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Household wealth in Central and Eastern Europe Explaining the wealth gap between Poland and Hungary

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Abstract

In this paper, we compare the distribution of household wealth in Estonia, Hungary, Latvia, Poland, and Slovakia. This comparison leads to a striking result. Despite similar levels of economic development, households in Poland are two times wealthier than their Hungarian counterparts. Therefore in the second part of the paper, we estimate the counterfactual wealth distribution that would exist if the household composition in Poland was the same as in Hungary in order to investigate if differences in the household structure explain this gap. According to our results, the different household composition explains only approx. 15% of the wealth gap.

Keywords: Central and Eastern Europe, household wealth, wealth inequality, counterfactual distribution

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1. Introduction

Data on household wealth are much more scarce than those on household income. This scarcity is especially severe in Central and Eastern Europe. In the majority of countries in this region, there exists no separate household wealth survey. Even if a household wealth survey has been developed in the given country, the level of international comparability of results is low due to the methodological differences. Moreover, the use of administrative data for economic research is much less intensive than in Western Europe due to the relatively low level of data management in public administration and bureaucratic barriers.

In this paper, we aim to estimate the distribution of household wealth in chosen Central and Eastern European countries and explain the wealth gap between Poland and Hungary, the pair of countries in which the difference in household wealth is largest. Hence, our research will extend our knowledge of cross-country wealth gaps and their determinants. Based on microdata from the Eurosystem Household Finance and Consumption Survey, we compare the household wealth distribution in Estonia, Latvia, Poland, Hungary, and Slovakia. The survey was conducted in Estonia in 2013 and in all the remaining countries in 2014. The comparison of the wealth distribution in Poland and Hungary leads to striking results. Despite similar levels of economic development, households in Poland are significantly wealthier than their Hungarian counterparts. The median household net wealth in Poland is more than two times higher than the median household net wealth in Hungary. This difference is significant also on different levels of household wealth distribution. The issue of the wealth gap between Poland and Hungary has not been addressed before in economic literature.

Wealth is usually measured at the household level because households pool their income and consumption. Therefore the wealth gap between Poland and Hungary could be a result of differences in the household structure in both countries. To investigate if household composition explains the wealth gap, we estimate the counterfactual wealth distribution which would exist if the household composition in Poland was the same as in Hungary. Differences in the household structure explain part of the gap, but more remains unexplained. This result is not surprising. Household wealth is a complex phenomenon impacted by many factors. Among other sources of the wealth gap, we identify higher household gross income, higher real estate prices, and higher market capitalization of the stock exchange.

A review of the literature is presented in the next section. Our data source (Household Finance and Consumption Survey) is presented in Section 3. We present the estimated distribution of household wealth in CEE countries and discuss the wealth gap between Poland and Hungary in Section 4. In Section 5 we presented the method used in this paper to estimate the counterfactual distribution of wealth which would have prevailed in Poland if the household composition was the same as in Hungary. In Section 6 we present an estimated counterfactual distribution. We discuss other explanations of the wealth gap between Poland and Hungary in Section 7. The last section concludes, discusses the limitation of our research, and proposes future research directions.

2. Literature review

The financial crisis proved that data on economic aggregates is not enough for public policy. The Financial Stability Board and International Monetary Fund (FSB, IMF 2009) recommend that

data on economic aggregates should be analyzed together with data on the distribution of economic variables, such as income, consumption, and wealth. The Eurosystem Household Finance and Consumption Network (2009) identifies multiple reasons why the distribution of household wealth and income is important for public policy. Microdata on household wealth is crucial for the analysis of wealth effects on consumption, the monitoring of the housing market and household indebtedness, and public policy reforms (esp. pension policy). Microdata on household wealth is also very important in the investigation of financial innovations, consumption smoothing, and portfolio selection. Moreover, it's necessary for the analysis of wealth inequality.

After the last financial crisis, central banks made significant investments in the collection of microdata on household wealth. The development of a new pan-European survey of household wealth – Household Finance and Consumption Survey, which is used in this paper – is a good example here. At the same time, economic inequality returned to the mainstream of economic research (Piketty 2014; Hirschman 2016; Savage 2021). Thus in recent years, we have observed an explosion of research on economic inequality and wealth inequality.

Although the research on economic inequality in Central and Eastern Europe is less advanced than in Western Europe, our knowledge has extended significantly in recent years. Bukowski and Novokmet (2021), Wagner (2020), and Wroński (2021a, 2021b, 2022a) provide new estimates of economic inequality in Poland in the past. Brzeziński, Sałach and Wroński (2020) estimate top-corrected wealth inequality in Central and Eastern Europe using joined survey and rich list data. Pekasiewicz (2021) corrects the survey-based estimates of top incomes by fitting the Pareto distribution. Brzeziński and Sałach (2021) investigate the determinants of wealth inequality in CEE countries. Wroński (2021c) investigates the multidimensional inequality of consumption, income, and wealth. Jabłonowski (2021) and Wroński (2021d) investigate the impact of the public pension system on household wealth distribution and find that the social security system equalizes household (augmented) wealth.

In this paper, we describe the distribution of wealth in five CEE countries participating in the Household Finance and Consumption Survey (Poland, Hungary, Lithuania, Latvia, Estonia) and try to explain the wealth gap between Poland and Hungary, which is most striking, because, despite the similar level of income, Hungarian households have two times less wealth than Polish households. Because wealth is measured on the household level, the varying household composition in Poland and Hungary may explain the wealth gap. To check the viability of this explanation, we estimate the counterfactual distribution which would have prevailed in Poland if the household composition had been the same as in Hungary. The importance of household composition in cross-country wealth comparison has been discussed by Cowell, Karagiannaki and McKnight (2017) and highlighted by the empirical research by Bover (2010), Christelis, Georgarakos and Haliassos (2013), Fessler, Lindner and Segalla (2014), Mathä, Porpiglia and Ziegelmeyer (2014), Biewen, Glaisner and Kleimann (2021) and Palomino et al. (2021), who identify household characteristics as important factors in explaining cross-country wealth gaps. However, this issue has not been investigated before in Central and Eastern Europe.

3. Data

We use data from the second wave of the Household Finance and Consumption Survey (ECB 2016a). The HFCS is a household wealth survey coordinated by the European Central Bank and conducted in

a decentralized way by national partners. The European Central Bank is responsible for the development of survey questionnaires and common methodology, while national partners survey each participating country. The European Central Bank pools the data and controls the quality of country datasets. The highest possible harmonization of the survey among countries and a high level of international comparability of results are important goals of survey organizers.

Five countries from the CEE region participated in the second wave of the survey. In each of them, HFCS was the first comprehensive survey on household wealth ever conducted. In Estonia, the survey was conducted in 2013, while in Hungary, Latvia, Poland, and Slovakia the fieldwork period was in 2014.

Lower response rates of wealthy households are an important problem in wealth surveys. Oversampling is a standard tool used by survey organizers to solve it, at least partially. In the HFCS oversampling of wealthy households was conducted in 15 of 20 participating countries. Despite common methodology, national partners are allowed to choose the rules of oversampling to correct lower response rates of wealthier households. Although the lack of standardization in this area limits the comparability of household wealth at the top of the distribution, the possibilities to standardize oversampling strategies are highly limited. Because of differences among countries, no universal solution to the problem of choosing the best oversampling rule exist.

Estonia and Latvia oversampled wealthy households using tax registers. Hungary and Poland oversampled households from the wealthiest regions in the country. Slovakia also used a regional oversampling strategy, but it was based on smaller regional units than in Poland and Hungary. Oversampling rates are presented in Figure 1.

In Hungary, Poland, and Slovakia the effective rate of oversampling is relatively low, while in Estonia and Latvia it is much higher. Differences in the effective oversampling rates between the first and second groups of the countries may limit the comparability of top wealth shares, while the comparability of medians and estimates at different percentiles of distribution remains unaffected. Moreover, the direction of this effect is clear: the net wealth of the top 10% and top 5% of households in Estonia and Latvia would be lower if both countries used similar oversampling strategies as Hungary, Poland and Slovakia.

HFCS follows OECD (2013) guidelines for micro statistics on household wealth. The survey is based on the concept of private marketable wealth. Net wealth is defined as real assets plus financial assets minus household liabilities. Real assets are composed of a household's main residence, other real estate property, self-employed business, vehicles, and other valuables. Financial assets consist of deposits, mutual funds, bonds, stocks, private pension plans and whole life insurance policies, money owed to the household, and any other financial assets. Total debt is the sum of collateralized, uncollateralized debt, credit card debt, and overdrafts. Savings in public pension plans are not included in the balance sheet, because social security wealth is not a part of private marketable wealth. The household balance sheet is presented in Table 1.

Wealth is measured at the household level because households usually pool their income and consumption. Therefore differences in the household composition across countries are one of the crucial problems in the cross-country wealth comparisons (Cowell, Karagiannaki, McKnight 2017). Problems arising due to the different household compositions can be illustrated with an intuitive example. We can imagine two countries A and B, both populated with 10 individuals each endowed with one unit of wealth. In country A they form 5 households, while in country B they form 8 households. In country A we would observe perfect wealth equality, while in country B wealth would be unequally distributed.

The size of the household is only a basic factor – the composition of households can be differentiated also by age and gender composition or by marital status (Wroński 2019). Thence HFCS contains not only data on household wealth, but also a broad set of variables describing the characteristics of a household and its members.

Item non-response is a common phenomenon in complex surveys. To limit this problem, survey organizers use a multiple imputation approach (ECB 2016b). If the value of the variable was missing five values were imputed. Our analysis of multiply imputed data follows the approach of Rubin (2004).

4. Household wealth in Central and Eastern Europe

The data on household wealth distribution in CEE countries are presented in Table 2. Median household net wealth is highest in Poland (EUR 57,095) and slightly lower in Slovakia (EUR 50,316). In Latvia median net wealth (EUR 14,180) is the lowest, while Hungary (EUR 26,198) and Estonia (EUR 43,474) stand in the middle of the country ranking. Although the difference in mean net wealth in Poland (EUR 96,413) and Estonia (EUR 96,994) is not statistically significant, it is probably the effect of a higher effective rate of oversampling of the top decile in the second country. The mean net wealth in Slovakia (EUR 66,047) is lower than in Poland, while Hungary (EUR 50,817) and Latvia (EUR 40,044) still occupy the end of the ranking.

At the 10th percentile of net wealth distribution, the gap between Estonia, Hungary, Latvia, and Poland is not statistically significant, while the households in Slovakia are significantly richer than their CEE counterparts. At the 25th percentile of the net wealth distribution, households in Slovakia are still wealthiest, but at the 75th and 90th percentile, Poland occupies the top position. The net wealth at the bottom of the distribution in Slovakia is higher than in Poland despite higher overall wealth levels in the second country, because of lower wealth inequalities. At the 95th percentile of net wealth distribution, the difference in net wealth between Poland and Estonia is not statistically significant, while at the 99th percentile Estonia stands alone at the top, while Poland and Latvia come second. Higher net wealth at the 95th and 99th percentile in Estonia than in Poland may to a large extent be the effect of higher oversampling rates in the first country.

The net wealth in investigated countries is smaller than in Western Europe because of the limited possibilities of wealth accumulation during the communist period. There is only one exception to this rule. The median household net wealth in Germany (EUR 60,800) is statistically insignificant from the median household net wealth in Poland (EUR 57,095). Mean net wealth is however two times higher in Germany than in Poland. The low level of homeownership in Germany is probably the most important factor explaining the low level of median household wealth in this country.

Data on the inequality of net wealth distribution are presented in Table 3. Wealth inequality measured by the Gini coefficient is highest in Latvia and lowest in Slovakia. Estonia, Hungary, and Poland occupy the middle of the ranking in descending order. If we use the Theil Index instead of the Gini coefficient, Latvia is still at the top, but ex aequo with Estonia. The order of other countries remains unchanged. Inequality measured by Mean Log Deviation is highest (ex aequo) in Estonia and Latvia, similar in Poland and Hungary, and still lowest in Slovakia. The top 1% of households has 23.6% of total net wealth in Latvia, 21.4% in Estonia, 17.3% in Hungary, 12.1% in Poland, and only 9.4% in Slovakia. The top 5% of the households own nearly half of the total net wealth in Latvia and more than

40% in Estonia. The share of the bottom half of the net wealth distribution is highest in Slovakia (17.4%) and lowest in Latvia (2.8%)

In Latvia wealth inequality measured by the Gini coefficient is the highest among all 20 countries participating in the HFCS. In Estonia, wealth inequality is also significantly higher than the HFCS median, while in Poland and Hungary it is lower than the HFCS median. Wealth inequality in Slovakia is the lowest among all countries participating in the HFCS. Latvia has the highest wealth inequality also when measured by the top decile and the top 5% shares. Similarly, wealth inequality in Slovakia measured by top decile and top 5% shares is also the lowest among the participating countries.

Survey data tend to underestimate wealth inequality because the rich less often participate in surveys (Bricker, Henriques, Krimmel 2016; Vermeulen 2016; 2018; Bach, Thiemann, Zucco 2019; Kennickell 2019; Meriküll, Rõõm 2021). Brzeziński, Sałach and Wroński (2020) adjust wealth inequality measures based on HFCS data using evidence on top wealth holders available on national rich lists. According to their estimates, wealth inequality in CEE countries rises significantly after the adjustment. A comparison with adjusted (top-corrected) measures of wealth inequality in Western Europe indicates that despite the short period of unconstrained wealth accumulation, CEE countries have to a large extent caught up with wealth inequality levels existent in advanced economies. Adjustment of wealth inequality data does not change the ranking of CEE countries. Wealth inequality is still highest in Latvia and lowest in Slovakia.

The structure of household wealth portfolios in Central and Eastern Europe is presented in Table 4. The biggest difference between Central and Eastern and Western Europe is the much higher level of homeownership in the former. In each of the investigated countries, more than 75% of households own a household main residence, while in Slovakia the homeownership rate stands at 85%, which is the highest value among the countries participating in the HFCS. Among the rest of the countries participating in the HFCS, only Spain has homeownership in this range, while in Germany and Austria less than 50% of households own a household main residence. This difference is the result of the broad privatization of social housing after the transition from a centrally planned to a market economy in Central and Eastern Europe. Moreover, the rental market is relatively undeveloped in Central and Eastern Europe.

The second important difference between Central and Eastern Europe and Western Europe countries is the lower level of bond ownership and share ownership in the first region. This difference is a result of the lower development of financial markets and different institutional history.

In general, there is no striking difference in asset participation among CEE countries. The share of households holding self-employment business wealth is highest in Poland (18.9%), while the difference among the rest of the countries is statistically insignificant. The participation in financial assets is highest in Estonia (98.8%) and lowest in Latvia (80.1%). The result for Latvia is also the lowest among all countries participating in the HFCS. Low participation in financial assets in Latvia could be the effect of the financial crisis, which was especially severe in this country. The share of households owning voluntary pension/life insurance in Poland (51.3%) is much higher than in other countries (8.8–19.8%), but it is simply a result of different institutional settings.

The share of households having debt is similar in all countries. Mortgage debt is most common in Estonia and Hungary and least common in Poland. Non-mortgage debt is most popular in Poland and least popular in Latvia. The share of households having credit line/overdraft debt is about two times higher in Hungary than in other countries. Credit card debt is most common in Estonia and least common in Latvia.

In each country owners of a household main residence are significantly wealthier than renters. If a household owns a household main residence, it forms the lion's share of household assets, which results in a weak diversification of the household wealth portfolio. The low level of diversification of household portfolios is a robust result in the research on personal finance, holding also for the rest of the countries participating in the HFCS (ECB 2016a).

4.1. Explaining the wealth gap between Poland and Hungary

The difference in wealth levels between Poland and Hungary is the most striking result of our research on household wealth in Central and Eastern Europe. The median wealth in Poland is 2.17 times bigger than the median wealth in Hungary. The ratio of mean wealth in Poland to mean wealth in Hungary stands at 1.89. Even at the 90th or 95th percentile of wealth distribution, the difference between both countries is about twofold.

Both countries have a similar level of economic development, and a comparable structure of the economy and institutional setting. Moreover, Hungary is usually perceived in Poland as a wealthier country, mainly because living standards before 1989 were much higher in Hungary than in Poland. Data on GDP in Poland and Hungary are presented in Table 8. Before 2011, GDP was significantly higher in Hungary; later the level of GDP was similar in both countries. The evolution of GDP per capita in both countries is presented in Figure 2.

In the following sections of the paper, we explain the wealth gap between Poland and Hungary. As the first step, we estimate the counterfactual distribution, which would exist if the structure of households in Poland was the same as in Hungary. Thereafter we identify other possible explanations for the wealth gap.

4.2. Household structure in Poland and Hungary

The composition of households in Poland and Hungary and median/mean wealth for each type of household is presented in Table 5. Single-person households are more common in Hungary than in Poland. Two single-person household types account together for 27% of households in Hungary and 24% of households in Poland. A household type consisting of two adults younger than 65 years is more common in Poland than in Hungary, while households consisting of two adults and at least one older than 65 years are more frequent in Hungary. Two household types consisting of two adults without children account together for 15.3% of households in Poland and 14.1% in Hungary. More households consist of three adults without children in Poland (10.8%) than in Hungary (9.1%). The prevalence of single-parent households is higher in Poland (9.4%) than in Hungary (7.3%). Households consisting of two adults and one child occur with the same frequency (3.1%) in Poland and Hungary. In Poland, there are far more households consisting of two adults and two children than in Hungary (13.3% vs 5.8%), while households with two adults and 3 or more children are more popular in Hungary (17.1% vs 13.8%). Households composed of three adults and children are more common in Hungary (16.3%) than in Poland (10.3%).

The share of single-person households in Poland is the second-lowest in the group of countries participating in the HFCS, while the share of single-person households in Hungary is similar to the mean. The share of households consisting of 4 or 5 members in Poland is the second-highest in the HFCS. The frequency of 4- or 5-person households in Hungary is similar to the mean among countries participating in the HFCS. Households in both countries are younger than on average in the HFCS.

Median net wealth is higher for each type of household in Poland than in Hungary. The mean net wealth is higher in Poland for each type of household except households composed of two adults and one child. For median net wealth this difference is highest for households composed of two adults and one child (3.56 : 1), while it is lowest for households consisting of two adults, at least one older than 65 years (1.69 : 1). The difference in mean net wealth is highest for households consisting of two adults and two children (2 : 1) and lowest for households composed of three adults and children (1.53 : 1).

5. Estimation method

Decomposition methods are an important tool of economic analysis. Decomposition techniques allow for estimation of counterfactual distribution, which would exist if given characteristics of the considered group (e.g. men vs. women) were the same as in the case of another group. In 2021 the Nobel Memorial Prize in Economics was awarded to David Card, Joshua Angrist, and Guido W. Imbens for their methodological contributions to causal analysis in economics. Decomposition methods were the foundation of many of their contributions (see The Committee… 2021 for the discussion). They could be used for decomposing the differences in wages between men and women (Oaxaca 1973; Blinder 1973; Słoczyński 2012) to analyze the effect of labour market institution change on wage distribution (DiNardo, Fortin, Lemieux 1996) to decompose the private-public school performance gap (Delprato, Chudgar 2018) or to evaluate public policies and identify treatment effects (Słoczyński 2015). This framework is also used by researchers to control for differences in the household composition by comparing wealth distribution across countries.

Fortin, Lemieux and Firpo (2011) discuss various decomposition methods that have been developed since the 1970s. The original method proposed by Oaxaca (1973) and Blinder (1973) has been significantly improved. Decomposition methods have been extended to cover other distributional parameters than the mean (e.g. variance, quantiles, and various inequality measures). Novel decomposition methods such as weighted or pooled Oaxaca-Blinder decomposition (Oaxaca, Ransom 1994; Cotton 1998) and non-linear Oaxaca-Blinder decomposition (Fairlie 2005) have been developed. More advanced methods include inverse propensity reweighting (DiNardo, Fortin, Lemieux 1996), estimation of conditional distributions (Chernozhukov, Fernández-Val, Melly 2013), and recentred influence functions (RIF) regressions (Firpo et al. 2018). Significant progress has been made in dealing with the practical problems that arise in applying decomposition methods such as omitted group problem, unequal group size (Słoczyński 2020), and cases in which the true regression equation may not be linear. Decomposition has been used to evaluate various public policies and identify treatment effects (see e.g. Słoczyński 2015). Semiparametric estimators of the conditional distribution (e.g. Angrist, Pischke 2008) play a dominant role in empirical work.

Fessler, Lindner and Segalla (2014) study the link between household structure and wealth distribution in 14 European countries using household classification controlling for age, gender, and the

number of household members based on the first wave of the Household Finance and Consumption Survey. They find that imposing a common household structure has strong effects on wealth distribution and inequality measures. For the median 50% of the differences between countries are explained for Austria, 15% for Germany, 25% for Italy, 14% for Spain, and 38% for Malta. The effects of imposing a common household structure are significant also for other countries. Bover (2010) studies the impact of household structure on wealth distribution in the US and Spain. Christelis, Georgarakos and Haliassos (2013) examine the influence of household characteristics on the ownership of different types of real and financial assets in 12 European countries and the US, concentrating on households with members older than 50 years. Biewen et al. (2021) use Oaxaca-Blinder decomposition to decompose mean wealth differences between Germany and Spain, France, Italy, Greece, and the Netherlands. They find that lower homeownership is a major factor explaining the relatively low mean wealth of German households, but the high relative income positions of Germans in Europe more than make up for this disadvantage. Counterfactual decomposition has also been used by Mathä, Porpiglia and Ziegelmeyer (2014) to investigate the influence of homeownership on household wealth in the euro area. Palomino et al. (2021) estimate counterfactual distributions to measure the impact of intergenerational wealth transfers and family background on wealth inequality in France, Great Britain, Spain, and the USA.

Let Y_j denote net wealth and X_j denote wealth-relevant household characteristics (in our case the type of the household) over two countries. Let $j = 0$ for Poland and $j = 1$ for Hungary. The conditional distribution functions $F_{Y0|X0}(y|x)$ and $F_{Y1|X1}(y|x)$ describe the stochastic assignment of net wealth for households with wealth-relevant characteristics x in Poland and Hungary respectively. Let $F_{Y(0|0)}$ and $F_{Y(1|1)}$ denote the existing distribution function for Hungary and Poland and let $F_{Y(0|1)}$ stands for the counterfactual distribution function of net wealth that would exist if Hungarian households faced the same relation between net wealth and wealth-relevant household characteristics as in Poland:

$$F_{Y(0|1)}(y) = \int_{x1} F_{Y0|X0}(y|x) dF_{X1}(x) \tag{1}$$

This distribution is constructed by integrating the conditional distribution of net wealth for Polish households with the distribution of characteristics for Hungarian households. Therefore it is called counterfactual. The formula includes the integral because we apply semiparametric quantile regressions (Chernozhukov, Fernández-Val, Melly 2013) and decompose the wealth gap between Poland and Hungary, not only at the mean, but also across the wealth distribution. The difference between the observed and counterfactual distribution can be decomposed following Oaxaca (1973) and Blinder (1973) as:

$$F_{Y(1|1)} - F_{Y(0|0)} = [F_{Y(1|1)} - F_{Y(0|1)}] + [F_{Y(0|1)} - F_{Y(0|0)}] \tag{2}$$

where the first term in brackets is because of the differences in net wealth structure conditional on household characteristics and the second term is the difference due to household characteristics (Chernozhukov, Fernández-Val, Melly 2013).

In this paper, we decompose the net wealth function. However, many other functions can be decomposed in this way. Let us think about the wage function. In such a case, a man and woman may be the investigated groups and the first term of the decomposition $[F_{Y(1|1)} - F_{Y(0|1)}]$ may be seen

as a measure of gender discrimination. In this context, the first term shows the difference in wage schedule (varying returns to the same characteristics of men and women), while the second term shows the explained part of the gender wage gap (the wage gap resulting from the different characteristics of men and women). Decomposition methods are widely used in labour economics to study wage distribution. In the context of public policy evaluation, treated and non-treated may serve as groups under investigation and the first term of the decomposition may be seen as the estimator of the population average effect of the treated (PATT) (see Słoczyński 2015).

Identified decomposition effects do not always have a causual interpretation. However, if the household structure existing in the country is exogenous to the household wealth the effects of change in characteristics can be interpreted as causal. Household formation is influenced not only by individual decisions, but also by institutions such as culture, tradition, religion, family and tax law, the demographic structure of the population, or re-marriage possibilities. Therefore decomposition is not only interesting from a descriptive point of view, but can also provide suggestive evidence about the impact of household structure on wealth distribution (Bover 2010).

In our estimation, we implement the semiparametric quantile regression method proposed by Chernozhukov, Fernández-Val and Melly (2013). This allows us for decomposing the wealth gaps between Poland and Hungary across the wealth distribution, not only at the mean. The estimation is conducted using 100 regressions and 100 bootstrap replications.

6. Counterfactual distribution

Cumulative distributions of net wealth in Poland and Hungary and the counterfactual distribution ("Poland with Hungarian household structure") are presented in Figures 3 and 4. The counterfactual net wealth is lower than net wealth in Poland for almost the whole distribution – the only exceptions are the 96th, 97th, and 98th percentiles. The difference between the original Polish and Hungarian wealth distribution as well as the difference between the counterfactual Polish and Hungarian distribution are presented in Figures 5 and 6.

After the imposition of the Hungarian household structure, the median net wealth in Poland would decline from EUR 57,095 to EUR 55,176. The share of households with zero or negative net worth would remain at 6%. The net wealth at the 90th percentile of wealth distribution would decrease from EUR 209,701 to EUR 202,474. The P90/P50 ratio would increase from 3.673 to 4.1238. As we can see the counterfactual distribution differs only slightly from the existing Polish wealth distribution.

The median value of real assets in Poland would decrease from EUR 70,131 to EUR 67,283. The median value of financial assets would remain nearly the same (EUR 1,961 vs EUR 1,987). The median value of total liabilities would drop from EUR 2,378 to EUR 2,220. The median value of a household's main residence would decrease from EUR 64,445 to EUR 62,318.

The relative difference between net wealth distribution existing in Poland and counterfactual net wealth distribution defined as the absolute difference divided by net wealth in Poland (both calculated at each percentile) is highest in the bottom two deciles and lowest in the top decile. As written above at the 96th, 97th, and 98th percentile of net wealth distribution the counterfactual net wealth is higher than the existing net wealth.

As we can see the household composition explains the part of the wealth gap between Poland and Hungary, but most of the gap remains unexplained. The difference between counterfactual Polish net wealth and Hungarian net wealth distribution is on average 13% smaller than the difference between existing net wealth distributions in Poland and Hungary.

7. Other factors explaining the wealth gap between Poland and Hungary

Although differences in household composition explain a part of the wealth gap between Poland and Hungary, much more remains unexplained. In this section, we discuss the viability of our calculations, the results of HFCS, and other possible explanations for the wealth gap.

Cross-checking our calculations with ECB publications presenting general results of the HFCS (ECB 2016a) and other national publications presenting results of the survey in both countries (NBP 2015; Boldizsár et al. 2016; Grejcz, Żółkiewski 2017; Simon, Valentiny 2017) proves that our calculations are correct.

It would be beneficial to cross-check the results of the HFCS with another household wealth survey. However, it is unfortunately impossible because in both countries the HFCS was the first comprehensive household wealth survey ever conducted. It should be however noted that Polish and Hungarian researchers see HFCS results as reliable, also comparing with macroeconomic aggregates (NBP 2015; Boldizsár et al. 2016; Grejcz, Żółkiewski 2017; Simon, Valentiny 2017). In the case of Poland, we can also compare the results of the HFCS wave analyzed in this paper with the results of the next wave of HFCS. The second wave of HFCS in Poland was realized in 2016, and publications presenting general results have been published at the end of 2017 (NBP 2017a; 2017b). The results of the next wave of HFCS also confirm the reliability of the first wave of HFCS in Poland. There are of course some changes in the value of net wealth and different asset types, but the levels are similar as in the survey realized in 2014.

In both countries, the surveys were conducted using national currencies and then recalculated to the euro using average exchange rates. If the exchange rate of one currency was especially strong or weak in 2013/2014 compared to the past or present much of the wealth gap could be the result of exchange rate fluctuations. This is however not our case – the exchange rates used for conversion to euro are similar to actual exchange rates.

Data on household income in both countries is presented in Table 6. Despite similar levels of GDP, the gross household income is significantly higher in Poland than in Hungary. Although this enables Polish households to accumulate more wealth than their Hungarian counterparts, we should remember that differences in wealth are to a large extent the result of income differences from the past. The median gross household income in Poland stands at EUR 13,430, while in Hungary it is equal to EUR 7,924. The mean value for Poland is EUR 16,829 and for Hungary, it is EUR 10,782. It should be noted that gross household income is bigger than in Hungary, not only in Poland, but in all the countries investigated in this paper. According to the Eurostat statistics based on the EU – SILC median equalized incomes are also lower in Hungary, but only by about 20%. Similarly, the Eurostat statistics on salaries confirm the gap between incomes in Poland and Hungary, but not the extent of this gap. HFCS may overestimate the income gap between Poland and Hungary because it is focused on wealth instead of income. Finally, the unreliability of income data in the Hungarian HFCS does not invalidate the reliability of wealth data, which is confirmed by macroeconomic statistics.

Because net wealth is defined as the difference between the value of total assets and total liabilities, it is theoretically possible that households in both countries have assets of similar value, but households in one of them are significantly more indebted. Although the relative indebtedness of households is higher in Hungary than in Poland, this difference can explain only a part of the wealth gap. Moreover, not only the median net wealth but also the median value of total assets is higher in Poland.

Real estate forms the lion's share of household assets. Real estate prices vary among countries, so *ceteris paribus* households living in a country with a higher price level will have higher net wealth. In 2014, according to Deloitte (2015), the average transaction price of a new dwelling was lower in Hungary (950 EUR/sqm) than in Poland (1,100 EUR/sqm). We should, however, note that the prices of new dwellings provide only limited information about the level of real estate prices, because of the quality difference between new dwellings and old real estate.

General insight from HFCS confirms Deloitte's estimation – the mean size and mean value of the household main residence is significantly higher in Poland than in Hungary. The median value of HMR (conditional on participation) is equal to EUR 64,445 in Poland and EUR 26,138 in Hungary. The difference is significant for the whole distribution. More detailed information about the value of HMR in Poland and Hungary is presented in Table 7.

Brzeziński and Sałach (2021) investigate why wealth inequality differs between CEE countries using HFCS data. Although they focus on wealth inequality instead of wealth value, they conclude that different patterns of homeownership are responsible for up to 42% of the wealth inequality differential. Their results support our view that real estate may be an important factor explaining the wealth gap between Poland and Hungary.

The financial crisis affected real estate prices in many countries. The impact of the financial crisis on the housing market is visible also in Poland and Hungary. Real estate prices measured by the House Price Index calculated by Eurostat decreased in both countries after the financial crisis. This decrease was slightly bigger in Hungary, but there was no revolutionary difference between both countries.

The market capitalization of the stock exchange relative to GDP varies among countries. The value of market capitalization of the stock exchange in comparison with GDP in 2014 was significantly higher in Poland (72.86%) than in Hungary (11.38%). The Warsaw Stock Exchange is the main exchange in the CEE region, while the Budapest Stock Exchange has only a regional role. The relative importance of this factor is, however, limited because the number of households owning shares is low in both countries. The mean value of shares conditional on participation is statistically indifferent in Poland and Hungary. Moreover, even if we look at the households having the shares of the highest value, the difference between Poland and Hungary is still not statistically significant. However, households own shares also indirectly through mutual funds or other legal entities, which makes the exact comparison of household shareholding patterns in Poland and Hungary impossible.

The substitution between the welfare state and private wealth is confirmed by economic research since the 1970s (Feldstein 1974; Hubbard 1986; Hurd, Michaud, Rohwedder 2012; Lachowska, Myck 2018; Wroński 2021e). Fessler and Schürz (2018) confirmed that higher social security spending decreases private net wealth based on data from the first wave of HFCS. According to their results, the impact of a 1 percentage point increase in state pensions expenditure as a share of GDP is a 20% decrease of net wealth at the 10th percentile of net wealth distribution. Social security spending shows a similar, but smaller (10% less net wealth at 10th net wealth percentile), effect. The impact of the welfare state is weaker at the higher percentiles of net wealth distribution. In the case of pension spending, it remains

at above 10% less wealth and in the case of social security spending, it is close to zero. On the other hand, however, Wroński (2022b) finds that the impact of social security wealth on the cross-country wealth gap is not straightforward. The conclusions on the impact of social security wealth on the cross-country wealth gaps (if social security wealth equalizes cross-country wealth gaps) depend to a large extent on chosen assessment methods.

According to OECD data, the level of welfare spending is similar in both countries. The public spending on pensions is higher in Poland (11.6% versus 10.2% of GDP). The social security expenditure level is nearly the same in Poland (20.2% of GDP) and Hungary (20.6% of GDP). Therefore the welfare state channel cannot explain the wealth gap between Poland and Hungary.

According to Eurostat, the value of public debt relative to GDP in 2014 was much higher in Hungary (76.6%) than in Poland (50.3%). We should, however, keep in mind that government bonds are the assets of households, so if the public debt level has any impact on household wealth it should be positive. Of course, we should also remember that only part of public debt is owned by households living in a given country. HFCS provides information about bonds owned by households, but it does not differentiate between a government bond and other bonds.

8. Conclusions

Data on household wealth are much more scarce than those on household income. This scarcity is especially severe in Central and Eastern Europe. In this paper, we use the data from the second wave of the Household Finance and Consumption Survey to compare household wealth distribution in Estonia, Hungary, Latvia, Poland, and Slovakia.

The median net wealth is highest in Poland and lowest in Latvia. Wealth at the bottom of the distribution is highest in Slovakia, while wealth at the top of the distribution is highest in Poland and Estonia. The wealth inequality measured by the Gini coefficient is highest in Latvia and lowest in Slovakia. These two countries occupy the top and the bottom of the inequality ranking also among all 20 countries participating in the HFCS.

The wealth gap between Poland and Hungary is the most striking finding of our paper. Despite the similar level of economic development and higher GDP levels in Hungary, households in Poland are approximately two times richer than their Hungarian counterparts. In the second part of the paper, we estimate a counterfactual distribution to investigate if a different household structure explains this gap.

The impact of the difference in household structure is significant but too small to explain the whole wealth gap. The different household composition explains only approx. 15% of the wealth gap. Thus, the majority of the gap remains unexplained and is driven by other factors than household composition. Among other explaining factors we identified higher household gross income, higher real estate prices, and higher market capitalization of the stock exchange in Poland.

The most important limitation of our research is the estimation of household wealth based on survey data, which may underestimate top wealth. Unfortunately, no administrative dataset on household wealth is available for researchers in investigated countries. Moreover, the wealth gap between Poland and Hungary exists along the wealth distribution, the difference in median/mean wealth is not driven by top wealth. Therefore, the impact of imperfect coverage of top wealth on our outcomes is small. The decomposition method used in this paper may be used in the future to better

understand wealth gaps between other pairs of countries. Because the literature on cross-country wealth gaps is relatively limited, further investigation in this area remains a promising research topic.

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Appendix

Table 1
Household balance sheet

Assets	Liabilities
Real asset	**Mortgage loans**
Household main residence	Mortgage loans for household main residence
Other real estate	Mortgage loans for other real estate
Vehicles	Credit card debt and credit lines / bank overdrafts
Valuables	Other, non-collateralized, loans
Self-employment business wealth	
Financial assets	**Net worth = assets – liabilities**
Deposits	
Mutual funds	
Shares	
Bonds	
Receivables	
Voluntary pension programs / Whole life insurance policies	
Other financial assets	

Source: own based on ECB (2016a).

Table 2
Net wealth distribution in Central and Eastern Europe (2004)

	Estonia	Hungary	Latvia	Poland	Slovakia
Median (SE)	43,474 (2,198)	26,198 (477)	14,180 (97)	57,095 (2,256)	50,316 (1,346)
Mean (SE)	96,994 (6,811)	50,817 (1,828)	40,044 (5,035)	96,413 (3,241)	66,047 (2,481)
P10 (CI 95%)	388 (221)	97 (318)	0 (11)	541 (132)	3,520 (778)
P25 (CI 95%)	11,044 (1,121)	9,802 (357)	3,052 (613)	21,539 (1,566)	25,186 (2,138)
P75 (CI 95%)	90,881 (2,696)	55,860 (1,642)	35,034 (2,146)	121,141 (3,468)	82,448 (2,693)
P90 (CI 95%)	194,924 (8,502)	108,038 (3,645)	82,625 (10,439)	209,701 (7,260)	131,704 (7,820)
P95 (CI 95%)	317,739 (18,960)	160,568 (5,434)	149,608 (20,181)	301,828 (14,724)	176,060 (14,742)
P99 (CI 95%)	932,276 (94,884)	438,416 (29,385)	602,898 (207,312)	665,129 (73,007)	313,246 (59,711)

Note: all values in euros, "PX" stands for xth percentile of the net wealth distribution.

Source: own based on ECB(2016a).

Table 3
Wealth inequality in CEE (2013/2014)

	Estonia	Hungary	Latvia	Poland	Slovakia
Gini (CI 95%)	0.691 (0.651; 0.732)	0.641 (0.620; 0.662)	0.785 (0.733; 0.838)	0.587 (0.568; 0.606)	0.573 (0.554; 0.591)
Theil (CI 95%)	1.093 (0.751; 1.434)	0.793 (0.680; 0.906)	1.141 (0.890; 1.391)	0.613 (0.547; 0.679)	0.448 (0.347; 0.548)
Mean log deviation (CI 95%)	1.296 (1.229; 1.363)	0.848 (0.841; 0.854)	1.283 (1.202; 1.365)	0.878 (0.869; 0.887)	0.559 (0.536; 0.584)
Top 1% share (CI 95%)	21.4 (12,5; 30.2)	17.3 (13.8; 20.8)	23.6 (17.2; 29.9)	12.1 (9.7; 14.4)	9.4 (6.4; 12.6)
Top 5% share (CI 95%)	43.3 (32.3; 39.1)	35.7 (32.3; 39.1)	49.2 (40.8; 57.7)	29.1 (26.5; 31.7)	23.0 (19.9; 26.2)
Top 10% share (CI 95%)	55.7 (49.9; 61.5)	48.5 (45.6; 51.4)	56.5 (48.5; 70.3)	41.9 (39.5; 44.3)	34.6 (31.6; 37.5)
Bottom 50% share (CI 95%)	8.7 (6.2; 9.5)	9.5 (8.7; 10.2)	2.8 (0.5; 5.2)	11.3 (10.5; 12.2)	17.4 (16.0; 18.8)

Source: own calculation based on HFCS data.

Table 4
Structure of household wealth portfolios in CEE countries (2013/2014)

	Estonia	Hungary	Latvia	Poland	Slovakia
Real assets					
Has real assets (CI 95%)	0.871 (0.860; 0.882)	0.904 (0.893; 0.915)	0.867 (0.839; 0.894)	0.888 (0.875; 0.901)	0.904 (0.893; 0.915)
Has household main residence (CI 95%)	0.765 (0.765; 0.765)	0.842 (0.830; 0.854)	0.760 (0.725; 0.796)	0.774 (0.756; 0.792)	0.853 (0.831; 0.875)
Has self-employment business wealth (CI 95%)	0.117 (0.104; 0.129)	0.120 (0.111; 0.128)	0.107 (0.083; 0.132)	0.189 (0.172; 0.206)	0.108 (0.087; 0.128)
Financial assets					
Has financial assets (CI 95%)	0.988 (0.982; 0.993)	0.828 (0.813; 0.842)	0.801 (0.771; 0.831)	0.828 (0.813; 0.842)	0.887 (0.871; 0.903)
Has deposits (CI 95%)	0.985 (0.980; 0.992)	0.811 (0.796; 0.826)	0.785 (0.753; 0.817)	0.828 (0.813; 0.843)	0.882 (0.865; 0.898)
Has mutual funds (CI 95%)	0.315 (0.024; 0.039)	0.074 (0.066; 0.810)	0.001 (0.000; 0.002)	0.042 (0.033; 0.050)	0.020 (0.012; 0.028)
Has bond (CI 95%)	0.001 (0.000 0.002)	0.073 (0.065; 0.082)	0.003 (0.000; 0.007)	0.010 (0.007; 0,014)	0.003 (0.000; 0.005)
Has shares (CI 95%)	0.035 (0.028; 0.433)	0.013 (0.01; 0.017)	0.008 (0.002; 0.014)	0.035 (0.027; 0.43)	0.021 (0.01; 0.034)
Has voluntary pension/life insurance (CI 95%)	0.198 (0.182; 0.214)	0.153 (0.143; 0.163)	0.088 (0.065; 0.112)	0.513 (0.490; 0.535)	0.155 (0.131; 0.179)
Liabilities					
Has debt (CI 95%)	0.368 (0.349; 0.384)	0.369 (0.353; 0.384)	0.335 (0.304; 0.366)	0.370 (0.350; 0.390)	0.367 (0.339; 0.394)
Has mortgage debt (CI 95%)	0.187 (0.172; 0.201)	0.188 (0.176; 0.199)	0.135 (0.108; 0.161)	0.12 (0.107; 0.133)	0.152 (0.130; 0.173)
Has non-mortgage debt (CI 95%)	0.251 (0.233; 0.269)	0.255 (0.239; 0.271)	0.230 (0.200; 0.260)	0.284 (0.265; 0.303)	0.253 (0.227; 0.279)
Has credit line / overdraft (CI 95%)	0.096 (0.084; 0.109)	0.114 (0.104; 0.126)	0.057 (0.039; 0.074)	0.061 (0.051; 0.072)	0.061 (0.047; 0.075)

Source: own calculation of the basis of HFCS data.

Table 5
Composition of households in Poland and Hungary (2014)

	Poland			Hungary		
HHTYPE	Share	Median NW	Mean NW	Share	Median NW	Mean NW
1 A < 65y	0.149	52,851 (45,854; 59,309)	95,759 (81,424; 110,095)	0.16	27,565 (23,903; 31,227)	51,311 (44,717; 57,906)
1 A > 65y	0.091	62,702 (55,469; 69,935	88,499 (78,328; 98,670)	0.112	35,221 (31,415; 39,026)	58,162 (50,917; 65,407)
2 A < 65y	0.129	85,531 (70,175; 100,526)	123,681 (107,869; 139,494)	0.099	37,205 (32,720; 41,689)	64,806 (52,043; 77,570)
2 A > 65y	0.024	29,869 (18,311; 41,427)	70,346 (20,243; 120,448)	0.042	17,365 (12,556; 22,173)	39,986 (27,225; 52,747)
3 + A	0.108	59,802 (40,373; 79,231)	91,727 (78,362; 105,091)	0.091	28,742 (24,738; 32,746)	57,485 (41,685; 73,285)
1A + C	0.094	68,307 (54,316; 82,299)	116,141 (93,750; 138,533)	0.073	39,038 (32,632; 45,445)	71,300 (56,249; 86,351)
2A + 1 C	0.031	66,534 (44,179; 88,888)	133,330 (88,944; 177,718)	0.03	18,671 (11,516; 25,827)	85,527 (31,875; 139,178)
2A + 2 C	0.133	100,779 (82,260;119,298)	142,743 (115,254; 170,231)	0.058	37,736 (28,780; 46,693)	71,262 (59,194; 83,329)
2A + 3(+) C	0.138	31,576 (23,965; 39,187)	54,674 (47,129; 62,619)	0.171	18,061 (15,662; 20,459)	32,065 (20,492; 36,639)
3A + C	0.103	33,646 (28,658; 38,634)	44,976 (42,768; 56,183)	0.163	19,017 (17.063; 20,972)	32,502 (25,983; 39,021)

Note: mean and median net wealth are given in euro. Confidence intervals 95% are given below each net wealth value.

Source: own calculation based on HFCS data.

Table 6
Gross household income distribution in Poland and Hungary (2014)

	Poland	Hungary
Median (CI 95%)	13,430 (12,840; 14,019)	7,924 (7,714; 8,133)
Mean (CI 95%)	16,829 (16,202; 17,445)	10,782 (10,459; 11,105)
P10 (CI 95%)	4,476 (4,224; 4,729)	3,041 (2,960; 3,122)
P25 (CI 95%)	7,477 (7,074; 7,880)	4,436 (4,286; 4,585)
P75 (CI 95%)	21,938 (20,953; 22,923)	13,454 (13,180; 13,728)
P90 (CI 95%)	32,377 (30,511; 34,242)	21,051 (20,354; 21,748)
P95 (CI 95%)	41,015 (38,282; 43,748)	27,283 (26,208; 28,376)
P99 (CI 95%)	65,699 (55,656; 75,741)	55,900 (46,961; 64,842)

Note: all values are given in euro.

Source: own calculation using HFCS data.

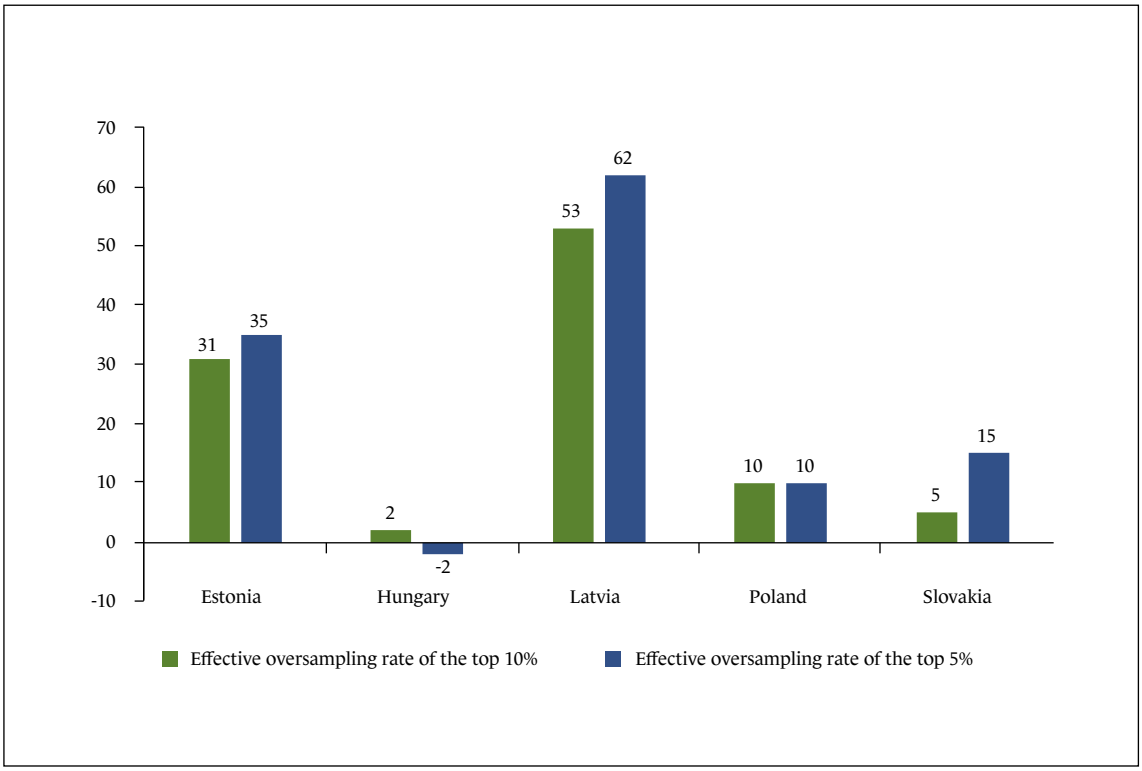
Table 7
The distribution of the value of the household's main residence

	Poland	Hungary
Median (CI 95%)	64,445 (58,981; 69,910)	26,138 (25,628; 26,647)
Mean (CI 95%)	87,409 (83,039; 91,780)	36,990 (35,042; 38,938)
P10 (CI 95%)	23,897 (21,891; 25,905)	7,109 (5,508; 8,711)
P25 (CI 95%)	38,236 (36,172; 40,301)	15,258 (13,574; 16,942)
P75 (CI 95%)	109,213 (103,494; 114,931)	49,008 (47,604; 54,013)
P90 (CI 95%)	167,537 (158,526; 176,549)	75,146 (69,816; 80,476)
P95 (CI 95%)	215,724 (196,100; 235,349)	98,017 (92,882; 103,151)
P99 (CI 95%)	410,029 (307,974; 512,085)	163,361 (137,024; 189,698)

Note: all values are given in euro.

Source: own calculation using HFCS data.

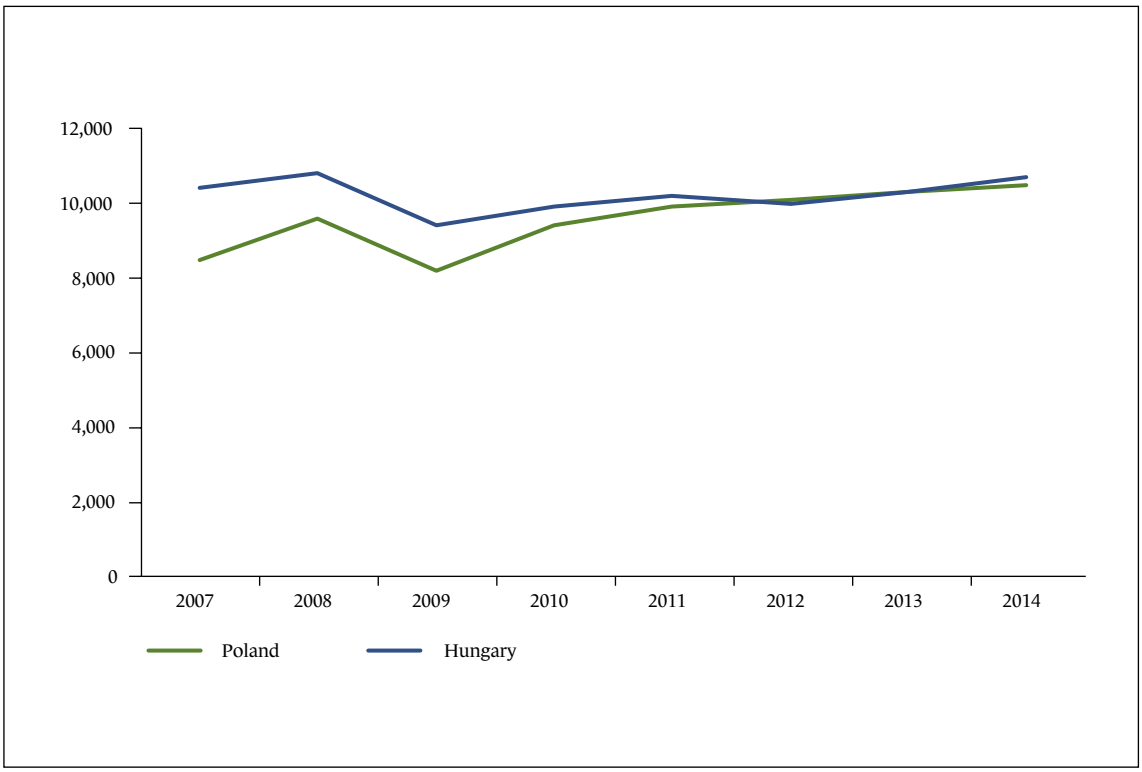
Figure 1
Effective oversampling rates



Note: "Effective oversampling rate" of the top 10% is equal to (S90 – 0.1)/0.1, where S90 is the share of sample households in the wealthiest 10%. The "effective oversampling rate of the top 5%" is equal to (S95 – 0.05)/0.05, where S95 is the share of sample households in the wealthiest 5%. Wealthiest households are defined as having higher net wealth than 90% (95%) of all households, calculated from weighted data.

Source: own based on ECB (2016b).

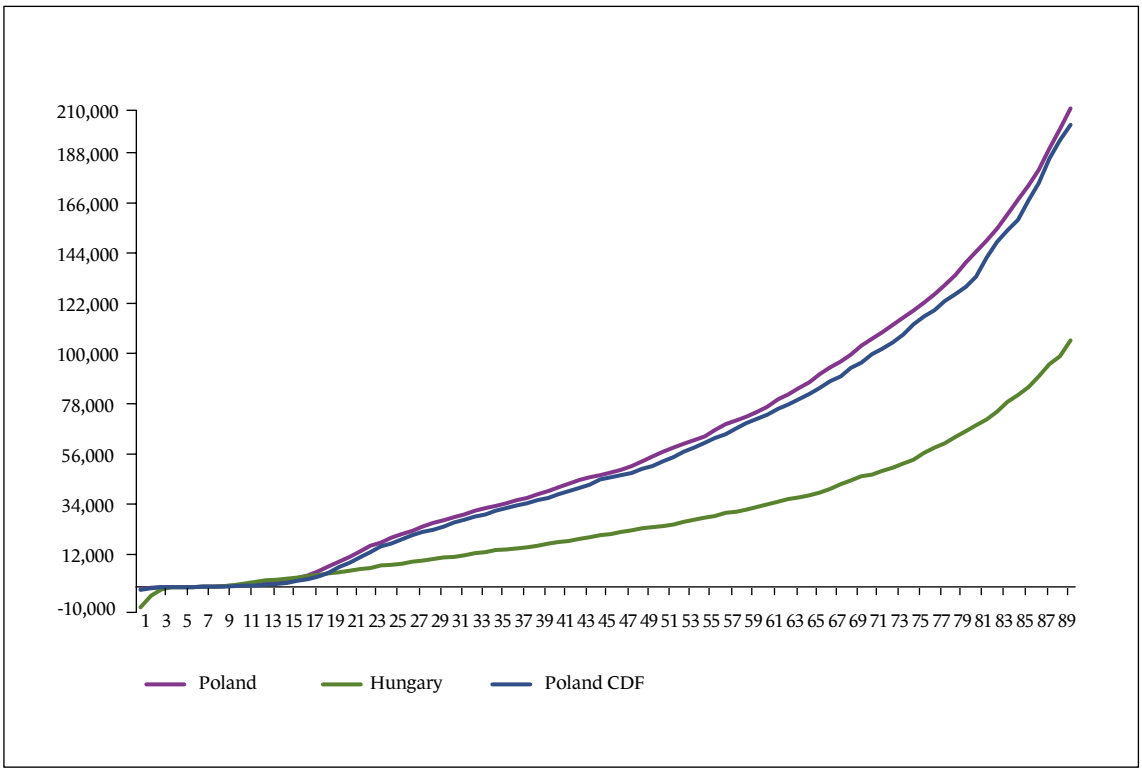
Figure 2
Real GDP per capita in Poland and Hungary, 2007–2014



Note: all values are given in euro.

Source: Eurostat.

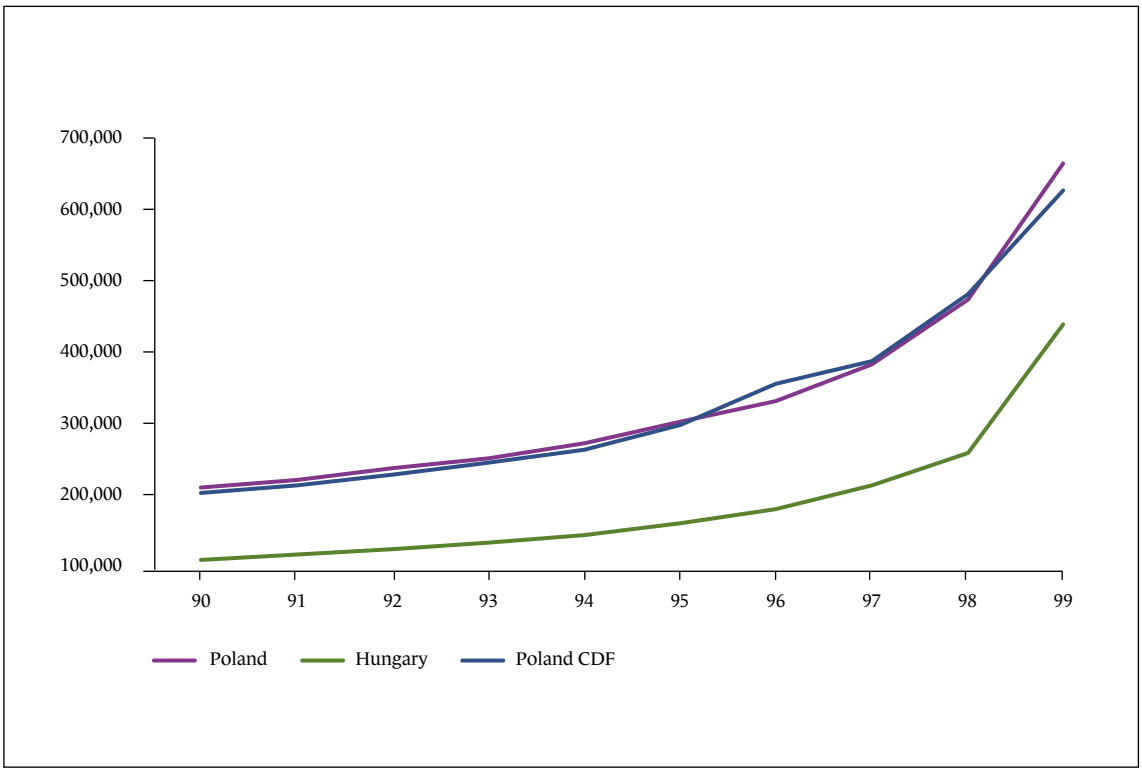
Figure 3
The distribution of wealth in Poland and Hungary (up to the 90th percentile)



Note: all values are given in euro.

Source: own calculation using HFCS data.

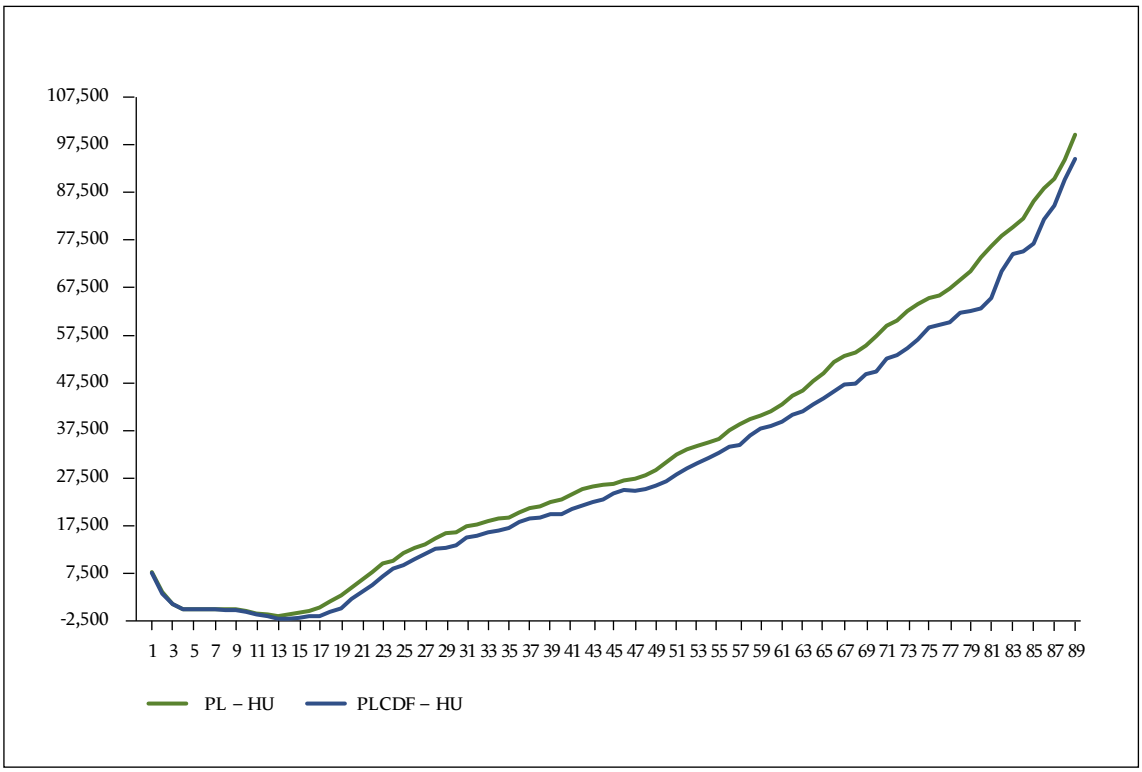
Figure 4
The distribution of wealth in Poland and Hungary (over the 90th percentile)



Note: all values are given in euro.

Source: own calculation using HFCS data.

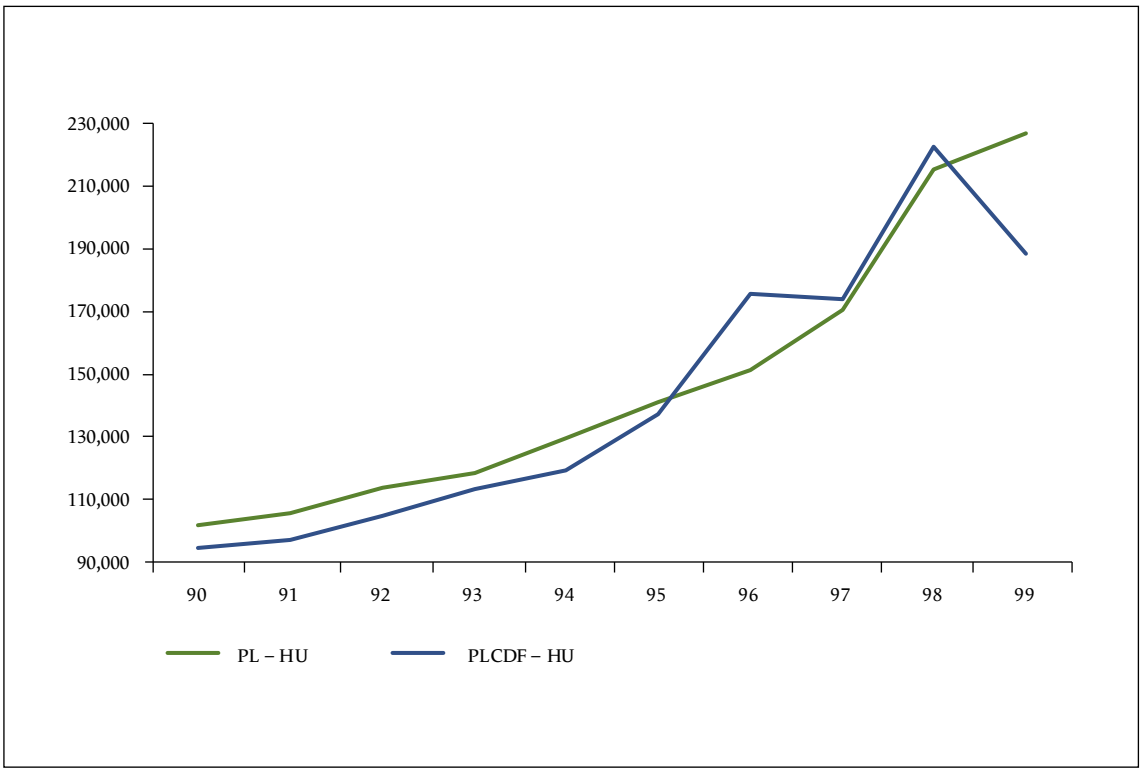
Figure 5
The wealth gap between Poland and Hungary (up to the 90th percentile)



Note: all values are given in euro.

Source: own calculation using HFCS data.

Figure 6
The wealth gap between Poland and Hungary (over the 90th percentile)



Note: all values are given in euro.

Source: own calculation using HFCS data.

Majątek gospodarstw domowych w Europie Środkowo-Wschodniej. Czy struktura gospodarstw domowych wyjaśnia lukę zamożności pomiędzy Polską a Węgrami?

Streszczenie

Zagadnienie majątku gospodarstw domowych zyskuje coraz większe zainteresowanie ekonomistów. Po kryzysie finansowym organizacje międzynarodowe oraz banki centralne dostrzegły, że dane makroekonomiczne dotyczące dochodów, konsumpcji, a także aktywów i zadłużenia gospodarstw domowych powinny zostać uzupełnione o dane dotyczące rozkładu tych zmiennych, oraz przyjęły rekomendacje w tym zakresie. Europejski Bank Centralny we współpracy z narodowymi bankami centralnymi i urzędami statystycznymi rozpoczął międzynarodowe badanie ankietowe majątków gospodarstw domowych – Household Finance and Consumption Survey. Badanie to realizował w Polsce Narodowy Bank Polski we współpracy z Głównym Urzędem Statystycznym jako Badanie Zasobności Gospodarstw Domowych. Do badań nad rozkładem majątków gospodarstw domowych zachęca również istotna rola zagadnienia nierówności ekonomicznych w badaniach ekonomicznych oraz debacie publicznej.

Ponieważ członkowie gospodarstwa domowego wspólnie podejmują decyzje dotyczące poziomu konsumpcji i oszczędności oraz zwykle zamieszkują jedną nieruchomość, majątek mierzy się właśnie na poziomie gospodarstw domowych. W krajach o porównywalnym poziomie rozwoju ekonomicznego wartość majątku gospodarstw domowych czasem istotnie się różni. Jedną z przyczyn zróżnicowania wartości majątków gospodarstw domowych w krajach o porównywalnym poziomie dochodu narodowego może być zróżnicowanie struktury gospodarstw domowych. Gospodarstwa domowe liczące więcej członków gromadzą bowiem majątki o większej wartości. W literaturze przedmiotu wykazano, że czynnik ten rzeczywiście częściowo wyjaśnia zróżnicowanie poziomu majątku. Do tej pory tego rodzaju badań nie przeprowadzono w odniesieniu do państw Europy Środkowo-Wschodniej.

Niniejszy artykuł realizuje dwa cele badawcze. Pierwszym z nich jest oszacowanie rozkładu majątku gospodarstw domowych w krajach Europy Środkowo-Wschodniej uczestniczących w badaniu HFCS. Oznacza to, że zakres badania objął Estonię, Łotwę, Polskę, Słowację i Węgry. Drugim z celów jest wyjaśnienie, w jakiej mierze różnice między wartością gospodarstw domowych w Polsce i na Węgrzech (czyli w parze państw, w których różnica ta jest największa) wyjaśnia odmienna struktura (liczebność oraz wiek członków gospodarstwa domowego) gospodarstw domowych.

W celu oszacowania znaczenia struktury gospodarstw domowych do wyjaśnienia luki majątkowej pomiędzy Polską a Węgrami wykorzystano metody dekompozycji. Oszacowano kontrfaktyczny rozkład majątku, jaki istniałby, gdyby struktura gospodarstw domowych w Polsce była taka sama jak na Węgrzech. W tym celu posłużono się semiparametrycznymi regresjami kwantylowymi.

Wykazano, że spośród badanych państw średnia wartość majątku gospodarstw domowych najwyższa jest w Polsce oraz Estonii, najniższa zaś na Węgrzech. Poziom nierówności majątkowych jest najwyższy na Łotwie, a najniższy w Słowacji. Mediana wartości majątków gospodarstw domowych w Polsce jest ponaddwukrotnie większa niż mediana wartości majątków gospodarstw domowych na Węgrzech.

W analizie wyróżniono 10 typów gospodarstw domowych (w zależności od ich liczebności oraz wieku członków). Pomiędzy Polską a Węgrami występują istotne różnice pod względem struktury gospodarstw domowych. Na Węgrzech jest więcej jednoosobowych gospodarstw domowych, w Polsce natomiast jest więcej gospodarstw domowych liczących więcej niż dwóch członków. Przeprowadzona dekompozycja wyjaśnia, że zróżnicowanie struktury gospodarstw domowych wyjaśnia do 15% luki majątkowej pomiędzy Polską a Węgrami. Oznacza to, że większość luki pozostała niewyjaśniona i wynika z innych czynników niż struktura gospodarstw domowych.

Słowa kluczowe: Europa Środkowo-Wschodnia, majątek gospodarstw domowych, nierówności majątkowe, rozkład kontrfaktyczny