

An Integrated View on Trends in Consumption and Income Inequality in Europe over the Last Two Decades

Stefan Angel

(Vienna University of Economics and Business, Austria)

Benjamin Bittschi

(KIT)

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An Integrated View on Trends in Consumption and Income Inequality in Europe over the Last Two Decades^{*}

Stefan Angel Benjamin Bittschi

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Abstract

We analyze the connection between inequality in wages, earnings, income and consumption for households in more than 20 European countries between 1995 and 2014. These two decades are characterized by periods of strong growth as well as times of pronounced economic and financial crisis and thus provide a unique opportunity to investigate different dimensions of inequality. For our analyses, we combine ECHP and EU-SILC data, which provide detailed wage, earnings, and income data. Moreover, we demonstrate that a hitherto unused question in both surveys is suitable to study a considerable part of household consumption. Our approach thus facilitates an integrated view on inequality in wages, earnings, income and consumption. This complements existing but yet fragmented evidence on the development of income inequality and consumption inequality in Europe for the past two decades.

JEL Classification: D12, D31, D39, D63.

Keywords: earnings inequality, income inequality, consumption inequality, Europe, ECHP, EU-SILC.

^{*}Angel: WU Vienna University of Economics and Business. Email: stefan.angel@wu.ac.at. Bittschi: IHS Vienna and KIT Karlsruhe. Email: bittschi@ihs.ac.at.

1 Introduction

Economic inequality exists in different dimensions, such as earnings, wages, household income or consumption. Each of these dimensions conveys a different perspective on inequality and could lead to different conclusions for public policy. For instance, wage inequality is related to differences in education whereas earnings are influenced by the provision of working hours. Inequality in household income is mainly affected by tax and transfer policies whereas consumption inequality hinges amongst other things on households savings. Thus, solely looking at income inequality can lead astray in investigating social inequality and in inferring welfare consequences. Instead, a joint investigation of both parts of the household budget would be preferable. However, data requirements are challenging. Whereas wages, earnings, and income data is typically available in standard household surveys, consumption data is mostly missing. Existing studies usually pertain to the USA and mainly rely on data from the Consumer Expenditure Survey. In contrast, for Europe, the evidence on the development of consumption inequality over time is scarce and often does not include the most recent years since the financial crisis 2007/2008.

This paper aims to provide a unified framework for studying point-in-time facts as well as trends of inequality in wages, earnings, income and consumption across more than 20 European countries from the mid-1990s to the present. For that, we employ the European Community Household Panel (ECHP, 1994-2001) and the European Union Survey on Income and Living Conditions (EU-SILC, 2004-2016). Eurostat and the national statistical offices have agreed on common data collection procedures and quality checks to ensure validity and comparability of these data.

Whereas ECHP and EU-SILC provide detailed information on wages, earnings and household income, both surveys lack direct questions on household consumption. This is similar to many other national household surveys such as the German Socio-Economic Panel (SOEP) or the British Household Panel Survey (BHPS).¹ Moreover, comparable micro data on private consumption (HBS) in Europe is only available for a limited number of countries and for single years and thus infeasible for our research project. To circumvent missing consumption data, scholars sometimes apply imputation procedures based on commodity demand estimates from external consumer surveys to link wages, earnings and income with consumption (see e.g. Blundell et al.

¹Only in rare cases household panels contain information on consumption, as in the case of the Italian Survey of Household Income and Wealth (SHIW).

2008 who use food demand for imputation). However, even this approach requires some information on consumption in the household panel, as otherwise, the imputation procedure is not feasible. Yet, in many European countries, household panels do not include any information on consumption, rendering this approach infeasible. Instead, consumption information often rests on expenditure surveys, which however are often conducted with a great lapse of time

We apply a different strategy to overcome these shortcomings. To study household consumption, we use the following question on basic household needs from the ECHP and EU-SILC: In your opinion, what is the very lowest net monthly income that your household would have to have in order to make ends meet? Please answer in relation to the present circumstances of your household, and what you consider as "making ends meet". Although this question was intended to capture the economic deprivation of households, we show that the question surveys a sizeable part of household consumption. The interview instructions make this visible as they explicitly refer to expenses: Thinking of the household basic needs, according to his size (including housing related debts but excluding business and farm work costs) what is the very minimum amount of money the household need every month to **pay its usual expenses**. Section 3 demonstrates that the results to this survey question are closely related to eight consumption subgroups of national accounts data encompassing approximately two-thirds of total household consumption.

Using this information, we will explore the following research questions: To what extent do patterns of basic consumption inequality resemble patterns of income inequality in Europe 1995-2016? How much heterogeneity can be found between countries and NUTS regions? Over time, is there a convergence or a divergence for basic consumption inequality across countries and how does this differ from income inequality trends? How does basic consumption inequality evolve over the life cycle?

To address these research questions, we will broadly follow the methodology applied in Krueger et al. (2010) and analyze cross-country/cross-regional trends for percentile ratios (Aguiar and Bils 2015) and the variance of log(income) and log(consumption); changes of inequality after controlling for observable differences across households through regression. Our analysis continues the work published in the Review of Economic Dynamics special issue 2010 and aims at completing the picture for more countries. Cross-sectional inequality over the life cycle will be investigated using regression methods as in Krueger et al. (2010) and Heathcote et al. (2010).

2 Related literature

The empirical literature on the connection between income and consumption inequality starts around 1990 (Cutler and Katz 1991, Cutler and Katz 1992, Slesnick 1994). Studies are usually based on data from the *Consumer Expenditure Survey* and thus predominantly focus on the U.S. A stylized fact for the 1980's to the mid 2000's is that inequality has risen in both income and consumption, but to a larger degree for the former (Attanasio and Pistaferri 2016). However, this outcome has recently been challenged by Aguiar and Bils (2015) who corrects for measurement error and therefore shows much steeper trends in consumption inequality. Other recent work investigates the importance of insurance mechanisms for consumption smoothing to explain different trends in income inequality and consumption inequality (Blundell et al. 2016).

In contrast, for Europe there is only limited evidence on the joint development of earnings, income and consumption inequality. A special issue of the Review of Economic Dynamics in 2010 (Krueger et al. 2010) contains 6 European case studies (UK, DE, ES, IT, SE, RU) based on data from 1980 to 2005. König and Doval'ova (2016) investigate trends in household consumption inequalities for Slovakia. Similar as for the U.S., this work shows that income inequality is higher than consumption inequality and that long-run changes in disposable income inequality are larger than long-run changes in consumption inequality. However, detailed trend results are heterogeneous across countries. Whereas in Germany disposable income and consumption inequality display very similar trends, consumption inequality increased at a much slower rate than income inequality in Italy. In the UK, consumption inequality rose in pace with disposable income inequality in the early 1980s but this growth slowed down in subsequent years.

3 Data

3.1 Data and variable description

We use data from the European Survey of Income and Living Conditions (SILC, 2004 to date) and its forerunner the European Community Household Panel (ECHP, 1994-2001). These surveys provide variables on household income, well-being, employment and economic living conditions for all EU member states and several other European countries. Eurostat coordinates the SILC data collection process and together with experts from national statistical offices has been developing methodological guidelines since its launch. National statistical institutes are respon-

sible for all stages of the data collection process (with the fieldwork sometimes being outsourced to external agencies) and the correct submission of the harmonized data to Eurostat who then make a cross-country comparative version of the data available for scientific users upon request. The reference population in SILC includes all private households and their current members residing in the territory of the countries at the time of data collection. To ensure comparability of data and variables, SILC has opted for an ex-ante output harmonization strategy: survey design and methods are flexible as long as the output requirements are met (European Commission 2017). Comprehensive details on quality control (Eurostat 2018d) and legal aspects (Eurostat 2018c) are available from Eurostat websites.

The ECHP (Eurostat 2018a) is a European cross-national longitudinal survey focusing on household income, living conditions, health, demographics and employment. A major feature is the cross-national comparability of the data. Common procedures were implemented at all stages from the design of a harmonized questionnaire, harmonized definitions and sampling requirements. Most participating countries used the harmonized ECHP questionnaire designed by Eurostat. However, in some countries the institutes in charge of the production of the ECHP converted national data surveys into ECHP format to replace the ECHP from 1997 onwards (EPUnet 2018). We exclude these observations from our analysis.

For our analysis, we stack all cross-sections from both datasets. As the number of countries for which data is available varies over time, we define two different estimation samples. The *long sample* comprises 10 European countries² and provides us with a continuous time series from 94/95 to 2014/15. The *short sample* also includes Eastern European countries and covers the period between 2004 to 2015.³ Households are the unit of observation. Finally, we exclude all observations where the person responsible for accommodation is younger than 25 years.

To approximate basic consumption we use a question that asks to provide the level of income to make ends meet. The exact wording in SILC remained constant for all survey years since 2004 and reads: "In your opinion, what is the very lowest net monthly income that your household would have to have in order to make ends meet, that is to pay its usual necessary expenses? Please answer in relation to the present circumstances of your household, and what you consider as usual necessary expenses (to make ends meet)." In ECHP the wording is identical but truncated: "In your opinion, what is the very lowest net monthly income that

²AT, BE, DK, ES, FR, GR, IE, IT, NL, PT

³AT, BE, FR, IE, LU, NL, DK, FI, IS, NO, SE, CY, ES, GR, IT, PT, CZ, EE, HU, LT, LV, PL, SI, SK, UK.

your household would have to have in order to make ends meet?"

Traditionally, this question was used to derive an estimate for a subjective poverty line (Decancq et al. 2013). However, such estimates have been shown to vary a lot both over time and between countries. Furthermore, results are sensitive to the exact wording and placement of the question. Given the interviewer instruction and how this variable is conceptualized we expect that respondents think of expenses a) are related to basic consumption goods that occur on a regular basis and b) thus are also more difficult to decrease (food, care services, housing, mobility). The next sections comprise various exercises aimed at validating this assumption with empirical data from national accounts and external micro data.

Further, we have to keep in mind that this is the English formulation. For the ECHP, Eurostat designed a common English questionnaire and coordinated the data production process (Peracchi 2002). National statistical offices then translated the basic ECHP questionnaire and adapted it to the specific conditions of each country. With output harmonization in SILC, Eurostat defines a set of target variables, which are described in detail in the document "Methodological guidelines and description of target variables (doc65)". National statistical offices can access this document in advance of each round to draft questionnaires and operationalize variable definitions. Once the user database is completed, data users find this document in their data package. Alternatively, the guidelines can be downloaded from the European Commission's CIRCABC interface (European Commission 2018).

Our two income variables are the household sum of employee cash or near cash net earnings (henceforth "earnings") and the household's total disposable income after tax including social transfers and old-age pensions (henceforth "income"). All variables are adjusted for household size (using the modified OECD scale). Estimators are weighted by final cross-sectional sample weights provided in the Eurostat database.

3.2 Validation with national accounts data

In figure 1 and figure 2, we gauge in a similar vein as Jappelli and Pistaferri (2010) the data suitability of the ECHP and EU-SILC question on the ability to make ends meet for investigating household consumption. It becomes apparent that comparing those COICOP components which reflect usual household expenses⁴ track very closely the development of the respective survey

⁴These components encompass the following: Food and non-alcoholic beverages (CP01), clothing and footwear (CP03), housing, water, electricity, gas and other fuels (CP04), furnishings, household equipment and routine household maintenance (CP05), health (CP06), transport (CP07), communications (CP08), education (CP10).

question in ECHP and EU-SILC. In addition to Jappelli and Pistaferri (2010) we also investigate the first differences of both time series to rule out a spurious correlation over time. Figure 3 and figure 4 depict that also in first differences both time series show a close co-movement. We therefore conclude that this variable is a suitable proxy to study the development of a large share of household consumption.

Table 1 gives an estimation of the size of the basic needs variable as a share of total consumption. In sum, this survey question is likely to represent roughly two-thirds of total household consumption. For the period covered in EU-SILC, from 2004 to 2014, the share of consumption reflected in our variable is the lowest in Spain where it accounts only for approximately 60% of household consumption and the highest in Lithuania where the mentioned COICOP components reflect three quarters of total consumption. Overall, the amount of consumption is comparable with the revised PSID data on consumption (from 1999 onwards) which covers approximately 70% of all consumption items (Blundell et al. 2016).

In addition to the possibility to measure basic consumption in the way we do it, the concise measurement of income components that aggregate to household income is a strength of the ECHP and EU-SILC data sets. This opens up the possibility to investigate the pathway from wages to earnings to joint earnings to total household income to consumption in more detail and to apply decomposition analysis for household income. All variables are constructed based on guidelines that aim at output harmonization. We use the disposable household income as our main income measure.⁵ Furthermore, income deciles are derived from this variable. Our measure of inequality is, following Aguiar and Bils (2015) the ratio of the mean of high-income (ninety through ninety-fifth percentiles) to low-income households (fifth through tenth percentiles).

As an additional work in progress, we also compare distributions of the basic consumption variable with corresponding proxies from the European Household Budget Survey 2010 (Eurostat 2018b) which provides detailed microdata on consumption expenditures. First results (figure 5) from a visual inspection of density functions for three selected countries indicate a good overlap so far.

 $^{{}^{5}}$ It is derived as follows: sum for all household members of gross personal income components (gross employee cash or near cash income ; company car ; gross cash benefits or losses from self-employment (including royalties) ; unemployment benefits ; old-age benefits; survivor' benefits, sickness benefits ; disability benefits and education-related allowances; income from rental of a property or land ; family/children related allowances ; social exclusion not elsewhere classified ; housing allowances ; regular inter-household cash transfers received ; interests, dividends, profit from capital investments in unincorporated business ; income received by people aged under 16; minus regular taxes on wealth ; regular inter-household cash transfer paid ; tax on income and social insurance contributions

4 Methods

To describe trends in consumption inequality and how these follow income inequality (our first research question), we calculate percentile ratios similar as in Aguiar and Bils (2015). This allows for a rough comparison with the U.S.-American evidence. Households in the bottom and top 5 % are excluded from our analysis. For household income y and earnings e, the percentile ratios are calculated respectively as:

$$Pct.ratio[y,e] = \frac{mean[y,e]_{top20[y,e]}}{mean[y,e]_{bottom20[y,e]}}$$
(1)

The percentile ratio for consumption c inequality is defined as:

$$Pct.ratio[c] = \frac{mean[c]_{top20[y]}}{mean[c]_{bottom20[y]}}$$
(2)

To analyse inequality over the life cycle (second research question), we have to deal with the fact that age, time and cohort effects are perfectly collinear and thus cannot be separately identified. Considering that we use repeated cross-sectional data, we mainly follow the procedures in Heathcote et al. (2010) and Fuchs-Sch $\tilde{A}\frac{1}{4}$ ndeln et al. (2010) and simply report age-inequality effects under two different assumptions. First, for each cross-section and each country all households are categorized into 8 age groups based on the main earner in the household. Households with the main earner younger than 25 or older than 65 are excluded from the analysis. Within each country in the long sample, the cross-sectional variance of log(y)and log(c) is then regressed on a full set of age dummies and *either* a full set of year dummies (Model 1) or a full set of year-of-birth dummies (Model 2). The former controls for time (calendar) whereas the latter controls for cohort effects effects. To estimate model 1 we generate a dataset which contains the variance of the dependent variable of interest (y, e, c) for age groups of different birth cohorts and for each country. For model 2, the unit of observation are age groups by survey year. In the results section 5.2 we present plots of the age profile in deviation from the values of the age group 25-29.

5 Results

5.1 Trends in earnings, income and consumption inequalities in Europe

Figures 6 and 7 demonstrate that irrespective of the economic and financial turmoil that characterizes these two decades, household income and consumption inequality remained relatively stable for most countries over this period. In the long sample, only Spain is one notable exception from this pattern. Clearly, more fluctuations in inequality are expressed in the development of earnings. Household income includes all types of private and public transfers including old-age benefits. Hence, the distance between the blue and orange lines gives us a rough proxy of redistribution effects through public welfare. It is noticeable that in southern European countries, such as Spain, Greece, Portugal Italy earnings and income inequality are hardly distinguishable. This is in contrast to the other countries in the long sample that show a clear distinction between earnings and income inequality. This pattern is hardly affected by the recent economic crisis, but persists since the mid-1990s.

By and large, basic consumption inequality remained very stable since the mid-1990s and is clearly lower than income inequality in most countries. This pattern is similar to evidence on consumption inequality from the USA (Aguiar and Bils 2015). Two exceptions in Europe are Ireland and several Mediterranean countries. Ireland experienced fluctuations since the 2008 crisis after a shorter period of shrinking inequality.For Portugal, Spain and Greece we observe a slight reduction in basic consumption inequality over the the years. Figures 6 and 7 also show that while there are considerable differences in inequality of earnings (average range of 3.0 over time) and income (average range of 2.06 over time) between countries, this is not the case for consumption (average range of 0.84 over time). Figure 8 also indicates some kind of convergence in basic consumption inequality among the countries in the long sample, which is not observable for income inequality trends.

What is different when we look at the short sample and include a broader range of countries, particularly from Eastern Europe? In figure 9 we grouped countries into five different welfare state regimes (Arts and Gelissen 2010) and calculated the mean of inequality ratios by welfare regime. For the UK – a representative example of the liberal welfare cluster – we find parallel trends of decreasing income inequality and basic consumption inequality over the last 10 to 13 years. No other welfare regime displays similar fluctuations of basic consumption inequality where highest

in the UK, followed by the conservative, Mediterranean and Scandinavian welfare regime at the other end of the spectrum. Scandinavian and Conservative welfare states have the lowest levels of income inequality. However, in terms of transmission of income inequality into basic consumption inequality, one can observe that Eastern European welfare states end up at similar consumption inequality levels then conservative welfare states. Over the shorter period with more countries we again see large and relatively stable differences of income inequality between welfare regimes (figure 10). Basic consumption inequality, in contrast, is less disperse with the UK rapidly joining the other country groups over the 2005-2015 period.

We complement the results on basic consumption inequality for the short sample by investigating probabilities of owning five particular commodities: a car, telephone, personal computer and a color TV, washing machine. Respondents are ask whether they own these durables and if not, if this is due to financial reasons or other reasons (e.g. consumption preferences). All shares are calculated by excluding households who do not have this item for other than financial reasons. Results for the total short sample are presented in figure 11 which shows that inequality decreased for all goods over 2005/2015 but the pace slowed down. Figure 12 zooms in on personal computers and phones⁶ that have gained importance due to increased digitalization of various life spheres. Here, the catch-up of the bottom income group generally slowed down in the last 8 years, strongest for Eastern European countries followed by Mediterranean countries. The "Digital Divide" between top and bottom income groups is smallest in Scandinavian welfare states.

5.2 Cross-sectional inequality over the life cycle

Figures 13 to 17 show the change of inequality as measured by the variance of the log for each of our three dependent (equivalized) variables of interest (y, e, c). Change (vertical axis) is measured as deviation (marginal effect) from inequality in the youngest age group (25-29). The blue represents the marginal effect from the model that controls for birth cohort whereas the green line represents the marginal effect on inequality resulting from the model that controls for time (calendar year). We concentrate on the results for the 10 countries in the long sample and start with the rightmost panel that refers to basic consumption inequality. Obviously, it matters whether we control for time or cohort effects, particularly for France and Denmark where differences between the two model specifications (blue and green line) grow substantially

 $^{^{6}}$ SILC, however, does not ask if the phone can be connected to the Internet (fixed landline or mobile).

after reaching your mid-40s. However, for the broad majority of countries we see that compared to the youngest age group consumption inequality initially decreases until 35 to 40, usually rises thereafter and starts to shrink again from the age of 50/55 onwards. Notable execptions from this pattern are Spain and Greece where we observe decreasing consumption inequality until 65 (Spain) or until 44 (Greece).

For all ten countries, the change in earnings inequality over the life cycle is much higher than for income inequality and basic consumption inequality. Except for Belgium, Greece and Ireland, earnings inequality maximally deviates from the youngest age group at the end of the life cycle.

6 Preliminary conclusions and outlook

For the long sample (1994-2014), we observe that total income inequality and consumption inequality remained relatively stable in most European countries. In terms of the magnitude of basic consumption inequality, countries are more similar as compared to income inequality. For for the Southern European countries (PT, ES. GR), basic consumption inequality slightly decreases over time converging to the inequality levels of the other countries in the long sample. This convergence is not visible for total household income inequality.

For the short (but larger) sample comprising 25 countries from 2005-2014, results vary between five groups of welfare states. In the UK (liberal welfare regime), we observe a parallel decrease in consumption and income inequality. Countries in the Mediterranean and Eastern European welfare regime display stable low levels of basic consumption inequality but at the same time also stable high levels of total income inequality. In Scandinavian welfare states we find stable low levels of both income and basic consumption inequality whereas conservative welfare states exhibit stable yet slightly more unequal income and basic consumption distributions. We supplement the analysis of our metric consumption inequality indicator by comparing affordability of five durables usually used for measuring material deprivation in Europe between the top and bottom household income quintiles. This descriptive analysis reveals that on the one hand there has been a substantial catch-up of low incomes for all items since 2005. On the other hand, we also see this process has slowed down for some items (PC, car) since the financial crisis of 2007/2008. Among the five different welfare state regimes in Europe, the affordability gap is highest in Eastern Europe. Future research of inequality trends could make use of the fact that the ECHP and EU-SILC data contain information of the NUTS1 level and the degree of urbanization. This would allow investigating regional trends income and basic consumption inequality in Europe. Regions with higher wage rates, for instance, could also imply a higher price level of housing and daily living costs whereas regions with declining wage rates could induce price decreases for expenditures of daily living. From that, one would expect more variation of our inequality measures between smaller spatial units.

We also aim to apply the method developed for repeated cross-section data in Blundell et al. (2013) to estimate variances for the persistent and transitory components of income and to relate these to changes in consumption variances (for multiple countries and different birth cohorts). This addresses the question of how permanent and transitory income shocks change consumption and how easily households can insure against such shocks. Permanent shocks are harder to absorb and to insure and thus more likely to be reflected in consumption (inequality). As insurance mechanisms partly depend on the welfare state policy mix a cross-country comparison based on our dataset could provide insights into the role of policy as compared to other (Blundell et al. 2008, Blundell et al. 2016) insurance mechanisms (e.g. family labor supply, borrowing).

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7 Tables and Figures



Figure 1: Comparison of ECHP and EU-SILC data with ESA data

Note: Comparison of ECHP and EU-SILC data with ESA. Data gap in 2002 and 2003 as no survey was conducted in these years. and ESA: European System of accounts 2010. ECHP and EU-SILC consumption (amount needed to make ends meet) is divided by family size. National accounts data is divided by total population. Source: Eurostat. AT: Austria, BE: Belgium, DK: Denmark, ES: Spain, FR: France, GR: Greece, IE: Ireland, IT: Italy, NL: Netherlands.



Figure 2: Comparison of EU-SILC data with ESA data

Note: Comparison of EU-SILC data with ESA. ESA: European System of accounts 2010. EU-SILC consumption (amount needed to make ends meet) is divided by family size. National accounts data is divided by total population. Source: Eurostat. BG: Bulgaria, CY: Cyprus, CZ: Czech Republic, DE: Germany, EE: Estonia, IS: Island, LT: Lithuania, LU: Luxemburg, LV: Latvia, MT: Malta, NO: Norway, PL: Poland, SE: Sweden, SI: Slovenia, UK: Great Britain.



Figure 3: Comparison of ECHP and EU-SILC data with ESA data, first differences

Comparison of ECHP and EU-SILC data with ESA. Data gap in 2002 and 2003 as no survey was conducted in these years. Data in first differences. ESA: European System of accounts 2010. ECHP and EU-SILC consumption (amount needed to make ends meet) is divided by family size. National accounts data is divided by total population. Source: Eurostat. AT: Austria, BE: Belgium, DK: Denmark, ES: Spain, FR: France, GR: Greece, IE: Ireland, IT: Italy, NL: Netherlands.



Figure 4: Comparison of EU-SILC data with ESA data, first differences

Comparison of EU-SILC data with ESA. Data in first differences. ESA: European System of accounts 2010. EU-SILC consumption (amount needed to make ends meet) is divided by family size. National accounts data is divided by total population. Source: Eurostat. BG: Bulgaria, CY: Cyprus, CZ: Czech Republic, DE: Germany, EE: Estonia, IS: Island, LT: Lithuania, LU: Luxemburg, LV: Latvia, MT: Malta, NO: Norway, PL: Poland, SE: Sweden, SI: Slovenia, UK: Great Britain.

| | | | Table 1: 5 | Share of "SIL | C consumpti | ion" on total | consumption | - | 6100 | 6100 | T LOO |
|--|--|--|--|--|--|--|--|--|---|--|--|
| YEAR | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Austria Basic Consumption Fotal consumption Share | 83.975,7 131.266,1 64,0% | 88.534,1 137.558,4 64,4% | $\begin{array}{c} 91.715,8\\ 143.130,1\\ 64,1\%\end{array}$ | $\begin{array}{c} 94.430.7\\ 148.404.7\\ 63,6\%\end{array}$ | 97.944,6 153.639,6 63,7% | $\begin{array}{c} 97.748,9\\ 154.054,2\\ 63,5\%\end{array}$ | $\begin{array}{c} 100.689,8\\ 158.463,8\\ 63,5\%\end{array}$ | $\begin{array}{c} 105.545,0\\ 166.045,2\\ 63,6\%\end{array}$ | 108.732,6 170.977,6 63,6% | $111.178,6\\174.798,9\\63,6\%$ | $112.090,4\\177.734,3\\63,1\%$ |
| Belgium Basic Consumption Total consumption Share | 100.427,4 146.708,6 68,5% | $\begin{array}{c} 103.388,2\\ 152.417,3\\ 67,8\%\end{array}$ | $\begin{array}{c} 107.399.5\\ 159.582,8\\ 67,3\%\end{array}$ | $\begin{array}{c} 111.056,5\\ 167.111,7\\ 66,5\%\end{array}$ | $\frac{118.063,2}{175.014,5}$ | $\frac{118.580,1}{174.219,2}$ $\frac{68,1\%}{18}$ | $\begin{array}{c} 123.985.7\\ 181.783.6\\ 68,2\%\end{array}$ | $\begin{array}{c} 128.118.3\\ 188.180.6\\ 68,1\%\end{array}$ | $132.386,8\\192.454,2\\68,8\%$ | $135.135.8\\195.360,1\\69,2\%$ | 135.543,6 197.369,8 68,7% |
| Cyprus Basic Consumption Total consumption Share | $\begin{array}{c} 6.331,9\\ 9.835,4\\ 64,4\%\end{array}$ | 6.751,5 10.524,7 64,1% | 7.243,8 11.262,7 64,3% | 8.073,7 12.352,1 65,4% | 8.925,1 13.489,6 66,2% | 8.215.5 12.493,9 65,8% | 8.653,3 13.197,3 65,6% | 8.975,1 13.727,3 65,4% | 9.116,8 13.975,2 65,2% | 8.558,6 13.428,4 63,7% | 8.510,6 13.354,5 63,7% |
| Czech Republic Basic Consumption Total consumption Share | $\begin{array}{c} 31.677,0\\ 48.038,4\\ 65,9\%\end{array}$ | 35.616.6 54.335.4 65,5% | 39.796,1 60.727,4 65,5% | $\begin{array}{c} 43.244.1\\ 66.206,5\\ 65,3\%\end{array}$ | 51.761,0 78.730,3 65,7% | $\begin{array}{c} 49.167,3\\74.794,7\\65,7\%\end{array}$ | 52.077,2 79.340,1 65,6% | $54.885,2\\82.998,5\\66,1\%$ | 54.417,4 81.879,4 66,5% | 53.170,8 80.155,6 66,3% | 51.223.9 77.162,0 66,4% |
| Estonia Basic Consumption Total consumption Share | 3.940.7 5.711.2 69.0% | 4.407,3 6.503,0 67,8% | 5.152,7 7.633,1 67,5% | 5.986,8 8.818,0 67,9% | 6.264,1 9.069,6 69,1% | 5.398,8 7.767,3 69,5% | 5.481,3 7.884,4 69,5% | 5.945.7 8.599.8 69,1% | 6.428,7 9.348,5 68,8% | 6.863,3 9.995,4 68,7% | $\begin{array}{c} 7.119,2\\ 10.411,2\\ 68,4\%\end{array}$ |
| Finland Basic Consumption Total consumption Share | 51.005,0 75.175,0 67,8% | 52.875,0 78.354,0 67,5% | 55.286,0 82.623,0 66,9% | 57.759,0 86.970,0 66,4% | $\begin{array}{c} 61.230,0\\ 91.758,0\\ 66,7\%\end{array}$ | 60.546,0 90.143,0 67,2% | $\begin{array}{c} 64.205,0\\94.456,0\\68,0\%\end{array}$ | 68.544,0 100.731,0 68,0% | 70.868,0 104.092,0 68,1 $\%$ | 72.790,0 106.055,0 68,6% | 74.202,0 107.925,0 68,8% |
| Germany Basic Consumption Total consumption Share | 857.526,0 1.232.148,0 69,6% | 874.692,0 1.258.469,0 69,5% | $\begin{array}{c} 903.004,0\\ 1.294.263,0\\ 69,8\%\end{array}$ | 907.680,0 1.314.268,0 69,1% | 933.506,0 1.343.244,0 69,5% | $\begin{array}{c} 931.511,0\\ 1.340.434,0\\ 69,5\%\end{array}$ | 946.521,0 1.372.877,0 68,9% | 980.683,0 1.418.510,0 69,1% | $\begin{array}{c} 1.006.986,0\\ 1.455.255,0\\ 69,2\% \end{array}$ | $\begin{array}{c} 1.025.238,0\\ 1.472.168,0\\ 69,6\%\end{array}$ | $\begin{array}{c} 1.042.302,0\\ 1.498.957,0\\ 69,5\%\end{array}$ |

[H]

Greece

| YEAR | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------|------------|------------|-----------|------------|------------------|--------------|----------------------|--------------|-------------|------------|------------|
| Basic Consumption | 89.514, 2 | 94.808,0 | 101.002,5 | 108.814,6 | 118.124,6 | 116.511, 8 | 111.429,4 | 103.956, 5 | 96.150, 2 | 91.163,0 | 89.764,7 |
| Total consumption | 128.744,1 | 136.840, 7 | 144.975,4 | 155.912, 2 | 168.064,9 | 165.365,0 | 159.492,9 | 148.093, 5 | 137.464,9 | 133.226, 5 | 131.581, 6 |
| Share | 69,5% | 69,3% | 69,7% | 69,8% | 70,3% | 70,5% | 69,9% | 70,2% | 69,9% | 68,4% | 68,2% |
| Ireland | | | | | | | | | | | |
| Basic Consumption | 40.314,8 | 43.989, 4 | 48.714,7 | 53.412, 5 | 55.181, 2 | 48.967, 2 | 47.805,0 | 48.342,7 | 49.771,1 | 50.180,9 | 51.914, 2 |
| Total consumption | 66.749, 3 | 72.389,2 | 79.071, 6 | 86.153,4 | 86.653, 7 | 76.271,0 | 74.577,2 | 74.914.5 | 75.320,2 | 76.557,1 | 79.253,7 |
| Share | 60,4% | 60,8% | 61,6% | 62,0% | 63,7% | 64, 2% | 64, 1% | 64,5% | 66,1% | 65,5% | 65,5% |
| Island | | | | | | | | | | | |
| Basic Consumption | 3.908,9 | 4.868, 5 | 4.774, 3 | 5.381, 5 | 3.559, 3 | 3.090,0 | 3.336, 8 | 3.599, 2 | 3.950, 5 | 4.132,0 | 4.620, 7 |
| Total consumption | 5.805,0 | 7.211,4 | 7.104.8 | 7.936,9 | 5.225,1 | 4.569, 2 | 4.916,0 | 5.262, 4 | 5.759, 5 | 6.037,9 | 6.815, 5 |
| \mathbf{Share} | 67, 3% | 67,5% | 67, 2% | 67,8% | 68,1% | 67,6% | 67,9% | 68,4% | 68,6% | 68,4% | 67,8% |
| Italy | | | | | | | | | | | |
| Basic Consumption | 604.581, 3 | 623.883.4 | 645.823,0 | 662.109, 7 | 676.783,0 | 668.954, 0 | 685.178, 5 | 703.463,2 | 698.750, 3 | 692.543, 2 | 691.576, 1 |
| Total consumption | 864.629, 5 | 892.462,7 | 929.395,3 | 960.750,1 | 978.916,1 | 957.938,6 | 983.043, 7 | 1.012.781, 2 | 1.001.015,0 | 989.235,6 | 995.024, 5 |
| Share | 69,9% | 69,9% | 69,5% | 68,9% | 69,1% | 69,8% | 69,7% | 69,5% | 69,8% | 70,0% | 69,5% |
| Latvia | | | | | | | | | | | |
| Basic Consumption | 5.111,6 | 5.710,8 | 7.543,7 | 9.451,4 | 9.816, 7 | 8.009,4 | 7.926,5 | 8.780,0 | 9.585,1 | 10.020,2 | 10.234, 5 |
| Total consumption | 7.097,0 | 8.090, 7 | 10.710, 7 | 13.151, 5 | 13.731, 1 | 11.121,0 | 11.153,9 | 12.228,4 | 13.214,6 | 13.909, 5 | 14.335,9 |
| Share | 72,0% | 70,6% | 70,4% | 71,9% | 71,5% | 72,0% | 71,1% | 71,8% | 72,5% | 72,0% | 71,4% |
| $\mathbf{Lithuania}$ | | | | | | | | | | | |
| Basic Consumption | 9.083, 8 | 10.451, 7 | 11.786, 2 | 13.734, 8 | 15.902, 8 | 13.779,9 | 13.477,9 | 14.788,4 | 15.766, 8 | 16.508, 6 | 17.025,8 |
| Total consumption | 11.993, 5 | 13.714,0 | 15.551,9 | 18.255,6 | 20.858,1 | 18.076, 2 | 17.891, 5 | 19.658,0 | 20.854,4 | 21.874,9 | 22.842,7 |
| Share | 75,7% | 76,2% | 75,8% | 75,2% | 76,2% | 76,2% | 75,3% | 75,2% | 75,6% | 75,5% | 74,5% |
| Luxemburg | | | | | | | | | | | |
| Basic Consumption | 7.808,1 | 8.228, 2 | 8.619.8 | 8.993,7 | 9.456, 5 | 9.394, 3 | 9.919.4 | 10.688, 3 | 11.232,8 | 11.407,0 | 11.656, 5 |
| Total consumption | 12.190, 6 | 12.745,4 | 13.284, 8 | 13.949,9 | 14.587, 8 | 14.634,4 | 15.159,2 | 16.172, 8 | 16.925,1 | 17.347, 5 | 17.880,2 |
| Share | 64,1% | 64,6% | 64.9% | 64,5% | 64,8% | 64, 2% | 65,4% | 66,1% | 66,4% | 65,8% | 65,2% |
| Netherlands | | | | | | | | | | | |
| Basic Consumption | 162.160,0 | 166.591,0 | 167.074,0 | 172.132,0 | 178.582,0 | 176.538,0 | 180.434,0 | 184.323,0 | 186.747,0 | 189.600,0 | 191.416,0 |
| Total consumption | 249.311,0 | 255.356,0 | 261.130,0 | 272.424,0 | 280.319,0 | 270.973,0 | 274.571,0 | 281.016,0 | 281.705,0 | 286.038,0 | 289.366,0 |
| Share | 65,0% | 65, 2% | 64,0% | 63, 2% | 63,7% | 65,1% | 65,7% | 65,6% | 66, 3% | 66, 3% | 66,2% |
| Poland | | | | | | | | | | | |
| | | | | | Table ϵ | continued on | $next \ page \ldots$ | | | | |

Table 1: Share of "SILC consumption" on total consumption

| 2014 | 170.538,8 | 246.088,7 | 69,3% | | 80.814,4 | 117.561,4 | 68,7% | | 28.240, 2 | 41.454,0 | 68,1% | | 14.741, 7 | 21.366,1 | 69,0% | | 406.292,0 | 626.587, 0 | 64,8% | | 131.386, 8 | 192.919,1 | 68,1% | | 885.476,1 | 1.385.971, 1 | 63.9% |
|------|-------------------|-------------------|--------|---------------------|-------------------|-------------------|--------|----------|-------------------|-------------------|--------|----------|-------------------|-------------------|--------|-------|-------------------|-------------------|--------|--------------------|-------------------|-------------------|--------|----|-------------------|-------------------|--------|
| 2013 | 164.042,7 | 239.085,1 | 68,6% | | 78.113,2 | 113.836,0 | 68,6% | | 28.289,3 | 40.996,5 | 69,0% | | 14.520,7 | 20.991,0 | 69,2% | | 402.819,0 | 616.008, 0 | 65,4% | | 133.747, 5 | 196.031, 7 | 68, 2% | | 815.966,9 | 1.266.110, 5 | 64,4% |
| 2012 | 163.774,9 | 237.781,4 | 68,9% | | 77.596,8 | 113.880, 3 | 68,1% | | 28.342.9 | 40.786,9 | 69,5% | | 14.963,0 | 21.620,1 | 69, 2% | | 404.428,0 | 627.599,0 | 64,4% | | 130.159, 5 | 190.306, 8 | 68,4% | | 816.740,0 | 1.273.854,0 | 64,1% |
| 2011 | 161.450,4 | 231.762,5 | 69,7% | | 79.874,9 | 117.888,0 | 67,8% | | 27.372,0 | 39.652, 8 | 69,0% | | 14.933,3 | 21.691,4 | 68,8% | | 406.945,0 | 634.350,0 | 64, 2% | | 124.289,7 | 181.213,1 | 68,6% | | 731.711.8 | 1.144.979, 7 | 63,9% |
| 2010 | 153.291, 3 | 219.805,6 | 69,7% | | 80.861, 2 | 119.862,0 | 67, 5% | | 26.592,3 | 38.403,4 | 69, 2% | | 14.693,0 | 21.271,4 | 69,1% | | 402.600,0 | 631.012,0 | 63,8% | | 114.104, 6 | 165.561, 8 | 68,9% | | 716.542, 8 | 1.122.090,4 | 63,9% |
| 2009 | 134.690, 5 | 193.524,7 | 69,6% | | 76.938, 7 | 114.599, 2 | 67, 1% | | 26.414,9 | 37.793,0 | 69,9% | | 14.243,2 | 20.619, 8 | 69,1% | | 388.950,0 | 617.430,0 | 63,0% | | 97.257,4 | 141.397,0 | 68,8% | | 663.053, 7 | 1.049.497,2 | 63, 2% |
| 2008 | 155.633,6 | 224.486,3 | 69, 3% | | 79.871,9 | 119.878, 7 | 66,6% | | 25.498,1 | 36.626,1 | 69,6% | | 13.823, 7 | 20.372,9 | 67,9% | | 399.269,0 | 646.998,0 | 61,7% | | 104.920, 2 | 152.541, 6 | 68,8% | | 742.918,4 | 1.203.667, 1 | 61,7% |
| 2007 | 131.364.8 | 188.443,7 | 69,7% | | 76.651,1 | 115.317, 8 | 66,5% | | 21.337,9 | 30.623, 2 | 69,7% | | 12.708,9 | 18.784,6 | 67,7% | | 383.740,0 | 629.402,0 | 61,0% | | 106.114,7 | 153.570, 3 | 69,1% | | 835.532,0 | 1.361.932,7 | 61,3% |
| 2006 | 118.130,5 | 167.765,4 | 70,4% | | 72.396,9 | 108.631,1 | 66,6% | | 17.579,4 | 25.201, 1 | 69,8% | | 11.573, 6 | 16.992, 8 | 68,1% | | 359.583,0 | 591.546,0 | 60,8% | | 101.201,1 | 145.629, 6 | 69,5% | | 798.298.5 | 1.304.121,9 | 61,2% |
| 2005 | 108.995,9 | 153.449,0 | 71,0% | | 69.399, 5 | 103.230,5 | 67, 2% | | 15.336, 3 | 21.840, 2 | 70,2% | | 11.257, 6 | 16.403, 1 | 68,6% | | 332.140,0 | 550.656,0 | 60,3% | | 97.349,0 | 138.812,7 | 70,1% | | 759.840,7 | 1.244.431,1 | 61,1% |
| 2004 | 93.050,9 | 131.407,7 | 70,8% | | 66.118, 1 | 98.164,7 | 67,4% | | 13.750,9 | 19.430,4 | 70,8% | | 10.670, 6 | 15.526,4 | 68,7% | | 307.535,0 | 514.256,0 | 59,8% | | 94.960, 4 | 135.434,2 | 70,1% | | 730.299,5 | 1.194.607,0 | 61,1% |
| YEAR | Basic Consumption | Total consumption | Share | $\mathbf{Portugal}$ | Basic Consumption | Total consumption | Share | Slovakia | Basic Consumption | Total consumption | Share | Slovenia | Basic Consumption | Total consumption | Share | Spain | Basic Consumption | Total consumption | Share | \mathbf{S} weden | Basic Consumption | Total consumption | Share | UK | Basic Consumption | Total consumption | Share |

Table 1: Share of "SILC consumption" on total consumption

CP03), Housing, water, electricity, gas and other fuels (CP04), Furnishings, household equipment and routine household maintenance (CP05), Health (CP06), Transport (CP07), Communications (CP08), Education (CP10). Total consumption refers to the total amount of all 12 coicop 2 digit components. Share is given by dividing basic consumption with total consumption. -) 10 Note



Figure 5: Validation with Eurostat Household Budget Survey 2010



Figure 6: Inequality of income and earnings: long sample

Note: mean $[\mathrm{p80}\text{-}\mathrm{p95}]/$ mean $[\mathrm{p5}\text{-}\mathrm{p20}]$ with percentiles based on income



Figure 7: Inequality of basic consumption and income: long sample

Note: mean $[\mathrm{p80}\text{-}\mathrm{p95}]/$ mean $[\mathrm{p5}\text{-}\mathrm{p20}]$ with percentiles based on income



Figure 8: Convergence of basic consumption inequality, long sample

Note: mean [p80-p95]/ mean [p5-p20] with percentiles based on income



Figure 9: Inequality of income and earnings, short sample

Graphs by (p 50) wfregime

Note: short sample , welfare regime: AT BE FR IE LU NL (cons) DK FI IS NO SE (scand) CY ES GR IT PT (med) CZ EE HU LT LV PL SI SK (eastern) UK (liberal), means of inequality ratio by welfare regime.



Figure 10: Convergence of basic consumption inequality, short sample

Note: short sample , welfare regime: AT BE FR IE LU NL (cons) DK FI IS NO SE (scand) CY ES GR IT PT (med) CZ EE HU LT LV PL SI SK (eastern) UK (liberal), means of inequality ratio by welfare regime.



Figure 11: Durable goods of top and bottom income groups, short sample

Note: Households are unit of observation. Shares are calculated by excluding households who do not have this item for other than financial reasons. Welfare regimes: AT BE FR IE LU NL (cons) DK FI IS NO SE (scand) CY ES GR IT PT (med) CZ EE HU LT LV PL SI SK (eastern) UK (liberal).



Figure 12: Digital Divide between bottom and top income groups, short sample

Note: Households are unit of observation. Shares are calculated by excluding households who do not have this item for other than financial reasons.



Figure 13: Life-cycle inequality, AT and BE



Figure 14: Life-cycle inequality, DK and ES



Figure 15: Life-cycle inequality, FR and GR



Figure 16: Life-cycle inequality, IE and IT



Figure 17: Life-cycle inequality, NL and PT