Job stability and Initial Mortgage conditions

Evidence from Italian administrative data

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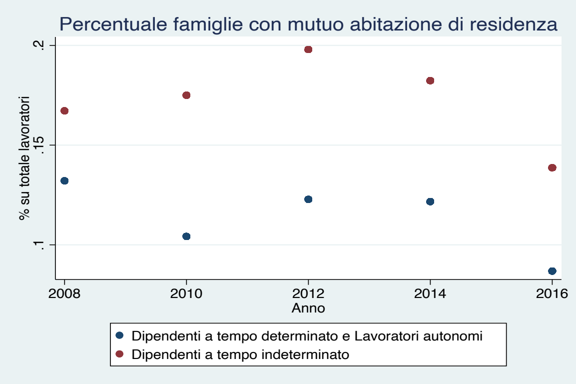
Motivation

- Banking market is key for the demand of liquidity by Italian households and firms
- The micro-literature focuses mostly on bank-firm relations... Little attention is paid on household-bank relations, especially mortgages
- Evidence suggests that households' job conditions are correlated with the allocation of credit in the Italian mortgage market
- Large and significant difference in the share of families where the head has an open-ended labor contract (SHIW)

Motivation II



- Difference is significant after controlling for age, after including other family components etc.
- **Supply side**: banks are risk averse and prefer stable labour contracts
- **Demand side**: households with uncertain labour prospects postpone long-term investments such as housing

Research question

- Does job instability affect access conditions to the mortgage market?

$$y_i = \beta_1 JobStability_i + \beta_2 X_i + \phi_j + \varepsilon_i$$

- where y_i is mortgage amount, loan-to-value (LTV) etc. by the household i at the time of the mortgage is signed

- ϕ_j are mortgage-market specific fixed effects (bank and/or regional)

- Initial mortgage conditions have relevant effect on consumption over the life-cycle (Browning and Crossley, 2001) and have a significant impact on housing choices (Bajari et al. 2012)

This paper

- Constructs a unique sample of mortgage-worker obs (repeated cross-section) by merging two administrative sources: INPS and a major Italian commercial bank
- Analyses the impact of job instability on initial mortgage conditions by exploiting the variation in the degree of job stability induced by the 2015 Jobs Act
- Contributes to the debate in the literature on the impact of EPL on households' labour (e.g. Boeri and Garibaldi, 2019) and other non-labour outcomes (e.g., fertility, see De Paola et al., 2020)
- Highlights, potentially unintended, consequences of the Jobs Act

This paper is not about...

- It cannot causally identify the impact of fixed-term contracts VS open-ended contracts, absent identification strategy
- It does not provide insights at the extensive margin of mortgage demand: we do not have data on mortgage applications

Dataset

- Universe of mortgages to Italian households by Unicredit in the period 2013-2017 (about 85000): (co-)mortgagors, mortgage amount, LTV, fixed vs adjustable rate

- Merge with INPS archive: keep only mortgages for which we have a match with all mortgagors: sample reduced to about 55000 mortgage contracts

- Final dataset: repeated cross-section with initial mortgage conditions and job-level data at the time the mortgage contract is signed

Summary statistics

	Mean	Standard Deviation	Max	Min
Mortgage-level data				
Mortgage amount (eur thousands)	98.85	44.00	400.00	5.00
Mortgage LTV	68.51	23.67	100.00	9.00
Fixed interest rate	0.48	0.50	1.00	0.00
N. Accountholders	1.35	0.49	4.00	1.00
Single mortgagor	0.65	0.48	1.00	0.00
Female co-mortgagor	0.59	0.49	1.00	0.00
Job-level data				
Average salary per day	94.08	45.91	335.31	20.11
All mortgagors with open-ended contract	0.93	0.25	1.00	0.00
At least one mortgagor with open-ended contract	0.98	0.15	1.00	0.00
At least one mortgagor with fixed-term contract	0.05	0.21	1.00	0.00
Average age of co-mortgagors	38.19	8.44	70.50	18.00
All mortgagors employed in the year of the mortgage	0.06	0.24	1.00	0.00
At least one mortgagor employed in the year of the mortgage	0.13	0.33	1.00	0.00
All mortgagors newly hired after March 7th 2015	0.04	0.20	1.00	0.00
At least one mortgagor newly hired after March 7th 2015	0.09	0.29	1.00	0.00
All mortgagors work in a company above 15 employees	0.61	0.49	1.00	0.00
At least one mortgagor work in a company above 15 employees	0.75	0.44	1.00	0.00
All mortgagors newly hired after March 7th 2015 in a company above 15	0.02	0.15	1.00	0.00
At least one newly hired after March 7th 2015 in a company above 15	0.06	0.23	1.00	0.00
At least one mortgagor retired	0.01	0.09	1.00	0.00

Summary statistics (SHIW 2012-2016)

	Mean	Standard Deviation	Max	Min
Initial mortgage amount (eur thousands)	107.14	58.04	550.00	3.00
Initial mortgage LTV	70.73	25.75	100.00	4.00
Fixed interest rate	0.45	0.50	1.00	0.00
Age (head of household) when mortgage starts	37.70	7.90	61.00	18.00
At least one family member with open-ended contract	0.95	0.23	1.00	0.00

Empirical analysis

- We exploit the variation in EPL induced by the 2015 Jobs Act
- We (initially) select employees employed in companies above 15 employees at the time of the mortgage
- We compare initial mortgage conditions for mortgagors that are newly-hired workers vs other mortgagors in the period before and after the 7th of March 2015 (diff-in-diff approach)

Sum stats: Single person mortgages

	Newly hired		Not-newly hired	
	Mean	Standard Deviation	Mean	Standard Deviation
Mortgage-level data				
Mortgage amount (eur thousands)	88.25	43.12	91.02	40.93
Mortgage LTV	66.30	23.11	65.24	23.97
Fixed interest rate	0.52	0.50	0.50	0.50
Female co-mortgagor	0.37	0.48	0.36	0.48
Job-level data				
Average salary per day	99.60	53.89	110.03	52.65
Average age	36.39	8.83	39.33	8.40
Average N. employees in mortgagors' firm	3424.05	9269.75	4021.92	17247.70
Mortgagor with fixed-term contract	0.00	0.00	0.00	0.00
Newly hired after March 7th 2015	0.70	0.46	0.00	0.00

- The advantage from focusing on single mortgagor is that we do not need to distinguish between different hiring dates among the co-mortgagors
- Furthermore, the Newly hired dummy variable univocally identifies the labour contract conditions of the mortgagor of each mortgage

Empirical results I: Single person mortgages

	(1) LTV	(2) Mortgage amount	(3) Fixed interest rate
Newly hired after March 7th 2015	-2.269**	-4.902**	-0.009
	(1.122)	(2.131)	(0.021)
Newly hired	0.055	1.994	0.025
	(0.900)	(1.777)	(0.016)
Log(Salary per day)	-8.887***	24.833***	0.008
	(0.361)	(0.733)	(0.007)
Average age of co-mortgagors	-0.442***	-0.635***	0.002***
	(0.017)	(0.029)	(0.000)
Log(N.Employees)	-0.343***	-0.399***	0.004***
	(0.068)	(0.118)	(0.001)
Female	-0.895***	5.467***	-0.006
	(0.304)	(0.535)	(0.006)
Province and Time dummies	Y	Y	Y
Observations	24739	25509	25509
Adjusted R^2	0.166	0.115	0.306

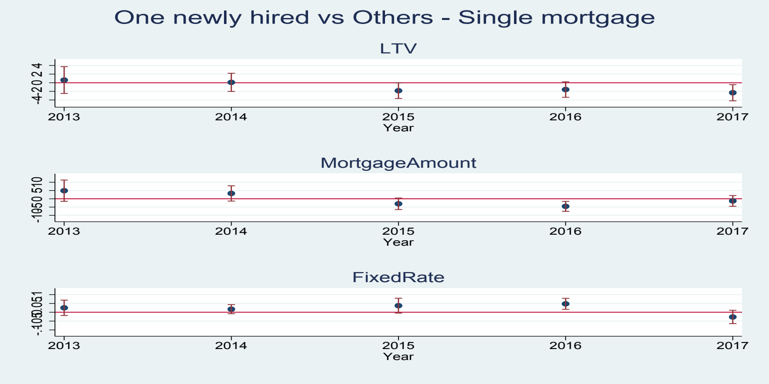
Empirical results I: Single person mortgages - comments

- Conditioning on salary, age, firm size, gender and province and time fixed effects, no significant differences before the Jobs Act
- Being hired after March 7th 2015 implies significantly lower mortgage amount and LTV
- Larger employment risk translates in lower risk-taking on the mortgage side: lower mortgage amount and LTV are in fact compatible with lower monthly mortgage payments and/or larger down-payments at the time the mortgage contract is signed
- The effect is stronger for younger and lower income households (more uncertain prospects)

Heterogenous results I: Single person mortgages

	(1) LTV	(2) Mortgage amount	(3) Fixed rate
	Panel A: below median salary		
Newly hired after March 7th 2015	-3.544***	-6.376***	0.009
	(1.310)	(2.347)	(0.025)
Newly hired	-0.106	2.049	0.024
	(1.059)	(2.004)	(0.020)
Observations	15361	15833	15833
Adjusted R^2	0.135	0.074	0.294
Other control variables and fixed effects	Y	Y	Y
	Panel B: below median age		
Newly hired after March 7th 2015	-2.581**	-7.886***	0.004
	(1.254)	(2.408)	(0.024)
Newly hired	-0.331	3.844*	0.027
	(0.995)	(2.035)	(0.018)
Observations	17189	17770	17770
Adjusted R^2	0.150	0.114	0.303
Other control variables and fixed effects	Y	Y	Y
	Panel C: Female mortgagors		
Newly hired after March 7th 2015	-1.289	-6.518*	0.040
	(1.839)	(3.783)	(0.035)
Newly hired	-1.925	1.911	0.025
	(1.481)	(3.279)	(0.027)
Observations	8892	9173	9173
Adjusted R^2	0.156	0.119	0.317
Other control variables and fixed effects	Y	Y	Y

Year-by-year regression



Multiple person mortgages

- We enlarge the sample and consider mortgages with one or two co-mortgagors

- We define three groups:
  1. Both co-mortgagors are newly hired
  2. One of the co-mortgagor is newly hired
  3. None of co-mortgagors are newly hired

Results: Multiple person mortgages

	(1) LTV	(2) Mortgage amount	(3) Fixed rate
All newly hired after March 7th 2015	-3.008**	-3.507	0.002
	(1.455)	(3.062)	(0.028)
At least one newly hired after March 7th 2015	1.136	-1.349	-0.006
	(1.051)	(2.371)	(0.021)
All newly hired	0.082	3.591	0.011
	(1.229)	(2.712)	(0.023)
At least one newly hired	-0.326	-2.469	0.013
	(0.927)	(2.175)	(0.018)
Log(Salary per day)	-9.950***	25.260***	0.018***
	(0.323)	(0.673)	(0.006)
Average age of co-mortgagors	-0.502***	-0.784***	0.002***
	(0.015)	(0.026)	(0.000)
Log(Av.N.Employees)	-0.314***	-0.286***	0.003***
	(0.059)	(0.107)	(0.001)
N. Accountholders	4.866***	30.284***	-0.034***
	(0.342)	(0.674)	(0.007)
At least one mortgagor with fixed-term contract	1.398**	-12.408***	-0.013
	(0.680)	(1.339)	(0.015)
Female co-mortgagor	-1.092***	5.771***	-0.005
	(0.297)	(0.526)	(0.006)
Province and Time dummies	Y	Y	Y
Observations	33594	34496	34496
Adjusted R^2	0.194	0.186	0.295

Multiple person mortgages - comments

- When both employees are under the Jobs Act regime, the mortgages display significantly lower LTV and amount
- The degree of pass-through from EPL to initial mortgage conditions is significant only when all co-mortgagors are affected by the new regime
- The presence of only one co-mortgagor that is employed under the Jobs Act regime does not affect initial mortgage conditions: co-insurance effect of EPL within the household

Conclusions

- We combine administrative data from the INPS and proprietary data from a major Italian commercial bank
- We exploit variation in EPL induced be the Jobs Act and analyse the impact of job stability on initial mortgage conditions
- We find that the weaker job stability is associated to lower amount of loans and lower leverage
- The effect of job instability is mitigated by the presence of co-mortgagors

Thank you!