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Housing poverty differences across European countries

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Agenda

- Housing Poverty definition and motivation
  - The role of housing in poverty measures
  - Poverty signals related to the house
- Paper contribution and hypothesis
- Literature
- Data and methodology: Eu-Silc 2005-2019
- Model
- Results
- Conclussions

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Housing and poverty recent evidence. Motivation

- Economic crisis (GFC) & worsting income distribution (since 1990's)
  - Increase on poverty … consumption deprivation
  - Housing loss
- News…. relating housing and poverty:
  - Young households go back parents home
  - Housing evictions (both young and aged households)
- Many households lose the house because they cannot afford it
  - Or paying a house reduce their capability to pay other consumption godos
  - Lack of affordability penalises médium-income households and renters?
- Perception of any increase on poverty is caused by problems related to the house
  - 'The mortgage drama'
  - 'The rental drama'

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Housing and poverty recent evidence. Motivation

Several un-solved questions:

- Does housing induce poverty?
  - Test the **neutrality** hypothesis (Talmann 2003)
- Clarify the concept of housing poor
  - Developing a tool for Public Institutions to build a ranking of housing-poors to who concéntrate the resources
- How extent poverty produces housing deprivation
  - Or is housing costs the one producing poverty?
- Differences across tenancy types and regional áreas
  - Quantifying household in risk of poverty

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Defining Housing Poverty

Unclear definition in the literature:

- A household fall in housing poverty when housing costs coverage makes their income fall under the poverty line (Kutty).

Clasifying the types of housing poverty

1. Housing poor	Most analysed
2. Poor housing	Little analysis, it is a component
3. No housing	Specific studies

1. Housing Poor

- A household fall in housing poverty when housing costs coverage makes their income fall under the poverty line (Kutty,2005).
  - It occurs when Maximum Affordability Ratio overpass the limit to fall under 2/3 of poverty line
- Closing to be housing poor is when housing are not affordable: affordability analysis is the main focus
  - A home is affordable when the household do not devote to cover its cost more tan 30% of the disposable income
    - Normative rate
  - Multidimensional Analysis is the recent focus including housing supply and features (citar)
- Ex – post conditions: the household enjoy a house

2. Poor Housing

- When the housing quality is so poor and the household has not enough income to improve it.
    - Low quality conditions reduce the household welfare (including health conditions)
    - Associated to other types of poverty, like income poverty or fuel poverty
    - Commonly accepted to happen in social housing
    - Difficult to measure as require specific studies
        - A household would not be considered poor but living in poor housing.
- Ex – post conditions: the household enjoy a house

3. No Housing

- When the household cannot afford a house due to:
  - Current economic conditions in housing market
  - Other reasons which expulse from housing provision
- Previous to house is provide… Ex - ante conditions
  - It is a problema of lack of affordability
- Happen in two cases:
  - First entrance… Young households (most of the references)
    - Related to conditions in labour market
  - Not-so-Young… previously expulsed from housing mkt (after loose the house)
    - Strong crisis or/and Deep poverty
  - Homeless

Literature

- It identify poverty and housing when:
  - Residual income (after housing costs) is small..
    - Not allowing basic goods consumption (Shelter poverty) … permanent?
  - Affordable house: cost and quality
    - Thalmann, 1999,2003, Lerman and Reader, 1987, Gabriel et al, 2005, Mclennan and William, 1990, Bramley, 1990..)
  - Housing expenses are far than 30% of income in poor households…
    - housing stress…. Transitory - temporary
  - Housing stress leads to shelter poverty

Literature

- Household efforce to pay their housing costs
  - It is long term as mortgages use to have large maturity
  - McLennan and Williamns, 1990, Bramley, 1990,
    - There are fails in market assignement.. (Stone, 1993)
      - First entrance is great step…

- Minimunt assignment has to fulfill a quality guarantee (Maclennan y Williams, 1990, Bramley, 1990, Hancock, 1993)
  - … quality and enough supply' criteria (Quigley and Raphael, 2004)

- Homeowners show higher level of income than the average (Gabriel et al, 2005)

- No neutrality principle: assignement deficit provoque viciuous poverty circle.

Aim and objective

- Existence of housing poverty across EU countries, Poland, Italy, Spain and Germany
  - Specifically the role played by housing poverty and housing affordability in the probability of a household to fall under poverty
- Objectives:
  - Find causal evidence about whether or not the housing tenure is associated with poverty and the conditions under which the poverty likelihood rise when housing and households characteristics are taken into account.
  - Test the neutrality principle of housing is neutral to poverty.
  - To approach energy issues in this framework and test whether or not housing poverty is also associated with fuel poverty.

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Data and Methodology

- Estimate housing poverty indicators of the 27 EU countries
- Main data source:
  - Life conditions survey, EU-Silc, cross 2005-19
  - Micro-data
  - EU countries, aggregate
  - Representative
- Procedure:
  - Merging the different years (we do not follow households, we estimate the variables evolution together with the household life-cycle)
  - Variable definitions
    - income distribution measure
    - Affordability ratios (Rent to income, debt to income, housing stress)
    - Poverty line
  - Exploratory analysis

Definitions in this paper

- Poverty line: households with income = and under 60% of median (Eurostat)
  - Requires to estimate income by consumption unit

Three levels of housing poverty severity measures (2 conventionals + 1)

1.- Affordability ratio: debt or rent to income

$$DtI_t = \frac{Hexp}{Inc_t}$$

where Hexp= $(A + int_t)$ *or* $rent$

2. - Housing stress: % of housing costs on income for those households falling under 40% of income distribution (Hs)

- $DtI_t|inc \leq 40\% = \frac{Hexpt}{Inc_t}$

3.- Max affordability Index (IAM)

Definitions

The third: We propose the Max Affordability Index

$$IAM_t = \frac{DtI\_MAX}{DtI_t}$$

Dti_max is the máximum affordability Ratio

- Theoretical máximum efforce that a household should do withouth fall below the poverty line.
- If any household overpass DTI_max. it falls in **Housing Induced Poverty** – HIP (Kutty. 2005)
- Dti_max is a theoretical value measuring when the household fulfill the Kutty condition. that is:

$$(1\text{-}DtI_{max})*RD(i) - 2/3*LP => 0 \quad \text{or}$$

$$(1\text{-}DtI_{max})*RD(i) - (1\text{-}DtI^{E})*LP => 0$$

as Kutty (2005) stablished as a normative decision. Consistent with Thalmann (1999, 2003)

DtI^{E} is the deb to income ratio consider the normative limit for not having affordability problems (normally set at 30%)

Definitions

Operating

$1\text{-}Dti\_max_i \Rightarrow (1\text{-}Dti^E)*LP / RD(i)$

$Dti\_max_i <= 1\text{-}(1\text{-}Dti^E)*LP / RD(i)$ applying algebra

$Dti\_max_i <= [LP/RD(i)]*Dti^E + [1\text{-}LP/RD(i))]$

Poverty Gap

Affordability Index definition is the ratio

$$IAM_t = \frac{DTI\_MAX}{DTI_t}$$

- H_1: If IAM = $(Dti_{max} / Dti) < 1$ →
- The household falls in Housing induce Poverty (HIP).
- H_2: If IAM = $(Dti_{max} / Dti) \geq 1$ → No HIP problems.

- Neutrality principle is supported by H_2

Two steps for testing the neutrality principle: could housing induce poverty?

- 1.- Conditional likelihood function: how extend poverty depends on housing issues?:

$$\Pr(poor|X,Y)_i = \alpha_i + \sum_{i=1}^{j} \beta_i X_i + \sum_{m=1}^{m} \gamma_m Y_m + \Omega K_i + \mu_i$$

- Where
- X is a set of housing characteristics, including tenancy
- Y is a set of household features
- K is a set of control variables

- Separate equation by z_i (avoiding max colinearity).

Second step

$$\Pr(poor \parallel Z)_i) = \alpha_i + \sum_{i=1}^{j} \beta_i z_i + \Psi K_{i,t} + \nu_i$$

Z_i are:

RtI – Affordability ratio

Housing Stress

IAM

Controlled by K matrix containing tenancy, household and housing types

- Control by time

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Data and Methodology

Data: EUSilc, 2005-2019, microdata

Empirical evidence finding: research strategy

- Exploratory analysis: previous variable calculation and description of indicators
  - Poverty and poverty line
  - Ratios: DtI or RtI, housing stress, dMta, IAM
    - Segmented by: tenure, gender, poverty

- Causal relationship: 2 ways to test the poverty and housing:

  - Direct: Poverty = f(housing characteristics and tenure, controled by household, time and income), panel analysis
    - By tenure and country. Dynamic evolution

  - Indirect: probability to fall into poverty captured by ratios: housing induce poverty
    - Controlled by tenure. Panel methods

- Econometric methodology:
  - Regression in hedonic analysis and Quantile Regression Models, Conditional likelihood model

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Exploratory analysis

TABLE 1 - Basic statistics for housing poverty analysis	Spain	Poland	Italy	Germany
Period: 2005-2019				
Poverty rate (% of households under poverty line)	21,70	16,51	19,07	17,97
Tenancy				
homeowners	78,68	75,17	75,37	44,55
renters	14,89	4,48	16,17	52,58
Free provided home	6,43	20,35	8,46	2,86
mortgage+ints amount (avg, euros/month)	125,15	53,54	365,71	505,91
rent amount (avg, euros/month)	63,53	184,09	532,47	387,83
House type				
single/detached homes	33,32	51,77	48,16	23,85
multi-famili (<10 units)	19,99	10,34	25,60	26,13
building block	46,43	37,65	24,41	14,93
Housing size (m2)	99,13	77,84	96,55	94,35
Housing aid (% households)	1,22	12,10	21,91	7,87
Household types				
single<65	12,6	18,87	28,09	39,99
single>65	10,3			
two adults <65	14,6	14,77	11,00	16,70
two adults>65	13,4	14,89	16,38	14,38
Other households	14,3	10,9	13,51	4,23
single-parents with children	2,6	3,2	3,13	4,61
2+ adults with children	32,1	35,0	27,88	19,93
Others	0,0	27,8	0,00	0,18
Number of household members (avg)	2,6	2,82	2,43	2,03

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Exploratory analysis

TABLE 2 - Basic statistics for housing poverty analysis	Spain	Poland	Italy	Germany
Period: 2005-2019				
Poverty rate (% of households under poverty line)	21,70	16,51	19,07	17,97
Home-Owners				
Ratio deb/income (Ra)	22,46	0,00	67,62	24,51
Housing Stress ratio (Hs)	35,73	0,00	79,55	32,32
Max Afford ratio (RAM)	60,30	55,29	62,13	49,80
IAM (RAM/Ra)	4,69	---	2,07	3,49
Renters at market price				
Ratio deb/income (Ra)	38,25	23,78	29,17	24,05
Housing Stress ratio (Hs)	49,53	30,93	38,63	29,83
Max Afford ratio (RAM)	43,05	50,03	47,08	41,91
IAM (RAM/Ra)	2,34	4,59	3,19	9,63
Poverty line (avg 2005-2019, euros)	8283,0	2765,90	9853,95	11330,55
Household Disposable Income (euros)	26965,50	9615,21	31237,45	44045,12
Equivalised Household Disposable Income (mean)	15730,5	3987,44	18861,32	21499,61
Equivalised Median Disposable income (Rduc)	13804,9	4609,84	16423,25	18884,25
Percentil_40_Disposable Income (40%DI)	11583,32	4059,55	14305,45	16571,26

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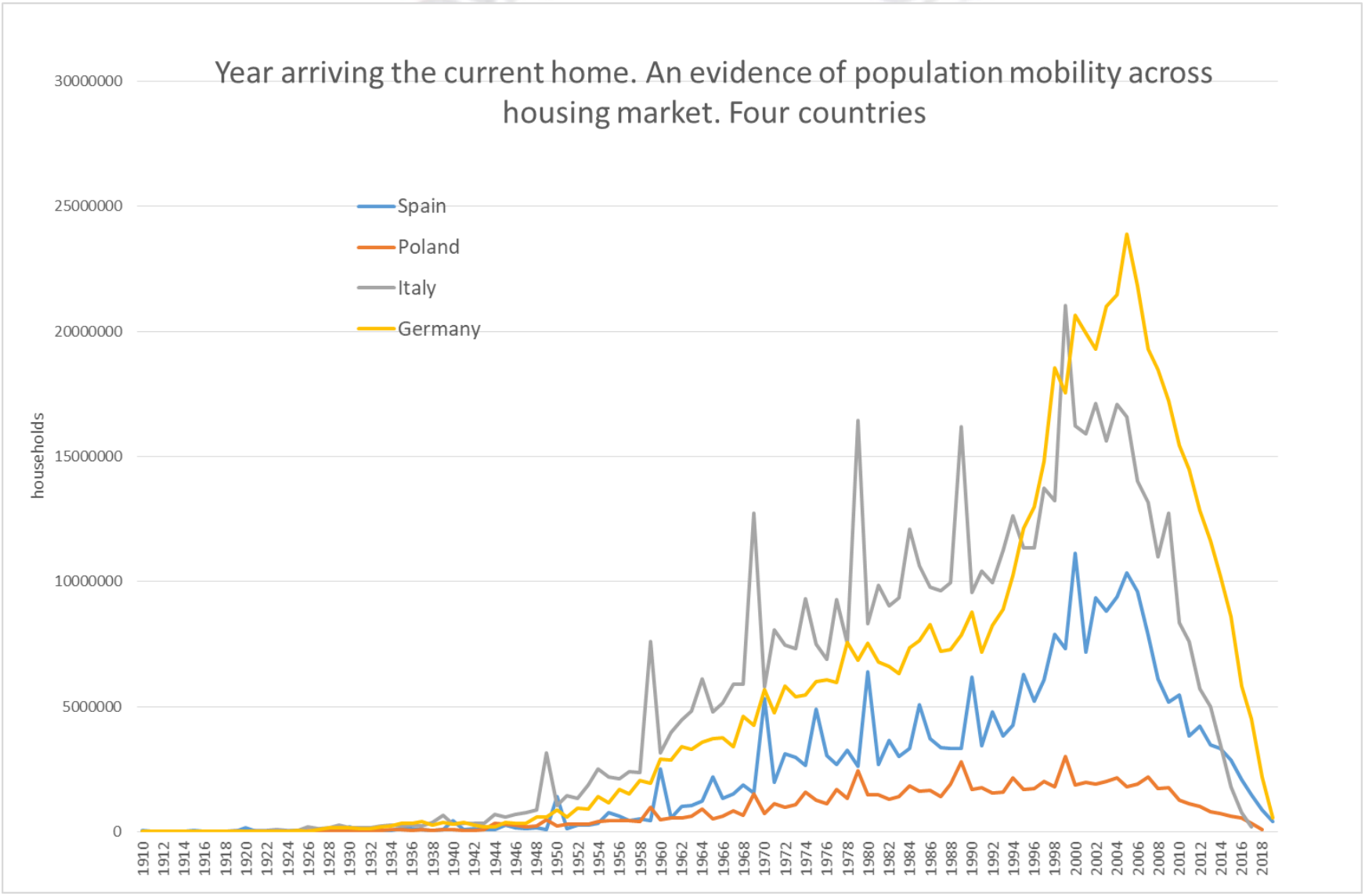
Exploratory analysis



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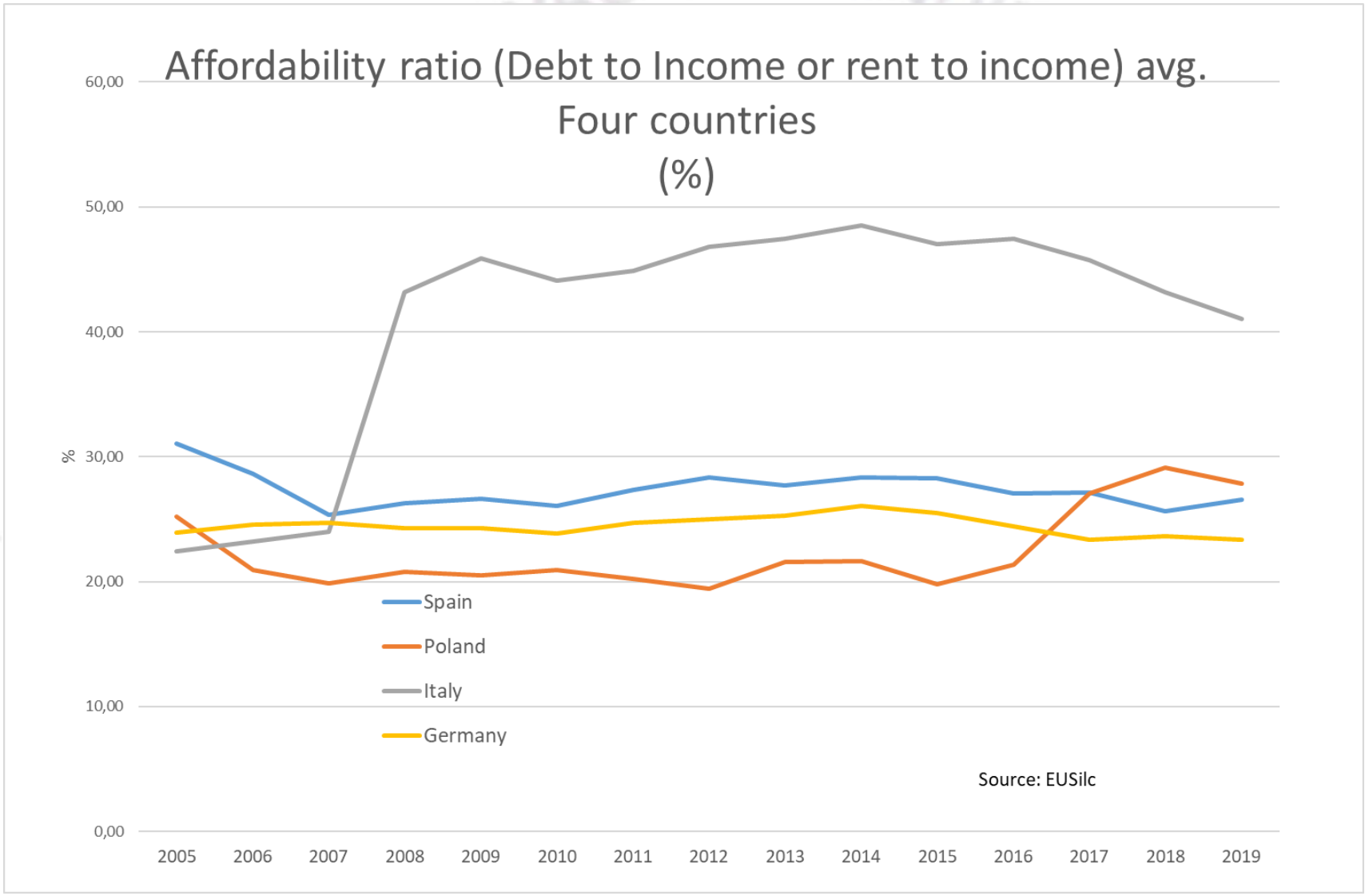

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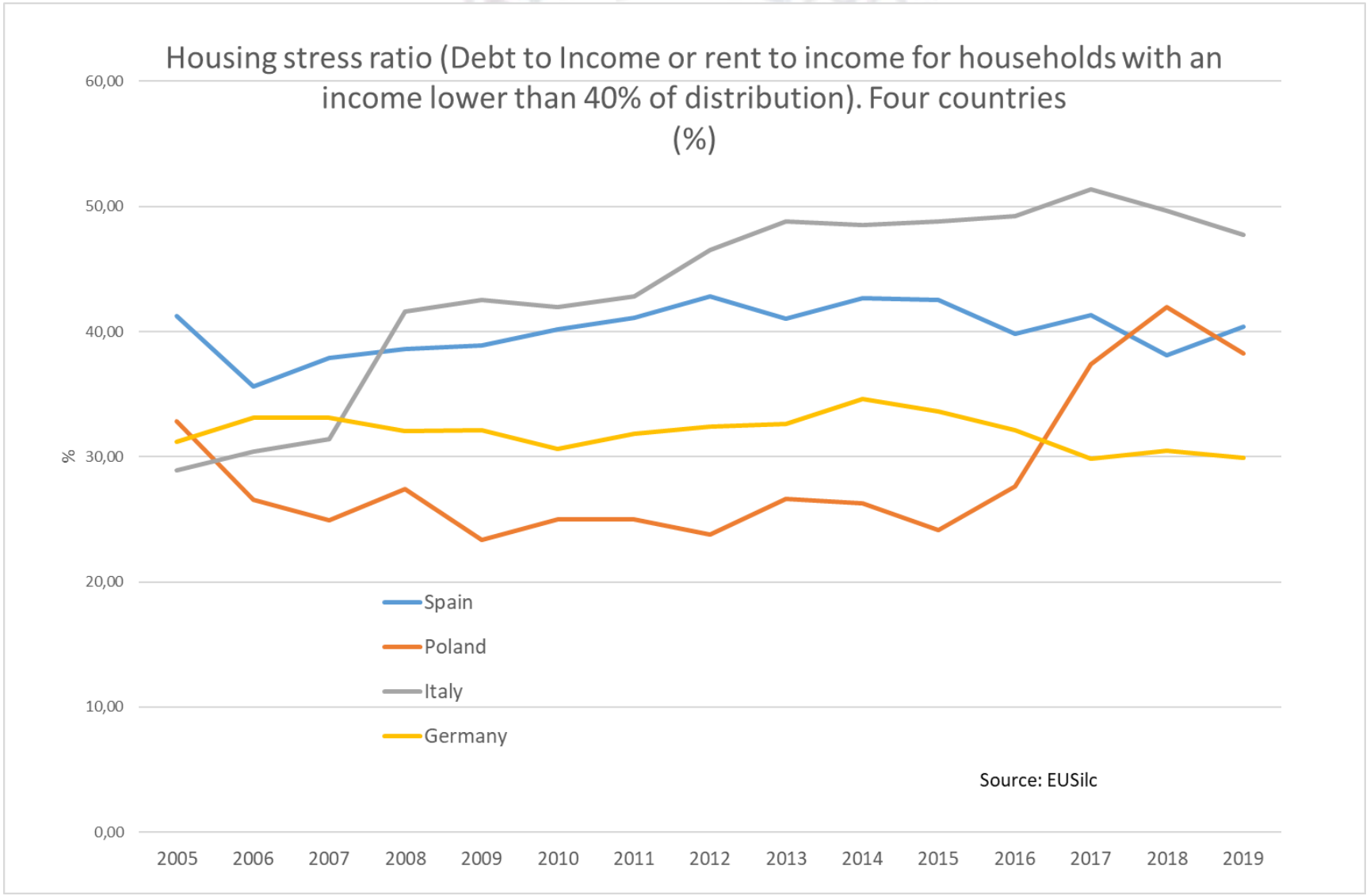

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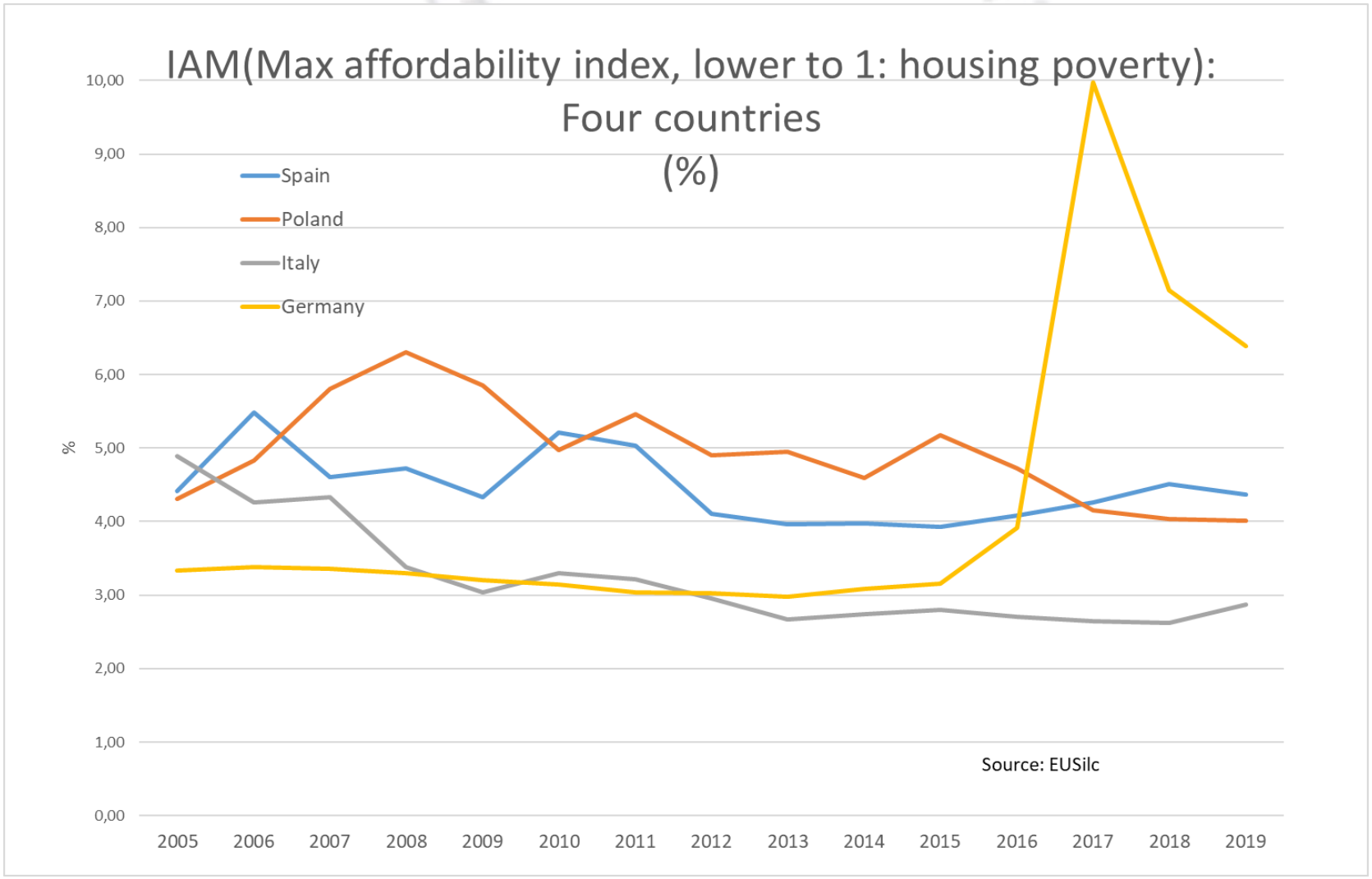
Exploratory analysis



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Exploratory analysis, intuitions

- General
  - Tenancy structure is similar in Spain and Italy but quite different in Germany, with the higher rate of household tenants, and Poland, with the higher rate in home provided free. Hownership rate is large in all but Germany.
  - Housing size is quite similar across the countries with the lower (77m2) in Poland.
  - It seems that the expensive rental market is located in Italy and the country where the mortgage is more expensive is in Germany, but both in line with the disposable income.
  - Single+detached homes are the most common in Poland and Italy, living in blocks is the common in Spain and not clear in Germany as 35% of answer are lost.
  - The public support for housing is very relevant in Italy with almost 22% of households receiving grants for that end, and none in Spain
  - Household structure is similar with the lower number of members and larger single household in Germany.
- Housing poverty indicators
  - Larger poverty rate in Spain followed by Italy
  - Worst affordability situation in Italy from all perspectives. In the limit, households would devoted a 60.3% of their income to pay the housing cost in ownership in Spain and 49.8 in Germany
  - In rental market, the worst situation is in Spain with high RdI and HS ratios.
  - The lower level on poverty line is in Poland, accordingly to the level of disposable income.
  - Time in the current home shows the history of entrance on housing market of the households. Three periods: since 50's to early 90's the entrance increase in a stable way, during 90's there is an acceleration on the entrance in all countries but in Poland peaking on 2005. Last years, the number of household entering diminish but it is because the DB structure in the observation. Such structure allows to understand the housing problems structure in the DB.
    - Surprising the entrance of Poland, with a majority of owners without payments.
- From time perspective
  - DtI ratio raise dramatically in Italy since GFC towards strong negative situation of lack on affordability. Situation in Poland worsen since 2016
  - Housing stress shows strong problems for poor families in Spain and Italy and partially in Germany and Poland (the latter until 2016).
  - IAM are larger than one in all cases with a sligth reduction during last years and much better situation in Germany

Empirical evidence. 1st step

$$\Pr(poor|X,Y)_i = \alpha_i + \sum_{i=1}^{j} \beta_i X_i + \sum_{m=1}^{m} \gamma_m Y_m + \Omega K_i + \mu_i$$

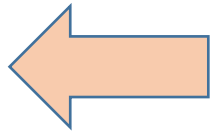
Where

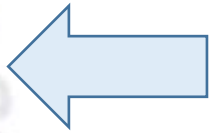
- X is a set of housing characteristics, including
  - Tenancy type: (2 categories, ommited provided free)
  - Housing features: type (2, ommited block), size (m2)+
    - 12 housing features (accesibility, contamination, noise, natural light, neighbourhood conditions and safety, temperatura at home)
- Y is a set of household features, including
  - Household type (6 categories, Others is ommitted) +
  - Gender
  - Num of persons in the household
- K is a control variables matrix
  - Disposable income by household
  - Lenght of stay in the home

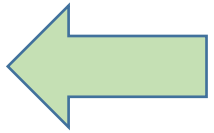
- Method: pool OLS / Quantile regression

Table 3. Hedonic model explaining poverty based on household and housing features												
	SPAIN			POLAND			ITALY			GERMANY		
Dep Variable: poor=1, not poor=0												
	β		VIF	β		VIF	β		VIF	β		VIF
(Constante)	0,309	***	0,0	-2,132	***	0,00	0,436	***	0,00	-0,829	***	0,00
Household type (ommited 'Others')												
H_single	0,097	***	3,9	-0,045	***	3,33	0,107	***	7,36	0,055	***	13,03
H_single_more65	-0,038	***	3,2									
H_2adults_less65	0,039	***	2,7	-0,016	***	2,12	0,039	***	2,37	-0,024	***	5,17
H_2adults_more65	0,021	***	2,5	-0,110	***	2,28	0,025	***	3,05	-0,039	***	4,89
H_singleparents	0,125	***	1,3	0,055	***	1,36	0,115	***	1,47	0,036	***	2,30
H_children	0,020	***	2,7	-0,015	***	3,43	0,009	***	2,73	-0,052	***	4,73
Gender (1=male, 2=female)	-0,011	***	1,0	0,012	***	1,23	0,032	***	1,26	0,001	***	1,19
Num_pers	0,075	***	5,2	0,046	***	4,71	0,072	***	6,49	0,049	***	7,52
Tenancy type (ommited house provided free)												
t_owner	-0,101	***	3,0	0,005	***	1,85	-0,074	***	2,68	-0,054	***	9,60
t_rent_marketp	0,029	***	2,7	-0,004	***	1,07	-0,014	***	2,36	-0,013	***	9,78
t_rent_lowp	-0,041	***	1,4	0,066	***	1,03	0,035	***	1,40	0,096	***	3,20
Housing features												
Housing type (ommited block)												
Single family + detached	0,001	***	2,0	0,042	***	2,47	0,033	***	1,70	0,028	***	2,93
Multifamily (less than 10 units)	-0,004	***	1,2	0,016	***	1,31	0,018	***	1,51	-0,009	***	1,69
Size	0,001	***	1,6	excl	***	excl	0,00001	***	5,13	0,000	***	3,68
N_rooms	-0,011	***	1,4	-0,006	***	1,54	-0,007	***	1,29	-0,028	***	3,83
Q7_natight	0,005	***	1,1	-0,031	***	1,15	-0,040	***	1,11	-0,048	***	1,06
Q6_noiseext	0,009	***	1,2	0,000		1,37	0,002	***	1,34	-0,020	***	1,48
Q5_contamin	-0,005	***	1,2	0,024	***	1,38	0,008	***	1,38	0,021	***	1,51
Q4_delinq	-0,018	***	1,1	0,013	***	1,18	0,000	***	1,14	-0,025	***	1,18
Q3_leaks	-0,007	***	1,2	-0,036	***	1,28	-0,012	***	1,14	0,004	***	1,13
Related to temperature												
Q4_adeq_temp	0,115	***	1,1	0,085	***	1,19	0,150	***	1,08	0,213	***	1,20
Dwelling comfortably warm during winter time	EXCL			0,006		1,37	EXCL		EXCL	-0,033		1,30
Dwelling comfortably cool during summer time	EXCL			0,007		1,20	EXCL		EXCL	0,027		1,14
Adequate electrical installations	-0,012	***	1,114	0,031	***	1,03	0,000	***	1,29	0,029	***	1,15
Dwelling equipped with heating facilities	0,029	***	1,171	0,062	***	1,28	0,054	***	1,01	EXCL	***	EXCL
Controls	YES			YES			YES			YES		
Statistics												
Adj R2	0,281			0,22289			0,20824			0,228		
Error estándar de la estimación	0,339			0,323405			0,350661			0,343		
F	269203,7	***		70755,27	***		7400636	***		472254	***	

Results (1)







Results (2)

- Quantile regressions support the idea of different effect of the explanatory variables over poverty depending on the decile of poverty

Table 4. Quantile regression for housing poverty

	SPAIN		POLAND		ITALY		GERMANY	
Dep Variable: poor=1, not poor=0	Pseudo R^2	MAE (absolut av error)	Pseudo R^2	MAE (absolut av error)	Pseudo R^2	MAE (absolut av error)	Pseudo R^2	MAE (absolut av error)
q=0,25	0,000	0,1994	0,000	0,1603		0,1923	0,000	0,1873
q=0,5	0,000	0,1994	0,000	0,1603	0,000	0,1923	0,005	0,1863
q=0,6	0,022	0,2121	0,000	0,1603	0,004	0,2183	0,053	0,1863
q=0,7	0,115	0,2507	0,003	0,1754	0,104	0,2183	0,108	0,2067
q=0,75	0,180	0,3045	0,078	0,2657	0,147	0,2339	0,159	0,3659
q=0,8	**0,305**	0,4118	0,170	0,2657	**0,231**	0,4282	**0,298**	0,3659
q=0,9	0,176	0,5873	**0,203**	0,5711	0,142	0,6241	0,178	0,5723
q=0,99	0,056	0,7518	0,021	0,7965	0,029	0,7705	0,040	0,7687

- Differences among countries with the effect last deciles
- Suggesting that the households closed to the poverty line behave in similar way than others up or PL covering the housing costs… more effort (this is according to the literature which suggest that household covers, first, the housing costs maybe falling in other types of poverty, (McLennan and Williamns, 1990, Bramley, 1990)

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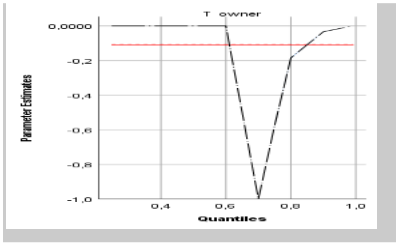
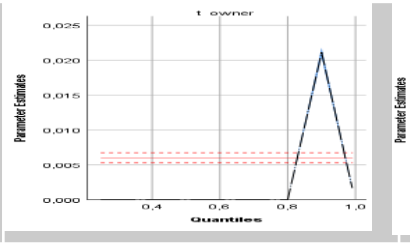
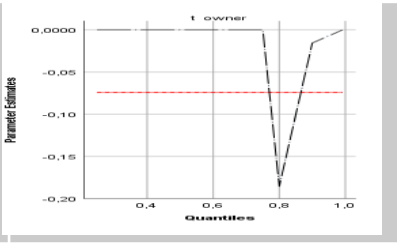
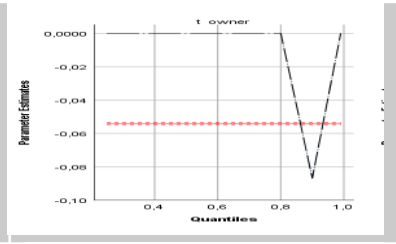
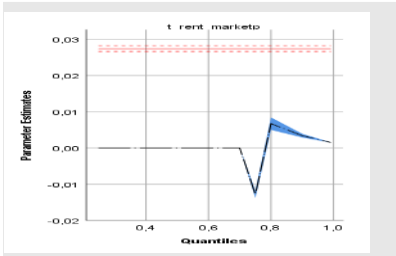
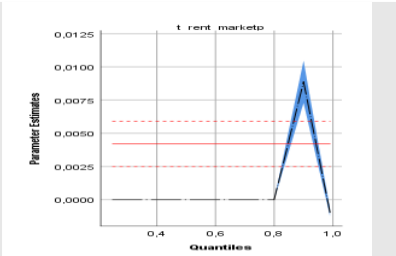
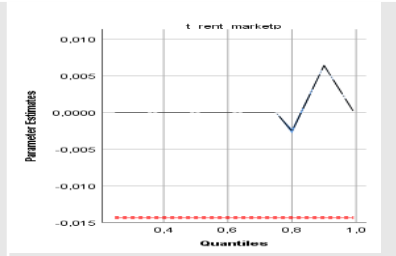
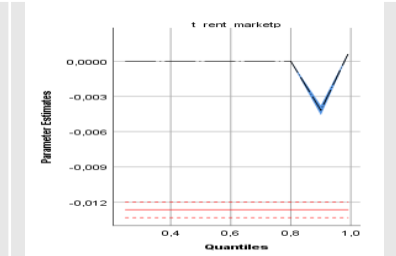
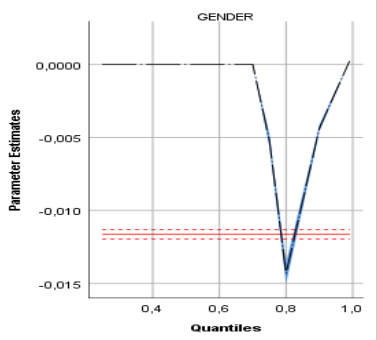
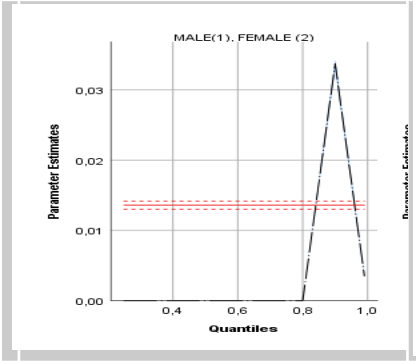
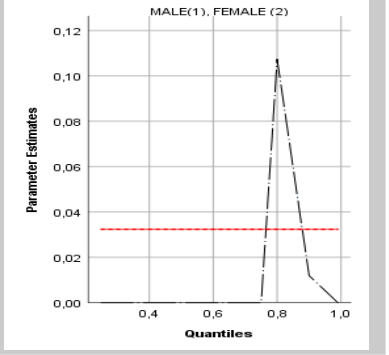
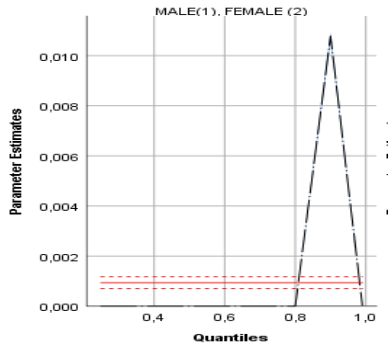
Results (3)

- With Non-linear effect on:
  - Tenancy type : homeowners and renters at market price

	Spain	Poland	Italy	Germany
Ownership				
Rent Market price				

  - Gender

Spain	Poland	Italy	Germany
			

Second step- housing induce poverty test

- Conditional likelihood function:

$$\Pr(poor \parallel X) = \alpha_i + \sum_{i=1}^{j} \beta_i z_i + \Psi K_{i,t} + \mu_i$$

Z_i are:

RtI – Affordability ratio

Housing Stress

IAM

Controlled by a matrix containing K controls: tenancy, household and housing types variables

- Also control by time

Estimation by country separately

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Housing induce poverty?

Table 5. Housing induce poverty empirical evidence. 4 European countries

Pool – OLS poverty responses to:	β	t-test	VIF	K controls	Year control	Adj R^2	St.err	F-Stat
Eq (1) RtI – Affordability ratio								
Spain	0,011 ***	6,66	1,00	YES	YES	0,3821	0,3252	4876575
Poland	0,010 ***	960,4	1,18	YES	YES	0,2387	0,3586	95890
Italy	0,005 ***	6707	1,70	YES	YES	0,1977	0,3663	6397710
Germany	0,015 ***	11329	1,09	YES	YES	0,3319	0,3555	307830071
Eq(2) Housing Stress								
Spain	0,008 ***	2973	1,27	YES	YES	0,2138	0,4394	827673
Poland	0,009 ***	547	1,26	YES	YES	0,1620	0,4544	28931
Italy	0,007 ***	4171	1,74	YES	YES	0,1451	0,4623	1863355
Germany	0,011 ***	5632	1,09	YES	YES	0,2158	0,4428	3895275
Eq (3) IAM- Maximum affordability index								
Spain	-0,001 ***	-842	1,01	YES	YES	0,1044	0,3868	911254
Poland	-0,038 ***	-3725	1,06	YES	YES	0,1816	0,3370	1447378
Italy	-0,021 ***	-5151	1,08	YES	YES	0,1522	0,3708	4610971
Germany	-0,0003 ***	-664	1	YES	YES	0,0544	0,4210	1602483

* Constant and control variable's parameters are ommitted in this table for simplicity in presentation

Conclusions

- Heterogeneous effect of the type of household over the likelihood to fall in poverty
  - Single parents have got similar effect (all positive) and household size
  - Household with children in Spain and Italy
  - Gender increase the robability to be poor in all but spain
- Ownership seems to protect from severe poverty
  - Not in Poland
  - Rental private market protect from poverty in all but Spain
- Single family increase the probability to be poor but less in Spain tan in other countries (aroun 3-4%)
- Quality is associated to poor households that are owners

Conclusions

- The effect of housing-household features are not linear, with larger impact in the households falling between 8th (Spain, Italy and Germany) and the 9th (Poland) deciles.
  - Those suggest that the likelihood to fall in poverty starts later in Poland
  - Suggest that not all poor household would suffer of housing poverty and then, the measure should be precise, requiring more precise quantitative tolos. IAM is defined for that reason.

Conclusions

- Hedonic,… poverty explained by household and housing features, controlled by income
  - Different effects of household groups.
  - In all countries, to be single parents shows larger likelihood to become poor (11% on Spain and Italy and 3.6-5% in Germany and Poland)
  - Gender (to be a female) reduce the probability in Spain, but not in other countries.
  - In Italy and Spain, all groups show a marginal propension to become poor suggesting that poverty covers the all types of households, while the contraty happen in Germany (but singles, alones or with children) and just the latter in Poland.
  - Tenancy: Those **increasing the probability to become** poor are:
    - Tenant at market price in Spain. So as, in Spain, public tenancy is solution
    - Tenant at low market price in Poland, Italy and Germany
    - Owner in Poland
  - Others:
    - Live in a single family, related to live in a block
    - Larger houses with less rooms: space
    - In general better equipment installed increase the likelihood to become poor.

Conclusions

- Quantiles: suggest non-linear effect with a concentration of the negative effects since 8 decile of the distribution in spain, Italy and Germany, 9th in Poland.

  - Suggesting that the households closed to the poverty line behave in similar way than others up or PL covering the housing costs… more effort (this is according to the literature which suggest that household covers, first, the housing costs maybe falling in other types of poverty, McLennan and Williams, 1990, Bramley, 1990)

  - Specific effects of ownership and in rental market and Gender

Conclusions

- *Housing induce poverty* is empirically tested
- The effect is consistent among the models and countries, with small differences

  - Larger effect on Spain and Germany (explaining more than 30% of poverty based on RtI and more than 20% based on housing stress.
  - However, similar effect of RtI ratio on the likelihood to become poor across countries, between 0.5 to 1.5%.. the lower in Italy
  - Surprisingly lower effect to those who suffer housing stress, around 1%
  - IAM, negative (as expected) effects very concentrated in Poland (3.8%) and Italy (2.1%).. strength of the problems are at very specific level.
    - Suggesting that the problems of poverty associated to housing is difficult to identify and precise granular information and solutions
    - Italian households are making strong effort

Conclusions

- Limitations:
  - The analysis is concentrated on households with payments.
    - Homeless are excluded… and covered by social system
    - Poor households with no housing payments are also excluded.

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Thank you for your attention