

How do households choose to allocate their wealth? Some stylized facts derived from the Eurosystem Household Finance and Consumption Survey

Conference on household finance and consumption; European Central Bank
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Outline

- Introduction
- Asset types
- Results
 - Univariate (over the distribution)
 - Multivariate (Probit and Tobit models)
- Conclusions

Introduction

- Analyse household finances / portfolio composition
 - What is the portfolio composition for households in the euro area?
 - Are there differences over the wealth distribution?
 - Are there cross country similarities/differences?
 - Which household characteristics are important determinants of asset type holding?
 - Which are of those are important regardless of institutional differences and policy variations?

- HFCS: new harmonized euro area wide survey data (euro area except Ireland and Estonia) [More](#)

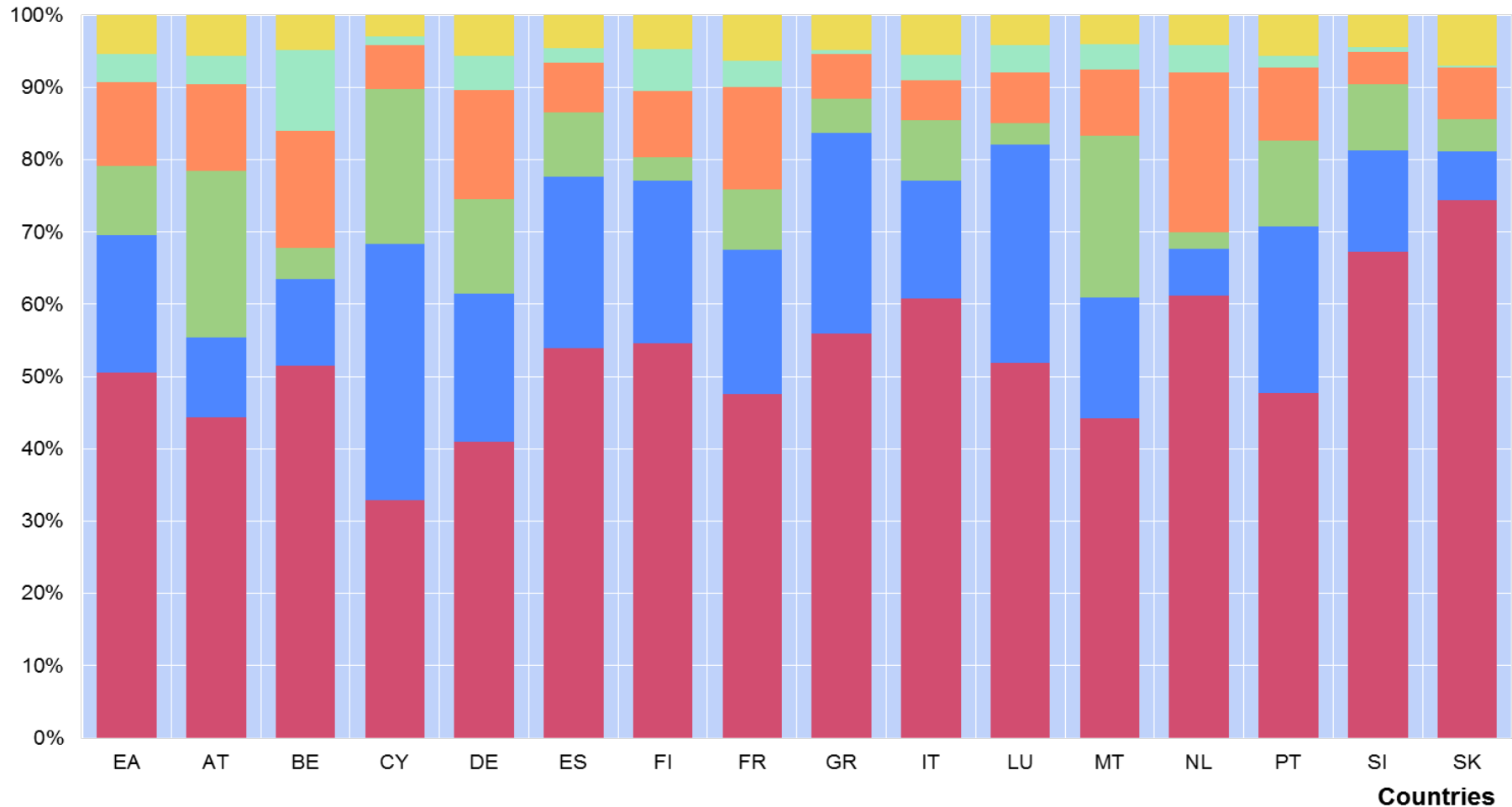
Classification into five asset types

- Household main residence (HMR)
- Other real estate (ORE) (including holiday homes/apartments, commercially used real estates, and landed property)
- Investments in self-employed businesses (BUS)
- Save financial assets (SAFE) (comprising deposits, life insurance contracts, and voluntary private pension plans)
- Risky financial assets (RISKY) (comprising mutual funds, bonds, and shares)

Results – univariate analysis

Results – shares of asset categories

Share of Asset Types relative to Gross Wealth, in %



Source: HFCS 2013.

■ HMR
 ■ ORE
 ■ BUS
 ■ SAFE
 ■ RISKY
 ■ REST

Results – extensive margin over distribution for HMR (in %)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	4.8	28.7	78.9	93.4	94.8	94.1
Austria	3.1	3.9	52.0	87.9	91.7	90.1
Belgium	2.7	60.0	94.8	96.1	95.0	92.8
Cyprus	19.3	81.4	94.7	92.7	96.0	98.6
Germany	3.8	6.7	39.4	79.0	92.3	91.8
Spain	30.6	92.6	96.6	96.9	96.9	96.9
Finland	22.5	36.7	91.5	96.8	98.3	98.7
France	1.2	13.4	77.5	91.1	93.2	93.7
Greece	6.5	73.9	92.8	95.0	94.4	93.8
Italy	2.3	54.1	93.2	97.2	97.0	97.3
Luxembourg	3.8	48.2	93.9	95.7	94.4	94.5
Malta	12.8	85.2	97.0	98.5	95.5	94.5
Netherlands	25.0	22.8	55.1	87.3	95.5	96.9
Portugal	12.4	66.6	89.2	94.5	94.9	92.5
Slovenia	23.7	92.6	97.9	98.8	98.2	95.9
Slovakia	52.7	98.7	99.6	99.0	99.5	98.5

Source: HFCS 2013

Results – intensive margin over the distribution for HMR (in EUR, thousands)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	130.2	50.0	112.5	200.0	300.3	438.6
Austria	145.3	42.2	90.2	180.7	323.4	514.2
Belgium	146.0	129.8	200.0	278.8	350.0	423.6
Cyprus	103.0	139.9	208.0	312.1	414.0	500.0
Germany	90.0	20.0	77.8	150.0	252.0	400.0
Spain	67.3	114.3	180.3	240.2	332.4	420.7
Finland	90.5	77.7	92.2	139.0	218.1	306.8
France	126.1	102.4	128.0	200.1	301.0	368.5
Greece	48.0	50.0	91.5	134.1	180.0	200.0
Italy	16.3	80.0	150.0	240.0	400.0	700.0
Luxembourg	215.6	299.6	400.0	549.6	800.0	1,000.0
Malta	41.5	96.2	176.7	232.9	286.0	293.6
Netherlands	203.0	194.8	201.0	226.0	323.5	450.0
Portugal	61.4	37.5	70.5	109.5	175.0	200.0
Slovenia	23.5	51.4	92.5	156.0	196.0	222.9
Slovakia	22.2	38.5	52.2	75.0	114.5	200.5

Source: HFCS 2013

[More](#)

Results – extensive margin over distribution for business assets (in %)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	2.3	7.3	8.5	10.3	26.9	46.9
Austria	1.0	1.8	3.4	5.9	34.7	67.5
Belgium	0.4	3.2	4.7	7.5	17.1	27.8
Cyprus	4.1	6.3	17.4	20.5	49.5	77.7
Germany	1.4	4.9	8.8	7.8	22.7	50.7
Spain	5.7	5.9	9.3	16.7	33.7	50.9
Finland	3.8	6.3	13.9	18.6	26.6	37.2
France	1.0	4.7	6.4	7.2	25.3	42.5
Greece	2.5	7.4	7.8	11.0	20.4	22.3
Italy	6.7	16.8	12.5	18.1	36.1	52.9
Luxembourg	1.0	3.3	1.5	4.7	15.6	32.5
Malta	-	2.2	4.5	9.3	41.2	73.5
Netherlands	3.5	-	4.8	6.0	8.5	17.0
Portugal	0.2	2.5	4.7	6.6	24.2	35.4
Slovenia	1.7	7.0	7.1	9.6	33.5	79.2
Slovakia	5.7	5.9	7.9	9.0	25.2	39.8

Source: HFCS 2013

Results – intensive margin over the distribution for business assets (in EUR, thousands)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	1.7	2.9	13.4	30.0	100.0	298.6
Austria	0.0	7.1	8.7	26.3	356.1	924.3
Belgium	6.9	13.5	15.4	50.0	123.4	475.6
Cyprus	2.8	23.0	33.2	97.0	475.9	2,036.6
Germany	4.8	1.6	4.8	20.0	100.0	294.0
Spain	5.1	17.2	29.0	30.8	140.0	355.8
Finland	0.7	0.8	0.9	0.8	1.1	15.8
France	2.4	5.1	24.5	40.7	130.3	302.0
Greece	8.6	15.8	16.6	33.5	100.0	200.0
Italy	0.0	2.5	20.0	15.0	80.0	160.0
Luxembourg	29.9	53.5	123.0	33.3	200.0	468.6
Malta	-	13.0	28.4	26.5	300.6	928.7
Netherlands	17.5	-	44.7	198.8	123.8	92.8
Portugal	4.4	5.5	27.5	18.7	92.5	250.0
Slovenia	5.0	3.9	16.3	6.8	140.1	103.6
Slovakia	0.2	0.9	1.4	1.0	30.7	89.6

Source: HFCS 2013

Results – extensive margin over distribution for RISKY financial assets (in %)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	3.1	13.0	17.0	23.7	44.2	55.0
Austria	2.4	4.4	13.8	18.5	33.8	38.9
Belgium	4.8	18.6	25.7	38.8	65.7	72.8
Cyprus	18.1	24.3	35.3	41.7	62.4	77.6
Germany	3.5	9.0	27.1	28.0	47.5	55.7
Spain	1.8	5.1	9.3	17.8	36.2	48.6
Finland	14.6	29.7	36.1	45.7	67.4	81.7
France	3.0	10.9	19.1	27.9	47.5	63.8
Greece	0.4	1.1	1.6	3.9	12.8	22.8
Italy	1.0	11.1	14.4	28.6	44.0	53.6
Luxembourg	4.6	17.4	21.3	31.8	54.4	65.6
Malta	10.8	17.9	30.4	48.6	60.7	61.8
Netherlands	7.8	12.4	23.9	29.7	45.8	60.3
Portugal	0.9	1.4	4.0	6.5	19.9	37.6
Slovenia	9.8	11.6	15.3	27.4	37.9	55.0
Slovakia	1.6	2.2	3.9	5.2	7.6	11.8

Source: HFCS 2013

Results – intensive margin over the distribution for RISKY financial assets (in EUR, thousands)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	1.7	5.0	8.2	11.2	28.2	50.4
Austria	3.0	4.5	10.3	11.5	22.0	107.3
Belgium	4.0	5.0	6.8	19.8	75.0	363.2
Cyprus	0.2	1.5	0.9	2.2	6.6	13.9
Germany	1.7	3.0	7.8	12.5	30.0	49.7
Spain	5.8	8.5	7.6	7.6	19.1	56.0
Finland	0.5	2.2	2.2	3.8	12.8	33.6
France	1.0	2.3	4.1	7.3	20.5	47.3
Greece	1.9	0.7	4.9	4.9	10.0	30.8
Italy	4.0	13.0	15.0	20.0	35.0	60.0
Luxembourg	10.2	9.6	15.3	26.9	87.8	282.6
Malta	8.9	10.0	16.5	24.1	45.6	57.0
Netherlands	4.2	2.9	5.3	10.8	21.7	105.9
Portugal	0.8	3.0	8.0	5.0	15.7	28.2
Slovenia	2.2	1.4	2.4	3.3	4.8	5.3
Slovakia	0.7	0.4	0.7	1.2	4.1	9.3

Source: HFCS 2013

[More](#)

Results – multivariate analysis

Multivariate analysis

- Probit (extensive margin) and Tobit (intensive margin) models on:
 - Household type
 - Gender of the reference person
 - Age of reference person
 - Employment status of the reference person
 - Education of the reference person
 - Inheritance
 - Net wealth distribution: quintiles
 - Income distribution: quintiles

Results – regression analysis

Stylized fact 1:

The probability of owning and the value of the main residence, other real estate, risky financial assets and business ownership substantially increases as a function of net wealth, even controlling for other observable characteristics.

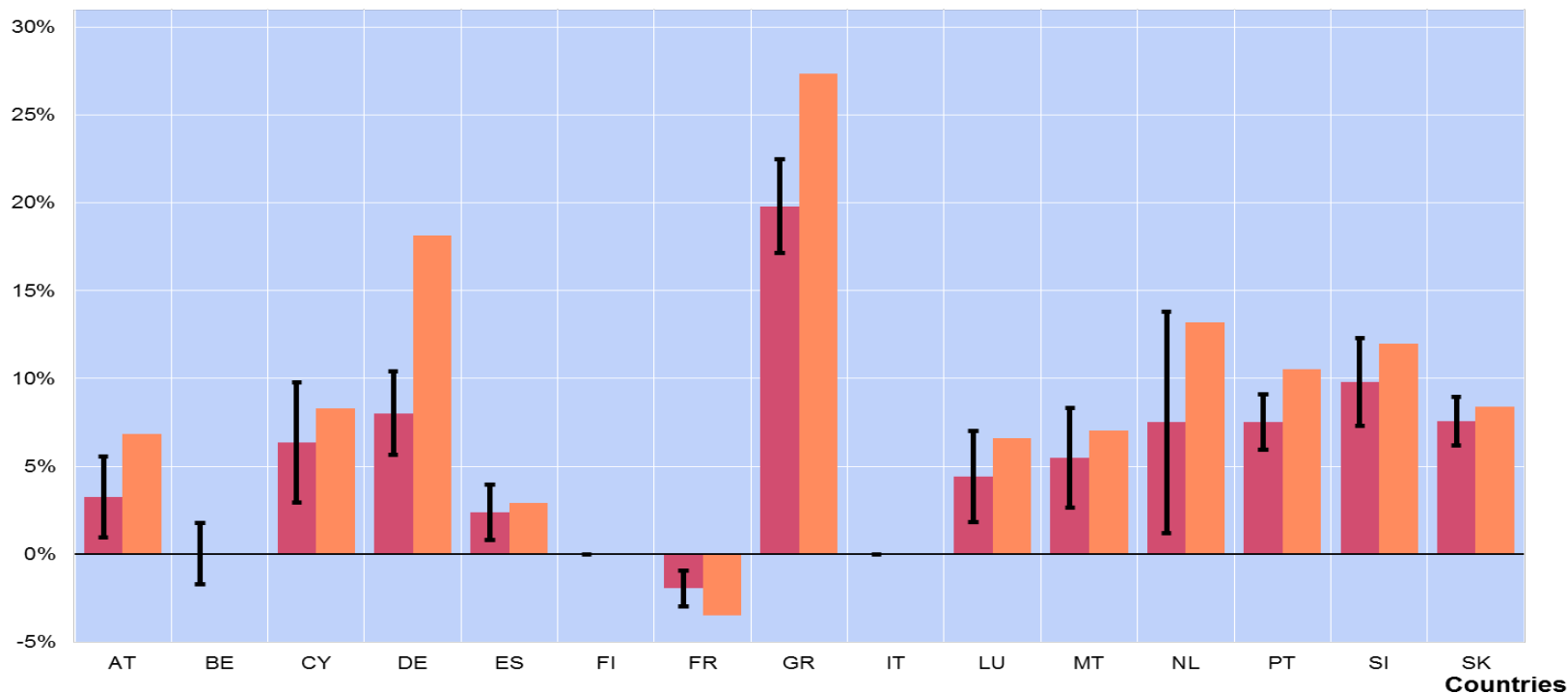
Results – regression analysis

Stylized fact 2:

Inheritance increases the likelihood of owning and the value of both the main residence and other real estate

Average Marginal Effect of Inheritance on HMR

AME in %



■ Average Marginal Effect

■ Relative Average Marginal Effect

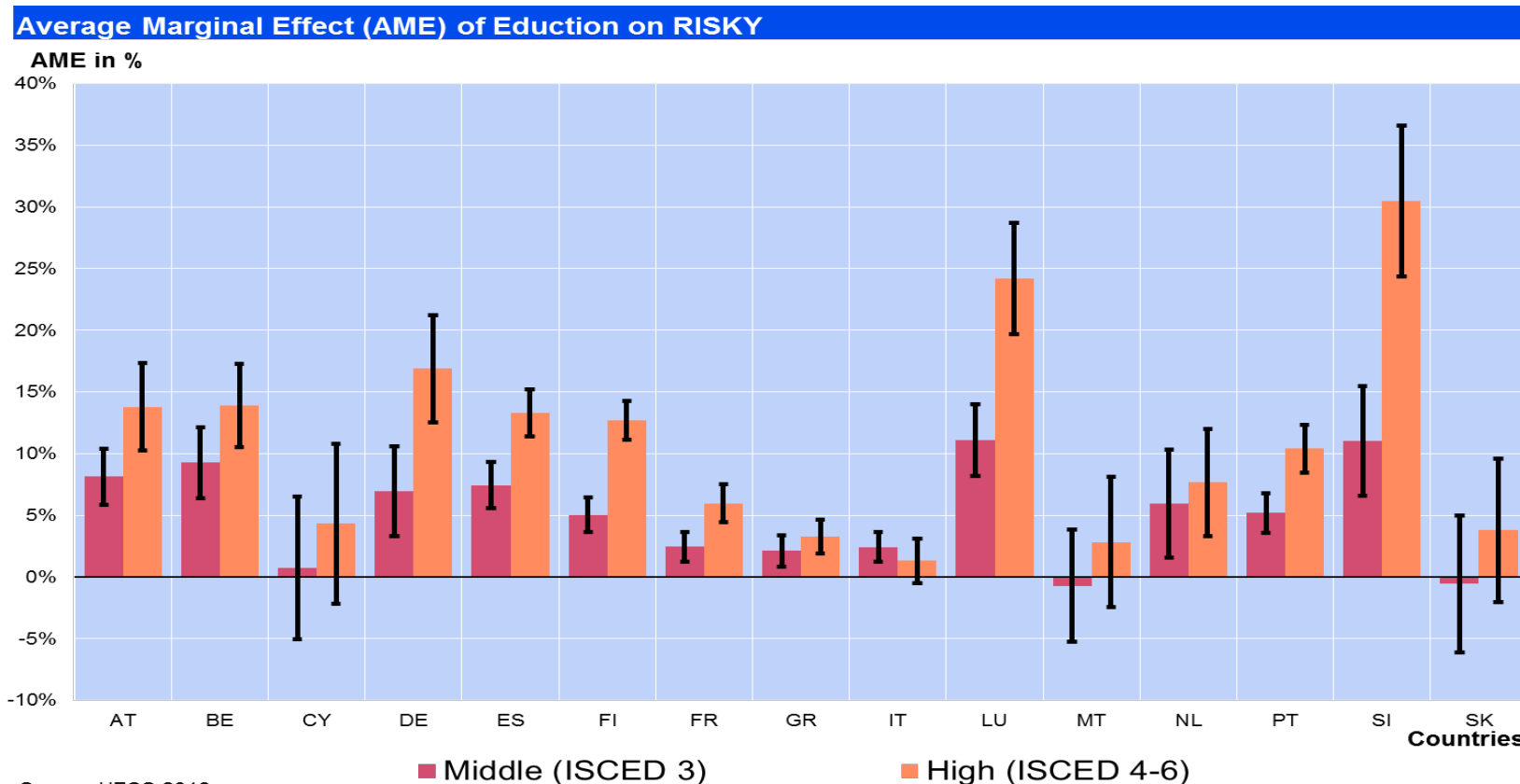
Countries

Source: HFCS 2013

Results – regression analysis

Stylized fact 3:

The probability of owning risky assets and the value thereof increases with the educational attainment of the household (head).



Source: HFCS 2013.

Results – regression analysis

Stylized fact 4:

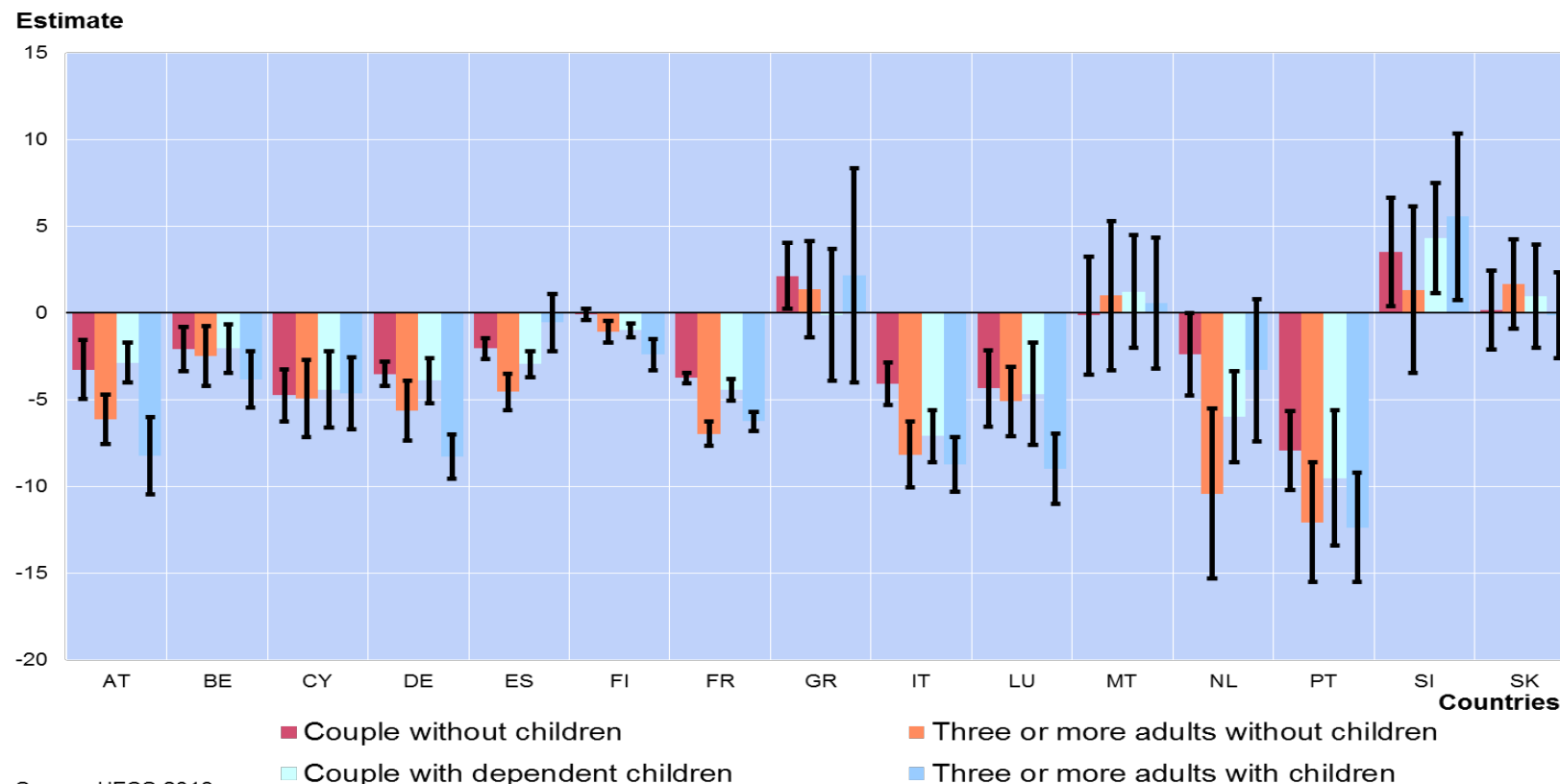
Couples with dependent children are more likely to own and hold a higher value in the household main residence (relative to singles).

Results – regression analysis

Stylized fact 5:

The probability of owning and the value of risky assets is higher for single households.

Coefficient of the Tobit regression of RISKY on Household Type [base: Single]



Results – regression analysis

Stylized Fact 6:

The labour market status has remarkably little effect on ownership and values of assets with the obvious exception that the self-employed are much more likely to own businesses (and to some extent other real estate).

Conclusions

Conclusions

- Cross country heterogeneity
 - Both in terms of the extensive and intensive margin over the distribution
 - Also for households characteristics
- Some types of assets are hold by majority of households (HMR, SAFE)
- Some types of assets owned by a small fraction of households (ORE, BUS, RISKY)
- Position on the net wealth distribution most important explanatory factor
- Other factors (such as age of the reference person) important in some countries for some asset types
- Future research: Connect differences in asset holdings to institutional differences

Thank you for your attention!

Appendix

The Household Finance and Consumption Survey (HFCS)

- Unit of collection: household (some information at the personal level)
- Information collected includes assets, liabilities, income, socio-demographic characteristics
- Complex probability sampling design representative at the country level
- 62.521 households in the euro area (response rate varies across countries)
- Missing data are multiple imputed (Bayesian approach, 5 imputates)
- Estimations use final household weights
- Standard errors are based on replicate weights (bootstrap procedure, 100 replications)

Appendix: endogeneity of net wealth

- Net wealth is endogenous by construction since every asset category is included in the definition of net wealth
 - Leave out net wealth in the model → Problem: portfolio composition very much correlated with wealth distribution
 - Exclude component from definition of “wealth” → Problem: remaining “wealth” does not really mimic wealth distribution (in particular excluding HMR) and varies over models

- ➔ At the moment, we run models including and excluding net wealth and interpret results only as a conditional correlation (no causal estimate)
- ➔ More work needs to be done (e.g. instrument for wealth)

Appendix: extensive margin overall (in %)

	HMR	ORE	BUS	SAFE	RISKY
Euro area	60.1	23.8	11.1	96.7	20.2
Austria	47.7	13.4	9.4	99.4	14.6
Belgium	69.6	16.4	6.6	97.9	30.7
Cyprus	76.7	51.6	19.5	85.9	36.3
Germany	44.2	17.8	9.1	99.1	23.0
Spain	82.7	36.2	14.2	98.2	14.0
Finland	69.2	29.8	13.8	100.0	38.7
France	55.3	28.5	8.9	99.6	21.7
Greece	72.4	37.9	9.8	73.9	4.0
Italy	68.7	24.9	18.0	91.9	19.8
Luxembourg	67.1	28.2	5.2	98.4	25.8
Malta	77.7	31.4	11.5	96.9	33.7
Netherlands	57.1	6.1	4.8	97.3	23.9
Portugal	71.5	27.1	7.7	94.3	6.5
Slovenia	81.8	23.2	11.6	93.6	20.3
Slovakia	89.9	15.3	10.7	91.5	4.1

Source: HFCS 2013

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Appendix: intensive margin overall (in EUR, thousands)

	HMR	ORE	BUS	SAFE	RISKY	GROSS WEALTH
Euro area	180.3	100.0	30.0	9.2	12.1	142.0
Austria	200.0	94.0	180.6	11.9	12.3	92.8
Belgium	250.0	174.0	50.0	20.7	20.1	249.9
Cyprus	240.3	202.2	98.8	18.3	2.0	331.9
Germany	168.0	115.0	19.4	13.2	12.1	67.9
Spain	180.3	120.2	50.8	5.1	12.0	210.2
Finland¹	127.8	107.6	0.9	5.7	3.7	132.7
France	193.8	96.1	53.1	8.9	8.1	150.4
Greece	100.0	61.9	36.2	3.9	7.3	110.2
Italy	200.0	100.0	15.0	7.4	22.4	188.0
Luxembourg	500.0	300.0	97.6	23.1	28.5	494.4
Malta	186.6	120.1	136.5	17.7	21.6	227.4
Netherlands	240.0	165.5	51.7	30.4	8.2	217.3
Portugal	90.0	53.5	47.1	3.8	8.9	93.2
Slovenia	110.9	52.4	25.5	1.1	3.4	105.2
Slovakia	55.9	16.4	4.6	2.3	1.1	64.4

Source: HFCS 2013

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Appendix: extensive margin over the distribution for other real estate (in %)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	2.3	8.7	20.2	28.2	59.8	78.3
Austria	1.4	1.9	9.2	18.2	36.6	50.5
Belgium	2.0	8.8	6.8	18.0	46.3	61.0
Cyprus	13.1	28.8	52.6	71.4	92.5	93.9
Germany	3.1	2.2	9.9	21.5	52.4	79.4
Spain	8.6	19.6	29.6	47.9	75.4	89.9
Finland	2.8	6.3	20.5	45.3	74.2	87.9
France	2.4	8.6	25.8	36.6	69.0	86.2
Greece	5.1	26.2	31.6	48.3	78.4	92.0
Italy	1.8	16.6	17.3	27.8	61.2	76.6
Luxembourg	5.1	23.8	17.2	24.7	70.4	86.6
Malta	4.5	14.5	23.7	44.8	69.5	65.2
Netherlands	-	0.8	2.3	4.7	22.0	41.7
Portugal	3.5	15.1	21.9	31.2	64.1	91.6
Slovenia	-	17.9	17.9	26.5	54.8	69.5
Slovakia	2.1	8.6	16.1	14.0	35.9	45.2

Source: HFCS 2013

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Appendix: intensive margin over the distribution for other real estate (in EUR, thousands)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	42.2	15.5	39.9	70.3	200.0	422.6
Austria	68.4	11.7	35.0	64.9	178.8	321.8
Belgium	46.0	51.0	66.4	105.4	256.2	566.0
Cyprus	48.5	62.1	100.0	212.1	758.0	1,766.4
Germany	91.0	7.2	44.6	79.0	199.6	385.1
Spain	21.8	41.0	49.3	101.0	258.7	510.4
Finland	42.8	26.6	50.3	76.6	176.3	322.6
France	-	11.8	27.3	60.6	187.0	396.6
Greece	10.0	20.0	30.0	60.0	150.0	360.0
Italy	5.0	20.0	45.0	60.0	200.0	430.0
Luxembourg	205.2	141.8	170.8	238.2	742.0	1,641.8
Malta	15.8	27.2	55.2	95.2	236.1	531.0
Netherlands	-	184.1	80.5	134.5	197.4	235.7
Portugal	4.1	8.8	16.9	41.9	137.8	405.4
Slovenia	-	16.0	31.1	30.9	105.6	204.2
Slovakia	14.6	5.5	9.4	25.3	39.0	62.6

Source: HFCS 2013

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Appendix: extensive margin over distribution for SAFE

in %

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	92.8	96.5	96.3	98.4	99.4	99.7
Austria	98.6	99.8	99.5	99.9	98.9	99.4
Belgium	92.8	99.5	99.0	98.5	99.5	99.3
Cyprus	70.1	85.5	87.2	90.9	96.0	97.9
Germany	96.8	98.9	99.8	100.0	100.0	100.0
Spain	96.7	98.0	97.1	99.5	99.7	99.9
Finland	100.0	100.0	100.0	100.0	100.0	100.0
France	98.4	99.8	99.8	100.0	100.0	100.0
Greece	61.5	64.4	74.9	82.2	86.4	92.6
Italy	77.8	90.2	94.7	97.7	99.2	99.5
Luxembourg	94.8	98.6	99.9	100.0	98.5	98.7
Malta	90.6	96.9	97.2	100.0	99.6	100.0
Netherlands	92.9	98.8	97.7	97.9	99.1	99.5
Portugal	86.1	94.2	95.0	97.4	98.8	100.0
Slovenia	85.4	91.2	95.5	98.5	97.7	97.0
Slovakia	83.8	88.8	95.4	91.8	97.5	97.4

Source: HFCS 2013

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Appendix: intensive margin over the distribution for SAFE (in EUR, thousands)

	Net Wealth Quintiles					
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>Top 5%</i>
Euro area	1.1	8.7	9.5	15.0	37.9	61.1
Austria	1.0	8.2	18.7	20.7	50.6	59.8
Belgium	1.8	15.5	18.5	52.2	92.9	102.1
Cyprus	4.3	13.9	15.3	27.2	61.4	120.8
Germany	0.6	6.6	22.5	29.8	62.9	100.9
Spain	1.0	2.2	5.0	10.0	26.3	60.4
Finland	0.7	4.3	5.7	11.3	23.0	39.6
France	1.0	7.5	9.5	16.7	47.1	106.6
Greece	1.0	2.3	3.6	5.2	14.1	23.1
Italy	2.0	6.5	7.3	10.0	20.0	27.0
Luxembourg	2.9	22.4	22.2	40.4	79.4	99.2
Malta	7.9	10.2	16.8	30.4	39.5	61.6
Netherlands	2.7	18.7	55.9	50.1	97.3	137.4
Portugal	0.7	2.4	3.9	6.1	24.6	59.2
Slovenia	0.3	0.5	1.1	1.3	8.7	14.2
Slovakia	0.8	1.6	2.3	2.8	7.3	9.3

Source: HFCS 2013

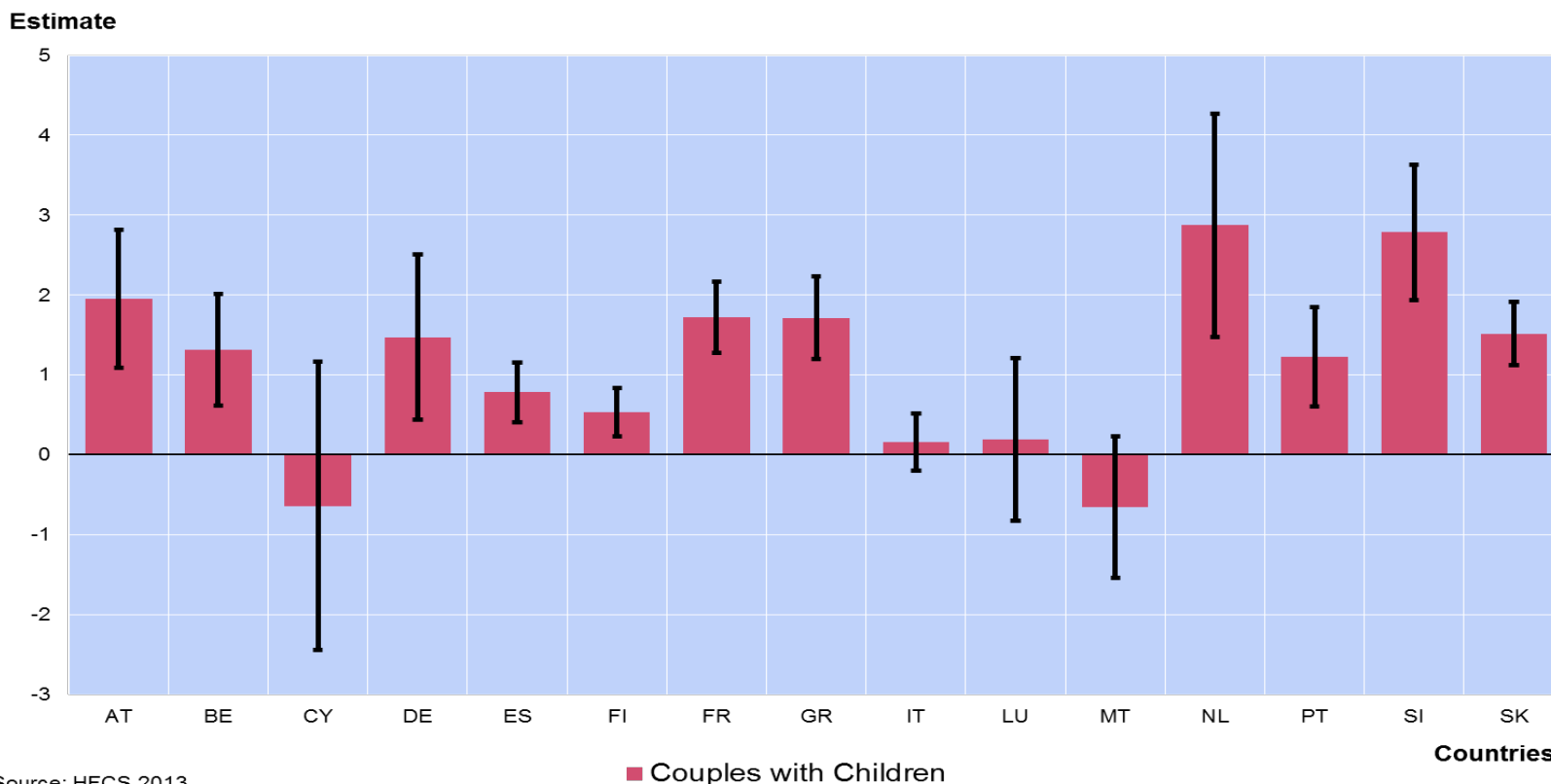
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Appendix: regression analysis

Stylized fact 4:

Couples with dependent children are more likely to own and hold a higher value in the household main residence (relative to singles).

Coefficient of the Tobit regression of HMR on Couples with Children [base: Single]

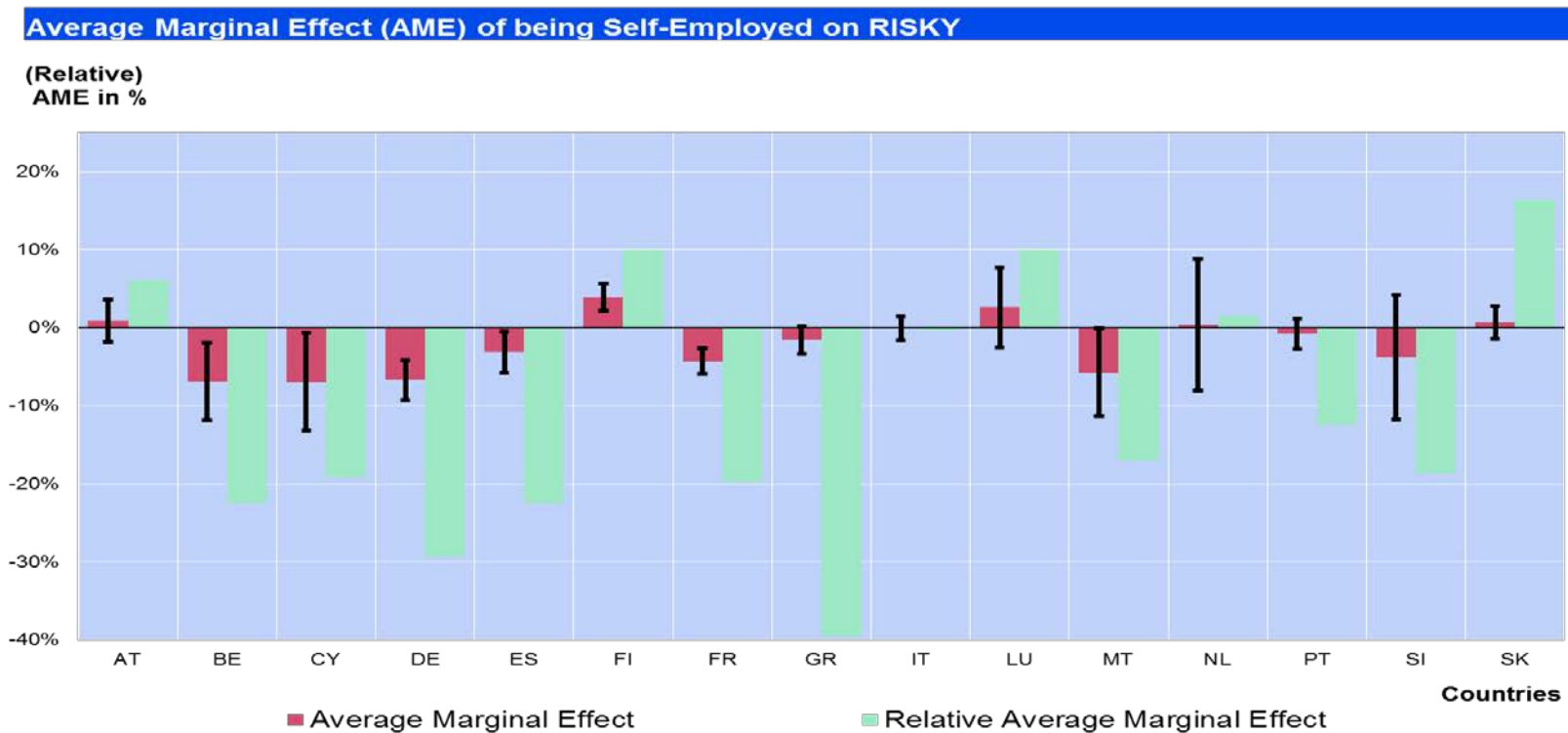


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Results – regression analysis

Stylized Fact 6:

The labour market status has remarkably little effect on ownership and values of assets with the obvious exception that the self-employed are much more likely to own businesses (and to some extent other real estate).



Source: HFCS 2013.