.9319	2.0882	2.1427	1.9992	2.3024	2.0395	2.0432	2.0939
UK7	2.1069	2.0518	2.1127	2.0680	2.1508	2.1156	2.0343	2.3056
UK4	2.1721	1.9772	2.3188	2.3146	2.1490	2.1967	2.0000	2.1603
UK5	2.3184	2.3271	2.2301	2.0917	2.1802	2.2059	2.2833	2.2166
UK6	2.2420	2.1398	2.1863	1.9937	2.0351	2.0260	2.0205	2.0390
UK9	2.1743	2.2211	2.2633	2.3874	2.2948	2.0365	2.1026	2.0061
UKA	2.1212	2.1763	2.2124	1.9441	1.9764	1.9422	1.9938	1.9690
UKB	2.1244	3.2182						

APPENDIX 5. Income inequality measures at the regional level from EU-SILC

Gini index	2003	2004	2005	2006	2007	2008	2009	2010	2011
AT1	0.2677	0.2738	0.2747	0.2775	0.2729	0.2706	0.2742	0.2783	0.2975
AT2	0.2405	0.2557	0.2280	0.2415	0.2384	0.2348	0.2477	0.2525	0.2544
AT3	0.2542	0.2454	0.2414	0.2509	0.2585	0.2479	0.2500	0.2486	0.2606
BE1	0.3384	0.4645	0.4428	0.3705	0.3624	0.3645	0.3508	0.3587	
BE2	0.2424	0.2447	0.2435	0.2365	0.2500	0.2342	0.2410	0.2432	
BE3	0.2501	0.2689	0.2588	0.2603	0.2734	0.2545	0.2532	0.2535	
BG3					0.3698	0.3422	0.3330	0.3524	0.3321
BG4					0.3411	0.3196	0.3208	0.3388	0.3308
CH0					0.3114	0.3003	0.2948	0.2952	0.2863
CY0		0.2871	0.2876	0.2977	0.2891	0.2935	0.3005	0.2916	0.3097
CZ0		0.2598	0.2530	0.2523	0.2472	0.2504	0.2488	0.2523	0.2488
DE1		0.2529	0.2588						
DE2		0.2706	0.2725						
DEA		0.2618	0.2577						
DECE		0.2658	0.2698						
DENE		0.2461	0.2372						
DENW		0.2359	0.2618						
DK0	0.2324	0.2273	0.2299	0.2405	0.2439	0.2333	0.2464	0.2596	0.2610
EE0	0.3674	0.3348	0.3283	0.3324	0.3079	0.3123	0.3107	0.3171	0.3212
EL1	0.3042	0.3157	0.3262	0.3223	0.3076	0.3025	0.3021	0.3306	0.3103
EL2	0.3257	0.3427	0.3505	0.3340	0.3447	0.3234	0.3121	0.3041	0.3095
EL3	0.3003	0.3072	0.3235	0.3382	0.3200	0.3241	0.3306	0.3291	0.3331
EL4	0.2958	0.3132	0.3258	0.3180	0.2898	0.3035	0.2867	0.2987	0.2915
ES1	0.2883	0.3060	0.2940	0.2868	0.2732	0.2853	0.3012	0.3156	0.3169
ES2	0.2673	0.2885	0.2759	0.2722	0.2715	0.2788	0.2923	0.3011	0.3145
ES3	0.2739	0.3161	0.3119	0.3182	0.3101	0.3140	0.3050	0.3181	0.3248
ES4	0.3039	0.3304	0.3214	0.3100	0.3158	0.3188	0.3358	0.3413	0.3360
ES5	0.2938	0.2984	0.2857	0.2943	0.3007	0.2970	0.3224	0.3110	0.3231
ES6	0.3153	0.3070	0.3103	0.3053	0.3145	0.3240	0.3430	0.3462	0.3404
ES7	0.2999	0.3255	0.3243	0.3162	0.3119	0.3377	0.3289	0.3692	0.3465
FI	0.2522	0.2570	0.2579	0.2606	0.2621	0.2580	0.2527	0.2577	0.2584
FR1	0.2929	0.3004	0.2841	0.2879	0.3282	0.3259	0.3176	0.3531	0.3461
FR2	0.2694	0.2477	0.2694	0.2523	0.2675	0.2654	0.2977	0.2777	0.2764
FR3	0.2931	0.2731	0.2681	0.2530	0.2676	0.2703	0.2814	0.2882	0.2809
FR4	0.2561	0.2483	0.2378	0.2391	0.2665	0.2872	0.2918	0.2989	0.2784
FR5	0.2465	0.2342	0.2493	0.2372	0.2766	0.2725	0.2673	0.2548	0.2625
FR6	0.2851	0.3001	0.2666	0.2724	0.3092	0.3091	0.2876	0.3083	0.3290
FR7	0.2727	0.2698	0.2708	0.2463	0.2965	0.2893	0.2740	0.3097	0.2882
FR8	0.2921	0.2924	0.2737	0.2745	0.2950	0.3137	0.3046	0.3111	0.2952
HR0								0.3070	0.3033
HU1		0.2793	0.3143	0.2587	0.2616	0.2426	0.2405	0.2761	0.2917
HU2		0.2592	0.3027	0.2297	0.2294	0.2350	0.2216	0.2420	0.2346
HU3		0.2590	0.3369	0.2536	0.2402	0.2376	0.2321	0.2547	0.2521

Gini index	2003	2004	2005	2006	2007	2008	2009	2010	2011
IE0	0.3157	0.3184	0.3192	0.3132	0.2993	0.2866	0.3004	0.2961	
IS0	0.2398	0.2499	0.2587	0.2801	0.2716	0.2949	0.2566	0.2335	0.2375
ITC	0.3104	0.3141	0.2967	0.2974	0.2872	0.2912	0.2956	0.2928	0.2963
ITF	0.3317	0.3210	0.3257	0.3176	0.3089	0.3092	0.3079	0.3165	0.3216
ITG	0.3494	0.3418	0.3338	0.3247	0.3081	0.3236	0.3198	0.3314	0.3165
ITH_ITD	0.2877	0.2861	0.2773	0.2784	0.2749	0.2800	0.2759	0.2771	0.2831
ITI_ITE	0.3131	0.2961	0.3003	0.3081	0.2932	0.2991	0.2904	0.3005	0.3013
LT0		0.3593	0.3473	0.3363	0.3362	0.3520	0.3650	0.3254	0.3168
LU0	0.2621	0.2632	0.2752	0.2734	0.2743	0.2909	0.2758	0.2693	0.2769
LV0		0.3553	0.3860	0.3509	0.3729	0.3721	0.3558	0.3473	0.3543
MT0						0.2720	0.2819	0.2730	0.2710
NL		0.2567	0.2555	0.2683	0.2688	0.2656	0.2500	0.2493	0.2496
NO0	0.2510	0.2810	0.2821	0.2349	0.2424	0.2397	0.2336	0.2277	0.2234
PL1		0.3932	0.3715	0.3669	0.3698	0.3573	0.3433	0.3332	0.3320
PL2		0.3282	0.3098	0.3039	0.2944	0.2839	0.2823	0.2998	0.2792
PL3		0.3304	0.3141	0.2967	0.2925	0.2857	0.2987	0.3087	0.3206
PL4		0.3412	0.3068	0.2985	0.3041	0.3013	0.2977	0.2832	0.2979
PL5		0.3537	0.3384	0.3218	0.3019	0.3104	0.3165	0.3081	0.3182
PL6		0.3477	0.3146	0.2990	0.3027	0.3065	0.2979	0.3017	0.2905
PT	0.3773	0.3809	0.3767	0.3692	0.3577	0.3531	0.3357	0.3424	0.3454
RO1						0.3060	0.2920	0.2993	0.2930
RO2						0.3728	0.3526	0.3504	0.3599
RO3						0.3482	0.3313	0.3282	0.3177
RO4						0.3433	0.3308	0.3381	0.3362
SE1					0.2518	0.2647	0.2538	0.2486	0.2543
SE2					0.2242	0.2277	0.2290	0.2383	0.2347
SE3					0.2139	0.2199	0.2138	0.2199	0.2353
SI0	0.2374	0.2373	0.2329	0.2342	0.2273	0.2380	0.2383	0.2378	
SK0	0.2588	0.2801	0.2440	0.2355	0.2475	0.2584	0.2567	0.2527	
UKC						0.2975	0.2929	0.2705	
UKD						0.3012	0.2806	0.2921	
UKE						0.3019	0.3042	0.3109	
UKF						0.2989	0.2792	0.2717	
UKG						0.3150	0.3049	0.2914	
UKH						0.3181	0.3258	0.3575	
UKI						0.3813	0.3843	0.3688	
UKJ						0.3317	0.3442	0.3144	
UKK						0.2879	0.3123	0.3091	
UKL						0.2979	0.3032	0.3047	
UKM						0.3189	0.3168	0.2948	
UKN						0.2887	0.2277	0.2729	

P9010	2003	2004	2005	2006	2007	2008	2009	2010	2011
AT1	3.2711	3.2343	3.3904	3.3505	3.3524	3.2320	3.5258	3.4799	3.9378
AT2	2.8868	3.0491	2.8145	2.8748	2.8941	2.9235	3.0567	2.9228	3.1789
AT3	2.9737	2.8491	2.8354	2.8406	2.9891	2.8450	2.8171	2.8241	3.0966
BE1	4.3324	4.0109	4.7672	4.5370	4.3037	4.5444	4.8002	4.5356	
BE2	2.9832	2.8949	3.0198	2.9243	2.8768	2.8266	2.9521	2.8537	
BE3	3.0532	3.1445	3.2213	3.2564	3.2387	3.1914	3.2125	3.1779	
BG3					5.2179	4.9792	5.1000	5.0677	5.0631
BG4					4.8838	4.4513	4.3746	5.0021	4.5544
CH0					3.8561	3.5621	3.5065	3.4982	3.6233
CY0	3.6231	3.5224	3.5287	3.4849	3.5767	3.6614	3.6428	3.7316	
CZ0	2.9966	2.8481	2.8881	2.7802	2.7242	2.7922	2.9060	2.8696	
DE1	3.1104	3.0239							
DE2	3.0223	3.2281							
DEA	3.1120	3.0424							
DECE	3.1227	3.1999							
DENE	2.8294	2.8408							
DENW	2.9061	3.0135							
DK0	2.6849	2.7115	2.6811	2.7556	2.7724	2.8207	2.9410	2.9980	3.0323
EE0	5.3964	4.5533	4.3476	4.3018	4.0958	4.0659	4.0760	4.3374	4.3874
EL1	4.3676	4.2191	4.5034	4.5327	4.3076	4.2411	4.0656	4.3370	4.8212
EL2	4.5778	4.7855	4.8177	4.3728	4.1473	4.2737	4.1812	4.0017	5.0847
EL3	4.0823	4.2194	4.2369	4.2964	4.2554	4.2665	4.6605	4.7256	4.8986
EL4	4.0644	4.4911	4.0321	4.2101	3.7694	3.7481	3.5581	4.0156	4.6793
ES1	3.7139	3.9609	3.7592	3.9655	3.6769	3.9484	4.2975	4.6107	4.4674
ES2	3.5574	3.9677	3.7588	3.7604	3.7441	3.7575	4.4463	4.7399	5.0515
ES3	3.4821	4.3358	4.2718	4.4597	4.3764	4.7110	4.7632	5.0098	5.6029
ES4	4.1120	4.8080	4.3819	4.2273	4.0649	4.6367	5.6491	5.7360	5.5545
ES5	4.0000	4.0095	3.8709	3.9090	4.2311	4.3776	4.8429	4.7114	5.4592
ES6	4.3625	4.3195	4.4741	4.3956	4.7515	5.5777	5.9940	7.4253	5.3592
ES7	3.9120	4.9398	4.3599	4.4422	4.8229	6.7047	5.4562	5.7121	6.1745
FI	2.8517	2.9069	2.9330	3.0193	3.0927	3.0620	2.9789	3.0524	3.0771
FR1	3.7497	3.7850	3.7420	3.6832	3.8257	3.7251	3.8797	4.4171	4.1977
FR2	3.0379	2.8497	2.8597	2.9730	3.0690	3.0051	3.1338	3.0903	2.9699
FR3	3.3440	3.1197	2.9770	3.0596	2.9434	3.0207	3.2612	3.2447	3.0569
FR4	2.9912	2.9321	2.8039	2.9869	3.0498	3.3063	3.2792	3.1641	3.3368
FR5	2.9266	2.7699	2.9196	2.7793	3.1171	3.0369	3.0860	3.1091	3.1635
FR6	3.2112	3.5538	3.4168	3.2514	3.4523	3.3323	3.2442	3.5152	3.5346
FR7	3.2273	3.2179	2.9740	3.0791	3.4929	3.2718	3.3156	3.3212	3.2809
FR8	3.5978	3.4341	3.4773	3.4279	3.4704	3.6346	3.6930	3.6708	3.4395
HR0								4.5571	4.5594
HU1	3.2408	3.5625	3.0743	3.1165	2.9292	2.9025	3.5015	3.6050	
HU2	2.8704	3.3776	2.8398	2.7161	2.8600	2.7622	3.0212	2.9287	
HU3	3.1343	3.7639	3.0206	2.9321	2.9121	2.8721	3.1752	3.1445	

P9010	2003	2004	2005	2006	2007	2008	2009	2010	2011
IE0	4.0006	3.9440	3.8432	3.8547	3.5977	3.4510	3.5672	3.7134	
IS0	2.6969	2.7224	2.8003	2.9866	2.9604	3.0325	2.8493	2.5940	2.6292
ITC	3.7725	3.6015	3.5849	3.8044	3.5680	3.5185	3.6784	3.6012	3.6692
ITF	4.6137	4.4652	4.6534	4.3572	4.0876	4.2507	4.1902	4.6819	4.9090
ITG	5.4913	4.9655	4.8593	4.4638	4.2011	4.5747	4.5475	5.7401	4.9654
ITH_ITD	3.3736	3.3460	3.4286	3.3944	3.3263	3.4232	3.2530	3.3575	3.4120
ITI_ITE	3.9662	3.8077	3.9125	3.9145	3.6968	3.8552	3.7298	3.8422	3.9505
LT0		5.3950	5.2782	4.7535	4.5433	4.8127	5.7441	4.8165	4.4261
LU0	3.2782	3.3142	3.4324	3.4384	3.3229	3.5324	3.3831	3.2731	3.4212
LV0		4.8750	5.4027	5.0974	5.7487	5.6913	5.3134	5.2389	5.0708
MT0						3.4295	3.4599	3.3812	3.2858
NL		2.9234	2.9135	2.9504	3.0196	3.0459	2.9278	2.9763	2.8774
NO0	2.7065	2.7156	2.7965	2.8515	2.8015	2.8139	2.7285	2.6818	2.6293
PL1		6.1006	5.4763	4.9527	4.8001	4.4626	4.6191	4.3830	4.3178
PL2		4.7608	4.3770	4.0473	3.8861	3.8301	3.6635	4.0644	3.7138
PL3		4.8384	4.1369	3.9052	3.8988	3.8160	3.8025	3.9156	4.0633
PL4		4.5729	3.9785	4.1388	3.8884	3.9404	3.8668	3.5882	3.7680
PL5		5.5952	5.1952	4.4360	3.9704	3.8774	4.0711	3.7203	4.2195
PL6		5.0565	4.4885	3.8922	3.8058	3.7345	3.6828	3.5441	3.7135
PT	5.3909	5.4792	5.1383	5.2335	4.8529	4.6468	4.5410	4.5713	4.6109
RO1						4.7376	4.4089	4.6389	4.5142
RO2						6.3118	5.5232	5.8542	6.7082
RO3						5.4080	4.3870	4.7033	4.7120
RO4						5.4220	5.2449	5.6535	6.4900
SE1					2.9660	3.0820	3.0409	3.1343	3.0334
SE2					2.7772	2.8615	2.8409	2.9263	2.9837
SE3					2.5365	2.7678	2.7385	2.7698	2.9150
SI0	2.9760	2.9223	2.8901	2.9173	2.7962	2.9788	3.0556	3.0147	
SK0	3.1199	2.9816	2.8171	2.7955	3.0600	3.1219	3.1374	3.1844	
UKC						3.6641	3.9997	3.4406	
UKD						4.0188	3.7316	3.6499	
UKE						4.1761	3.6585	3.6435	
UKF						4.1312	3.4221	3.5409	
UKG						4.0975	3.7999	3.7880	
UKH						4.3509	3.7359	3.9050	
UKI						5.5632	5.4649	4.8018	
UKJ						4.1799	4.1935	3.7844	
UKK						3.4638	3.4671	3.5605	
UKL						3.9518	3.8242	3.3301	
UKM						3.7928	3.9066	3.8534	
UKN						3.5740	3.1877	3.3643	

P5010	2003	2004	2005	2006	2007	2008	2009	2010	2011
AT1	1.8602	1.8236	1.9049	1.8815	1.8730	1.8510	1.8548	1.9226	2.0469
AT2	1.7830	1.7438	1.7009	1.7235	1.6745	1.7822	1.8500	1.7489	1.7408
AT3	1.7478	1.6891	1.6928	1.6488	1.7360	1.6439	1.6460	1.6829	1.7615
BE1	1.9404	1.8476	1.9886	1.9094	1.8668	2.0524	2.0224	1.9492	
BE2	1.7961	1.7873	1.8343	1.8173	1.7860	1.7521	1.8053	1.7457	
BE3	1.8725	1.8355	1.8290	1.8435	1.8720	1.8549	1.8658	1.8780	
BG3					2.4429	2.4204	2.4635	2.4915	2.6765
BG4					2.3101	2.1930	2.2098	2.4345	2.3202
CH0					1.9927	1.9111	1.9190	1.9081	1.9798
CY0	1.9397	1.9220	1.9485	1.8916	1.9117	1.9152	1.8829	1.8790	
CZ0	1.6961	1.6595	1.6508	1.6311	1.6016	1.6184	1.6538	1.6503	
DE1	1.8436	1.7779							
DE2	1.7277	1.8322							
DEA	1.8088	1.7728							
DECE	1.7879	1.8457							
DENE	1.7717	1.7915							
DENW	1.7614	1.7753							
DK0	1.7127	1.7315	1.7229	1.7415	1.7572	1.8009	1.8377	1.8081	1.8231
EE0	2.2711	2.0987	2.0708	2.0717	2.0712	2.0054	1.9571	2.1038	2.0864
EL1	2.1338	2.0864	2.2297	2.2055	2.1915	2.1742	2.1627	2.1991	2.6935
EL2	2.2684	2.2515	2.3073	2.2321	2.0938	2.2186	2.1438	2.0524	2.6446
EL3	2.1241	2.0567	2.1265	2.1254	2.2085	2.0601	2.3000	2.4019	2.5442
EL4	2.1202	2.4469	1.9863	2.1785	2.0584	2.0356	1.9108	2.2080	2.5085
ES1	2.0963	2.0489	1.9891	2.0607	2.0452	2.0824	2.2238	2.3454	2.1891
ES2	2.0699	2.2063	2.1399	2.2079	2.1479	2.0842	2.4003	2.5406	2.6007
ES3	1.9647	2.1322	2.1495	2.2769	2.2698	2.3949	2.3255	2.4502	2.6241
ES4	2.0498	2.2494	2.2162	2.0908	2.0155	2.3259	2.6955	2.5821	2.5799
ES5	2.1585	2.1338	2.0888	2.0580	2.1803	2.2831	2.4015	2.3618	2.7429
ES6	2.2587	2.1612	2.2357	2.1480	2.3927	2.7841	2.8008	3.4553	2.4650
ES7	2.1032	2.3702	2.1705	2.2936	2.3802	3.1636	2.7123	2.4101	2.5337
FI	1.6998	1.7279	1.7597	1.7749	1.8145	1.8141	1.7832	1.7912	1.8004
FR1	1.9900	1.9725	2.0233	1.9495	1.9482	1.9753	2.0222	2.1722	2.1958
FR2	1.7460	1.6377	1.6575	1.7132	1.6880	1.6836	1.7299	1.7154	1.6895
FR3	1.8265	1.7227	1.7281	1.8796	1.6585	1.7494	1.7880	1.7132	1.7451
FR4	1.7687	1.7473	1.7037	1.7535	1.7126	1.8338	1.8186	1.7491	1.8743
FR5	1.7322	1.6783	1.6962	1.6261	1.6665	1.6643	1.7226	1.7065	1.7698
FR6	1.7412	1.7921	1.8740	1.7733	1.7236	1.8174	1.7771	1.8165	1.8181
FR7	1.7808	1.7645	1.6831	1.8138	1.7284	1.7115	1.7278	1.7774	1.7352
FR8	1.9025	1.8427	1.9813	1.9591	1.8926	1.9132	1.9691	1.8699	1.8270
HR0							2.3458	2.3930	
HU1	1.7709	1.8725	1.7338	1.7874	1.7471	1.7471	1.8829	1.8624	
HU2	1.7404	1.8797	1.8072	1.6940	1.7626	1.7362	1.7899	1.8291	
HU3	1.8487	2.0606	1.7891	1.7271	1.7388	1.7284	1.7642	1.7971	

P5010	2003	2004	2005	2006	2007	2008	2009	2010	2011
IE0	2.0978	2.0776	1.9536	1.9462	1.8947	1.8582	1.8311	1.8694	
IS0	1.6688	1.6529	1.6517	1.6737	1.6670	1.6712	1.6471	1.6207	1.5835
ITC	1.9917	1.9503	1.9834	2.0024	1.9474	1.9302	2.0015	2.0045	1.9823
ITF	2.2966	2.1734	2.1765	2.1208	2.0888	2.1487	2.1661	2.4516	2.5325
ITG	2.5173	2.2642	2.3202	2.2050	2.0461	2.2690	2.2660	2.9460	2.4095
ITH_ITD	1.8906	1.8775	1.9101	1.9182	1.8747	1.8865	1.8701	1.8575	1.9145
ITI_ITE	2.0081	1.9954	1.9944	2.0676	2.0230	1.9973	1.9673	2.0532	2.0730
LT0		2.3598	2.3502	2.2250	2.2445	2.1991	2.4803	2.2961	2.1113
LU0	1.7965	1.8492	1.8699	1.8356	1.8152	1.9047	1.8750	1.7801	1.8581
LV0		2.2348	2.3520	2.2742	2.5740	2.5751	2.3724	2.3634	2.2788
MT0						1.8638	1.8617	1.8893	1.8709
NL		1.7052	1.6622	1.6812	1.6936	1.7256	1.6781	1.7123	1.6712
NO0	1.7140	1.7405	1.7584	1.8114	1.7505	1.7601	1.7297	1.6991	1.6749
PL1		2.4801	2.2297	2.0783	1.9686	1.9716	2.0673	2.0353	1.9971
PL2		2.3459	2.1595	2.0659	2.0135	2.1064	2.0060	2.1572	2.0590
PL3		2.3261	2.0909	1.9974	2.0430	1.9816	1.9030	1.9245	2.0003
PL4		2.2496	2.0179	2.0500	1.9866	2.0597	2.0608	2.0278	1.9515
PL5		2.5913	2.4703	2.2649	2.0226	1.9826	2.1270	1.9496	2.1260
PL6		2.4271	2.2719	2.0489	1.9006	1.9708	1.9360	1.9234	1.9911
PT	2.2306	2.2210	2.1082	2.1326	2.1116	2.0927	2.0769	2.0827	2.1161
RO1						2.5285	2.4196	2.4912	2.4315
RO2						2.9321	2.5788	2.6874	2.8962
RO3						2.4004	2.1528	2.3406	2.2450
RO4						2.6765	2.5591	2.7442	3.1781
SE1					1.8080	1.8509	1.8386	1.8644	1.8149
SE2					1.7799	1.8207	1.8185	1.8403	1.9003
SE3					1.6898	1.7663	1.7608	1.7749	1.7990
SI0	1.7897	1.7581	1.7471	1.7806	1.7355	1.7952	1.8662	1.8365	
SK0	1.8432	1.7495	1.6884	1.7033	1.7420	1.7818	1.8104	1.8351	
UKC						1.7955	1.9308	1.8940	
UKD						2.0842	1.8848	1.9274	
UKE						2.0701	1.8918	1.8924	
UKF						2.1443	1.7913	1.9144	
UKG						2.0590	1.9229	1.8913	
UKH						2.0890	1.9676	1.9259	
UKI						2.4902	2.3648	2.1346	
UKJ						2.0230	2.1124	1.8716	
UKK						1.8893	1.8991	1.7757	
UKL						2.0012	1.8067	1.8063	
UKM						1.9882	1.9308	2.0668	
UKN						1.8997	1.8790	1.8250	

P9050	2003	2004	2005	2006	2007	2008	2009	2010	2011
AT1	1.7584	1.7736	1.7798	1.7807	1.7898	1.7461	1.9009	1.8100	1.9238
AT2	1.6191	1.7485	1.6547	1.6680	1.7283	1.6404	1.6523	1.6712	1.8261
AT3	1.7014	1.6867	1.6750	1.7228	1.7219	1.7306	1.7115	1.6781	1.7579
BE1	2.2327	2.1709	2.3973	2.3761	2.3054	2.2142	2.3735	2.3270	
BE2	1.6610	1.6197	1.6463	1.6092	1.6107	1.6133	1.6353	1.6347	
BE3	1.6306	1.7131	1.7612	1.7665	1.7301	1.7205	1.7218	1.6922	
BG3					2.1359	2.0572	2.0702	2.0340	1.8917
BG4					2.1141	2.0298	1.9797	2.0547	1.9629
CH0					1.9351	1.8638	1.8272	1.8333	1.8301
CY0		1.8679	1.8326	1.8110	1.8423	1.8710	1.9117	1.9347	1.9859
CZ0		1.7668	1.7163	1.7495	1.7045	1.7009	1.7253	1.7572	1.7388
DE1		1.6872	1.7009						
DE2		1.7493	1.7618						
DEA		1.7205	1.7162						
DECE		1.7466	1.7338						
DENE		1.5970	1.5857						
DENW		1.6499	1.6975						
DK0	1.5676	1.5660	1.5562	1.5823	1.5777	1.5663	1.6003	1.6581	1.6632
EE0	2.3762	2.1696	2.0995	2.0764	1.9775	2.0274	2.0827	2.0617	2.1028
EL1	2.0469	2.0222	2.0197	2.0552	1.9656	1.9506	1.8799	1.9721	1.7899
EL2	2.0180	2.1255	2.0880	1.9590	1.9808	1.9263	1.9504	1.9497	1.9227
EL3	1.9219	2.0516	1.9925	2.0215	1.9268	2.0710	2.0263	1.9675	1.9254
EL4	1.9169	1.8354	2.0299	1.9325	1.8312	1.8413	1.8621	1.8187	1.8654
ES1	1.7717	1.9332	1.8899	1.9243	1.7979	1.8962	1.9325	1.9659	2.0407
ES2	1.7186	1.7983	1.7565	1.7032	1.7432	1.8028	1.8524	1.8657	1.9424
ES3	1.7723	2.0334	1.9873	1.9586	1.9281	1.9671	2.0483	2.0446	2.1352
ES4	2.0060	2.1375	1.9773	2.0218	2.0168	1.9936	2.0958	2.2214	2.1529
ES5	1.8531	1.8791	1.8532	1.8994	1.9406	1.9174	2.0166	1.9948	1.9903
ES6	1.9314	1.9987	2.0012	2.0464	1.9858	2.0034	2.1401	2.1490	2.1741
ES7	1.8601	2.0841	2.0087	1.9368	2.0262	2.1194	2.0117	2.3701	2.4369
FI	1.6776	1.6823	1.6668	1.7011	1.7045	1.6879	1.6705	1.7041	1.7092
FR1	1.8843	1.9189	1.8495	1.8893	1.9637	1.8858	1.9185	2.0335	1.9117
FR2	1.7399	1.7400	1.7253	1.7354	1.8181	1.7849	1.8116	1.8015	1.7578
FR3	1.8308	1.8110	1.7227	1.6278	1.7747	1.7267	1.8239	1.8940	1.7517
FR4	1.6912	1.6781	1.6458	1.7034	1.7808	1.8030	1.8031	1.8090	1.7803
FR5	1.6896	1.6505	1.7213	1.7092	1.8704	1.8247	1.7915	1.8219	1.7875
FR6	1.8443	1.9830	1.8233	1.8335	2.0029	1.8336	1.8256	1.9351	1.9441
FR7	1.8123	1.8237	1.7669	1.6976	2.0209	1.9116	1.9189	1.8686	1.8908
FR8	1.8910	1.8636	1.7551	1.7497	1.8337	1.8998	1.8755	1.9631	1.8826
HR0								1.9426	1.9053
HU1		1.8300	1.9025	1.7731	1.7436	1.6766	1.6613	1.8597	1.9357
HU2		1.6492	1.7969	1.5714	1.6033	1.6226	1.5909	1.6879	1.6012
HU3		1.6954	1.8266	1.6883	1.6977	1.6748	1.6617	1.7997	1.7498

P9050	2003	2004	2005	2006	2007	2008	2009	2010	2011
IE0	1.9071	1.8983	1.9672	1.9806	1.8988	1.8572	1.9482	1.9864	
IS0	1.6161	1.6471	1.6953	1.7845	1.7758	1.8146	1.7298	1.6005	1.6604
ITC	1.8941	1.8466	1.8075	1.8999	1.8321	1.8229	1.8378	1.7965	1.8510
ITF	2.0089	2.0545	2.1380	2.0545	1.9569	1.9782	1.9344	1.9097	1.9384
ITG	2.1814	2.1931	2.0943	2.0243	2.0532	2.0162	2.0068	1.9484	2.0608
ITH_ITD	1.7844	1.7822	1.7950	1.7696	1.7743	1.8146	1.7395	1.8075	1.7822
ITI_ITE	1.9751	1.9083	1.9617	1.8932	1.8274	1.9302	1.8959	1.8713	1.9057
LT0		2.2862	2.2458	2.1364	2.0242	2.1884	2.3159	2.0977	2.0964
LU0	1.8248	1.7922	1.8356	1.8732	1.8306	1.8546	1.8043	1.8388	1.8412
LV0		2.1814	2.2971	2.2414	2.2334	2.2101	2.2397	2.2167	2.2252
MT0						1.8401	1.8585	1.7897	1.7563
NL		1.7144	1.7527	1.7549	1.7829	1.7651	1.7447	1.7382	1.7218
NO0	1.5791	1.5602	1.5904	1.5742	1.6004	1.5988	1.5774	1.5783	1.5698
PL1		2.4599	2.4561	2.3831	2.4383	2.2634	2.2343	2.1535	2.1620
PL2		2.0294	2.0269	1.9592	1.9301	1.8183	1.8263	1.8841	1.8037
PL3		2.0801	1.9785	1.9551	1.9084	1.9257	1.9982	2.0347	2.0313
PL4		2.0328	1.9716	2.0189	1.9574	1.9131	1.8763	1.7695	1.9308
PL5		2.1593	2.1031	1.9586	1.9630	1.9557	1.9140	1.9082	1.9847
PL6		2.0833	1.9757	1.8997	2.0024	1.8949	1.9023	1.8427	1.8650
PT	2.4168	2.4670	2.4373	2.4540	2.2983	2.2205	2.1865	2.1948	2.1789
RO1						1.8737	1.8221	1.8621	1.8565
RO2						2.1526	2.1418	2.1784	2.3162
RO3						2.2530	2.0378	2.0094	2.0989
RO4						2.0258	2.0495	2.0602	2.0421
SE1					1.6405	1.6651	1.6539	1.6812	1.6714
SE2					1.5603	1.5716	1.5622	1.5902	1.5701
SE3					1.5011	1.5670	1.5553	1.5605	1.6203
SI0	1.6629	1.6622	1.6543	1.6384	1.6111	1.6593	1.6373	1.6415	
SK0	1.6927	1.7043	1.6685	1.6413	1.7566	1.7521	1.7330	1.7353	
UKC						2.0407	2.0715	1.8166	
UKD							1.9282	1.9799	1.8937
UKE							2.0174	1.9339	1.9254
UKF							1.9266	1.9104	1.8496
UKG							1.9900	1.9761	2.0029
UKH							2.0827	1.8987	2.0276
UKI							2.2340	2.3109	2.2495
UKJ							2.0662	1.9852	2.0221
UKK							1.8334	1.8257	2.0051
UKL							1.9747	2.1167	1.8436
UKM							1.9077	2.0233	1.8645
UKN							1.8813	1.6965	1.8434

Appendix 6

Variables definition, sources and descriptive statistics

Label	Definition	Source
GDP pc	GDP per capita: Gross Domestic Product, deflated to 2005 constant price euros, over total population	Cambridge Econometrics
% Agricult	Agricultural Share: Proportion of employed persons working in Agriculture over total Employed persons	Cambridge Econometrics
% Construc	Construction Share: Proportion of employed persons working in Construction over total Employed persons	Cambridge Econometrics
% Trad Serv	Tradable Services Share: Proportion of employed persons working in Wholesale, retail, transport & distribution, communications, hotels & catering over total Employed persons	Cambridge Econometrics
% Finan Serv	Financial Services Share: Proportion of employed persons working in Financial & business services over total Employed persons	Cambridge Econometrics
Empl S&T	Persons with tertiary education (ISCED) and/or employed in science and technology	Eurostat
Density	Population density	Eurostat
Fam_1	Family Structure. Factor 1 out of a principal components study built using six variables. Cross section information at the national level.	Berthoud and Iacovou (2004)
Fam_2	Family Structure. Factor 2 out of a principal components study built using six variables. Cross section information at the national level.	Berthoud and Iacovou (2004)
Christ.	Christianity: proportion of population following any kind of Christian group (Catholic Church, Protestantism, Orthodox Church ...). Cross section information at the national level.	Wikipedia. http://en.wikipedia.org/wiki/Christianity_by_country#By_country
Unemp	Unemployment rate: porportion of unemployment. Unemployment levels computed as the difference between active population and employed persons	Cambridge Econometrics

Descriptive Statistics

	Mean	Std. Dev.			Min	Max	Obs	Regions	Av Period
		overall	between	within					
Gini Index	0.302	0.040	0.036	0.020	0.214	0.465	942	78	12.1
p9010	3.947	0.885	0.807	0.441	2.536	8.128	942	78	12.1
p5010	2.029	0.284	0.254	0.164	1.583	3.651	942	78	12.1
p9050	1.927	0.207	0.185	0.103	1.501	3.218	942	78	12.1
ln GDPpc	2.712	0.801	0.788	0.172	0.519	4.255	1650	75	22.0
% Agricult	0.093	0.103	0.099	0.030	0.000	0.537	1650	75	22.0
% Construc	0.073	0.020	0.017	0.010	0.027	0.156	1650	75	22.0
% Trad Serv	0.256	0.049	0.046	0.016	0.120	0.425	1650	75	22.0
% Finan Serv	0.117	0.058	0.056	0.018	0.015	0.351	1650	75	22.0
Empl S&T	957.9	724.3	697.3	208.8	41.0	4699.0	1203	78	15.4
Density	349.1	921.5	864.8	52.1	2.5	7131.1	1461	78	18.7
Fam_1	2.799	0.569	0.573	0	2.04	3.98	1474	67	22.0
Fam_2	0.651	0.196	0.198	0	0.19	0.99	1474	67	22.0
Christ.	0.747	0.168	0.170	0	0.207	0.98	1474	67	22.0
Unemp	0.075	0.114	0.106	0.042	-0.771	0.312	1650	75	22.0

Correlation

	Gini Index	p9010	p5010	p9050	ln GDPpc	% Agricult	% Construc	% Trad Serv	% Finan Serv	Empl S&T	Density	Fam_1	Fam_2	Christ.
p9010	0.877													
p5010	0.716	0.931												
p9050	0.918	0.874	0.641											
ln GDPpc	-0.215	-0.316	-0.300	-0.259										
% Agricult	0.303	0.439	0.444	0.314	-0.601									
% Construc	0.110	0.226	0.253	0.148	-0.166	0.130								
% Trad Serv	0.309	0.362	0.396	0.257	0.064	-0.028	0.254							
% Finan Serv	-0.054	-0.225	-0.277	-0.090	0.751	-0.683	-0.309	0.031						
Empl S&T	-0.076	-0.132	-0.131	-0.099	0.246	-0.304	-0.127	-0.061	0.392					
Density	0.284	0.110	0.024	0.218	0.355	-0.257	-0.383	0.031	0.571	0.003				
Fam_1	0.320	0.433	0.449	0.331	-0.696	0.514	0.448	0.116	-0.493	-0.185	-0.153			
Fam_2	-0.032	0.150	0.274	-0.045	-0.134	0.345	0.332	0.110	-0.305	0.006	-0.170	0.542		
Christ.	0.169	0.290	0.363	0.134	-0.252	0.529	0.240	0.083	-0.385	-0.323	-0.147	0.597	0.589	
Unemp	-0.013	0.136	0.196	0.017	-0.486	0.206	0.095	0.030	-0.593	0.096	-0.623	0.182	0.113	0.017

Appendix 7

Table A7.1. Inequality regressions. Cross section and panel estimates. P9010

	CS 1996	CS 2000	CS 2007	CS 2011	Between	Fixed Effects	Random Effects
ln GDPpc	-22.64*** (7.569)	-10.01 (6.624)	0.0536 (1.339)	-0.650 (1.802)	1.413 (1.353)	-2.445** (1.036)	-0.281 (0.829)
ln GDPpc ²	3.424** (1.292)	1.067 (1.093)	-0.0735 (0.251)	0.262 (0.348)	-0.271 (0.262)	0.195 (0.170)	0.0205 (0.144)
% Agricult	4.935** (1.927)	4.716** (2.136)	5.797*** (1.994)	8.239*** (2.853)	7.406*** (1.786)	14.98*** (1.181)	13.77*** (1.029)
% Construc	-3.180 (9.369)	13.08* (7.664)	18.30*** (4.077)	20.30* (11.04)	18.86*** (5.426)	-7.010*** (2.033)	-4.291** (1.859)
% Trad Serv	6.538** (2.392)	1.252 (1.877)	2.396 (1.917)	7.781*** (2.352)	4.670** (1.920)	10.08*** (1.927)	7.798*** (1.331)
% Finan Serv	-1.440 (6.249)	8.998* (4.897)	7.384* (3.688)	3.364 (5.006)	5.877* (3.509)	3.262** (1.636)	2.588 (1.596)
Empl S&T	0.000374 (0.000230)	0.000517** (0.000190)	0.000104 (9.98e-05)	-3.02e-05 (0.000120)	2.17e-05 (0.000108)	0.000134 (8.28e-05)	2.83e-06 (6.87e-05)
Density	-3.22e-05 (0.000175)	0.000243* (0.000127)	0.000408*** (0.000100)	0.00100 (0.000667)	0.000431*** (0.000104)	0.00168*** (0.000280)	0.000363*** (8.02e-05)
Fam_1	0.451 (0.780)	-1.885** (0.702)	0.0816 (0.319)	0.774* (0.403)	0.142 (0.320)		0.0306 (0.243)
Fam_2	-3.787*** (0.901)	-4.130*** (0.910)	-0.824 (0.554)	-1.107 (0.885)	-1.356** (0.522)		-0.259 (0.508)
Christ.	0.412 (2.035)	5.966*** (1.970)	0.979 (0.620)	0.254 (0.783)	0.762 (0.632)		-0.906 (0.576)
Unemp	0.557 (1.437)	-0.740 (1.621)	1.839* (1.034)	4.572*** (1.400)	2.685** (1.010)	-0.764 (0.493)	1.420*** (0.423)
Constant	39.76*** (11.60)	24.36** (10.79)	-0.141 (1.889)	-3.290 (2.490)	-2.201 (1.902)	5.162*** (1.531)	2.147 (1.391)
Observations	36	41	53	51	699	699	699
Regions					67	67	67
R-squared	0.896	0.818	0.659	0.659	0.637	0.449	.

Table A7.2. Inequality regressions. Cross section and panel estimates. P5010

	CS 1996	CS 2000	CS 2007	CS 2011	Between	Fixed Effects	Random Effects
ln GDPpc	-4.269 (2.974)	-2.285 (1.964)	-0.373 (0.424)	0.0493 (0.710)	0.119 (0.392)	-0.812** (0.390)	0.0409 (0.275)
ln GDPpc ²	0.692 (0.508)	0.272 (0.324)	0.0487 (0.0793)	0.0365 (0.137)	-0.0192 (0.0759)	0.0482 (0.0639)	-0.0200 (0.0488)
% Agricult	1.849** (0.757)	1.480** (0.633)	1.106* (0.630)	2.402** (1.124)	1.803*** (0.518)	4.958*** (0.445)	3.869*** (0.348)
% Construc	-3.495 (3.681)	1.323 (2.273)	5.794*** (1.289)	0.612 (4.348)	5.249*** (1.573)	-1.773** (0.765)	-1.116* (0.657)
% Trad Serv	2.758*** (0.940)	0.960* (0.557)	1.233** (0.606)	2.344** (0.927)	1.713*** (0.557)	4.499*** (0.725)	3.000*** (0.426)
% Finan Serv	-1.242 (2.455)	1.115 (1.452)	1.657 (1.166)	0.190 (1.972)	1.082 (1.017)	2.024*** (0.616)	1.203** (0.563)
Empl S&T	2.67e-05 (9.05e-05)	0.000131** (5.65e-05)	1.86e-05 (3.15e-05)	-1.73e-05 (4.74e-05)	1.32e-05 (3.12e-05)	2.65e-05 (3.12e-05)	-1.13e-05 (2.29e-05)
Density	1.33e-06 (6.86e-05)	5.63e-05 (3.77e-05)	9.15e-05*** (3.17e-05)	0.000336 (0.000263)	0.000119*** (3.00e-05)	0.000341*** (0.000105)	6.52e-05*** (2.46e-05)
Fam_1	0.456 (0.307)	-0.407* (0.208)	-0.00153 (0.101)	0.206 (0.159)	0.0295 (0.0927)		-0.0206 (0.0754)
Fam_2	-0.664* (0.354)	-1.020*** (0.270)	-0.0709 (0.175)	-0.0243 (0.349)	-0.195 (0.151)		0.140 (0.151)
Christ.	-0.393 (0.800)	1.608** (0.584)	0.292 (0.196)	0.160 (0.308)	0.302 (0.183)		-0.156 (0.171)
Unemp	0.445 (0.565)	0.0764 (0.481)	0.667** (0.327)	1.040* (0.551)	0.950*** (0.293)	-0.446** (0.186)	0.348** (0.149)
Constant	7.599 (4.557)	6.208* (3.200)	1.224** (0.597)	-0.108 (0.981)	0.417 (0.551)	2.231*** (0.576)	1.012** (0.449)
Observations	36	41	53	51	699	699	699
Regions					67	67	67
R-squared	0.835	0.777	0.647	0.588	0.653	0.362	

Table A7.3. Inequality regressions. Cross section and panel estimates. P9050

	CS 1996	CS 2000	CS 2007	CS 2011	Between	Fixed Effects	Random Effects
ln GDPpc	-6.956*** (2.472)	-3.141* (1.815)	0.427 (0.422)	-0.216 (0.366)	0.590 (0.377)	-0.454 (0.277)	-0.0856 (0.216)
ln GDPpc ²	1.015** (0.422)	0.331 (0.300)	-0.0895 (0.0789)	0.0666 (0.0707)	-0.113 (0.0729)	0.0524 (0.0453)	0.0227 (0.0375)
% Agricult	0.244 (0.629)	0.733 (0.585)	1.942*** (0.628)	1.850*** (0.580)	1.821*** (0.498)	1.764*** (0.315)	2.063*** (0.267)
% Construc	2.038 (3.059)	4.834** (2.100)	3.644*** (1.284)	8.552*** (2.245)	3.888** (1.512)	-1.385** (0.543)	-0.477 (0.480)
% Trad Serv	0.693 (0.781)	-0.117 (0.514)	0.000262 (0.603)	1.533*** (0.478)	0.705 (0.535)	0.450 (0.514)	0.640* (0.349)
% Finan Serv	0.0720 (2.040)	3.125** (1.341)	2.138* (1.161)	1.408 (1.018)	1.738* (0.978)	-0.454 (0.437)	-0.204 (0.412)
Empl S&T	0.000154* (7.52e-05)	0.000127** (5.22e-05)	3.92e-05 (3.14e-05)	4.16e-06 (2.45e-05)	-5.58e-07 (3.00e-05)	2.54e-05 (2.21e-05)	6.16e-07 (1.79e-05)
Density	-9.41e-06 (5.70e-05)	6.12e-05* (3.48e-05)	0.000124*** (3.16e-05)	0.000163 (0.000136)	9.51e-05*** (2.89e-05)	0.000494*** (7.46e-05)	0.000122*** (2.12e-05)
Fam_1	-0.152 (0.255)	-0.514** (0.192)	0.0508 (0.101)	0.190** (0.0819)	0.0696 (0.0891)		0.106* (0.0640)
Fam_2	-1.209*** (0.294)	-1.086*** (0.249)	-0.321* (0.175)	-0.536*** (0.180)	-0.508*** (0.145)		-0.366*** (0.135)
Christ.	0.407 (0.664)	1.330** (0.540)	0.221 (0.195)	-0.00258 (0.159)	0.0735 (0.176)		-0.206 (0.153)
Unemp	-0.0951 (0.469)	-0.417 (0.444)	0.274 (0.325)	1.105*** (0.285)	0.399 (0.281)	0.0705 (0.132)	0.497*** (0.109)
Constant	13.96*** (3.787)	8.595*** (2.956)	0.520 (0.595)	0.278 (0.506)	0.386 (0.530)	2.503*** (0.409)	1.751*** (0.364)
Observations	36	41	53	51	699	699	699
Regions					67	67	67
R-squared	0.787	0.817	0.554	0.659	0.546	0.261	.



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