

Friends' Networks and Job Finding Rates

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- Greek: " *Εχει μπαρμπα στην Κορωνη*"
- **In other words, he has connections**

Main Idea

- Search in the labor market involves acquisition of information about available jobs
- Social networks→ important source of information for job seekers
- Aim of this paper: **investigate the importance of network effects in the labor market using direct information on social interactions**
- Panel structure of the data→ avoid Manski's (1993) reflection problem

Theoretical framework

- Studies that emphasize the role of the employment status of the contacts in a network:
 - Montgomery (1991), Calvó-Armengol (2004), Calvó-Armengol and Jackson (2004), Bramoullé and Saint-Paul (2009), Galeotti and Merlino (2010).
- Employed network members
 - ① receive info about vacancies that they do not need for themselves→ pass on to their unemployed contacts
 - ② are generally better informed about employment opportunities available in the market
 - ③ may directly provide job referrals to employers

Using **indirect** information on social interactions

- ① self-reported information about the use of contacts while searching for a job (Loury, 2006; Pellizzari, 2010)
- ② geographical proximity (Topa, 2001; Weinberg et al., 2004; Bayer et al., 2008; Hellerstein et al., 2008; Schmutte, 2010)
- ③ group affiliation (Cingano & Rosolia, 2006; Dustmann et al., 2010, Munshi, 2003)
- ④ family networks (Kramarz and Nordström Skans, 2009)

- BHPS 1992-2003
- even-numbered waves: info on 3 best friends: gender, age and employment status
- relate employment status of friends at wave t to the employment transitions (no employment \rightarrow employment) of BHPS respondents between waves t and $t + 1$
- select individuals aged 18-65, not in full time education at any even-numbered wave, whose 3 best friends also belong to the same age range
- select those not employed in the survey year and whose employment status in the subsequent year is observed

Summary Statistics

Panel a): Demographic characteristics of sample respondents and their three best friends

Own Characteristics	Friends' characteristics					
	First Best Friend		Second Best Friend		Third Best Friend	
	Man	Woman	Man	Woman	Man	Woman
Man	81.16	18.84	75.66	24.34	71.6	28.4
Woman	16.94	83.06	16.26	83.74	20.78	79.22
	Age					
	Mean	S.D	Mean	S.D	Mean	S.D
18 to 24	23.49	7.44	23.38	7.23	23.42	7.14
25 to 29	30.57	9.17	30.3	8.56	29.57	7.78
30 to 34	34.7	8.81	34.04	8.27	33.76	8.44
35 to 39	38.21	8.18	37.38	7.88	37.28	8.18
40 to 44	41.87	7.95	40.81	7.76	40.9	8.03
45 to 49	44.66	8.04	43.59	8.52	43.54	8.86
50 to 54	47.1	9.6	47.16	10.01	46.61	10.23
55 to 65	51.3	10.52	50.01	11.09	49.55	10.86

Panel b): Number of employed friends and exit rates from non-employment

	Full sample	Men	Women
Unconditional	20.28	22.52	19.34
Exit rate			
Number of Employed Friends			
0	9.77	12.57	8.82
1	15.44	17.83	14.63
2	20.66	19.88	20.96
3	28.28	30.47	26.95

Notes: The sample consists of non-employed individuals in the even years between 1992-2003 for which information on friends is observed.

Results

$$\Pr(E_{i,t+1} | E_{i,t} = 0) = F(X'_{it}\beta_1 + \delta NEF_{i,t} + u_i)$$

Table 3: Fixed Effect Estimates.

	FE-1			FE-2			FE-3			FE-4			FE-5		
	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio
Number of Employed Friends	0.166	0.037	2.04	0.171	0.038	2.10	0.166	0.037	2.04	0.188	0.042	2.26	0.191	0.041	2.57
Log-Likelihood	-450.04			-453.21			-450.11			-437.81			-608.53		
Number of Observations	1,324			1,324			1,324			1,307			1,787		
	FE-1			FE-2			FE-3			FE-4			FE-5		
	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio	Coef.	M.E.	t-ratio
One Employed Friend	0.371	0.082	1.39	0.389	0.086	1.46	0.371	0.082	1.39	0.388	0.086	1.42	0.347	0.074	1.63
Two Employed Friends	0.357	0.079	1.35	0.383	0.085	1.45	0.360	0.080	1.36	0.411	0.091	1.52	0.382	0.081	1.72
Three Employed Friends	0.636	0.141	2.21	0.656	0.145	2.29	0.636	0.141	2.21	0.694	0.154	2.37	0.678	0.144	2.74
Log-Likelihood	-449.32			-452.50			-449.40			-437.21			-607.82		
Number of Observations	1,324			1,324			1,324			1,307			1,787		

Notes: Fixed effect regressions for the transition from non-employment to employment. Other regressors include individual and friend time-varying covariates (age, local unemployment rate at travel-to-work area, dummies for living as a couple, number of children (1, 2 or more), having health problems, experiencing depression, smoking, time dummies, and age of each friend. FE-1 is the main specification with the full set of covariates and FE-2 is estimated without individual time-varying covariates. FE-3 is estimated without the local unemployment rate. Estimation FE-4 includes a control for the length of the non-employment spell. Estimation FE-5 is based on the sample of individuals which includes those who have missing information on their friends. Dummy variables defined by the type of information missing are included as additional regressors. The full specification of FE-1 is reported in Table A1.

Table 4: Endogenous Network.

		FE	
Dependent Variable:			
Number of Employed Friends			
	Coef.	t-ratio	
Duration in Non-Employment (in months)	-0.0004	-1.31	
Number of Observations	6,423		
		FE	
Dependent Variable:			
Job Finding Probability			
	Coef.	M.E	t-ratio
Lag Number of Employed Friends	0.276	0.063	2.57
Number of Observations	795		

Note: The top panel reports the coefficient estimate of the linear fixed-effects regression of the number of employed friends on the duration in non-employment. The second panel reports the estimate of the conditional fixed-effects regression of the probability of finding a job on the lag number of employed friends. Both estimations include all the other controls.

Possible Mechanisms

- ① Information transmission (\uparrow NEF \Rightarrow \uparrow wage + stability)
- ② Peer effects and social norms (\uparrow NEF \Rightarrow \downarrow reservation wage, \downarrow life satisfaction)
- ③ Leisure complementarities (\uparrow NEF \Rightarrow \downarrow reservation wage, \downarrow leisure satisfaction)

Results

Table 5. Labor Market Outcomes.

	Wages		Exit Employment		
	Coef.	t-ratio	Coef.	M.E.	t-ratio
Number of Employed Friends	0.062	4.10	-0.350	-0.051	-3.58
Number of Observations	1,093		1,062		
	Wages		Exit Employment		
	Coef.	t-ratio	Coef.	M.E.	t-ratio
One Employed Friend	0.116	2.04	-0.316	-0.046	-0.89
Two Employed Friends	0.201	3.76	-0.632	-0.093	-1.84
Three Employed Friends	0.222	4.20	-1.034	-0.152	-2.86
Number of Observations	1,093		1,062		

Notes: The estimation in the first column is a linear regression of log wages for the sample of those who make a transition from non-employment to employment. The estimation in the second column is a logit regression for the probability to exit from employment in the following year for the sample of those who make a transition from non-employment to employment.

Results

Table 6. Life and Leisure Satisfaction.

	<u>Life Sat. - OLS</u>		<u>Life Sat. - FE</u>		<u>Leis. Sat. - OLS</u>		<u>Leis. Sat. - FE</u>	
	Coef.	t-ratio	Coef.	t-ratio	Coef.	t-ratio	Coef.	t-ratio
Number of Employed Friends	-0.011	-0.45	0.012	0.42	0.000	0.00	-0.009	-0.24
Number of Individuals		2,230		2,230		2,231		2,231
Number of Observations		4,116		4,116		4,117		4,117

	<u>Life Sat. - OLS</u>		<u>Life Sat. - FE</u>		<u>Leis. Sat. - OLS</u>		<u>Leis. Sat. - FE</u>	
	Coef.	t-ratio	Coef.	t-ratio	Coef.	t-ratio	Coef.	t-ratio
One Employed Friend	-0.034	-0.40	-0.154	-1.87	-0.065	-0.64	-0.035	-0.34
Two Employed Friends	-0.071	-0.86	-0.035	-0.42	-0.068	-0.69	-0.020	-0.19
Three Employed Friends	-0.040	-0.45	-0.057	-0.60	-0.029	-0.27	-0.043	-0.37
Number of Individuals		2,230		2,230		2,231		2,231
Number of Observations		4,116		4,116		4,117		4,117

Notes: Linear and fixed-effects regressions. The dependent variable is life satisfaction (Life Sat.) and leisure satisfaction (Leis. Sat.). Other regressors include the ones reported in the first column of Table 1.

Conclusions

- Evidence that employed friends increase the probability of finding a job
 - +1 employed friend \Rightarrow \uparrow Prob(finding a job) by 3.7 percentage points
 - having all friends employed compared to no employed friends \Rightarrow greatest effects
- More employed friends
 - \Rightarrow wage gains + more stable employment
 - no effect on satisfaction
 - \Rightarrow evidence that social networks operate through the information transmission mechanism