

# **WORKING PAPER**

## **2004**

Department of Economics  
Tufts University  
Medford, MA 02155  
(617) 627 – 3560  
<http://ase.tufts.edu/econ>

Job Tenure and Personal Contacts:

Good Matches or Limited Choices?

Linda Datcher Loury

## I. Introduction

Previous empirical work shows that workers who use informal contacts to find employment have longer job tenure. The rationale typically given is that such contacts reduce uncertainty about the quality of the match between worker and employer. Related research finding higher wages for many workers who use informal contacts supports this explanation.

This paper contends that there is an alternative explanation of the positive relationship between using informal contacts and job tenure for some young men. Lower wages, wage growth, and expected job tenure may characterize those using contacts with little clout in the market. In such cases, the correlation between informal contacts and job tenure should not be interpreted as evidence of better match quality. Workers with poor quality personal contacts may rely on informal information sources only as a last resort when they are unable to find lucrative jobs through other means. Such workers would remain at their current jobs mainly because they have limited alternative choices rather than because of better match quality.

## II. Previous Literature and Theoretical Model

The job shopping approach (Johnson, 1978; Jovanovic, 1979; and Viscusi, 1980) posits that prospective workers are heterogeneous in preferences and abilities and jobs are heterogeneous in the skills required and in their non-pecuniary characteristics. Since many job characteristics cannot be easily ascertained without actual employment experience, some hired workers may be poor matches for jobs they hold. Greater

uncertainty about worker and employer characteristics raises the chance that the match between worker and firm will turn out worse than it initially appears.

Simon and Warner (1992) hypothesize that informal contacts reduce the frequency of overestimating match quality and, therefore, also lower the turnover rate. Using a sample of scientists and engineers, Simon and Warner found that jobs obtained through contacts made by recruiters or by acquaintances inside the firm lasted significantly longer than jobs obtained through want ads or private agencies. Similarly, Datcher (1983) showed that, for African-Americans and for college workers, knowing someone at the firm reduced the quit rate. Positive correlations between informal contacts and wages found by Simon and Warner (1992), Marmaros and Sacerdote (2002), and Rosenbaum et al (1991) are consistent with this job matching story.

In contrast, Topel and Ward (1992) argue that the average young worker holds seven jobs in the first ten years of his working life and that job mobility accounts for one-third of wage growth during this period. This suggests that low turnover is not always desirable. Remaining on the same job may reduce wages and wage growth if the reason for longer tenure is limited access to alternative jobs.

Following Topel and Ward, this paper models job mobility decisions as comparisons between external and internal wage offers. The probability distribution of new internal wage offers ( $w_1$ ) from the current employer depends on job tenure ( $T$ ) and individual productivity characteristics ( $X$ ) and is given by:

$$(1) \quad \text{Prob}(w_1 < y; w, X, T) = F(y; w, X, T)^{1/T}.$$

Workers can receive external offers from low wage and high wage sources. The cumulative distribution of offers from these sources are  $L(w, X)$  and  $H(w, X)$  respectively.

The external wage offer ( $w_E$ ) distribution depends on  $\alpha$ , the fraction of offers obtained through high offer sources and is given by:

$$(2) \quad \text{Prob}(w_E < z; X, \alpha) = \alpha H(w, X) + (1-\alpha)L(w, X).$$

It is assumed that both  $H(w, X)$  and  $F(w, X, T)$  stochastically dominate  $L(w, X)$ . Workers rely on low-wage external offer sources only as a last resort when realizations from other possibilities are especially low.

The expected present discounted value of lifetime wealth from searching optimally on a job that currently pays wage  $w$  can be written as  $V(w, X, T, \alpha)$ . Workers will leave their current job if  $w_E > R(w, X, T, \alpha)$  where  $R(w, X, T, \alpha)$  is the reservation wage offer satisfying  $V(w, X, T, \alpha) = V(R(w, X, T, \alpha), X, 0, \alpha)$ . If  $\pi$  is the probability of receiving a new job offer, the likelihood of leaving a job at tenure  $T$  is then

$$(3) \quad \lambda(w, X, T, \alpha) = \pi \text{prob}[w_E > R(w, X, T, \alpha)] \\ = \pi[1 - [\alpha H(w, X) + (1-\alpha)L(w, X)]].$$

Equation (3) shows that the correlation between whether the individual used informal contacts to find his current job and the rate of subsequent turnover is ambiguous for two reasons. The first reason is that workers who found their current jobs through contacts with access to high wages offers have both higher  $w_E$  and higher  $R(w, X, T, \alpha)$ . Since access to high wage offers increases the wages on current job, it raises reservation wages ( $R(w, X, T, \alpha)$  assuming  $R_w > 0$ ) and, therefore, reduces the likelihood of turnover. On the other hand, since access to high wage offers improves the distribution of external wage offers  $[\alpha H(w, X) + (1-\alpha)L(w, X)]$ , alternatives to the current job are more attractive ( $w_E$ ) and, therefore, turnover is higher. For relatively low values of  $\pi$ , the former is likely

to dominate. The gains associated with a better distribution of wage offers are small if few offers are actually made.

There are several examples of research indicating that better network quality both improves reservation wages and/or wages on the current job. Mortensen and Vishwanath (1994) argue that the current wage for those using job contacts is generated by access to better distribution of wage offers than that available to those without contacts. Because employed workers only move from lower to higher paying jobs, wages earned by contacts and, therefore, the distribution of wages available through contacts dominates the distribution of wage offers available to all job seekers. As indicated earlier, Simon and Warner (1992) posit that the quality of the match between workers and firms is uncertain. This means that part of the return to accepting an initial wage offer is the prospect of higher than expected productivity. Contacts reduce the uncertainty and, therefore, increase workers' reservation wages. Montgomery (1991) argues that job seekers differ in network density (the number of social ties with job holders) and in the correlation of productive traits between acquaintances (inbreeding bias). He shows that the greater is the degree of inbreeding bias and the network density the greater is the competition among firms for referred workers and the higher are their wages relative to others. All these examples point to higher wages on the current job and, therefore, higher subsequent reservation wages and lower turnover for those with good quality contacts. Similar arguments could be made for non-wage compensation or non-pecuniary job amenities (Viscusi, 1980).

The second reason why the effects of job contacts on turnover is ambiguous is that not all personal contacts belong to the high wage offer category. In contrast to work

previously mentioned, some analysts found no general initial or persistent wage effects (Bridges and Willemez, 1986; Holzer, 1987; Marsden and Hulbert, 1988; Elliott, 2000) for jobs gained through personal contacts. Other studies (Elliott, 1999; and Green, Tigges, and Diaz, 1999) showed that those using contacts earned less than those using formal methods. Loury (2003) concluded that differences in contact characteristics may account for these divergent findings. She estimated insignificant or negative effects for most types of contacts on young workers and significant positive effects only for older male contacts.

Workers may accept jobs from low wage offer contacts because their  $\alpha$ , the fraction of offers obtained through high wage offer sources, is low. Without much access to  $H(w,X)$ , workers with low past realizations of  $w_1$  may be forced to choose jobs from the  $L(w,X)$  distribution. They subsequently remain in these jobs again because  $\alpha$  is low. They may want to move to other jobs but do not have contacts that can provide such offers.

Related work by Keith and McWilliams (1995) and Abbott and Beach (1994) shows that the effects of job mobility on wages depend on the source of the job change. Involuntary mobility in the form of family-related quits, layoffs, and discharges reduced wages. Voluntary quits increased wages. This implies that those without access to job offers that make voluntary quits attractive would remain on the job and have longer tenure.

Longer tenure is not uniformly desirable according these two different explanations of the correlation between contacts and job tenure. The correlation for those with high wage offer contacts comes from higher compensation and improved matches

between workers and firms. On the other hand, the correlation for those with low wage offer contacts comes from limited alternatives to the current job.

### III. Data and Empirical Results

The data used in this paper comes from the male sample of the 1979 National Longitudinal Survey of Youth (NLSY). The NLSY is nationally representative panel of 12,686 individuals ages 14-21 in 1979 who were interviewed annually to determine a wide variety of information about schooling, work, and other experiences. This paper estimates the effect of different types of informal contacts on how long between 1982 and 1992 workers remained on their 1982 job. It also examines the effects of contacts on wage growth from 1982 to 1987 and on other indicators of the desirability of the 1982 job. The focus is on young workers (ages 17 to 24 as of 1982) since job mobility is most closely associated with wage growth among younger workers<sup>2</sup>.

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, and (4) If yes, what was the person's relationship to you.

Means and standard deviations of job tenure and of the contact variables used in the analysis are listed in Table 1. Job turnover among these young workers is substantial. About 23 percent of workers left their 1982 jobs before 1983, 52 percent had left before 1984, 75 percent by end of 1986, and 84 percent by the end of 1992<sup>3</sup>. Slightly over half of the sample (54.4 percent) found their 1982 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) and all female relatives and friends accounted for about 10 percent each.

Table 2 presents the results of using Cox proportional hazard model to estimate the effects of these contact variables on job tenure. The hazard specification is given by  $h(t|X_j) = h(t_0) \exp(X_j \beta)$  where  $X_j$  is a vector of individual characteristics,  $h(t_0)$  is the baseline hazard, and, relative to the baseline hazard,  $h(t|X_j)$  is the probability density associated with individual  $j$  leaving his 1982 job at time  $t$  given that he has tenure of at least  $t^4$ .

Table 2 shows that years of schooling, work experience as of 1982, and 1982 union membership are all negatively correlated with subsequent turnover<sup>5</sup>. Although economic theory indicates that the multivariate nature of these relationships is often uncertain (Galizzi and Lang, 1998), these findings conform to most other empirical work (see, for example, Farber, 1994; Neal, 1998; Bronars and Famulari, 1997).

The spline job tenure variables in Table 2 show that the probability of leaving the 1982 job increases with tenure in the first two years of employment and declines thereafter. Gains from gathering information about the current job may account for the initial increase. According to Jovanovic (1979), such an increase is especially likely in cases where the amount of prior job information is low. Farber (1994) also found an increasing hazard at the beginning of job tenure using NLSY data. Turnover eventually falls with tenure as the worker gets more specific training or as information is obtained about the quality of the match between worker and firm.

The exponentiated coefficients from Table 2 can be interpreted as the ratio of hazards  $[h(t|X_j)/h(t_0)]$  for a one-unit change in the covariates. This means that young

men who found their 1982 jobs through prior-generation male relatives were about 70 percent as likely to leave the 1982 job as those who found their job through formal means ( $\exp(-0.3538) = 0.702$ ). While help from contemporary generation male relatives and friends and all female friends and relatives also reduced turnover, these sources do not appear to be as valuable as prior-generation male relatives. Workers using help from these groups were only about 90 percent as likely to leave the 1982 job as those who found their job through formal means ( $\exp(-0.0961) = 0.908$  and  $\exp(-0.1304) = 0.878$ )<sup>6</sup>. This effect is significantly lower than that for prior-generation male relatives.

Interpreting the lower turnover rates as evidence of better quality matches may be appropriate for previous work which also finds higher wages for those with informal contacts (Simon and Warner, 1992). However, as indicated earlier, wages are not uniformly higher for all those using such contacts. Loury (2003) found 14 percent higher wages for those using prior generation male contacts compared to those using formal sources. Wages for those using contemporary generation males were not significantly different from formal sources. Wages for those using female contacts were significantly lower than those using formal sources. The combination of lower turnover without higher compensation does not easily fit the job-matching story. Instead, these workers may rely on informal information sources only as a last resort when they are unable to find lucrative jobs through other means.

This hypothesis of limited alternatives cannot be tested directly. However, two findings support this explanation. The first is that jobs obtained through contemporary generation male friends and relatives or through female friends and relatives do not have characteristics that would compensate for the absence of higher 1982 wages relative to

those taking jobs found through formal means. In 1982, respondents were asked how would they rate their job from 1 to 4 in terms of whether chances for promotion were good (1 – not true at all and 4 – very true) and, in 1987, respondents were re-interviewed and asked their current wage rate. Table 3 shows that workers who found their jobs through contemporary generation male friends and relatives or through female friends and relatives rated their promotion possibilities on their 1982 job comparable to those who used formal means and significantly lower for than those who found their jobs through prior generation male relatives. Wage growth between 1982 and 1987 was also significantly lower for those who found their jobs through these apparently poorer quality contacts. Wage growth is measured for all workers - those who remain on the 1982 job and those who switched to alternatives. It, therefore, captures the overall effect of the network quality on future wage opportunities<sup>7</sup>. Those with better networks either receive higher wages on their original job or have the opportunity to switch to better paying jobs.

The second indication that those who rely on female or young male sources have limited alternative choices comes from comparing actual and expected job tenure. In 1982, NLSY respondents were asked how many years<sup>8</sup> they expected to keep their current job. Table 3 shows that the workers using female or young male sources expected to be on these jobs for two fewer years than those using older male contacts (the left-out group) and about the same length of time as those using formal search procedures. As indicated earlier, Table 2 showed that workers who found their jobs through female and young male relatives and friends stayed on the job longer than those who found their job through formal channels. One interpretation of this combination of longer actual tenure after 1982 (Table 2) but relatively shorter expected tenure as of 1982 (Table 3) is that

these workers may be frustrated in their attempts to find better employment. Lower anticipated chances for promotion fit this interpretation. In contrast, men who found their jobs from prior generation male relatives both expected longer tenure than those using formal sources (Table 3) and actually achieved longer tenure (Table 2).

#### IV. Summary

The turnover results in this paper support previous work which indicates that those who find their jobs through friends and relatives uniformly have longer job tenure than those finding jobs through formal means. It presents additional evidence that the reasons for longer job stays differ depending on the characteristics of the contacts. Those who found their jobs through prior generation male relatives have higher current wages, higher wage growth, expected to be promoted more frequently, and anticipate longer job tenure than those finding jobs through formal or other informal means. This evidence suggests that they remain on the job because of better match quality between worker and firm.

Those who find their jobs through contemporary generation male friends and relatives or through female friends and relatives enjoy smaller wage growth and report fewer expected chances for promotion. They have longer job tenure even though they anticipated earlier exits from their current jobs. They, therefore, appear to remain at their current jobs mainly because they have limited alternative choices.

## Footnote

<sup>1</sup> A more complicated model would also include wage growth (Galizzi and Lang, 1998).

<sup>2</sup> The NLSY has 6403 male observations. A total of 3168 observations were not included in the analysis - 1857 because individuals were still in school, 336 because of invalid data for years of schooling in 1982, and 975 because they did not work in 1982 or because of invalid data for 1982 wages or 1982 job tenure.

<sup>3</sup> Total tenure ends either when the 1982 job ends or in 1992 (the end of the observation period for this paper). Sixteen percent of the sample was still on the 1982 job as of the 1992 interview.

<sup>4</sup> Unlike many other estimation choices, the hazard model can accommodate right censoring (individuals may still be on the 1982 job at the end of the observation period in 1992) and left truncation (most individuals in the sample began their 1982 job before 1982).

<sup>5</sup> The coefficient of AFQT score is also negative as in Neal (1998). However, it is significant only at the 10 percent level.

<sup>6</sup> Adding 1982 wages to the covariates lowers the absolute value of the size of the effect for older male relatives and younger male friends and relatives. The coefficients with wages included are  $-0.342$  and  $-0.092$  respectively. Adding 1982 wages raises the absolute value of the size of the effect for female relatives and friends. The coefficient with wages included is  $-0.141$ . The small differences without and with wages suggest that the main sources of the informal effects are either non-pecuniary job characteristics or anticipated future compensation.

<sup>7</sup> According to Table 1, 75 percent of workers had left their 1982 jobs by 1986. Simon and Warner (1992) reported lower rather than higher wage growth for those finding their jobs through contacts. The fact that Simon and Warner (1992) focused on wage growth for those remaining the original job may account for the discrepancy. In addition, workers with good contacts may receive more specific training if they are better matches for idiosyncratic firm characteristics than are other workers (see Montgomery, 1992b). This is more likely to be true for the young men sample used here than for the sample of scientists and engineers used by Simon and Warner.

<sup>8</sup> Those who choose less than 1 were coded as 1, 1-2 as 1.5, 3-5 as 4, 6-9 as 7.5, 10 or more as 12.

## References

- Abbott, Michael and Charles M. Beach. 1994. "Wage Changes and Job Changes of Canadian Women: Evidence from the 1986-87 Labour Market Activity Survey." *The Journal of Human Resources* 29 (2): 429-460.
- Bridges, William and Wayne Villemez. 1986. "Informal Hiring and Income in the Labor Market." *American Sociological Review* 51 (4): 574-582.
- Bronars, Stephen and Melissa Famulari. 1997. "Wage, Tenure, and Wage Growth Variation Within and Across Establishments." *Journal of Labor Economics* 15 (2): 285-317.
- Corcoran, Mary, Linda Datcher, and Greg Duncan. 1980. "Information and Influence Networks in Labor Markets," 1-37, in Duncan, Greg J., and James N. Morgan, eds., *Five Thousand American Families, Vol. VIII*, Institute for Social Research, University of Michigan.
- Elliott, James. 1999. "Social Isolation and Labor Market Isolation: Network and Neighborhood Effects on Less-Educated Urban Workers." *Sociological Quarterly* 40 (2): 199-216.
- Elliott, James. 2000. "Class, Race, and Job Matching in Contemporary Urban Labor Markets." *Social Science Quarterly*. 81 ( 4): 1036-1052.
- Farber, Henry. 1994. "The Analysis of Interfirm Worker Mobility." *Journal of Labor Economics* 12 (4): 554-617.
- Galizzi, Monica and Kevin Lang. 1998. "Relative Wages, Wage Growth, and Quit Behavior." *Journal of Labor Economics* 16 (2): 367-391.

- Green, Gary, Leann Tiggs, and Daniel Diaz. 1999. "Racial and Ethnic Differences in Job Search Strategies in Atlanta, Boston, and Los Angeles." *Social Science Quarterly* 80 (2): 559-577.
- Ioannides, Yannis M. and Linda Datcher Lounsbury. 2003. "Job Information Networks, Neighborhood Effects And Inequality". Discussion Paper, Tufts University.
- Johnson, William. 1978. "A Theory of Job Shopping." *Quarterly Journal of Economics* 92 (2): 261-278.
- Jovanovic, Boyan. 1979. "Job Matching and the Theory of Turnover." *Journal of Political Economy* 87 (5 pt. 1):972-990.
- Keith, Kristen and Abigail McWilliams. 1995. "The Wage Effects of Cumulative Job Mobility." *Industrial and Labor Relations Review* 49 (1): 121-137.
- Lounsbury, Linda Datcher. 2003. "Some Job Contacts Are More Equal Than Others: Earnings and Job Information Networks." Tufts University Economics Department Working Paper.
- Marmaros, David, and Bruce Sacerdote. 2002. "Peer and Social Networks in Job Search." *European Economic Review* 46 (4-5): 870-879.
- Marsden, Peter and Elizabeth Gorman. 2001. "Social Network, Job Changes, and Recruitment." In *Sourcebook of Labor Markets: Evolving Structures and Processes* edited by Ivar Berg and Arne Kalleberg, New York: Plenum Publishers.
- Marsden, Peter and Hurlbert, Jeanne. 1988. "Social Resources and Mobility Outcomes: A Replication and Extension." *Social Forces* 66 (4): 1038-1059.

- Montgomery, James D. 1991. "Social Networks and Labor Market Outcomes: Towards an Economic Analysis." *American Economic Review* 81 (5): 1408-1418.
- Montgomery, James D. 1992a. "Job Search and Network Composition: Implications of the Strength-of-Weak-Ties Hypothesis." *American Sociological Review* 57 (October): 586-596.
- Montgomery, James D. 1992b. "Social Networks and Persistent Inequality in the Labor Market," Department of Economics, Northwestern University, mimeo.
- Mortensen, Dale and Tara Vishwanath. 1994. "Personal Contacts and Earnings: It Is Who You Know." *Labour Economics* 1 (1): 187-201.
- Neal, Derek. 1998. "The Link Between Ability and Specialization." *The Journal of Human Resources* 33 (1): 173-200.
- Rosenbaum, James, Stefanie DeLuca, Shazla Miller, and Kevin Roy. 1999. "Pathways into Work: Short- and Long-term Effects of Personal and Institutional Ties." *Sociology of Education* 72 (3): 179-196.
- Simon, Curtis and Warner, John. 1992. "Matchmaker, Matchmaker: The Effect of Old Boy Networks on Job Match Quality, Earnings, and Tenure." *Journal of Labor Economics* 10 (3): 306-330.
- Topel, Robert and Michael Ward. 1992. "Job Mobility and the Careers of Young Men." *Quarterly Journal of Economics* 107 (2): 439-479.
- Viscusi, Kip. 1980. "A Theory of Job Shopping: A Bayesian Perspective." *Quarterly Journal of Economics* 94 (3): 609-614.

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

## Contact Variables

Had help to find job with present employer from friends and family, total	0.5437 (0.4981)
Father (including in-law and step), grandfather, or uncle	0.0986 (0.2982)
Mother (including in-law and step), grandmother, or aunt	0.0287 (0.1671)
Sisters, female cousins, or female friends	0.0699 (0.2550)
Brothers, male cousins, or male friends	0.3325 (0.4712)
Other relatives	0.0139 (0.1171)
Turnover on 1982 job	
Left before 1983	0.2275 (0.4193)
Left before 1984	0.5171 (0.4998)
Left before 1987	0.7016 (0.4354)
Left before 1993	0.8411 (0.3656)
Number of observations	3235

Table 2. Cox Hazard Estimates for Tenure on 1982 Job

Years of schooling	-0.1087 (0.0144)
Potential work experience in 1982 (Age – years of schooling)	-0.0710 (0.0108)
1982 job tenure (in weeks: 1-52 weeks)	0.0021 (0.0015)
1982 job tenure (in weeks: 52- 104 weeks)	0.0038 (0.0009)
1982 job tenure (in weeks: more than 104 weeks)	-0.0029 (0.0011)
Union member in 1982 (0-1 dummy variable)	-0.2222 (0.0497)
Whether black (0-1 dummy variable)	0.1675 (0.0502)
Used formal methods to find 1982 job	-
Had help to find 1982 job from (0-1 dummy variables):	
Father (including in-law and step), grandfather, or uncle	-0.3538 (0.0711)
Brothers, male cousins, or male friends	-0.0961 (0.0435)
Female relatives or friends	-0.1304 (0.0662)

Table 2. Cox Hazard Estimates for Tenure on 1982 Job (cont.)

AFQT score	-0.0015
(Percentile rank)	(0.0009)
$\chi^2$	203.87
N	3235

Also included in the analysis were dummy variables for whether married and for don't know AFQT score.

Table 3. OLS Estimates for Selected Dependent Variables

Explanatory Variables	Promotion	1982 Expected	
	Chances (1 to 4)	Ln 1987 Wages	Job Tenure (in years)
Ln 1982 Wage	0.3621 (0.0598)	0.3495 (0.0378)	1.0185 (0.3424)
Years of schooling	0.0150 (0.0192)	0.0415 (0.0122)	0.0896 (0.0926)
Potential work experience in 1982 (Age – years of schooling)	-0.0188 (0.0136)	-0.0102 (0.0085)	0.1477 (0.0684)
1982 job tenure (in weeks)	-0.0003 (0.0004)	0.0001 (0.0002)	0.0106 (0.0019)
Union member in 1982 (0-1 dummy variable)	-0.0362 (0.0582)	0.0833 (0.0336)	0.8941 (0.3231)
Whether black (0-1 dummy variable)	-0.0342 (0.0604)	-0.0826 (0.0318)	-0.0976 (0.3128)
Used formal methods to find 1982 Job	-0.1346 (0.0765)	-0.0317 (0.0402)	-2.0132 (0.4163)
Had help to find job with 1982 employer from: (0-1 dummy variables)			
Father (including in-law and step), grandfather, or uncle	-	-	-

Table 3. OLS Estimates for Selected Dependent Variables

Explanatory Variables	Promotion	1982 Expected	
	Chances (1 to 4)	Ln 1987 Wages	Job Tenure (in years)
Brothers, male cousins, or male friends	-0.1827 (0.0798)	-0.0826 (0.0406)	-1.9287 (0.4270)
Female relatives or friends	-0.2415 (0.0979)	-0.0968 (0.0535)	-2.1816 (0.5318)
AFQT score (Percentile rank)	-0.0016 (0.0011)	0.0021 (0.0007)	-0.0083 (0.0058)
R <sup>2</sup>	0.0344	0.2010	0.1293
N	2947	2228	2315

Also included in the analysis were a constant term, dummy variables for whether married and for don't know AFQT score. The number of observations in each row equals the number of respondents with valid responses for the dependent variable.

# WORKING PAPER SERIES 2004

[ase.tufts.edu/econ/papers](http://ase.tufts.edu/econ/papers)

- 2004-01** EGGLESTON, Karen & Winnie Yipp; Hospital Competition under Regulated Prices: Application to Urban Health Sector Reforms in China
- 2004-02** EGGLESTON, Karen & Chee-Ruey Hsieh; Health Care Payment Incentives: A Comparative Analysis of Reforms in Taiwan, Korea and China
- 2004-03** EGGLESTON, Karen; Competition, Altruism, and Provider Payment
- 2004-04** LOURY, Linda; Some Job Contacts are More Equal Than Others: Earnings and Job Information Networks
- 2004-05** LOURY, Linda; Teen Childbearing and Community Religiosity
- 2004-06** LOURY, Linda; Religiosity and High School Misbehavior
- 2004-07** MUKAND, Sharun & Sumon Majumdar; Policy Gambles
- 2004-08** MUKAND, Sharun & Sanjay Jain; Public Opinion and the Dynamics of Reform
- 2004-09** MUKAND, Sharun, Sumon Majumdar & Anandi Mani; Politics, Information and the Urban Bias
- 2004-10** BIANCONI, Marcelo; Aggregate and Idiosyncratic Risk and the Behavior of Individual Preferences under Moral Hazard
- 2004-11** BIANCONI, Marcelo; Transfer Programs and Consumption under Alternative Insurance Schemes and Liquidity Constraints

- 2004-12** BIANCONI, Marcelo; Heterogeneity, Adverse Selection and Valuation with Endogenous Labor Supply
- 2004-13** BIANCONI, Marcelo; The Welfare Gains from Stabilization in a Stochastically Growing Economy with Idiosyncratic Shocks and Flexible Labor Supply
- 2004-14** SHIMSHACK, Jay P. and Michael B. Ward; Enforcement and Environmental Compliance: A Statistical Analysis of the Pulp and Paper Industry
- 2004-15** NORMAN, George and Joel P. Trachtman; The Customary International Law Supergame: Order and Law
- 2004-16** BROWN, Drusilla K. and George Norman; Optimal Intellectual Property Rights Protection and Humanitarian Assistance during and International Health Emergency
- 2004-17** LOURY, Linda; Job Tenure and Personal Contacts: Good Matches or Limited Choices?
- 2004-18** KUTSOATI, Edward and Sharun Mukand; Expectations and the Central Banker: Making Decisions the Market Expects to See?
- 2004-19** RICHARDS, Daniel; Price Discrimination and the Long Boom.
- 2004-20** HARDMAN, Anna and Yannis Ioannides; Income Mixing and Housing in U.S. Cities: Evidence From Neighborhood Clusters of the American Housing Survey.
- 2004-21** HARDMAN, Anna and Yannis Ioannides; Neighbors' Income Distribution: Economic Segregation and Mixing in US Urban Neighborhoods. [revised]
- 2004-22** EGGERS Andrew and Yannis Ioannides; The Role of Output Composition in the Stabilization of the U.S. Output Growth
- 2004-23** SHIMSHACK Jay; Are Mercury Advisories Effective? Information, Education, and Fish Consumption.