



## **The Impact of Social Security Wealth on the Distribution of Household Wealth in the European Union**

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Paper prepared for the 37th IARIW General Conference

August 22-26, 2022

Session 4D-1, Fighting Inequality and Poverty: Exploiting within and across Country Variations to Evaluate Distributive Impacts of Policy I

Time: Wednesday, August 24, 2022 [14:00-15:30 CEST]

# The Impact of Social Security Wealth on the Distribution of Household Wealth in the European Union<sup>1 2</sup>.

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## Abstract

Social security wealth plays a crucial role in securing consumption in old-age. Therefore public pension entitlements are an important part of the household wealth portfolio. It is widely agreed that social security wealth equalizes wealth distributions on a national level, but the availability of cross-country studies is low. We use a novel data source – the Eurosystem Household Finance and Consumption Survey – to compare the impact of the public pension system on wealth inequality in 19 European countries. To assess the equalizing impact of the public pension system we apply inequality decomposition techniques.

In all countries, social security wealth reduces wealth inequality, The augmented wealth inequality ca. 30% lower than the private wealth inequality. Marginal effects of social security wealth identified through inequality decomposition are negative and statistically significantly different from zero.

The strength of the impact varies strongly across countries. The equalizing impact of social security wealth on wealth inequality is strongest in Austria, Estonia, Germany, Netherlands, and Cyprus. In Slovenia, Greece, and Croatia the equalizing impact is rather weak. Ranking of the countries to some extent depends on chosen assessment method.

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<sup>1</sup> We gratefully acknowledge support by National Science Centre under contract UMO-2019/35/N/HS4/01032.

<sup>2</sup> This paper uses data from the Eurosystem Household Finance and Consumption Survey.

We measure the correlation between the position of the household in all considered distributions (private wealth, social security wealth, augmented wealth). Here, significant cross-country variation also exists. The correlation between the position in the distribution of private wealth and the position of the distribution of social security wealth is strongest in Latvia, France, and Italy, while it is weak in Lithuania, Hungary, and the Netherlands.

We investigate the determinants of equalizing power of public pension systems. The social security wealth – private wealth ratio (a relative measure of the size of the public pension system), the correlation between both distributions, the share of single households, and homeownership together may explain up to 60% of the variation in the equalizing power. A higher value of social security wealth relative to the value of private wealth increases equalizing power of the public pension system, while higher homeownership weakens the impact.

The evidence on the impact of social security wealth on the cross-country wealth gap is mixed. On the one hand, cross-country wealth gaps assessed at chosen percentiles of the augmented wealth distribution, are smaller than in the case of private wealth distribution. On the other hand, however, the decomposition shows that augmented wealth inequality is to a larger extent generated by between-country inequality than private wealth inequality.

Our research shows that social security wealth shall be taken into account in the analysis of household wealth distribution. Public pension systems strongly equalize wealth distribution and to some extent mitigate cross-country wealth gaps. On the other hand, however, social security wealth does not invalidate the European wealth hierarchy. Western Europe is significantly richer than Central and Eastern Europe not only in the case of private wealth but also in the case of augmented wealth.

**Keywords:** household wealth, social security wealth, European Union, Household Finance and Consumption Survey

**JEL Classification:** D31, G51, H55

## **Introduction**

Household wealth is commonly defined as the total value of assets minus the total value of liabilities. Social security wealth is usually not included in the value of households' assets. The first reason for the omission of social security wealth is usually the lack of data, the second is its limited liquidity (OECD, 2013). Because for the majority of households public pension entitlements are the most valuable asset (Atkinson, 1983) researchers try to estimate their value and assess the impact of social security wealth on the wealth distribution.

In this paper, we investigate the impact of social security wealth on wealth inequality in 19 EU member states. To achieve this aim we use a novel dataset – the third wave of the Eurosystem Household Finance and Consumption Survey, which provides internationally comparable data on household wealth. Our estimates of social security wealth are based on Eurostat's (2019) demographic forecast EUROPOP 2019. We also study the impact of social security wealth on cross-country wealth gaps.

Wolff & Marley (1989) investigate the evolution of wealth inequality in the US in the period 1922-1983 using various wealth concepts. They find that social security wealth significantly decreases wealth inequality. Social security wealth equalizes wealth distributions also in other countries (Dunn & Hoffman, 1983; Bönke et al., 2019; Shamsuddin, 2001; Mazafferro & Toso, 2009; Roine & Waldenström, 2009; Maunu, 2010, Kuhn, 2020, Longmuir, 2021, Wroński, 2021a, 2021b; Jabłonowski, 2021). Sierminska & Wroński (2022) review the literature on the impact of public pension entitlements on wealth inequality and conclude that equalizing impact of public pension system has been confirmed in 25 countries.

Although the equalizing impact of social security wealth on wealth distribution is commonly accepted, the literature has two important limitations. Firstly it covers almost only developed economies, where social security systems are usually progressive. Secondly, the availability of cross-country studies is very low (e.g. Frick & Hadey, 2009; Bönke et al, 2020, Cowell et al., 2017). Results of single-country studies are very difficult to compare because researchers use different data sources and adopt various methods to estimate the value of social security wealth. In this paper, we fill this gap by delivering comparable measures of social security wealth and its equalizing power in 19 EU economies.

The hypothesis that social security wealth may partly decrease cross-country wealth gaps and thus it should be taken into account in international wealth comparisons is widely accepted in the literature (Cowell & Van Kerm, 2015; Cowell et al., 2018). However, because empirical evidence on the distribution of social security wealth is scarce authors studying this issue mostly use macroeconomic indicators such as e.g. pension spending relative to GDP. Fessler & Schürz (2018) estimated multilevel cross-country regressions and found that the degree of welfare state spending across countries is negatively correlated with household net wealth. Their research is based on HFCS data for 13 countries. Skopek (2015) studied the impact of the public pension system in the sample of 40 countries and also the robust link between higher generosity of public pension systems and lower values of private wealth. Wroński (2021c) reviews the literature on the substitution between social security wealth and private wealth.

We find that social security wealth significantly decreases wealth inequality in the European Union. However, a lot of variation in the strength of the equalizing power of the public pension system exists. The impact of social security wealth on (augmented) wealth inequality is strongest in Germany, Austria, Netherlands, and Estonia, while it is lowest in Greece and Slovenia, and Luxembourg.

Equalizing power of social security wealth is positively correlated with social security wealth – private wealth ratio (which may be seen as a measure of the size of the public pension system) and the share of single households in the population. Higher homeownership and a stronger correlation between the position of the household in the distribution of private wealth and its position in the distribution of augmented wealth weakens the equalizing power of the public pension system.

Social security wealth does not invalidate the European wealth hierarchy. Western Europe is not only private wealth richer, but also social security wealth richer. Social security wealth lowers not only within-country wealth inequality but also wealth inequality in the whole European Union (19 countries in our sample taken together). On the other hand, however, Theil index decomposition shows that the augmented wealth inequality in the European Union is to a larger extent generated by between-country inequality than private wealth inequality.

The paper is structured as follows. Data and methods are presented in the next section. Then we present the results. The discussion of results and research limitations follows. The last section concludes and indicates the direction for future research.

### **Methods**

The Eurosystem Household Finance and Consumption Survey (HFCS) is our main data source. We use microdata from the third wave of the survey, which was conducted in late 2016 or 2017. The HFCS is a complex wealth survey coordinated by the European Central Bank and conducted by national central banks and statistical agencies. In total 22 countries participated in the third wave of the HFCS. Our final sample includes 19 countries. We have to exclude Spain, where data is not yet available, and Ireland and Malta which provide data on age only in brackets. The HFCS is the best and almost only data source to study the distribution of household wealth in the European Union. HFCN (2020a) reviews the main outcomes of the survey, while HFCN (2020b) presents the methodology.

The main wealth concept used in the HFCS is net wealth is defined as the total value of assets – the total value of liabilities. The approach of survey organizers is consistent with *OECD Guidelines for Micro Statistics on Household Wealth* (OECD, 2013). This wealth concept excludes the value of public pension entitlements. According to the *Guidelines*, the main reason for this exclusion is the lack of comparable data on public pension entitlements. In this paper, we estimate the value of social security wealth and augmented wealth (the sum of private wealth and social security wealth). Therefore for clarity, we use the term *private wealth* instead of *net wealth*. The HFCS does not perfectly cover the very top of the wealth distribution (e.g. Bach et al. 2019, Brzeziński et al. 2020), but this limitation is not important in our context, because the impact of the social security wealth on wealth distribution occurs mostly in the bottom 90%.

The HFCS questionnaire includes questions on the value of social security accounts. However, the quality of answers given by respondents is too low to use this data directly. Moreover in many countries data is missing because of the structure of public pension systems. Therefore we have to estimate the value of social security wealth on our own. We limit our data sample to those, who already receive public pensions. Such an approach is common in the literature (e.g. Cowell et al., 2017). Our sample includes one and two-person households, in which all members already receive public pensions. In the HFCS the age of respondents is top-coded at 85 to protect their privacy. Because knowledge of the exact age of respondents is necessary to estimate the value of social security wealth we have to discard households, in which someone is older than 84 from our sample.

The value of social security wealth is estimated using the actuarial method. It equals a discounted cash flow of future public pension benefits. To estimate the value of social security wealth we use mortality rates implied by the Eurostat EUROPOP 2019 forecast (Eurostat, 2019). Therefore our estimate takes into account the rise in life expectancy during the retirement period. We estimate the value of social security wealth according to the formula given below.

$$(1) \quad SSW_i = \sum_{t=0}^T \frac{1}{(1+r)^t} * P_{i,t}$$

$$(2) \quad P_{i,t} = benefit_i * q_{i,t,g}$$

$SSW_i$  stands for the social security wealth of person  $i$ ,  $benefit_i$  stands for yearly pension benefit of person  $i$ ,  $q_{i,t,g}$  is the survival probability of person  $i$  differentiated by time, and gender, and  $r$  is the interest rate. We follow OECD (2019), Cowell et al. (2017), and Bönke et al. (2019) and use  $r = 2\%$ . The value of pension wealth is firstly calculated on the individual level, then it's calculated on the household level. Because in the European Union member states the rules on survivor pensions (known also as widowers' pensions) are very complex our estimates do not include the value of survivor pensions, which may be claimed in the future. In the case of many countries, HFCS does not include enough data to accurately estimate the value of future survivors' benefits. Moreover, in some countries, survivors' benefits are rather a tool of social policy, than a component of the pension system. We set the maximal age at 100, which is common in the literature.

The augmented wealth is a sum of private wealth and social security wealth.

$$(3) \quad \textit{Augmented wealth} = \textit{Private wealth} + \textit{Social security wealth}$$

To assess the impact of social security wealth on wealth inequality we use various measures of wealth inequality (Cowell, 2011). We apply inequality decomposition techniques. To investigate the impact of social security wealth on wealth inequality, we decompose the Gini index by factors (wealth components). The Gini index may be decomposed by factors using the following equation (Shorrocks, 1982; Lerman & Yitzhaki, 1985)

$$(4) \quad G = \sum_{k=1}^K R_k G_k S_k, \text{ where}$$

$S_k$  is the factor share in the total value of wealth,  $G_k$  stands for the value of the Gini index calculated for the distribution of the given factor,  $R_k$  stands for the so-called "Gini correlation" defined as  $\text{cov}(y_k, F(y)) : \text{cov}(y_k, F(y_k))$ . The value of augmented wealth serves as



the total value of wealth. Private wealth and social security wealth are studied components (factors).

It is also possible to estimate marginal effects and assess the impact of a marginal change in the value of a given component on total inequality (Stark, 1986).

$$(5) \quad \frac{\partial G}{\partial e} = S_k(G_k R_k - G)$$

$$(6) \quad \frac{\partial G/\partial e}{G} = \frac{S_k G_k R_k}{G} - S_k$$

We also decompose the Theil index to identify the contribution of between-countries and within-countries inequalities to overall augmented wealth inequality measured at the level of the European Union (19 countries under the investigation taken together). The equation given below presents the decomposition of the Theil index by subgroups (Cowell, 2011).

$$(7) \quad T = \sum_{k=1}^m \left( \frac{n_k}{n} \frac{\bar{y}_k}{\bar{y}} \right) T_k + \sum_{k=1}^m \frac{n_k}{n} \left( \frac{\bar{y}_k}{\bar{y}} \right) \ln \left( \frac{\bar{y}_k}{\bar{y}} \right)$$

The first term of the equation measures within-group inequality, while the second term measures between-group inequality. In our case countries serve as groups.  $N$  stands for a number of observations, and  $y$  depicts the value of a variable of interest (augmented wealth or its components).

## Results

Descriptive statistics are presented in Table 1. Mean wealth is higher in Western Europe than in Central and Eastern Europe. It's highest in Luxembourg and lowest in Latvia. In all countries except Luxembourg, the mean value of social security wealth is similar to or higher than the mean value of private wealth. On average the mean value of augmented wealth is 235% of the mean value of private wealth. The gap between augmented wealth and private wealth is the smallest in Luxembourg, where mean augmented wealth equals only 154% of mean private wealth. The gap is highest in Greece, where mean augmented wealth equals 369% of mean private wealth.

**Please insert Table 1 near here**

## **The impact of social security wealth on within-country wealth inequality**

The impact of social security wealth on wealth inequality depends on the correlation between the position of households in distributions of private wealth, social security wealth, and augmented wealth. If the same households are top private wealth holders and top social security wealth holders the equalizing power of social security wealth would be much weaker, than in the case in which, the correlation between the value of private wealth and the value of social security wealth would be weak. Table 2 presents various measures of correlation between private wealth, social security wealth, and augmented wealth. Firstly we present Pearson's  $r$ . The Kendall's  $\tau$ , which is a measure of rank correlation and as such is more robust to outliers than Pearson's  $r$ .

The correlation between private wealth and augmented wealth in the majority of countries is stronger than the correlation between private wealth and social security wealth. The correlation between private wealth and social security wealth is rather weak. The correlation between private wealth and social security wealth is highest in Latvia, France, and Italy, while it is low in Hungary, Lithuania, and Netherlands. It seems that countries with a high correlation between private wealth and social security wealth are to a large extent the same countries, that have a high correlation between income and wealth (Wroński 2021d). The correlation between private wealth and augmented wealth is strongest in Cyprus and Luxembourg, and weakest in Austria, Netherlands, and Poland. The correlation between social security wealth and augmented wealth is highest in Greece, Latvia, and Austria, while it's low in Luxembourg, Finland, and Belgium. The ranking of the countries depends on the chosen method of correlation measurement. Nevertheless, a significant cross-country variation in the link between investigated distributions exists.

**Please insert Table 2 near here**

The impact of social security wealth on wealth inequality is presented in Table 3. Wealth inequality varies significantly in the European Union. Private wealth is distributed most equally in Slovakia, Slovenia, and Poland (Gini index lower than 0.5), while wealth inequality is highest in Germany, Austria, Netherlands, and Cyprus (Gini index higher than 0.67). Social security wealth is distributed more equally than private wealth. While the Gini index calculated for the private wealth distribution in the majority of countries stands between 0.5 and 0.65, in the case of social security wealth distribution in the majority of countries it is lower than 0.4. Social security wealth inequality is highest in Finland, Portugal, and Slovenia, while it is lowest in Slovakia, Estonia, and Austria.

**Please insert Table 3 near here**

Social security wealth equalizes (augmented) wealth distribution in all countries in our sample. The augmented wealth inequality is 18 – 43% lower than private wealth inequality (if measured by the Gini index). The equalizing power of the public pension system differs across countries. It is strongest in Austria, Netherlands, Estonia, and Germany, where the value of the Gini index calculated for the augmented wealth distribution is ca. 40% lower than its value calculated for private wealth distribution. The equalizing impact of social security wealth is rather weak in Slovenia and Luxembourg, where augmented wealth inequality measured by the Gini index is only 18/20% lower than private wealth inequality.

The Gini index provides a simple and intuitive assessment of wealth inequality. However, we cannot assess the impact of social security wealth on different parts of the wealth distribution using only the Gini index. Therefore we use decile shares as a supplementary measure. The inclusion of social security wealth in household wealth increases (augmented) wealth shares of the bottom 50% and middle 40%, while it decreases the wealth share of the

top 10%. The data on wealth shares are presented in Appendix Table A1. Other measures of wealth inequality also confirm the equalizing impact of public pension systems.

To obtain precise measures of the impact of social security wealth on wealth inequality we decompose the Gini index. The results of the decomposition are presented in Table 4. In all countries in our data sample relative contribution of private wealth to wealth inequality is higher than the share of private wealth in augmented wealth. Marginal effects of social security wealth are negative and statistically significantly different from zero. This confirms that social security wealth is a wealth equalizer. However, significant variation in the size of marginal effects exists. The marginal increase in social security wealth would have only a very weak impact on augmented wealth inequality in Greece and Slovenia, while the impact in Estonia, Germany, Finland, and Latvia would be the strongest. The results of the decomposition of the Gini index by factors are presented in Table 4.

**Please insert Table 4 near here**

Why equalizing power of social security wealth differs across countries? To provide a preliminary answer to this question we investigate the correlation between equalizing power of the public pension system measured as the relative difference between the Gini index calculated for the augmented wealth distribution and the Gini index calculated for the private wealth distribution defined as  $(Gini_{AW} - Gini_{PW})/Gini_{PW}$  and possible explanatory factors. Figures 1-4 present correlation plots.

According to our results equalizing power of social security, wealth is positively correlated with the ratio of mean social security wealth to mean private wealth (which may be seen as a measure of the relative size of the public pension system) and the share of single households in the population. The equalizing power of social security wealth is negatively correlated with homeownership and the correlation between the distributions of augmented wealth and private wealth. In our view, homeownership and the share of single households in

the population influence the equalizing power of the public pension system mainly through their impact on private wealth inequality.

**Please insert Figure 1 near here**

### **The impact of social security wealth on cross-country wealth gaps.**

As data presented in Table 1 shows the mean wealth differs significantly across the countries in our sample. We find that social security wealth mitigates within-country wealth inequality. In this section, we investigate the impact of social security wealth on cross-country wealth gaps.

Data presented in Table 1 clearly indicates that social security wealth does not invalidate the European wealth hierarchy. In Western Europe not only the value of private wealth is higher than in Central and Eastern Europe, but also the value of social security wealth is higher. The wealth gap between Western Europe and Central and Eastern Europe is bigger in the case of augmented wealth than in the case of private wealth.

To identify the impact of social security wealth on cross-country wealth gaps we estimate the value of the Theil index and decompose it to identify between-country inequality and within-country inequality. In the case of private wealth, the Theil index equals 0.84, while in the case of social security wealth it equals only 0.31. This confirms that social security wealth is more equally distributed in the European Union than private wealth. In the case of augmented wealth Theil index is higher (0.40) than in the case of social security wealth, but still, it is much lower than in the case of private wealth. Thus social security wealth lowers wealth inequality not only within-country wealth distributions but also the European wealth distribution. The results of the decomposition of the Theil Index are presented in Table 5.

**Please insert Table 5 near here**

On the other hand, however, decomposition of the Theil index shows that social security wealth inequality and augmented wealth inequality are to a larger extent generated by between-country inequality. In the case of private wealth, between-country inequality is responsible for

less than 13% of total inequality. In the case of social security wealth contribution of between-country inequality equals ca. 28% of total inequality, while in the case of augmented wealth the contribution of between-country inequality stands at ca. 22%. However in the case of all investigated wealth concepts, wealth inequality in the European Union is mostly generated within country borders, not between countries.

### **Discussion**

In this paper, we provide internationally comparable measures of social security wealth in 19 European countries. In each of the countries in our sample, social security wealth is an important component of household wealth. Only in four countries (Cyprus, Luxembourg, Finland, and Croatia) the value of social security wealth is lower than the value of private wealth. However, even in these cases, the value of public pension entitlements is still higher than half of the private wealth. In our view, this result supports the inclusion of public pension entitlements to household wealth, at least in the case of pensioners, who already profit from their public pension entitlements.

The correlation between the position of the household in the distribution of social security wealth and the position in the distribution of the private wealth varies strongly across countries. The higher the correlation, the larger extent the public pension system replicates inequality caused by market forces. Interestingly, this correlation is higher in Western Europe than in Central and Eastern Europe.

We investigated the impact of social security wealth on wealth inequality. In each country in our sample, social security wealth equalizes the wealth distribution. Augmented wealth inequality is typically ca. 30% lower than private wealth inequality. Marginal effects identified through the inequality decomposition techniques confirm equalizing power of public pension systems. Public pension entitlements equalize the wealth distribution not only within-countries, but also at the level of the European Union (19 countries in our sample as a whole). In our view, this result indicates that researchers studying the inequality of wealth should consider

the role of public pension systems in their research. Because of the aging of society, the impact of public pension systems on the distribution of wealth will be increasing in the future.

The impact of the social security wealth on the wealth distribution is strongest in the bottom half of the distribution. Social security wealth is most important for those who have little private wealth. Therefore, in our opinion, the distributional aspects of public pension reforms cannot be ignored. Although reforms may be needed to increase the sustainability of public pension systems, sustainability should not be increased at the cost of the worse-off.

The value of public pension entitlements and the impact of the public pension system on wealth inequality varies strongly across countries. The value of social security wealth varies between 54% of private wealth in Luxembourg and 269% of private wealth in Greece. Therefore we think that social security wealth should be included in the cross-country studies of household wealth. Measuring only private wealth ignores the majority of household wealth, at least in the case of the older population. We show that the impact of social security wealth on (augmented) wealth inequality is correlated with the generosity of the public pension system (measured as the ratio of augmented wealth to private wealth), the share of single households, and homeownership. Although correlation does not mean causation, in our view this finding suggests that scholars of economic inequality should be interested not only in the distribution of income or wealth but also in the institutional setting of the economy and the society.

The impact of social security wealth on the wealth inequality in the European Union (19 countries taken together) is not straightforward. On the one hand, cross-country wealth gaps are bigger in the case of augmented wealth, than in the case of private wealth. Social security wealth does not invalidate the European wealth hierarchy. Western Europe is not only private wealth richer than Central and Eastern Europe, but also social security wealth richer and augmented wealth richer. On the other hand, social security wealth to some extent equalizes the

wealth distribution in Europe. However, social security wealth inequality is to a larger extent generated by between-country inequality, than in the case of private wealth.

### **Limitations**

There are two important limitations of our research. The first is the reliance on the survey data. As we discussed above survey data does not cover perfectly the top of the wealth distribution. However, the impact of the public pension wealth on augmented wealth distribution is highest in the bottom 90% of the wealth distribution. Therefore under coverage of the top wealth cannot significantly change our results.

The second limitation of our research is sample selection. Because data on public pension entitlements of the working-age population is scarce, we have to limit our sample to those, who already receive benefits from public pension systems. Although the limitation of the sample to pensioners may be seen as a shortcoming in our view it is not. Firstly, it allows for the investigation of the impact of social security wealth on wealth distribution among those, who already profit from their social security wealth. In the case of working-age households, social security wealth is only a theoretical concept. The estimation of the value of social security wealth is complicated by many non-linearities existing in pension systems, e.g. minimum pensions. The value of social security wealth of those, who are still working may change rapidly before they reach pension age and therefore measures of social security wealth of the working-age population are not robust (Borgmann & Heidler, 2007) The limitation of the sample to pensioners is common in the literature (e.g. Cowell et al, 2017)

### **Conclusions**

In this paper, we extend commonly used measures of household wealth to measure the impact of social security wealth on wealth inequality. We confirm that social security wealth equalizes wealth distribution in investigated countries and the European Union (19 investigated countries as a whole). In our view, the evidence presented in this paper provides important



arguments for the inclusion of social security wealth in the household wealth measures, or at least an auxiliary analysis of social security wealth in the research of household wealth.

### References

- Atkinson A.B. (1983). *The Economics of Inequality*. Oxford University Press: Oxford.
- Bach, S., Thiemann, A. & Zucco, A. (2019). Looking for the missing rich: tracing the top tail of the wealth distribution. *International Tax and Public Finance*, 26(6), 1234-58.
- Borgman C. & Heidler, M. (2007). Volatility of Social Security Wealth: Political Risks of Benefit-Rule Changes in Germany. *FinanzArchiv (Public Finance Analysis)*, 63(1), 83-106.
- Bönke, T., Grabka, M., Schröder, C., Wolff, E.N & Zyska, L. (2019). The Joint Distribution of Net Worth and Pension Wealth in Germany. *Review of Income and Wealth*, 65(4), 834-871.
- Bönke, T., Grabka, M., Schröder, C. & Wolff, E.N. (2020). A Head-to-Head Comparison of Augmented Wealth in Germany and the United State. *Scandinavian Journal of Economics*, 122(3), 1140-80.
- Brzeziński, M., Sałach K. & Wroński M. (2020). Wealth inequality in Central and Eastern Europe: evidence from joined household survey and rich lists' data. *Economics of Transition and Institutional Change*, 28(4), 637-660.
- Cowell, F. (2011). *Measuring Inequality*, LSE Perspectives in Economic Analysis. Oxford University Press: Oxford.
- Cowell, F. & P. Van Kerm (2015). Wealth Inequality: A Survey. *Journal of Economic Surveys*, 29(4), 671-710.
- Cowell, F., Nolan, B., Olivera, J. & P. Van Kerm (2017). Wealth, Top Incomes, and Inequality In Hamilton, K. and Hepburn, C. (Eds.). *National Wealth: What is Missing, Why it Matters* (pp. 175-204). Oxford: Oxford University Press.

- Dunn, A.D. & Hoffman, P.D.R.B. (1983). Distribution of Wealth in the United Kingdom: Effect of Including Pension Rights, and Analysis By Age-Group. *Review of Income and Wealth*, 29(3), 243-282.
- Fessler, P. & Schürz, M. (2018). Private Wealth Across European Countries: The Role of Income, Inheritance and the Welfare State. *Journal of Human Development and Capabilities*, 19(4), 521-549.
- Frick, J.R. & Headey, B. (2009). Living Standards in Retirement: Accepted International Comparisons are Misleading. *Schmollers Jahrbuch : Journal of Applied Social Science Studies / Zeitschrift für Wirtschafts- und Sozialwissenschaften*, 129(2), 309-319.
- HFCN (2020a). The Household Finance and Consumption Survey: Results from the 2017 wave, ECB Statistics Paper Series No 36. Frankfurt am Main: European Central Bank.
- HFCN (2020b). The Household Finance and Consumption Survey: Methodological report for the 2017 wave, ECB Statistics Paper Series No 35, Frankfurt am Main: European Central Bank.
- Jabłonowski, J. (2021). MPC out of Augmented Wealth in Poland. *Central European Journal of Economic Modelling and Econometrics*, 13(3), 253-286.
- Kuhn, U. (2020). Augmented wealth in Switzerland: the influence of pension wealth on wealth inequality. *Swiss Journal of Economics and Statistics*, 156, 19.
- Lerman, R.I. & S. Yitzhaki (1985). Income Inequality Effects by Income Source: A New Approach and Applications to the United States. *Review of Economics and Statistics*, 67(1), 151-156.
- Longmuir, M. (2021). *Fair Crack or the Whip? The Distribution of Augmented Wealth in Australia from 2002 to 2018*, Melbourne Institute Working Paper No. 04/21. University of Melbourne.

- Maunu, T. (2010). *The distribution of pension wealth in Finland*. Working Paper 10:3. Finnish Centre for Pensions.
- Mazzaferro C. & Toso, S. (2009). The Distribution of Total Wealth in Italy: 1991–2002. *Review of Income and Wealth*, 55(3), 779-802.
- OECD (2013). *OECD Guidelines for Micro Statistics on Household Wealth*, OECD Publishing.
- OECD (2019). Methodology and assumptions [in:] *Pensions at a Glance 2019*, OECD Publishing, Paris
- Piketty, T. (2014). *Capital in the Twenty-First Century*. Cambridge, MA: Harvard University Press.
- Roine, J. & Waldenström, D. (2009). Wealth Concentration over the Path of Development: Sweden, 1873–2006,. *Scandinavian Journal of Economics*, 111(1), 151-187.
- Sierminska, E. & Wronski, M. (2022). Inequality and Public Pension Entitlements. In K.F. Zimmermann (Ed.) *Handbook of Labor, Human Resources and Population Economics*, (forthcoming). Cham: Springer.
- Shorrocks, F.A. (1982). Inequality Decomposition by Factor Components. *Econometrica*, 50(1), 193-211.
- Skopek, N. (2015). Wealth as a Distinct Dimension of Social Inequality, *Bamberger Beiträge zur Soziologie*, 14. Bamberg: University of Bamberg Press.
- Stark, O., Taylor, J.E. & Yitzhaki, S. (1986). Remittances and Inequality. *Economic Journal*, 96(383), 722-740.
- Wolff, E.N. & M. Marley (1989). Long-Term Trends in U.S. Wealth Inequality: Methodological Issues and Results. In Lipsey, R.E. & Tice, H.S. (Eds.). *The Measurement of Saving, Investment, and Wealth*, *Studies In Income And Wealth* (pp. 765-844). Chicago: National Bureau of Economic Research.

- Wroński, M. (2021a). The impact of the public pension system on wealth inequality. The distribution of augmented wealth in Poland. *Applied Economics Letters*, first online
- Wroński, M. (2021b). *Wpływ uprawnień w publicznym systemie emerytalnym na rozkład majątku gospodarstw domowych w Polsce*. Doctoral dissertation. Warsaw: SGH Warsaw School of Economics.
- Wroński, M. (2021c). *Does Social Security Crowd out Private Wealth? A Survey of the Literature*. Available at SSRN: <https://ssrn.com/abstract=3839366>.
- Wroński, M. (2021d). Multidimensional inequality in the European Union. The joint distribution of household income, wealth and consumption. *Economics and Sociology*, 14(3), 205-219

**Table 1. Descriptive statistics.**

	Sample size	Mean			Ratio
		Private wealth (PW)	Social security wealth (SSW)	Augmented wealth (AW)	AW / PW
<b>Country</b>					
<b>Austria</b>	862	191,739 (14,757)	422,738 (9,364)	614,478 (20,960)	320%
<b>Belgium</b>	584	406,682 (35,208)	411,582 (19,882)	818,264 (44,400)	201%
<b>Cyprus</b>	188	289,009 (50,499)	204,816 (17,377)	493,825 (56,689)	171%
<b>Germany</b>	1,351	228,968 (14,793)	302,200 (7,445)	531,261 (17,575)	232%
<b>Estonia</b>	694	68,477 (5,448)	80,407 (2,445)	148,884 (6,774)	217%
<b>Finland</b>	543	127,120 (10,439)	68,449 (3,897)	195,569 (10,479)	154%
<b>France</b>	3,205	290,194 (8,865)	390,804 (5,903)	680,998 (12,395)	235%
<b>Greece</b>	502	81,436 (5,358)	219,178 (9,452)	300,613 (12,602)	369%
<b>Croatia</b>	281	81,816 (6,344)	68,584 (3,554)	150,400 (8,306)	184%
<b>Hungary</b>	2,016	57,021 (4,053)	67,934 (1,275)	124,955 (4,438)	219%
<b>Italy</b>	2,050	228,761 (9,129)	300,394 (7,232)	529,155 (12,688)	231%
<b>Lithuania</b>	266	73,768 (24,813)	61,821 (5,479)	135,588 (24,800)	184%
<b>Luxembourg</b>	233	1 445,700 (209,244)	779,410 (40,584)	2 225,110 (218,091)	154%
<b>Latvia</b>	369	30,649 (3,193)	54,425 (2,742)	85,073 (,276)	278%
<b>Netherlands</b>	792	175,627 (12,104)	280,519 (8,559)	456,147 (15,287)	260%
<b>Poland</b>	1,635	59,571 (1,753)	92,306 (1,883)	151,877 (2,787)	255%

<b>Portugal</b>	1,288	149,663 (15,384)	169,367 (5,949)	319,029 (17,761)	213%
<b>Slovenia</b>	437	116,127 (6,328)	122,725 (4,235)	238,853 (8,771)	206%
<b>Slovakia</b>	739	71,527 (4,080)	100,519 (1,935)	172,047 (4,929)	241%
<b>All</b>	18,035	212,340 (4,910)	285,827 (2,881)	498,190 (6,183)	235%

*Source: own estimation using HFCS data. Standard errors based on 1000 bootstrap*

*replications are presented in parentheses.*

**Table 2. Correlation between distributions.**

Country	Pearson's r	Pearson's r	Pearson's r	Kendall's T	Kendall's T	Kendall's T
	PW - SSW	PW-AW	SSW-AW	PW-SSW	NW-AW	SSW-AW
<b>Austria</b>	0.3824 (0.001)	0.8722 (0.001)	0.7842 (0.001)	.2872 (0.022)	.5683 (0.015)	0.7189 (0.014)
<b>Belgium</b>	0.2145 (0.002)	0.9195 (0.001)	0.5767 (0.002)	0.2551 (0.033)	0.6970 (0.018)	0.5581 (0.028)
<b>Cyprus</b>	0.1964 (0.003)	0.9768 (0.000)	0.3940 (0.004)	0.4518 (0.049)	0.7603 (0.032)	0.6915 (0.018)
<b>Germany</b>	0.2290 (0.001)	0.8986 (0.000)	0.6320 (0.001)	0.2605 (0.029)	0.6538 (0.015)	0.6068 (0.025)
<b>Estonia</b>	0.4327 (0.004)	0.9549 (0.001)	0.6757 (0.003)	0.2022 (0.029)	0.6421 (0.018)	0.5601 (0.020)
<b>Finland</b>	-0.1365 (0.001)	0.9486 (0.001)	0.1776 (0.002)	-0.1672 (0.034)	0.5742 (0.033)	0.2585 (0.034)
<b>France</b>	0.2584 (0.001)	0.9512 (0.001)	0.5395 (0.002)	0.3385 (0.014)	0.6689 (0.007)	0.6693 (0.010)
<b>Greece</b>	0.3831 (0.002)	0.7169 (0.001)	0.9180 (0.000)	0.2737 (0.033)	0.5071 (0.026)	0.7666 (0.015)
<b>Croatia</b>	0.3332 (0.002)	0.9165 (0.001)	0.6802 (0.002)	0.2909 (0.041)	0.7075 (0.025)	0.5834 (0.030)
<b>Hungary</b>	0.1923 (0.002)	0.9636 (0.001)	0.4201 (0.005)	0.2531 (0.017)	0.6192 (0.012)	0.6340 (0.011)
<b>Italy</b>	0.4048 (0.001)	0.8827 (0.000)	0.7865 (0.001)	0.3330 (0.017)	0.6647 (0.010)	0.6684 (0.012)
<b>Lithuania</b>	0.0796 (0.002)	0.8992 (0.002)	0.4868 (0.004)	0.1801 (0.049)	0.6096 (0.044)	0.5705 (0.043)
<b>Luxembourg</b>	0.1826 (0.006)	0.9780 (0.001)	0.3215 (0.009)	0.2832 (0.044)	0.7372 (0.021)	0.5460 (0.037)
<b>Latvia</b>	0.4836 (0.003)	0.8944 (0.008)	0.8207 (0.002)	0.2949 (0.039)	0.5891 (0.028)	0.7057 (0.022)
<b>Netherlands</b>	0.1133 (0.002)	0.8519 (0.001)	0.6125 (0.002)	0.0830 (0.027)	0.5141 (0.022)	0.5690 (0.020)
<b>Poland</b>	0.2321 (0.002)	0.7712 (0.002)	0.7931 (0.001)	0.1972 (0.018)	0.5807 (0.012)	0.6165 (0.012)
<b>Portugal</b>	0.2683 (0.003)	0.9328 (0.001)	0.5773 (0.005)	0.2593 (0.026)	0.6240 (0.017)	0.6354 (0.017)
<b>Slovenia</b>	0.3600 (0.002)	0.8695 (0.001)	0.7713 (0.001)	0.2759 (0.032)	0.6210 (0.020)	0.6549 (0.020)
<b>Slovakia</b>	0.3179 (0.001)	0.8862 (0.001)	0.7176 (0.002)	0.3079 (0.025)	0.6514 (0.017)	0.6565 (0.015)

*Source: own estimation using HFCS data. Standard errors based on 1000 bootstrap replications are presented in parentheses*

**Table 3. The impact of social security wealth on wealth inequality – change in the Gini coefficient**

<b>Country</b>	<b>PW Gini</b>	<b>SSW Gini</b>	<b>AW Gini</b>	<b>AW - PW diff (abs.)</b>	<b>AW/PW diff (rel.)</b>
<b>Austria</b>	0.6744 (0.000)	0.3275 (0.000)	0.3852 (0.000)	-0.2119 0.000	- 43.28% (0.03%)
<b>Belgium</b>	0.5659 (0.001)	0.3465 (0.000)	0.3984 (0.001)	-0.1675 (0.000)	-29.57% (0.05%)
<b>Cyprus</b>	0.7813 (0.001)	0.4217 (0.001)	0.5973 (0.001)	-0.1840 (0.001)	-23.56% (0.07%)
<b>Germany</b>	0.6793 (0.000)	0.3672 (0.000)	0.4320 (0.000)	-0.2474 (0.000)	-36.41% (0.00%)
<b>Estonia</b>	0.6447 (0.001)	0.2994 (0.000)	0.4011 (0.001)	-0.2437 (0.000)	-37.80% (0.05%)
<b>Finland</b>	0.6962 (0.001)	0.5157 (0.000)	0.4857 (0.000)	-0.2105 (0.000)	-30.24% (0.06%)
<b>France</b>	0.5843 (0.000)	0.3522 (0.000)	0.4004 (0.000)	-0.1840 (0.000)	-31.48% (0.02%)
<b>Greece</b>	0.5101 (0.001)	0.3705 (0.000)	0.3565 (0.000)	-0.1536 (0.001)	-30.06% (0.01%)
<b>Croatia</b>	0.5101 (0.001)	0.3742 (0.000)	0.3909 (0.001)	-0.1192 (0.000)	-23.35% (0.06%)
<b>Hungary</b>	0.5779 (0.001)	0.3326 (0.000)	0.3912 (0.001)	-0.1867 (0.000)	-32.30% (0.03%)
<b>Italy</b>	0.5710 (0.000)	0.3952 (0.000)	0.4194 (0.000)	-0.1516 (0.000)	-26.54% (0.03%)
<b>Lithuania</b>	0.5621 (0.002)	0.3998 (0.001)	0.4288 (0.001)	-0.1333 (0.001)	-23.58% (0.08%)
<b>Luxembourg</b>	0.6240 (0.003)	0.4004 (0.001)	0.5001 (0.002)	-0.1239 (0.001)	-19.96% (0.06%)
<b>Latvia</b>	0.6593 (0.001)	0.3891 (0.001)	0.4347 (0.001)	-0.2246 (0.001)	-34.06% (0.07%)
<b>Netherlands</b>	0.6978 (0.001)	0.3747 (0.000)	0.4030 (0.000)	-0.2948 (0.000)	-42.23% (0.05%)
<b>Poland</b>	0.4944 (0.000)	0.3379 (0.000)	0.3315 (0.000)	-0.1628 (0.000)	-32.93% (0.04%)
<b>Portugal</b>	0.6381 (0.001)	0.4576 (0.000)	0.4860 (0.001)	-0.1521 (0.000)	-23.81% (0.04%)



<b>Slovenia</b>	0.4616	0.4237	0.3790	-0.083	-17.84%
	(0.001)	(0.000)	(0.000)	(0.000)	(0.07%)
<b>Slovakia</b>	0.4520	0.2755	0.3019	-0.1501	-33.17%
	(0.001)	(0.000)	(0.000)	(0.000)	(0.05%)

*Note: “PW” stands for private wealth, “SSW” stands for social security wealth, “AW” stands for augmented wealth.*

*Source: own estimation using HFCS data. Standard errors based on 1000 bootstrap replications are presented in parentheses.*

**Table 4. Wealth inequality – the decomposition of the Gini coefficient by source**

Country	PW	SSW	PW	SSW	PW	SSW
	share in AW	share in AW	share ineq	share ineq	marginal effects	marginal effects
<b>Austria</b>	31.23%	68.77%	47.74%	52.27%	0.1650	- 0.1650
	(0.04%)	(0.04%)	(0.07%)	(0.07%)	(0.000)	(0.000)
<b>Belgium</b>	49.64%	50.36%	65.12%	34.87%	0.1548	-0.1549
	(0.06%)	(0.06%)	(0.10%)	(0.10%)	(0.001)	(0.001)
<b>Cyprus</b>	58.26%	41.74%	74.36%	25.62%	0.1609	-0.1612
	(0.13%)	(0.13%)	(0.14%)	(0.14%)	(0.000)	(0.000)
<b>Germany</b>	43.01%	56.98%	61.64%	38.35%	0.1863	-0.1863
	(0.04%)	(0.04%)	(0.06%)	(0.06%)	(0.000)	(0.000)
<b>Estonia</b>	45.95%	54.05%	67.97%	32.01%	0.2202	-0.2204
	(0.05%)	(0.05%)	(0.08%)	(0.08%)	(0.000)	(0.000)
<b>Finland</b>	64.83%	35.17%	82.68%	17.32%	0.1785	-0.1785
	(0.08%)	(0.08%)	(0.09%)	(0.09%)	(0.000)	(0.000)
<b>France</b>	42.64%	57.36%	56.57%	43.42%	0.1393	-0.1394
	(0.02%)	(0.02%)	(0.03%)	(0.03)	(0.000)	(0.000)
<b>Greece</b>	27.08%	72.92%	29.23%	70.78%	0.0215	-0.0214
	(0.03%)	(0.03%)	(0.07%)	(0.07%)	(0.000)	(0.000)
<b>Croatia</b>	54.39%	45.61%	65.22%	34.78%	0.1083	-0.1084
	(0.06%)	(0.06%)	(0.10%)	(0.10%)	(0.001)	(0.001)
<b>Hungary</b>	45.55%	54.45%	60.71%	39.29%	0.1516	-0.1516
	(0.06%)	(0.06%)	(0.10%)	(0.10%)	(0.000)	(0.000)
<b>Italy</b>	43.18%	56.82%	53.03%	46.97%	0.0985	-0.0986
	(0.03%)	(0.03%)	(0.05%)	(0.05%)	(0.000)	(0.000)
<b>Lithuania</b>	54.13%	46.16%	63.74%	36.26%	0.0961	-0.0990
	(0.16%)	(0.17%)	(0.31%)	(0.31%)	(0.002)	(0.002)
<b>Luxembourg</b>	64.22%	35.85%	76.95%	23.03%	0.1273	-0.1282
	(0.17%)	(0.17%)	(0.21%)	(0.21%)	(0.001)	(0.001)
<b>Latvia</b>	36.02%	63.98%	48.20%	51.78%	0.1218	-0.1220
	(0.06%)	(0.06%)	(0.10%)	(0.10%)	(0.000)	(0.000)
<b>Netherlands</b>	38.31%	61.47%	55.88%	44.11%	0.1757	-0.1736
	(0.05%)	(0.05%)	(0.09%)	(0.09%)	(0.001)	(0.001)
<b>Poland</b>	39.22%	60.78%	47.95%	52.05%	0.0873	-0.0874
	(0.02%)	(0.02%)	(0.06%)	(0.06%)	(0.000)	(0.000)
<b>Portugal</b>	46.83%	53.17%	55.61%	44.38%	0.0878	-0.0879
	(0.07%)	(0.07%)	(0.12%)	(0.12%)	(0.000)	(0.000)

<b>Slovenia</b>	48.62%	51.38%	50.94%	49.05%	0.0232	-0.0233
	(0.04%)	(0.04%)	(0.08%)	(0.08%)	(0.001)	(0.001)
<b>Slovakia</b>	41.54%	58.46%	54.58%	45.43%	0.1304	-0.1303
	(0.03%)	(0.03%)	(0.08%)	(0.08%)	(0.001)	(0.001)

*Note: “PW” stands for private wealth, “SSW” stands for social security wealth, “AW” stands for augmented wealth.*

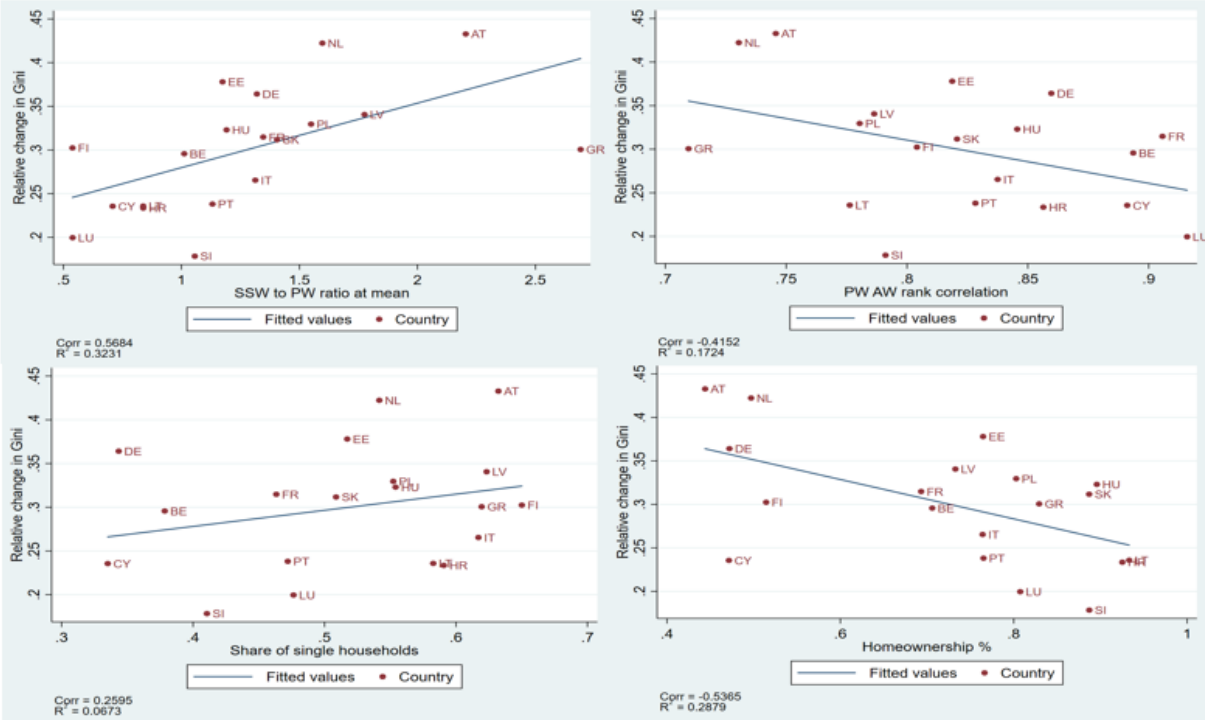
*Source: own estimation using HFCS data. Standard errors based on 1000 bootstrap replications are presented in parentheses.*

**Table 5. The decomposition of the Theil Index**

<b>Stat</b>	<b>PW</b>	<b>SSW</b>	<b>AW</b>
<b>Theil</b>	0.8408 (0.001)	0.3101 (0.001)	0.3967 (0.000)
<b>Theil_within</b>	0.7392 (0.001)	0.2243 (0.001)	0.3081 (0.001)
<b>Theil_between</b>	0.1016 (0.001)	0.0858 (0.000)	0.0886 (0.000)
<b>Theil_within: share</b>	87.91% (0.02%)	72.34% (0.02%)	77.66% (0.02%)
<b>Theil_between: share</b>	12.09% (0.02%)	27.66% (0.02%)	22.34% (0.02%)

*Source: own estimation using HFCS data. Standard errors based on 1000 bootstrap replications are presented in parentheses.*

**Figure 1. Various correlates of equalizing power of social security system (measured by the relative change in the Gini index)**



Source: own estimation.

**Table A1. The impact of social security wealth on wealth inequality – deciles shares**

Country	Bottom 50%			Middle 40%			Top 10%		
	PW	SSW	AW	PW	SSW	AW	PW	SSW	AW
<b>Austria</b>	5.2%	27.0%	23.9%	45.7%	49.7%	47.8%	49.1%	23.4%	28.3%
	(0.5%)	(0.6%)	(0.7%)	(2.1%)	(0.5%)	(0.8%)	(2.4%)	(0.6%)	(1.2%)
<b>Belgium</b>	13.6%	26.0%	23.3%	46.3%	47.3%	47.4%	40.1%	26.6%	29.3%
	(1.5%)	(1.0%)	(1.2%)	(2.6%)	(1.1%)	(1.4%)	(3.4%)	(1.5%)	(2.0%)
<b>Cyprus</b>	4.2%	22.4%	13.1%	31.7%	46.3%	40.1%	64.1%	31.3%	46.7%
	(1.5%)	(1.9%)	(1.7%)	(4.6%)	(2.3%)	(3.5%)	(5.3%)	(2.6%)	(4.3%)
<b>Germany</b>	5.2%	24.7%	20.9%	48.3%	48.7%	48.7%	46.5%	26.6%	32.2%
	(0.7%)	(0.7%)	(0.8%)	(1.9%)	(0.6%)	(0.9%)	(2.2%)	(0.8%)	(2.2%)
<b>Estonia</b>	8.9%	29.1%	23.9%	42.5%	47.5%	43.9%	48.6%	23.4	32.2%
	(1.0%)	(0.8%)	(1.0%)	(2.4%)	(1.1%)	(1.4%)	(3.0%)	(1.7%)	(2.2%)
<b>Finland</b>	4.8%	15.9%	18.3%	47.6%	47.5%	46.6%	47.7%	36.6%	35.1%
	(1.0%)	(1.0%)	(1.1%)	(2.7%)	(1.3%)	(1.8%)	(3.1%)	(1.8%)	(2.5%)
<b>France</b>	11.9%	25.3%	22.9%	46.5%	50.2%	48.0%	41.6%	24.5%	29.0%
	(0.6%)	(0.4%)	(0.4%)	(1.0%)	(0.3%)	(0.5%)	(1.2%)	(0.4%)	(0.7%)
<b>Greece</b>	16.5%	23.8%	24.9%	48.1%	50.7%	49.9%	35.3%	25.5%	25.1%
	(1.0%)	(0.9%)	(0.9%)	(1.3%)	(1.2%)	(1.2%)	(1.8%)	(1.2%)	(1.2%)
<b>Croatia</b>	17.3%	23.8%	23.6%	47.0%	50.1%	49.4%	35.7%	26.2%	27.0%
	(1.5%)	(1.2%)	(1.2%)	(1.8%)	(1.1%)	(1.3%)	(2.4%)	(1.3%)	(1.8%)
<b>Hungary</b>	15.4%	26.7%	24.8%	39.9%	48.6%	44.1%	44.7%	24.7%	31.0%
	(1.0%)	(0.5%)	(0.8%)	(2.5%)	(0.5%)	(1.3%)	(3.4%)	(0.6%)	(2.1%)
<b>Italy</b>	13.5%	22.9%	21.9%	45.8%	48.7%	48.3%	40.7%	28.4%	29.9%
	(0.6%)	(0.5%)	(0.5%)	(1.0%)	(0.5%)	(0.5%)	(1.3%)	(0.6%)	(0.7%)
<b>Lithuania</b>	15.2%	24.8%	22.4%	36.4%	44.0%	40.9%	48.4%	31.2%	36.8%
	(4.2%)	(2.0%)	(3.6%)	(8.4%)	(1.7%)	(5.3%)	(12.2%)	(2.9%)	(8.5%)
<b>Luxembourg</b>	11.9%	22.3%	18.3%	34.5%	49.7%	40.5%	53.6%	28.0%	41.2%
	(2.4%)	(1.5%)	(2.2%)	(6.1%)	(1.4%)	(4.3%)	(8.2%)	(1.4%)	(6.1%)
<b>Latvia</b>	10.7%	23.1%	21.8%	40.7%	47.8%	44.7%	48.6%	29.1%	33.5%
	(1.4%)	(1.1%)	(1.3%)	(2.5%)	(1.1%)	(1.4%)	(3.3%)	(1.6%)	(2.2%)
<b>Netherlands</b>	5.7%	24.2%	22.9%	46.2%	48.6%	48.2%	48.1%	27.2%	28.9%
	(0.6%)	(0.9%)	(0.9%)	(2.1%)	(0.8%)	(1.0%)	(2.4%)	(1.3%)	(1.5%)
<b>Poland</b>	18.8%	26.7%	27.8%	49.1%	48.7%	47.9%	32.1%	24.6%	24.3%
	(0.7%)	(0.6%)	(0.5%)	(0.9%)	(0.7%)	(0.6%)	(1.3%)	(1.1%)	(0.9%)
<b>Portugal</b>	11.0%	19.9%	19.3%	39.5%	44.7%	41.8%	49.5%	35.4%	38.9%
	(1.2%)	(0.7%)	(1.0%)	(3.2%)	(0.9%)	(1.7%)	(4.2%)	(1.2%)	(2.5%)
<b>Slovenia</b>	19.7%	19.2%	23.7%	48.0%	54.9%	50.5%	32.3%	25.9%	25.9%
	(1.1%)	(1.3%)	(1.0%)	(1.6%)	(0.9%)	(1.8%)	(2.1%)	(0.8%)	(1.3%)

<b>Slovakia</b>	21.3%	30.5%	29.8%	47.2%	49.9%	48.2%	31.5%	19.6%	22.1%
	(1.3%)	(0.6%)	(0.8%)	(1.9%)	(0.5%)	(0.8%)	(2.8%)	(0.6%)	(1.3%)

*Note: “PW” stands for private wealth, “SSW” stands for social security wealth, “AW” stands for augmented wealth.*

*Source: own estimation using HFCS data. Standard errors based on 1000 bootstrap replications are presented in parentheses.*