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Consumer credit and financial fragility in Italy

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Outline

- Framework
- Research question
- Literature review
- Data and methodology
- Results

Households' financial condition

- Since the 2008 crises, data highlights an ongoing worsening in the economic and financial situation of Italian households:

  - Problems in making end meets and facing unexpected expenses; arrears on the payment of utilities and other bills; difficulties in repaying loans;
  - Decline in saving rate; median net wealth and household income in real terms; increase in the number of people in poverty;
  - Increase in debt, especially consumer credit.

Focus on consumer credit

- Specific features of the italian consumer credit market (Bank of Italy):
  - In recent years (up to 2012) consumer credit has recorded high levels of growth;
  - increase in non-earmarked loans granted by financial companies, backed by the assignment of one fifth of salary or pension;
  - increase in risk indicators for consumer credit and for loans not for house purchase.

- The potential risks associated with the growth in consumer credit is attracting a growing attention at national level because of its possible effects, both on the households' well-being and on the stability of the financial system.
- Economic reports in Europe show that in recent years growing groups of households rely on consumer credit to meet the daily expenses (IMF 2013; Bank of England 2010; Observatoire des crédits aux ménages 2009).

The aim

- Our paper aims:
  - to empirically investigate whether there exist a statistically significant relationship between the growth in the use of consumer credit in Italy and the increase in the proportion of indebted households that are in a negative financial situation.

- Households financial fragility is captured by a variable labelled *Economic Position* which refers to the general economic condition at the individual level and captures the ability (or inability) to meet daily expenses.

Literature review

- The empirical literature on consumer credit is very limited.
- Magri (2002) and Del Rio & Young (2006) analyzed the determinants of participation in the unsecured credit market
    - unlike other forms of borrowing (mainly mortgages), consumer credit appears to be more sensitive to variations in current income than suggested by theory (Lifecycle hypothesis)
- Del Rio & Young (2008) look at the relationship between households vulnerability and unsecured borrowing
    - Increase in unsecured debt owned by young households with high debt-to-income ratio, which made them vulnerable to income shocks
- Magri, Pico & Rampazzi (2011) find that a not negligible share of households who borrow in the consumer credit market are poor in income.
- Albacete & Lindner (2013) show that having a nonmortgage debt as a positive significant correlation with household vulnerability.

Data

- Empirical estimates are based on individual panel data from the SHIW – Survey on Household Income and Wealth (Bank of Italy).
- Survey waves: 2002-2012
- Panel dataset of households interviewed at least twice during the entire period
- Total number of households 8,241.
- Of these, 1,511 were interviewed in every single wave during the entire period of the study.

Empirical model - 1

- Model 1: Estimates how the probability of observing an increase in consumer credit between two consecutive waves varies according to individual characteristics and the socio-economic context

$$P[(D_{i,t+1} - D_{i,t}) > 0] = \Phi(\beta' X_{i,t} + c_i),$$

- We check the robustness of our estimates for potential endogeneity issues.

Empirical model - 2

•Model 2: Estimates the probability of over-indebtedness according to individual household characteristics

$$P[R_{i,t} > 0.5] = \Phi(\alpha' X_{i,t-1}),$$

•We use the debt-to-income ratio and we focus on the 10% of the most indebted househols, which are chracterized by a ratio greater than 0.5.

•Parameters estimated using Heckman's selection equation method adapted to the case of a binary response variable.

Table 3b: Dependent variables

	2002-2004		2004-2006		2006-2008		2008-20010		2010-2012	
Variable	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Dependent Variables										
Increase in consumer credit debt										
No	3258	90.40	3578	90.42	3891	89.55	4306	93.18	4306	93.39
Yes	346	9.60	379	9.58	454	10.45	315	6.82	305	6.61
Ratio between consumer credit and current income										
Non indebted	3232		3449		3814		3991		4056	
Less than 50	346	93.01	464	91.34	484	91.15	568	90.16	481	86.67
More than 50	26	6.99	44	8.66	47	8.85	62	9.84	74	13.33

Table 4 Model 1 – Probability of increasing debt in the consumer credit market. Average partial effects.

Variables	APE	SE		APE	SE	
Age of the head (Ref: Older than 65)						
Up to 30	0.0779	0.0142	***	0.0299	0.0173	*
31 to 40	0.0580	0.0077	***	0.0529	0.0100	***
41to 50	0.0604	0.0065	***	0.0544	0.0081	***
51 to 65	0.0461	0.0047	***	0.0464	0.0058	***
Education of the head (Ref: Elementary school)						
Middle school	0.0139	0.0056	**	0.0109	0.0070	**
High school	0.0032	0.0064		-0.0008	0.0079	
University degree	-0.0045	0.0078		-0.0160	0.0093	
Net wealth (Ref=Up to first quartile)						
30.170-138.000	-0.0226	0.0087	***	-0.0259	0.0116	**
138.000-262.000	-0.0266	0.0098	***	-0.0292	0.0130	**
More than 262.000	-0.0255	0.0105	***	-0.0322	0.0137	**
Current income (Ref=Up to first quartile)						
15.822-24.200	0.0165	0.0056	***	0.0228	0.0064	***
24.200-37.225	0.0248	0.0067	***	0.0343	0.0078	***
More than 37.225	0.0285	0.0086	***	0.0405	0.0102	***
Work status (Ref=Employee)						
Self –employed	-0.0196	0.0062	***	-0.0168	0.0077	**
Not employed	-0.0244	0.0053	***	-0.0178	0.0065	***
Number of income earners (Ref=One)						
2 earners	0.0061	0.0047		-0.0007	0.0058	
More than 2 earners	0.0156	0.0073	**	0.0060	0.0087	
Residence ownership (Ref=No)						
Yes	-0.0088	0.0076		-0.0074	0.0096	
Mortgages (Ref=No)						
Yes	0.0453	0.0069	***	0.0368	0.0085	***
Bank or Post office account (Ref=No)						
Yes	0.0271	0.0056	***	0.0325	0.0067	***
Credit cards (Ref=No)						
Yes	0.0209	0.0049	***	0.0184	0.0059	***
Informal credit (Ref=No)						
Yes	0.0569	0.0153	***	0.0554	0.0192	***
Economic position (Ref=Easy)						
Difficult	0.0241/6	0.0043	***	0.0213	0.0053	***
Geographical area (Ref= North)						
Center	0.0199	0.0052	***	0.0191	0.0065	***
South	0.0120	0.0046	***	0.0120	0.0057	**
Year (Ref=2002-2004)						
2004-2006	-0.0006	0.0065		0.0135	0.0072	*
2006-2008	0.0060	0.0065		-0.0234	0.0065	***
2008-2010	-0.0283	0.0059	***	-0.0208	0.0066	***
2010-2012	-0.0294	0.0059	***			
Lagged dependent variable				-0.0069	0.0081	
ρ	0.045 (p-value LR test=0.009)			0.075 (p-value LR test=0.01)		
Sample size	21138			12897		
Ln *L*	-5672.5			--3326.6		

Table 5 Model 2 – Probability of over-indebtedness. Average partial effects.

Variables	**Marginal Effects**	**SE**	
Age of the head (Ref: Older than 65)			
Up to 30	0.0261	0.0089	***
31 to 40	0.0149	0.0040	***
41to 50	0.0077	0.0022	***
51 to 65	0.0101	0.0021	***
Education of the head (Ref: Elementary school)			
Middle school	0.0030	0.0024	
High school	-0.0010	0.0028	
University degree	-0.0078	0.0032	**
Net wealth (Ref=Up to first quartile)			
30.170-138.000	-0.0054	0.0040	
138.000-262.000	-0.0101	0.0042	**
More than 262.000	-0.0103	0.0044	**
Work status (Ref=Employee)			
Self –employed	0.0065	0.0051	
Not employed	-0.0006	0.0020	
Number of income earners (Ref=One)			
2 earners	0.0007	0.0018	
More than 2 earners	0.0012	0.0028	
Residence ownership (Ref=No)			
Yes	-0.0023	0.0031	
Mortgages (Ref=No)			
Yes	0.0069	0.0031	**
Bank or Post office account (Ref=No)			
Yes	0.0043	0.0021	***
Credit cards (Ref=No)			
Yes	0.0023	0.0022	
Informal credit (Ref=No)			
Yes	0.0115	0.0061	*
Economic position (Ref=No)			
Yes	0.0055	0.0019	***
Geographic			
Center	0.0066	0.0021	***
South	0.0119	0.0033	***
Year (Ref=2002-2004)			
2004-2006	0.0029	0.0023	
2006-2008	0.0049	0.0024	**
2008-2010	0.0067	0.0029	**
2010-2012	0.0044	0.0029	
Sample size	2368		
Ln *L*	-7431.4		

Conclusions - I

- Being in a difficult financial position adds approximately 2.4% to the probability of having unsecured debt compared to households without any financial or economic difficulty.
    - This result itself supports the idea that consumer credit may be used to plug the gap in situations of economic troubles.
- When considering indebted household, financial fragility has significant effect on the risk of exceeding the threshold of over-indebtedness.
    - An increase in the number of fragile households due to, for instance, the persistent recent economic downturn, could represent a serious threat to the solvency of the consumer credit market as these households are the ones who are more likely to be over-indebted in this sector of credit.

Conclusions - II

- Implications are relevant:
    - Stability of the financial system
    - Households' well-being, poverty, social exclusion

- Our results call for a systematic monitoring of the risks stemming from consumer credit, specifically consumer credit of vulnerable households.

- When consumer credit is used to meet the costs of day to day living, the repayments may have a strong impact on other areas of the household budget (fuel rationing, cutting back food, …) thereby leading to a further deterioration in their life quality.

Thank you!