

# Cross-national analysis of household wealth and saving behavior



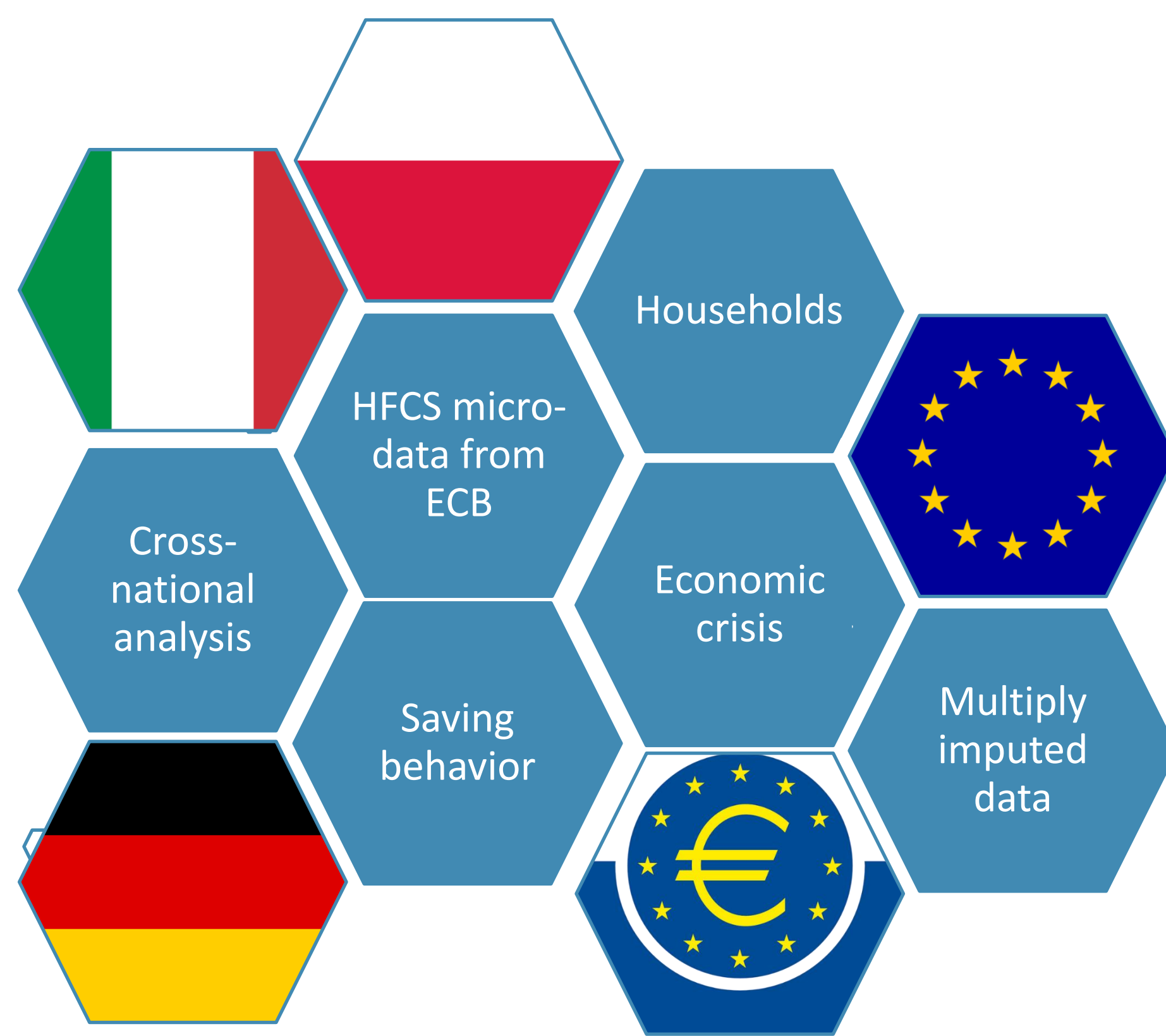
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## ABSTRACT

Saving these days is no longer solely a means of accumulating wealth to multiply household prosperity. In the era of crisis generated by recent world events such as the coronavirus pandemic, followed by the war in Ukraine, which caused an increase in world market prices, rising inflation, and a growth in interest rates, saving starts to become an obligation, not a personal preference.

This paper examines the **household saving behavior** in three European countries: Poland, Germany and Italy. Using econometric techniques, the aim of this thesis is to find out which determinants influence the household's ability to save, the increase in the probability of saving, and the value of savings accounts. The study involves the description of motives, reasons and purposes for which households save, on the condition that they can afford to save. Moreover, the work briefly characterizes the wealth of the households in the sample. The empirical analysis is based on the **Eurosystem Household Finance and Consumption Survey**, a new harmonized data set collecting detailed information on wealth holdings, consumption and income at the household level.



## RESEARCH QUESTION

1. Which determinants influence the **households' ability to save** in Poland, Germany and Italy?
2. Which explicit determinants positively or negatively affect **households saving accounts' value**?
3. What are the **purposes of saving** for the households from Poland, Germany and Italy?

## LITERATURE REVIEW

Keynes, Solow, Modigliani and Brumberg, Friedman, Barro and Becker, Lusardi

- Keynes, as a first ever, specified the definition of savings,
- Modigliani and Brumberg in their life-cycle theory explained people's saving patterns over time and adjusted for changes in income over the passing years of life,
- Friedman in permanent income theory specified a lack of correlation between time and savings,
- Lusardi explained the importance of education and financial knowledge on saving,
- Purpose of saving - literature suggests two most important purposes of saving: **for old-age provision and precautionary reasons**.

## METHODOLOGY

$$Sb = \delta_0 + \delta_1 \ln Y + \delta_2 Yf + \delta_3 \sinh^{-1} W + \delta_4 \ln C + \delta_5 Edu + \delta_6 Attit + \theta X$$

$$Sb = \delta_0 + \delta_1 Yq + \delta_2 Yf + \delta_3 Wq + \delta_4 \ln C + \delta_5 Edu + \delta_6 Attit + \theta X$$

$$Sa = \beta_0 + \beta_1 \ln Y + \beta_2 Yf + \beta_3 \sinh^{-1} W + \beta_4 Edu + \beta_5 Attit + \theta X$$

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### Empirical strategy

- Which factors have a major impact on household saving behavior in Poland, Germany and Italy
- What is the relationship between the chosen determinants and the value of savings accounts in the countries selected for my analysis

**LPM model**

- Dependent variable: dummy variable of ability to save
- Did household exceed total gross income with its consumption expenses or not?

**OLS model**

- Dependent variable: continuous value of savings account
- What is the value of household's savings account?

**Probit model**

- Robustness check

## RESULTS

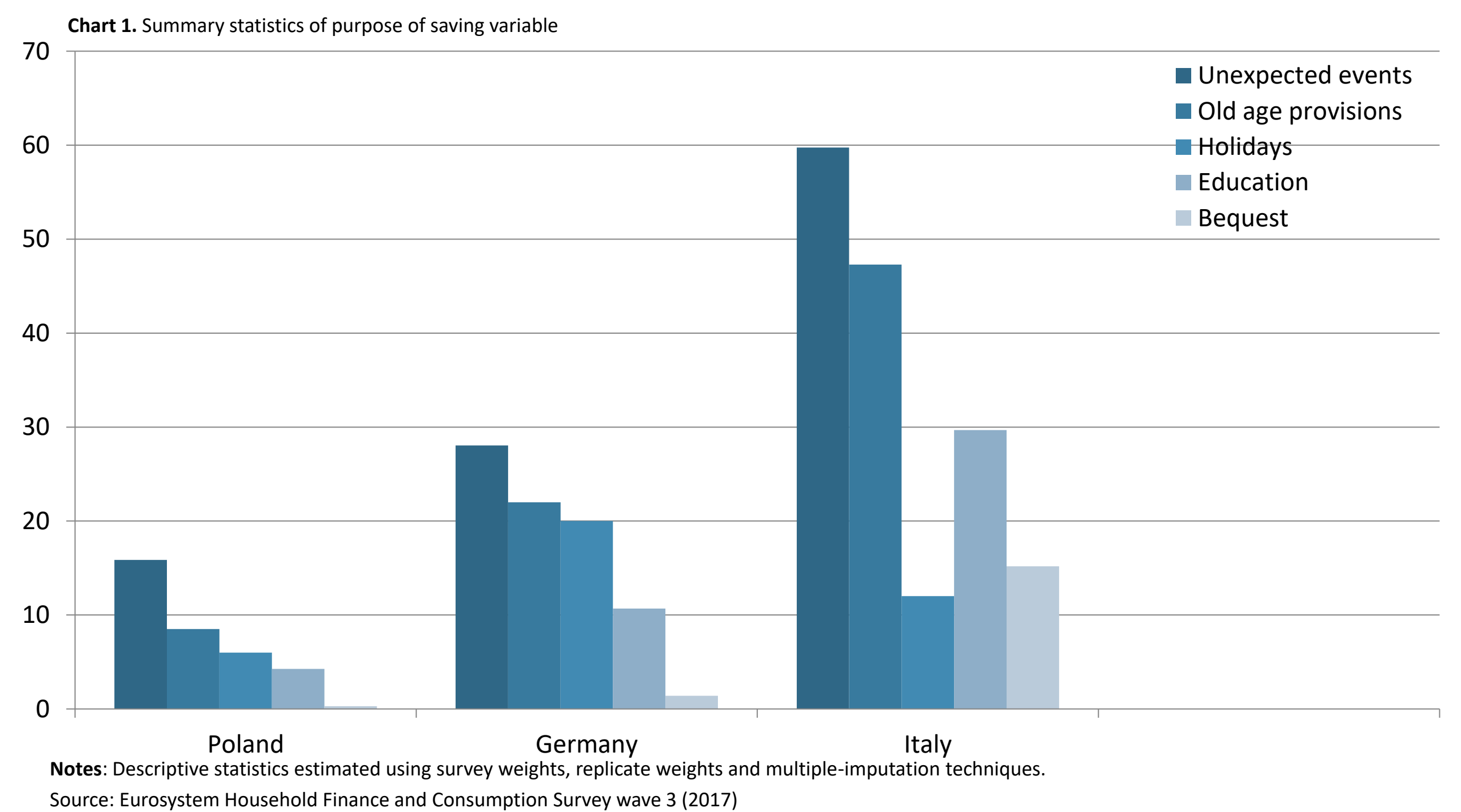


Table 1. Probit model coefficients of saving behavior for Poland, Germany and Italy

	POLAND (1)	POLAND (2)	GERMANY (1)	GERMANY (2)	ITALY (1)	ITALY (2)
Logarithm of income	0.087*** (0.0122)		0.037*** (0.059)		0.036*** (0.108)	
2 <sup>nd</sup> quintile of total gross income		0.106*** (0.016)		0.066** (0.029)		0.074*** (0.015)
3 <sup>rd</sup> quintile of total gross income		0.126*** (0.020)		0.118*** (0.029)		0.119*** (0.016)
4 <sup>th</sup> quintile of total gross income		0.183*** (0.024)		0.156*** (0.029)		0.171*** (0.019)
5 <sup>th</sup> quintile of total gross income		0.279*** (0.030)		0.235*** (0.033)		0.229*** (0.132)
Inverse hyperbolic sine of net wealth	0.027*** (0.006)		0.059*** (0.006)		0.060*** (0.003)	
2 <sup>nd</sup> quintile of total net wealth		0.046** (0.025)		0.136*** (0.030)		0.140*** (0.018)
3 <sup>rd</sup> quintile of total net wealth		0.887*** (0.026)		0.191*** (0.031)		0.180*** (0.024)
4 <sup>th</sup> quintile of total net wealth		0.069*** (0.026)		0.279*** (0.033)		0.229*** (0.024)
5 <sup>th</sup> quintile of total net wealth		0.099*** (0.029)		0.341*** (0.036)		0.278*** (0.027)
Logarithm of consumption	-0.020** (0.016)	-0.033** (0.016)	-0.040*** (0.013)	-0.042*** (0.014)	-0.076*** (0.005)	-0.073*** (0.011)
Future income less than prices	-0.083*** (0.030)	-0.094*** (0.030)	-0.021 (0.023)	-0.017 (0.022)	-0.020** (0.010)	-0.015 (0.023)
Future income about the same as price	-0.039 (0.031)	-0.049* (0.030)	-0.047** (0.025)	-0.039 (0.023)	-0.032*** (0.009)	-0.028 (0.023)
Income higher than previously	0.115*** (0.057)	0.133*** (0.056)	0.089*** (0.024)	0.088*** (0.023)	0.357*** (0.027)	0.340*** (0.064)
Income normal	0.048*** (0.019)	0.042** (0.018)	0.049*** (0.022)	0.05*** (0.021)	0.131*** (0.008)	0.125*** (0.018)
Takes substantial financial risks	0.030 (0.069)	0.047 (0.068)	-0.109 (0.109)	-0.132 (0.100)	0.022 (0.027)	0.049 (0.064)
Takes above average financial risks	-0.014 (0.037)	-0.006 (0.037)	-0.002 (0.040)	-0.004 (0.039)	0.011 (0.008)	0.012 (0.018)
Takes average financial risks	0.066*** (0.018)	0.067*** (0.018)	0.029** (0.029)	0.033*** (0.015)	0.022*** (0.005)	0.017 (0.012)
Low level of education	-0.091*** (0.023)	-0.082*** (0.23)	-0.038 (0.035)	-0.033 (0.033)	-0.034*** (0.008)	-0.038** (0.088)

All estimates are based on multiple imputation techniques while estimating probit. Bootstrapped standard errors presented in parentheses are based on 999 replicate weights.

Source: Eurosystem Household Finance and Consumption Survey wave 3 (2017)

## CONCLUSIONS

1. The data reveals that most households had trouble saving– barely **26%** of the Polish households in the sample were able to save; in Italy, the percentage of household that could save in 2017 was stood up for **33%**; only in Germany, **49%** of households put money aside. Additionally, Poles have the least amount in savings accounts, followed by Italians and Germans with the difference between Germany and Poland EUR 21,797 and Italy EUR 11,909.
2. The average values of income for Polish households are lower than those recorded for Germans by around EUR 37,000 and Italians by almost EUR 20,000 annually. The net wealth of Polish households is also the lowest- Germans have around EUR 137,000 more mean value of net wealth than Poles and around EUR 19,000 more than Italians.
3. The research confirmed that **household income and net wealth** are the main determinants responsible for the savings behavior of households.
4. Households mostly influenced by the **fluctuations in income** are from Poland.
5. Contrary to the findings of the life-cycle hypothesis, respondents' age had no bearing on their saving habits.

## FUTURE RESEARCH PROPOSAL

- What impact the pandemic had on the amount of savings and saving behavior of households in European countries (based on 4th wave of HFCS)?
- Comparison of all waves of HFCS, in order to observe the changes that occurred between 2010 and 2020,
- Analysis of financial literacy and respondent self-confidence on households saving behavior.