

Liquidity Constraints and Occupational Choice

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Liquidity Constraints and Occupational Choice

Mariassunta Giannetti^{*}

Abstract. I show that liquidity constraints are related to individuals' occupational choice. A proxy for the prospect of being liquidity constrained affects negatively the probability of being self-employed as opposed to being employed in the private or the public sectors. Furthermore, individuals belonging to households with higher prospects of being liquidity constrained are more likely to be employed in the public sector, which offers the highest level of job and income security, as opposed to being employed in the private sector.

Keywords: Occupational choice, sorting in labor markets, liquidity constraints

JEL: J2, G1

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Non-technical summary

A volatile income and unemployment have large impact on individuals' welfare. The ability to borrow against future income may help to insure current consumption. Thus, individuals that are less likely to face liquidity constraints may choose jobs with riskier income, if these provide advantages in terms of job freedom, more interesting tasks or the like.

The aim of this note is to explore whether liquidity constraints are related to individuals' occupational choice. After controlling for differences in regional labor demand and industrial structure, family income and wealth, individual education level, sex, marital status, and parenthood, I show that the prospect of being liquidity constrained affects negatively the probability of being self-employed as opposed to being employed in the private or the public sectors. Furthermore, individuals with higher prospects of being liquidity constrained are more likely to be employed in the public sector, which offers the highest level of job and income security, as opposed to being employed in the private sector.

This suggests that easier access to consumer credit may have a positive effect on entrepreneurship and innovation by favoring individual risk-taking.

1. Introduction

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This note is related to a literature exploring how the prospect of being liquidity constrained affects attitudes towards risk (Gollier, 2000). Existing research explores the effects of liquidity constraints on consumption, saving decisions, and portfolio choices (see, for instance, Fuchs-Schündeln and Schündeln, 2008 and Guiso, Jappelli, and Terlizzese, 1996).

Furthermore, Friebe and Giannetti (2008) argue that talented individuals sort between large and small organizations –that differ in the level of job security they offer– depending on their ability to smooth consumption. Friebe and Giannetti show that in the

U.S., individuals with higher credit limits are more likely to be employed in less secure, small organizations. By estimating liquidity constraints, this paper provides more direct evidence that the prospect of being credit-constrained affects occupational choice. In addition, this paper extends the results to Italy.

2. Data and Methodology

I use the 1998 and 2000 versions of the Bank of Italy Survey of Household Income and Wealth (SHIW), a random sample of the Italian resident population. This biannual survey provides information on earnings, income, wealth, and demographic characteristics of about 8,000 households.

The main challenge is to find a suitable proxy for liquidity constraints, which are not directly observable. For instance, credit limits may not capture the ability to smooth consumption because households that do not expect to borrow have small credit limits. Far from being credit constrained, these households may be the ones with greatest ability to smooth consumption.

I overcome the problem of measuring liquidity constraints by following Guiso, Jappelli, and Terlizzese (1996) who study the effect of liquidity constraints on individuals' equityholdings. SHIW provides information about households that were denied credit or discouraged from borrowing. After defining these households as liquidity constrained, in the first stage, I estimate the probability that households in the 1998 sample are liquidity constrained as a function of household characteristics, using a logit model. The household characteristics that I include are: wealth including real estate and financial assets net of any

liabilities, the number of household members who are employed, the number of household members who are unemployed, and 20 regional dummies.

Then, using the estimated coefficients, I compute the predicted probability that households in the 2000 sample are liquidity constrained. In the second stage, I use this predicted probability as a proxy for the extent of liquidity constraints to explain individuals' occupation in the 2000 sample. I classify occupations according to their income risk: self-employment is considered a risky job, while jobs in private and public organizations are more secure. Since public sector employees have the smallest probability of being fired, public sector employment is considered the safest job. I control for differences in regional labor demand and industrial structure by including 5 regional areas dummies and 5 industry of employment dummies. I also control for the education level of the individual, sex, marital status, and parenthood by including dummy variables. Table 1 provides descriptive statistics.

3. Results

Column 1 of Table 2 presents the first stage estimates. Slightly more than 3 percent of the sample answers to have been denied credit or to have renounced to apply for credit in the anticipation of being denied. As expected, richer households are less likely to be credit constrained, while households with more non-working members are more likely to be credit constrained.

In the second stage, the dependent variable is a dummy that takes value 1 if an individual holds a risky occupation and value zero otherwise.¹ I start by considering self-employment as risky occupation. Estimates indicate that a higher probability of being

¹ I drop unemployed individuals.

liquidity constrained is associated with lower probability of holding a risky occupation. The effect is not only statistically but also economically significant as a one standard deviation increase in the proxy for liquidity constraints decreases by more than 3 percent the probability that an individual is self-employed.

Less liquidity constrained individuals may be self-employed because they have easier access to start up capital. To evaluate whether the data support this alternative explanation I proceed as follows: First, I exclude individuals who run family businesses, which may require potentially large investment, from the sample in order to focus on the effect of liquidity constraints on occupational choice. The estimates (column 3) are qualitatively invariant.

Second, I control for household income and wealth, which measure more precisely access to start up capital than the probability of being liquidity constrained. Estimates in column 4 show that individuals who belong to richer households are indeed more likely to be self-employed, but this does not affect my previous finding.

Finally, I explore the probability of choosing the safest job of all, public sector employment. I focus on the choice between a job in the private or in the public sector. This choice cannot depend on access to start up capital as jobs do not require initial investment. Yet, the more liquidity constrained workers should prefer a safer income profile. I find that, indeed, individuals with a higher probability of being liquidity constrained are more likely to work in the public sector. In accordance to the conjecture that access to start capital should not affect the propensity to be a public sector employee, wealth is not significant.

If the prospect of being liquidity constrained did not affect attitude towards risk, it would be hardly conceivable that liquidity constraints matter for occupational choice in this

way. Rather, individuals who have a stable flow of income should have easier access to credit as banks consider them safer borrowers. Thus, this empirical evidence provides rather strong support for the notion that liquidity constraints affect occupational choice. If anything, I may underestimate the actual effect of liquidity constraints on occupational choice.

These results are robust to a number of checks. First, the correlation between the proxy for liquidity constraints and the choice of a riskier job may depend on reverse causality. If expected income growth is higher for individual with safer jobs, these individuals may wish to borrow more against future income. This may lead individuals with safer jobs to be liquidity constrained. Liquidity constrained individuals who expect their income to grow should also expect their consumption to grow. For a subset of the sample, I can control for the expected consumption growth. The estimates in column 6 show that the new variable is not statistically significant, while liquidity constraints still affect negatively the probability of choosing a risky occupation.

Second, my interpretation of the empirical evidence implies that the possibility to borrow against future income should be less relevant for the richest households who can use their wealth to smooth consumption. Accordingly, in specifications that I do not report for brevity, liquidity constraints are negatively related to the probability of holding a risky occupation for households with total wealth below the median (less than Euro 100,000, a small amount since my definition of wealth also includes real estate), but the effect is statistically insignificant for households with wealth in the largest quartile.

Finally, all results are similar if instead of the 5 regional areas dummies, I include 20 regional dummies or if I control for individual risk aversion by including the difference

between the amount that an individual is willing to pay for a lottery and the expected value of the lottery. The proxy for individual risk aversion is not statistically significant.

4. Conclusions

This note suggests that the prospect of being liquidity constrained is related to an individual's occupational choice and that individuals avoid risky jobs if they are unable to insure their consumption. Thus, changes in the supply of consumer credit may explain changes in workers' preferences between jobs over the business cycles.

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Table 1**Descriptive statistics**

Risky occupation is a dummy equal to 1 if an individual is self-employed and equal to zero otherwise. Risky occupation-I is a dummy equal to 1 if an individual is self-employed but does not run a family business; the dummy is equal to zero if the individual is an employee. Public sector employee is a dummy equal to 1 if an individual is a public sector employee and equal to zero if the individual is a private sector employee. Wealth is the household financial and real wealth net of any liabilities in thousand of Lire. Income is the household labor and capital disposable income in thousand of Lire. Expected consumption growth is the expected growth rate of monthly consumption in two years. Observations on 5180 individuals are included.

Variable	Mean	Std. Dev.	Min	Max
Risky occupation	0.34	0.47	0	1
Risky occupation -I	0.28	0.45	0	1
Public sector employee	0.28	0.45	0	1
Proxy for liquidity constraints	0.03	0.01	0	0.11
Wealth	434446.8	721736	-842000	11300000
Income	78500.61	53460.2	-33430	918010.8
Household's working members	2.08	0.84	1	7
Household components	3.42	1.17	1	9
Expected consumption growth	0.08	0.30	-3.09	2.59

Table 2
Occupational choice and liquidity constraints

In the first stage, the dependent variable is equal to 1 if the household has been denied credit or if it has been discouraged from applying for a loan by the fear of being rejected. It is set equal to zero otherwise. Explanatory variables are defined in Table 1. All regressions include a constant term. The second stage includes the following dummies whose coefficients are not reported: 4 dummies for different age groups; 7 dummies for individuals with different educational achievement; 5 dummies for different geographical areas; 3 dummies for the individual's marital status; a gender dummy; and 4 industry dummies. Second stage regressions are estimated using a probit model and the marginal effect on the probability calculated at the mean are reported. Standard errors are White-corrected and errors have been clustered for individuals belonging to the same household.

	Probability of being liquidity constrained (First stage)	Probability of having a risky occupation (Second stage)	Probability of having a risky occupation-I (Second stage)	Probability of having a risky occupation (Second stage)	Probability of working in the public sector (Second stage)	Probability of having a risky occupation (Second stage)
Proxy for liquidity constraints		-3.58 (-7.14)***	-2.86 (-4.27)***	-2.9 (-3.64)***	1.5 (3.38)***	-5.46 (-3.76)***
Wealth	-0.6 (-2.14)***			0.02 (3.91)***	-0.00 (-0.23)	0.03 (3.24)***
Income				-0.05 (-3.09)	0.00 (0.13)	-0.11 (-3.32)***
Household's working members	-0.05 (-0.58)					
Household's non working members	0.21 (3.83)***					
Expected consumption growth						0.004 (0.10)
Observations	6683	5180	4904	5180	5180	1754
Wald Chi2	49.20	1132.9	1025.9	1111.33	886.48	291.81