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SOME JOB CONTACTS ARE MORE EQUAL THAN OTHERS:
EARNINGS AND JOB INFORMATION NETWORKS

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Abstract

There is considerable disagreement about the effects of informal contacts on earnings. Some researchers report higher earnings for those who found their jobs through such contacts, some report lower earnings, and some report no effects. This paper uses data from the National Longitudinal Survey of Youth to address this issue. When contact effects for young male and female workers were measured in the aggregate, those who found their jobs through informal contacts fared no better than those using formal methods. However, if subgroup contact effects were measured, those who found their jobs through prior-generation male relatives most likely to convey high quality information to employers and workers earned at least 13 percent more than those using formal and other informal methods. This means that job network analyses should not focus exclusively on the use of informal contacts but should distinguish between contacts based on what they can potentially provide for jobseekers.

I. Introduction

There is little doubt that friends and relatives play a substantial role in helping individuals to find jobs. Most research indicates that roughly 50 percent of jobs are obtained through family, friends, or other acquaintances. Considerable disagreement, however, remains about the effects of informal contacts on earnings. Some researchers report higher earnings gained through contacts, some report lower earnings, and some report no effects.

Many of these studies implicitly assume that the effects of informal contacts are uniform and do not distinguish between contacts by gender and age. Informal contacts may, however, provide different quality and amounts of information to workers and employers. In this case, job network analyses should not focus exclusively on the use of informal contacts but also on identifying what these contacts can provide for job seekers.

Similar to previous work, this paper estimates the aggregate effects of informal contacts on earnings of young men and women. It, however, goes on to examine whether gender and age differences in effects of family and friends accord with which groups are likely to provide better quality and more extensive information.

II. Literature Review

Empirical variations in the effects of contacts are not surprising given that the correlation between job-finding method and wages on the job actually chosen is the outcome of a complex two-part process. The first part, relational heterogeneity, refers to the links between individuals within a job network. The second part, contact heterogeneity, focuses on the characteristics of the individuals themselves.

Granovetter (1973, 1995) was among the first to analyze relational heterogeneity. He argued that networks with many weak ties between acquaintances tend to generate more information about job openings than strong ties between family and close friends. This occurs because weak ties provide access to networks unknown to family and close friends.

More recent work analyzes the conditions that affect the efficacy of tie strength. Boorman (1975) posits that, even if weak ties have access to more non-redundant information, strong ties may be more likely to pass on the information that they do possess. In related work, Burt (1992) contends that, while tie strength is correlated with information benefits, links to non-redundant data about available jobs are the more proximate source of network breadth. According to Burt, the key factor is the prevalence of structural holes - the separations that bridge the gap between two or more non-redundant networks.

Others have focused on additional details of relationship architecture that affect productivity. Consistent with the work just mentioned, Calvo-Armegnol (2003) shows that the probability of acquiring a job increases with the number of direct contacts. He also finds, however, that it falls with more indirect contacts because the latter increase the competition for available openings. According to Montgomery (1991), the greater is the degree of correlation between worker productivities (inbreeding bias) and the more social ties that unemployed individuals have to workers (network density) the greater is the competition among firms for referred workers and the higher are their wages relative to others.

Sources of network heterogeneity such as these may clearly account for part of the variation in contact effects. However, individuals who are part of dense networks with many non-redundant ties may still fair poorly in the labor market if their links have little valuable information to convey. Given any system of network ties, the characteristics of the network members themselves (i.e. contact heterogeneity) may alter the amount and type of information that contacts can potentially provide to job seekers.

For example, Montgomery (1991) analyzes the implications of employer uncertainty about the productivity of prospective new hires. He shows that, if productive traits are correlated across acquaintances, firms will accept referrals only from its current high ability workers. These high ability workers can, therefore, pass along better quality information to jobseekers than low ability workers (see also Simon and Warner, 1992 and Saloner 1985). Similarly, Lin's (2001) "social capital proposition" argues that contacts who possess or have access to more highly valued resources improve outcomes for job seekers more than other less well-placed contacts. Empirical evidence of effects of contact social status on jobseeker earnings and occupations in the sociological literature include Lin, Vaughn, and Ensel (1981) Lin, Ensel, and Vaughn (1981) and Marsden and Hurlbert (1988).

Contact and relational heterogeneity are conceptually distinct respectively as the characteristics of nodes in a social structure and the characteristics of the connections between the nodes. However, in practice, their interaction makes separate identification difficult. One reason for the interaction is that networks are endogenous. Size, density, and other components of network architecture may differ depending on the choices made

by and, thus, the characteristics of potential members (Calvo-Armengol, 2003 and Boorman, 1975).

In addition, those with higher status may have different relations with jobseekers than those with lower status. Topa (2001) argues that employed social contacts are more likely to provide job information to others than unemployed social contacts. They are motivated by self-insurance because they would like to receive similar information when they themselves become unemployed. Calvo-Armengo and Jackson (2002) distinguish among employed contacts. They contend that employed workers will pass along information only if they cannot use the information themselves to improve their own wages.

While a complete literature review is beyond the scope of this paper (see Iannides and Loury, 2003 and Marsden, 2001), the research listed here implies that some types of contacts may have negligible effects on workers' wages, while other types may generate substantially higher wages for jobseekers. Relational heterogeneity indicates that individuals are likely to earn higher wages through their contacts if the latter are located in denser and more extensive networks. Contact heterogeneity points out that individuals are more likely to earn more if contacts (1) are employed, (2) receive higher wages (3), and/or more substantially reduce the employer's uncertainty about the job seeker's productivity. Variation in some or all of these characteristics will generate discrepancies in the effects of contacts across different groups.

Previous empirical work seems to reflect this variation. Several studies present evidence that those who found their jobs their family, friends, and acquaintances earned more than those using formal job-search methods (Rosenbaum et al, 1991 and Marmaros

and Sacerdote, 2002). Others showed that the initial wage advantage declined over time (Corcoran, Datcher, and Duncan, 1980 and Simon and Warner, 1992). In contrast, some analysts found no general initial or persistent wage effects (Bridges and Willemez, 1986; Holzer, 1987; Marsden and Hulbert, 1988; Elliott, 2000). In fact, some studies (Elliott, 1999 and Green, Tigges, and Diaz, 1999) showed that those using contacts earned less than those using formal methods.

III. Data and Empirical Results

This paper estimates the effects of informal contacts on 1982 wages of out-of-school men and women from the 1979 National Longitudinal Survey of Youth. The focus in this paper is on younger workers (ages 17 to 24 as of 1982) in order to uncover the role of contact and relational heterogeneity¹. Contemporary contacts of younger workers (siblings and friends) are likely to differ from prior-generation contacts of younger workers (uncles, aunts, and parents) in those characteristics identified above that determine the size of contact effects.

Informal contact variables for the job held in 1982 were based on responses to the questions (1) Was there anyone specifically who helped you get a job with your most recent employer, (2) Was this person male or female, (3) Was this person a relative, (4) If yes, what was the person's relationship to you, (5) Was this person working for your employer when you were first offered a job, and (6) How did this person help you get the job.

Means and standard deviations of the contact variables used in the analysis are listed in Table 1. Over half of the male sample (54.4 percent) found their jobs through

friends and relatives. Brothers (including in-laws), male cousins, and male friends accounted for much of this fraction (33.3 percent). Prior-generation male relatives (fathers, stepfathers, uncles, and fathers-in-law) accounted for another 9.9 percent. Contemporary generation (sisters, sisters-in law, and female friends and cousins) and prior-generation female contacts (mothers, stepmothers and mothers-in-law) constituted considerably smaller portions (7.0 percent and 2.9 percent respectively).

Consistent with other research (Corcoran, Datcher, and Duncan 1980), women were, at 47.5 percent, less likely to use friends and relatives to find jobs men. In addition, contemporary generation female friends and relatives made up a larger fraction of this group (24.0 percent) than did both contemporary generation male friends and relatives and prior generation male relatives at 11.6 and 2.8 percent respectively (see also Beggs and Hurlbert, 1997).

Table 2 presents the empirical results of contact effects on wages. Columns 1 and 2 imply that young men and women who found their jobs through family or friends do not, in the aggregate, appear to earn significantly more than those who found their jobs through formal channels². The largest of the four coefficients (0.016) is both small and insignificant.

The findings in columns 3 and 4 show that this result does not hold, however, for all types of informal contacts. In column 3, men who found their jobs through prior-generation male relatives who knew the boss or arranged an interview earned almost 14 percent more than those using formal or other informal methods³. Since the coefficient of heard about the job from a prior- generation male relative is virtually zero (0.0022), it appears that merely having more contacts is not sufficient to raise wages of young men.

Those contacts must be able to intercede, in some way, of the worker's behalf with the employer. Furthermore, such intervention is not uniformly effective since similar referrals from contemporary generation male relatives and friends had no large or significant effect on wages [0.0185 (0.0291)].

The most obvious explanation of these findings is contact heterogeneity. Prior-generation male relatives have access to more and better information about job openings. In addition, employers may place greater weight on recommendations by more senior workers. An alternative explanation based on relational heterogeneity would argue that, given the same information about high-paying jobs, prior-generation male relatives are more likely to act on behalf of and pass on information to jobseekers rather than use it themselves.

Auxiliary Current Population Survey data in Table 3 indicates that the findings in Table 2 are consistent with the previous discussion of contact and relational heterogeneity. The data shows that, compared to younger men and all women, older men are much more likely to have the contact characteristics identified earlier that result in higher wages for jobseekers. In particular, median income, employment rates, job tenure, and percent of full-time workers were substantially higher for men ages 45-54 than for the other groups.

Similar differences in the characteristics of contacts can also explain some of the mixed findings about the effects of job contacts on wages in previous research. Rosenblum et al (1999) reported that the effect of job contacts through relatives increased as men aged from 19 to 28. That is, contacts had more impact as male cousins, brothers-in-law, and brothers moved from characteristics similar to those of the contemporary

generation towards characteristics similar to those of the prior generation (higher earnings, longer job tenure, lower unemployment). Mencken and Winfield (2000), Smith (2000), and Beggs and Hurlbert (1997) reported that women who used male contacts found employment in higher-paying occupations. Similarly, contact effects were larger for white, inner-city young males (whose contacts had higher earnings and employment rates) than for their African-American counterparts (Korenman and Turner, 1996).

Some of the studies that report positive correlation between earnings and informal contacts used samples likely to associate with wage-enhancing contacts. These include Marmaros and Sacerdote (2002) who analyzed the effects of job networks for Dartmouth College seniors and Simon and Warner (1992) who examined data from the 1972 Survey of Natural and Social Scientists and Engineers. In contrast, Holzer (1987) reported no wage effects using a sample (men ages 16-23) less likely to associate with wage-enhancing contacts.

The negative effect of contemporary female contacts on male wages reported in column 3 of Table 2 initially seems surprising given the theoretical support for positive effects of contacts on reservation wages. The combination of contact and relational heterogeneity is the key to this puzzle. Previously mentioned research work (Mencken and Winfield, 2000; Smith, 2000; and Beggs and Hurlbert, 1997) which reports that women who used female contacts found employment in lower-paying occupations implies that women are likely to be poor contacts for male job seekers. This, in turn, suggests that men accepting jobs referred by contemporary females would, on average, have few alternatives and would be less selective about job choices.

This interpretation is consistent with Loury's (2003) finding that young men who accepted jobs referred by contemporary generation female friends and relatives experienced more sluggish subsequent job mobility than those who accepted jobs available through formal and other informal channels. A similar explanation may also account for the Green et al (1999) finding that Hispanics who used informal contacts earned less than those using other methods. In related work, Elliott (1999) reported that, for urban workers, non-white contacts reduced earnings especially when the contact was a neighbor. He concluded that "at the bottom of today's urban labor markets, the use of personal contacts serves as a strategy of last resort, rather than as a means of leveraging oneself into better jobs."

Column 4 of Table 2 shows that women who found their jobs through prior-generation male relatives earned significantly more than those using other informal or formal methods. It is not possible to distinguish between prior-generation male relatives given the relatively small number of women using this option. However, the size of the effect for women [0.160 (0.064)] is roughly comparable to that for men [0.138 (0.058)] with older male relatives who knew the boss or arranged an interview.

Selection bias does not appear to account for the positive correlation between wages and the job contacts for young men and women. The large and significant coefficients of 1980 Air Force Qualifying Test (AFQT) in Table 2 imply that such scores capture some of the otherwise unobserved, productive characteristics that affect wages. Related work (e.g. Neal and Johnson, 1996) argues that, while AFQT scores do not embody all unobserved determinants of wages, they play a relatively important role in explaining earnings variation between and within groups. The coefficients for employer-

connected prior male generation job contacts when AFQT scores are included [0.139 (0.058)] and when AFQT scores are left out [0.131 (0.058)] were virtually identical. This suggests that the reported estimates are not merely the result of contacts referring highly productive workers who would have earned more even in the absence of informal information.

IV. Conclusion

The findings in this paper show that empirical estimates of effects of informal contacts that do not distinguish between contact types may generate misleading conclusions. When contact effects for young male and female workers were measured in the aggregate, those who find their jobs through informal contacts fared no better than those using formal methods. However, if subgroup contact effects were measured, those who found their jobs through prior-generation males most likely to convey information to employers earned at least 13 percent more than those using formal and other informal methods. These findings suggest that the effect of contacts on wages may differ over the life cycle and, more generally, may vary with contact and relational characteristics. Discrepancies between past empirical estimates of job contact effects appear to reflect such differences.

Footnotes

¹ The original 1979 sample was 12686. Overall, 6519 individuals were excluded from this analysis. Some individuals (3617) were excluded because they were still in school. Others (2902) were excluded due to missing or invalid 1982 data. These included 603 for years of schooling, 2233 for earnings, and 66 for tenure at job. This analysis includes weights to control for attrition and nonrandom sampling used to produce the NLSY data.

² Using similar NLSY data for men, Korenman and Turner (1996) found larger and significant wage effects for contacts. Their sample included only urban men. Furthermore, unlike Korenman and Turner (1996), this analysis does not include occupation. Occupation was not included here since part of the reason for higher wages in referred jobs may be access to higher-paying occupations.

³ The fraction of men finding their jobs through a prior generation male contact who knew the employer or who arranged an interview was 0.04. The fraction of men finding their jobs through a contemporaneous generation male contact who knew the employer or who arranged an interview was 0.13.

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Table 1. Means and Standard Deviations (in parentheses) of Selected Variables

Contact Variables	Men	Women
Had help to find job with present employer from friends and family, total	0.5437 (0.4981)	0.4754 (0.4995)
Father (including in-law and step), grandfather, or uncle	0.0986 (0.2982)	0.0283 (0.1658)
Mother (including in-law and step), grandmother, or aunt	0.0287 (0.1671)	0.0682 (0.2522)
Sisters, female cousins, or female friends	0.0699 (0.2550)	0.2401 (0.0379)
Brothers, male cousins, or male friends	0.3325 (0.4712)	0.1163 (0.3206)
Other relatives	0.0139 (0.1171)	0.0225 (0.1483)
Number of observations	3235	2932

Table 2. Estimated Effects of Selected Variables on ln 1982 Wages

Explanatory Variables	Men	Women	Men	Women
Years of schooling	0.0651 (0.0096)	0.0462 (0.0092)	0.0651 (0.0095)	0.0465 (0.0092)
Potential work experience (Age – years of schooling)	0.0432 (0.0068)	0.0189 (0.0064)	0.0430 (0.0067)	0.0194 (0.0063)
Job tenure at current job (in weeks)	0.0009 (0.0002)	0.0017 (0.0002)	0.0009 (0.0002)	0.0017 (0.0002)
Whether black (0-1 dummy variable)	-0.0912 (0.0257)	-0.0304 (0.0276)	-0.0877 (0.0256)	-0.0273 (0.0275)
Had help to find job with present employer from: (0-1 dummy variables)				
Friends	0.0130 (0.0242)	-0.0037 (0.0249)		
Relatives	0.0162 (0.0303)	-0.0021 (0.0296)		
Father (including in-law and step), grandfather, or uncle			0.0022 (0.0555)	0.1601 (0.0639)
Mother (including in-law and step), grandmother, or aunt			-0.0378 (0.0491)	0.0018 (0.0380)
Sisters, female cousins, or female friends			-0.0832 (0.0379)	-0.0177 (0.0261)
Brothers, male cousins, or male friends			0.0221 (0.0287)	0.0393 (0.0355)
Had help from father, grandfather, or uncle who knew the boss or arranged an interview			0.1386 (0.0581)	
Had help from brother, male cousin or male friend who knew the boss or arranged an interview			0.0185 (0.0291)	
AFQT score (Percentile rank)	0.0016 (0.0005)	0.0028 (0.0005)	0.0016 (0.0005)	0.0028 (0.0005)
R ²	0.1779	0.1531	0.1885	0.1572

Also included in the analysis was a constant term and dummy variables for don't know AFQT score and whether married.

Table 3. Income and Employment Characteristics by Sex and Age

Characteristics	Men 20-24	Men 45-54	Women 20-24	Women 45-54
Median income	7651	23347	5692	8205
Employment to population ratio	64.9	85.5	60.9	58.2
Year-round, full-time workers, percent	38.4	75.4	36.9	59.8
Median years of tenure with current employer, 1983	1.5	12.8	1.5	6.3

Sources: U.S. Bureau of the Census (1985), Current Population Reports, Series P-60, No. 246, *Money Income of Household, Families, and Persons in the United States: 1983*, Table 46. U.S. Bureau of the Census (1984), *Statistical Abstract of the United States: 1985*, Table 658. www.bls.census.gov/cps/pub/tenure_0296.htm (1997) *Employee Tenure in the Mid-1990s*, Table 1.

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