

The Labor Market Reward for Political Affiliation: The Case of Communist Party Membership in China, 1988-1999

Xi Pan*
Christopher Bollinger
John Garen[#]

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Abstract

This paper estimates the labor market wage premium for Communist Party membership in China during the period of rapid liberalization of its labor market when China began a serious shift toward markets, market incentives, and decentralized decision making. Using cross-sections from 1988, 1995, and 1999, we are able to examine the time path of this premium as the influence of the market grew. Furthermore, we examine how the Party wage premium differed between the state-owned sector and the nonstate-owned sector and how it changed. Because the state-owned sector is more likely to be influenced by the Party, we expect that the reward for Party membership differs across sectors and that this difference evolved over time as Party influence changed and the market economy developed. We find that the wage premium for Party membership in the nonstate-owned sector declined from 19% to 3%, but in the state-owned sector, the Party premium remained relatively constant at around 11%. Also, there were dramatic changes in the way in which worker characteristics were rewarded. The returns to a college education grew sharply, especially for non-Party members outside the state-owned sector. The return to experience fell, particularly among those outside the state-owned sector and the male gender premium rose, most markedly for the nonstate-owned sector. The findings are generally consistent with a movement toward productivity-based compensation, especially in the nonstate sector.

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*The authors are, respectively, Project Manager, Discover Financial Services; Professor of Economics, University of Kentucky; and Professor of Economics, University of Kentucky. We thank Kenneth Troske and Nancy Johnson for their comments and advice on this work.

[#]Contact author. John Garen, Department of Economics, University of Kentucky, Lexington, KY 40506-0034. Phone: 859-257-3581. FAX: 859-323-1920. Email: jgaren@uky.edu.

I. Introduction

This paper addresses the question of whether those with favorable political affiliation and/or political capital reap higher rewards in the labor market. The context is China during the period of rapid liberalization of its labor market. Specifically, during the period of study, China moved from a largely centrally planned labor market dominated by the influence of the Chinese government and Communist Party to one that began a serious shift toward markets, market incentives, and decentralized decision making.

We consider the labor market premium earned by members of the Chinese Communist Party relative to non-members at three points in time: 1988, 1995, and 1999. These dates represent early, middle, and later stages of labor market reform in China and also a time period of dramatic growth outside the state-owned sector of the economy. Thus, we are able to examine the time path of this premium as the influence of the market grew. Furthermore, we divide our sample into employees who worked in the state-owned sector and those who worked in the nonstate-owned sector. Because the state-owned sector is more likely to be directly influenced by the Party, we anticipate that the reward for Party membership differs across sectors and that this difference evolved over time as Party influence changed and the market economy developed.

Our results indicate that the wage premium for Party membership in the nonstate-owned sector declined from 19% in 1988 to only 3% 1999, consistent with a declining influence of the Chinese government in the labor market. However, in the state-owned sector, the Party membership premium remained relatively constant over time at around 11%. Also, we find dramatic changes in the way in which worker characteristics were rewarded. There was substantial growth in the returns to a college education, and this increase was especially striking for workers who were not Party members outside the state-owned sector. The return to

experience fell, particularly among those outside the state-owned sector. Additionally, the male gender premium rose, most markedly for the nonstate-owned sector.

Reform in the Chinese labor market was substantial during this period and section II of the paper presents a brief overview. In the state sector, reform allowed a great deal more autonomy for managers regarding business decisions, including hiring and compensation, as well as performance-based rewards. Also, enterprises were converted from state-owned to local/township-owned and given profit-based incentives. Privately-owned enterprises were allowed to operate and enter markets, including foreign-owned ones.

Previous literature has examined the effects of reform in the Chinese labor market and the labor market premium for Communist Party membership also has been investigated. However, we are the first to consider the evolution of this premium over time and as it varies across the state and nonstate sectors. We believe that the distinction between these sectors is intuitively natural and worthwhile to examine. Section III discusses the literature most closely related to our paper as well as background ideas. One issue that arises is that Party membership requires a long and careful training and screening process. Thus, while many of the skills acquired may be political in nature and not valuable in a market setting, attaining Party membership may signal certain valuable traits and work habits. Thus, estimates of the Party wage premium may conflate the latter with the effect of political influence. The literature has tried to address this issue and we do as well. Our approach is through selectivity bias correction and thorough robustness checks.

Section IV present our empirical model and discusses potential problems, their resolution, and interpretations. The final model entails estimation of four earnings equations – for Party members and non-members, by state and nonstate sector – with selectivity bias

correction. Membership/sector is treated as endogenous and we adopt Lee's (1983) multinomial logit-OLS two-stage estimation procedure for selectivity bias correction.

Section V discusses the data and presents summary statistics. The data are from the 1988, 1995 and 1999 China Household Income Project. Section VI presents the major findings as noted above – a large drop in the Party premium in the nonstate sector with little change in the state sector and large changes in the rewards for education, experience, and gender.

Finally, section VII summarizes and concludes.

II. Chinese Labor Market Reform

There are two main aspects of China's labor market liberalization during the time period of interest. One aspect is a series of reforms in the state-owned sector that decentralized decision-making authority out of the central ministries. A second is the enabling of the establishment of enterprises outside the state-owned sector.

Regarding the former, generally speaking, the reforms allowed state-owned enterprises to enter markets and be responsible for price setting, selling outputs, and purchasing inputs. A series of policies were established to move toward this end. The contract management system and the tax-for-profits policy were implemented in the early 1980s. These had state-owned enterprises develop agreements with the state about the responsibilities for profit and losses, emphasized the use of profit to pay compensation and other expenses, and separated accounts for state-owned and enterprise-owned funds. Beginning in 1985, the management responsibility system gave managers of enterprises autonomy over Party officials in production, marketing, compensation, investment, and other business decisions, while Party officials' purview was limited to ideological and party organizational work. Also at this time, the internal contract system enabled enterprises to reward lower-level managers based on the performance of their

divisions. Finally, the shareholder system was introduced in the 1990s that allowed managers and individuals to hold partial ownership (along with the state) in enterprises.

These reforms contributed to the development of the labor market in China because state-owned enterprises gained increased autonomy regarding recruitment and other employment policies since the government ceded much its power over the allocation of labor. By 1989, the new managerial system was established in most of the large and medium state-owned enterprises.¹ Coverage expanded quickly from 0.16 million workers in 1984 to 7.26 million workers (approximately 8% of state-owned enterprises) by the end of 1986. Coverage increased to 39% of the total employed population in 1995.² Previously, the state-owned sector provided workers with lifetime employment – termed the “iron rice bowl” – that supplied stable wages, potential opportunity for advancement, and protection from unemployment. After the reforms, this practice disappeared and its loss further weakened state and local labor authorities’ power. State and local labor authorities abolished recruitment quotas by the 1990s and state-owned enterprises had great autonomy to recruit new employees based on the needs of business and the quality of applicants. Furthermore, many state-owned enterprises with prospects of long-term losses were shut down.

Regarding the development of the nonstate sector, a major step in this regard was the household responsibility system. The Chinese government introduced this system in 1978. It allowed land to be owned by the collectives and contracted out to households. Households are required to meet a state production quota for certain agriculture products and to deliver a levy to the collectives. Given these, they have autonomy to allocate their resources, decide production, and determine the disbursement of income among family members.

¹ See Sullivan (2007).

² See Meng (2000).

Also beginning in 1978, the formerly communal farms were transformed into township/village-owned enterprises by applying the household responsibility system. Managers of most township/village-owned enterprises obtained decision-making power over wage determination from as early as 1985, though autonomy in hiring and firing came more slowly. Also, this time period was when the Chinese government began to allow privately-owned, joint ventures and fully foreign-owned firms into the market.

Despite these reforms, the Chinese Communist Party maintained a degree of control over the economy. The gradual reform has led to a coexistence of multiple ownership forms: government agencies, state-owned enterprises, collective enterprises, and other private-sector enterprises. The Chinese Communist Party retains considerable control over the state-owned sector and the allocation of resources there. Moreover, the lack of market-supporting institutions allows for more government intervention in private businesses via regulation and taxation.

In the early stages of economic reform, the nonstate-owned sector expanded so fast that most enterprises did not have Party organizations embedded within them, and few Party members were recruited from elsewhere. Initially, private entrepreneurs were officially prohibited from joining the Party, though not employees in nonstate organizations. However, the ban was not effective. Local Party committees found ways to circumvent it before the ban was lifted by reclassifying private enterprises while remaining in technical compliance with the ban.³

These reforms generated a sharply growing nonstate sector during the period of 1978 to the turn of the century. Privately-owned enterprises in the nonstate sector grew from zero to over 38 million firms from 1978 to 2001, producing more than one-third of China's industrial output.⁴ In

³ See Dickson (2003).

⁴ As reported in Li, Meng, and Zhang (2006).

the labor market, the share of the labor force employed in privately-owned enterprises grew from zero to approximately one-half.⁵

III. Background Ideas and Related Studies

There is sizable literature that studies the economic implications for individuals of political status and connections at different stages of Chinese economic reform. Many studies have found that Chinese Communist Party membership has had a positive effect on personal income during part of this time period.⁶ Here, we discuss studies that are particularly germane to the issues addressed here.

The paper of Lam (2003) is closely related to ours. Lam considers whether the Party wage premium differs between state-owned, collective, and private enterprises. She finds that it does. Specifically, the Party wage differential is larger for males in the state-owned and collective sectors than in the private sector, but she finds little difference of statistical significance for females. The sample is only for the year 1996 for the residents of Shanghai, however. Thus, one cannot determine how reform has changed the pattern of the Party effect or whether it occurs more broadly across the nation. Also, there are issues of selection on unobservables into the Party as well as into the different sectors. Some treatment of the former is done, but not the latter.

Liu (2003) is another closely related paper. It is among the early attempts to present a theoretical discussion of treating Chinese Communist Party membership as investment in political capital. Like human capital, he treats political capital as “productive investment embodied in people, including political skills and such characteristics as having belief in and being trusted by a certain political party” (p. 824). It is anticipated that individuals expect a

⁵ See China Statistical Year Book (2000).

⁶ Examples are Morduch and Sicular (2000), Appleton, Knight, Song and Xia (2006), and Bishop and Liu (2008). See Pan (2010) for a detailed summary of previous literature.

payoff to the investment in political capital made by pursuing Party membership. It is a long process that requires a significant amount of time and effort. Higher returns in the labor market could be one of the ways in which this investment is rewarded.

Using data from the 1988 China Household Income Project, Liu finds positive and significant effects of Party membership on labor earnings as well as on implicit household subsidies. He also finds that those in the state-owned sector have higher earnings, but does not investigate how this may differ for Party member and non-members. An important part of his work is estimation of the determinants of educational attainment and of Party membership. Regarding the latter, in a sample of father-son pairs, father's membership is an important determinant of the son's. He uses the estimates of Party membership status to produce 2SLS estimates of the wage equation, with Party status treated as endogenous. The findings indicate a much larger effect of Party membership on earnings than OLS does. The single year of the sample does not enable one to determine how the effect of Party status may change over time, however, and how this effect may differ across ownership sectors is not investigated.

As noted above, the selection process for Party membership in China is a strict and long process. While this clearly requires substantial investment on the part of the workers, an important question is what successful completion of the process means. Consider a basic summary of this process.

The applicant is generally monitored for at least three years after being officially added to the candidate list, during which time they must make a consistent effort to meet all of the Party standards. About two years after the application has been initiated, the Party branch makes a closed-door evaluation, thoroughly examining the applicants' performance, personal and parental histories, and kinship and marriage connections. If s/he passes the evaluation, the applicant

becomes a one-year probationary Party member, but is still closely monitored by the Party branch before becoming a formal member. The strict selection process allows the Party to better collect tangible and intangible information on the candidates, not only through the observance of their political and work performance and evaluations by either the Party branch or non-Party co-workers, but also through individuals' own self-reports on what they learn, what they think about Communist ideology, and what they can do to serve the people. By doing so, the Party is better able to make a judgment on their political loyalty, communist consciousness, and professional competence. Though the process is demanding, emphases have changed over time, with political integrity, family and class background, education, and professional competence having varying degrees of importance in the selection process.

It seems clear that political capital is attained, in the sense of skills and attitudes useful to the Party. But successful completion of this process could signal above average intelligence and initiative. These traits likely lead to higher earnings regardless of the political capital attained or of the sector one works in. This potential correlation of Party membership and unobserved ability may lead to an over-estimate of the Party wage differential.

To address this potential bias in the estimates, Li, et. al. (2007) estimate the Party effects on wages controlling for endowed ability by using a sample of Chinese twins. They find that the observed return to Party membership is mostly explained by unobserved productivity characteristics, i.e., Party members fare better not because of their political status but because of the superior ability. However, other studies find contrary results. From the 1988 China Household Income Project, Liu (2003) generates a subsample of father-child pairs and uses the father's Party membership status and the father's education as instruments for the son's membership status to control for the above described bias. He finds that the impact of Party

membership on earnings is much higher than the OLS estimates, indicating that the bias is in the other direction. Lam (2003) uses father's Party membership as an instrument to estimate the individual's membership status and estimates selectivity bias corrected wage equations. She finds no evidence of selectivity bias in the OLS estimates. Similarly, Appleton, et. al. (2009) do not find selectivity bias.

In another approach, Appleton, et. al. (2009) use retrospective data from 1995 to 1999 in the 1999 China Household Income Project based on recalled wages of more than six thousand respondents in 1999. Their findings suggest that the wage premium of Party membership was tied to the jobs that they held in 1995 and does not survive a job change. They concluded that the Party premium is not due higher unobserved productivity of Party members.

Our study adds substantially to this literature in a number of ways. One is that we consider the Party wage differential over the 1988 to 1999 time period so we can determine how the differential was altered over the course of labor market reform. The return to Party membership is likely to differ between the state and nonstate sectors and this, too, is likely to change with reform. Our study examines this as well. Additionally, we account for the endogeneity of both the choices of membership status and of state/nonstate sector, dealing with bias induced by non-random selection on unobservables.

IV. The Empirical Model: Economics Issues and Econometric Specification

This section develops the empirical model and discusses economic issues and interpretations. Wage determination by sector and by Party status is discussed, as well as the potential for selectivity bias.

Let Y_{Ni} be the logarithm of earnings for worker i if s/he is employed in the nonstate sector and Y_{Si} be the logarithm of earnings for worker i if in the state sector. Suppose initially that earnings in each sector are determined by the following equations.

$$(1) \quad Y_{Ni} = \beta_N X_i + \delta_N P_i + \gamma_N A_i + \theta_{Ni} + u_i \quad \text{for the nonstate sector, and}$$

$$(2) \quad Y_{Si} = \beta_S X_i + \delta_S P_i + \gamma_S A_i + \theta_{Si} + u_i \quad \text{for the state-owned sector}$$

The vector X_i represents the usual earnings equation covariates, e.g., schooling, experience, and gender. The variable $P_i = 1$ if the respondent is a member of the Communist Party and 0 if not, A_i is the unobserved ability of the worker, θ_{Ni} and θ_{Si} are unobserved characteristics that determine how well matched the worker is to the nonstate and state sectors, respectively, and u_i is white noise.⁷

An important goal of this paper is to estimate the parameters δ_N and δ_S , i.e., the returns to Party membership in the nonstate and state sectors, and to determine how they changed over the time period of labor market reform. It is easy to imagine that having employees with Party membership was especially important to nonstate enterprises early on. Party members are likely to have enjoyed better connections to government, the community, and to state-owned enterprises that were particularly useful to the nonstate sector. Also, their presence may have lent prestige and legitimacy to these enterprises. As this sector developed and market-based enterprises became more accepted, it seems likely that this value lessened, suggesting that the value of δ_N declined as reform progressed. It is possible, though seems less likely, that the nonstate sector could make increasingly better use of Party-related business connections, thereby increasing the value of Party affiliation and increasing its labor market return.

⁷ The variables A_i and θ_{Ni} and θ_{Si} are unobserved to the data analyst, though need not be to buyers and sellers of labor services.

Related comments may apply to the value of δ_s . While having Party members as employees was undoubtedly valuable to state-owned enterprises, reforms encouraged these enterprises to base their hiring and employment practices more on productivity. This suggests that compensation based on purely political bases or on Party connections would decline over time as reform advanced. However, the government and Party still retained considerable control over state-owned enterprises and adjustment was unlikely to be as fast or complete as in the nonstate sector. Government bureaucracies tend to adapt and adjust their practices quite slowly, making it difficult to predict how this coefficient evolved over time. Moreover, state-owned enterprises often have market power and accrue rents. Payment to employees is one way in which rents are disbursed. Party member likely are preferred in this regard and this preference may or may not have changed over time.

The rewards for worker characteristics X_i are expected to vary over time with the process of reform as well and can differ between the nonstate and state sectors. We are also interested in estimating how these change. Generally our expectations follow the logic above: Estimated coefficients are expected to move toward reflecting productivity instead of political influence. However, it is not obvious how each variable in X_i may be correlated with productivity or political influence. In fact, it may be that political connections lead to productive business connections, so that a characteristic previously rewarded for the former may, in time, become rewarded for that latter. Thus, predicting how the magnitudes of these coefficients vary over time and across sectors is difficult.

The terms $\gamma_N A_i$ and $\gamma_S A_i$ in the earnings equations represent the effect of unobserved ability. Rewards to ability may differ across sectors and is expected to change over time as discussed above. The earnings equations terms θ_{N_i} and θ_{S_i} represent unobserved characteristics

reflecting the quality of the match of the worker to the nonstate and state sectors, respectively. Thus, for example, workers with a comparative advantage in entrepreneurship and innovative ideas may be better matched to the nonstate sector where these characteristics are likely to be valued and rewarded. These traits are represented by a high value of θ_{Ni} . Similarly, workers with a comparative advantage for bureaucratic and/or purely political skills may be more valued in the state sector, implying a high value of θ_{Si} .

Because the variables A_i , θ_{Ni} , and θ_{Si} are unobservable to the data analyst, they are part of composite disturbance terms in the earnings equations given by

$$(3) \quad \varepsilon_{Ni} = \gamma_N A_i + \theta_{Ni} + u_i \quad \text{for the nonstate sector, and}$$

$$(4) \quad \varepsilon_{Si} = \gamma_S A_i + \theta_{Si} + u_i \quad \text{for the state-owned sector.}$$

Since the party affiliation of the worker as well as his/her sector of employment is endogenous, the disturbance terms in the earnings equation are censored due to selectivity bias.

To specify this more fully, we consider four wage equations, one for each sector as in equations (1) and (2), but also separate equations for Party members and non-members within each sector. Thus, we have four categories of workers – state and nonstate and Party member and non-member within each. Define $I_{ki} = 1$ if the worker is employed in the k^{th} category, $k=1, \dots, 4$, and zero otherwise. Our four wage equations are written as

$$(5) \quad Y_i = \beta_k X_i + \varepsilon_{ki} \quad \text{for } I_{ki} = 1$$

Selectivity bias is evident by considering the expected value of log earnings conditional on sector and membership status.

$$(6) \quad E(Y_i | I_{ki} = 1) = \beta_k X_i + E(\varepsilon_{ki} | I_{ki} = 1) = \beta_k X_i + E(\gamma_k A_i + \theta_{ki} + u_i | I_{ki} = 1)$$

The last term in equation (6) illustrates the nature of the potential selection bias. Those with higher values of θ_{Ni} are more likely to choose the nonstate sector and earn more there.

Likewise, those with higher values of θ_{Si} are more likely to be employed in the state sector and have higher earnings in that sector. Those with greater ability will be drawn to the sector that rewards it more highly. Also, those with higher ability may more likely be a Party member due to the arduous process for selection into membership. As always in this type of model, the sample of respondents in each of the four categories is non-random, leading to bias in the estimated effects of Party membership or of sector.

We address this problem using Lee's (1983) multinomial logit-OLS two-stage estimation procedure. Let Z_i represent a set of variables that determine which of the k categories the worker selects, α_k the corresponding coefficients, and ω_{ki} the disturbance term in determining worker category.

Following Lee (1983) and subsequent papers, the determination of category is estimated as a multinomial logit model of the form

$$(7) \quad \Pr(I_i = k) = \Pr(\omega_{ki} < \alpha_k Z_i) = F(\alpha_k Z_i) = \frac{\exp(\alpha_k Z_i)}{\sum_{k=1}^4 \exp(\alpha_k Z_i)}$$

Since the observations in each category are restricted to those who choose this category, we form estimates of $E(\varepsilon_{ki} \mid \omega_{ki} < \alpha_k Z_i)$ and enter them into the corresponding wage equation. Assuming joint normality of the ε_{ki} , these are given by $\sigma_{\omega\varepsilon} \lambda_{ki}$, where $\sigma_{\omega\varepsilon}$ is the covariance between ω_k and ε_k and λ_{ki} is given by

$$(8) \quad - \frac{\phi\{\Phi^{-1}[F(\alpha_k Z_i)]\}}{F(\alpha_k Z_i)},$$

where ϕ is the probability density function of the standard normal, Φ is the cumulative normal, and $F(\cdot)$ is from the multinomial logit as in equation (7). Estimates of (8) are formed from the multinomial logit and inserted into earnings equations (5) for estimation, resulting in:

$$(9) \quad Y_i = \beta_k X_i + \sigma_k \lambda_{ki} + v_i \quad \text{for } I_{ki} = 1,$$

where σ_k is the covariance between ω_k and ε_k , λ_{ki} is replaced by its estimated value from the multinomial logit estimates, and v_i is white noise.

V. Data Description and Summary Statistics

The data used for the empirical work are taken from the 1988, 1995 and 1999 China Household Income Project (CHIP). These surveys were conducted by the Institute of Economics, Chinese Academy of Social Sciences. The questionnaires were designed in a relatively consistent way and provide a reasonable basis for a comparative study over time. The 1988 CHIP samples 31,827 individuals from 9,009 urban households, and the 1995 CHIP includes 21,694 individuals from 6,931 urban households, while the 1999 CHIP samples 9,637 individuals from 3,255 urban households.

We investigate earnings determination for individuals in the three survey years who are employed, between 18 and 65 years of age, and reside in an urban area. The logarithm of real annual earnings is the dependent variable in our earnings equations. Earnings are converted to 1995 yuan using the Consumer Price Index for China. The composition of the earnings variable is complicated due to Chinese institutions and the reforms initiated during this time period. As a result, the annual earnings variable is composed of the following:⁸

1. regular wage income
2. bonuses awarded: “floating wages” based on their own performance or their enterprise’s performance and “contract wages” earned based on the fulfillment of specific contracts
3. income from a second job
4. special wage payments for “hardship allowance,” “special circumstances,” overtime, and regional allowances
5. Cash and in-kind payments for housing, medical care, child care, transportation, food, utilities, the single-child subsidy, and layoff allowance
6. Net income of private/individual enterprises owned/operated by the household

⁸ See Pan (2010) and the references therein for additional detail.

The yuan value of these components is summed to obtain the figure for annual earnings. The importance of each of these components varies over time, sector, and Party status of the worker.

Party status is determined by the response to a survey question that directly asks this. Workers also report their sector of employment. We classify workers employed by state-owned enterprises as in the state sector, and those employed by private enterprises as nonstate. Additionally, there is substantial employment in local collective enterprises. We classify these workers as nonstate since they are not owned by the Chinese government. However, some are owned by townships or villages but nevertheless, have a good deal of autonomy in their employment practices, along with profit-based incentives.

The covariates in the earnings equations are quite standard. Experience and its square are used, with experience defined as age minus years of education minus six. Also included is a dummy for male gender, a dummy for being a member of a minority, and dummies for regions. Education is represented by dummy variable for five educational categories: four-year college (or more), two-year college, professional school, senior high, and junior high. The omitted category is junior high school education or less.

Regarding the multinomial logit equations, in addition to the above variables, several variables are included that are expected to affect the choice of sector but not earnings. For the 1999 sample, three variables of this type are available: the nature of the recruitment, parental years of schooling, and parental Party membership. The nature of recruitment refers to whether individuals' current jobs have been assigned by the government. We expect that for those in such jobs, they are more likely be in state-sector jobs and perhaps have preference for Party membership. Intergenerational transmission of skills, preferences, reputation, connections, and

the like suggest that parents' Party affiliation and education status affect children's Party affiliation and sector they work in.

For the 1995 sample, only the nature of recruitment variable is available. For 1988, none of these variables are available so we depend on functional form for identification for this sample year. However, experimentation with exclusion restrictions/specifications indicates that our results are not sensitive in this regard.

Tables 1 through 3 present summary statistics for years 1988, 1995, and 1999, respectively. Annual earnings are all measured in 1995 yuan. Real average annual earnings in our sample rose from 4379 yuan in 1988 to 6251 yuan in 1995, then to 8385 yuan in 1999. The unadjusted mean earnings of Party members are substantially higher than non-members, both in the state and nonstate sectors. In 1988, this difference was 25% in the state sector and 37% in the nonstate sector. By 1995, these two differences were 30% and 22% and by 1999 they were 31.5% and 16.4%.

The average years of work experience in our samples declined somewhat over time, from 22 in 1988 to 19.4 and to 19.7 in 1995 and 1999, respectively. The work experience of Party members is consistently higher than those of non-members. The proportion of males in our samples is slightly higher than that of females, at 52%, 53% and 54% for the 1998, 1995, and 1999 years, respectively. Employment of Party members is dominated by males, with males accounting for 78%, 73% and 69% of Party workers in the state sector in our three sample years. Males also account for 61%, 54% and 62% of employment of Party members in the nonstate sector for the three years. Females are much more heavily represented among non-members, especially in the nonstate sector, though the proportion male in the latter category grew quite substantially, from 35% to 39% to 45% over the sample years.

Our data show a substantial increase in educational attainment over time. More than half of the workers in the entire sample only had a junior high school education or less in 1988, but this proportion went down to 35% in 1995 and to 24% in 1999. Summing the categories of two and four (or more) years of college, workers with this level of schooling accounted for only 13% of entire sample in 1988, but it increased to 23% in 1995 and reached 34% in 1999.

Party members tend to have higher levels of education. Calculations based on Tables 1 through 3 show that the proportion of Party members with at least two years of college was 26.6%, 40.3%, and 54% in 1988, 1995, and 1999, respectively. For non-members, these percentages are 8.6%, 17.7%, and 26.4%. Though education attainment is consistently lower for non-members, they have experienced a faster rate of increase. Average education levels are lower in the nonstate sector as well. For example, among Party members in the state sector, the percent of workers with two or more years of college was 28%, 42%, and 55% for each of the three years. The corresponding percentages for Party members in the nonstate sector were 10.5%, 21%, and 47%. Though nonstate sector education levels are lower on average, they increased much faster.

Overall, Party members are somewhat older, are more likely to be male, and have more education than non-members, though these differences have narrowed over time. This holds for both the state and nonstate sectors. Naturally, these explain part of the average earnings differences between Party members and non-members.

VI. Empirical Results

This section discusses the results from the estimation of multinomial logit equation (7) and wage equations (9). Many efforts were undertaken to ascertain the robustness of our findings. We tried a variety of wage equation specifications for the experience and schooling

variables. The provinces and cities covered in the three CHIP sample years are not entirely the same. To insure that estimates were not sensitive to this, we also estimate our model using only the five provinces common to all three years. Robustness checks were conducted regarding identification of the selectivity variables. We compared results with only functional form identification to those with exclusion restrictions for the years 1995 and 1999, as well as with different exclusion restrictions for 1999. Our findings are robust to these various specifications. Also, standard errors are computed using bootstrap techniques to correct for potential inconsistency in the two-stage estimation.

A. The Party Membership Wage Differential

The full set of coefficient estimates of the selectivity-corrected wage equations are reported in the Appendix. Estimated Party wage differentials are based on these coefficients. We estimate and report two differentials for each year – one for the state sector and one for the nonstate sector.

The Party earnings differential we compute is composed of the varying returns to the observed characteristics and also varying returns to unobserved characteristics or varying levels of the unobserved characteristics. This is given by

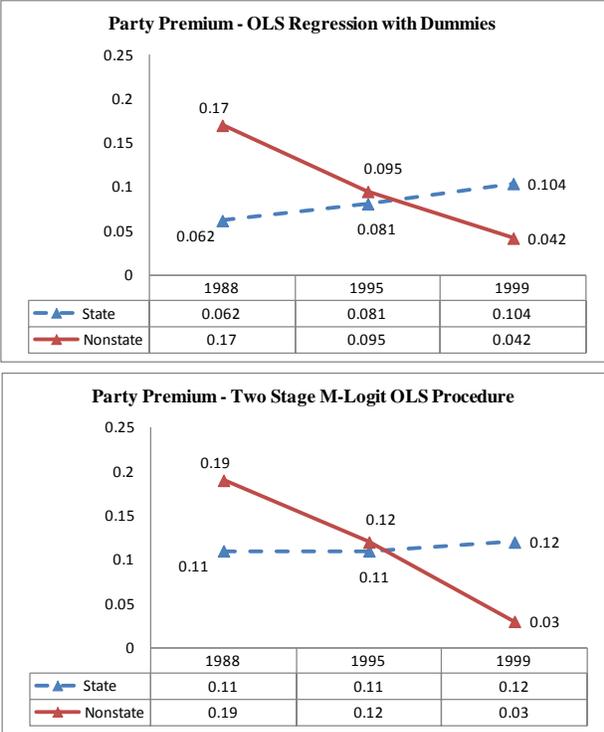
$$(10) \quad X(\hat{\beta}_m - \hat{\beta}_n) + (\hat{\sigma}_m \hat{\lambda}_m - \hat{\sigma}_n \hat{\lambda}_n)$$

with m=Party member and n=non-member, for each sector, i.e., state and nonstate. The value of X is the sample mean, $\hat{\beta}_k$ and $\hat{\sigma}_k$, k=m,n, are wage equation coefficient estimates, and $\hat{\lambda}_k$ is calculated from the multinomial logit estimates and the sample means of X and Z. These estimates indicate what the average person in the sample would earn as a Party member vis-à-vis a non-member, both in the state and nonstate sectors. Assuming that we have adjusted correctly

for selectivity bias, these estimates reflect the Party premium only, without the confounding influence of different observable and unobservable characteristics of Party members.

Figure 1 presents these wage premium estimates for each year in the sample. To give a sense of the robustness of these findings, we also present OLS estimates of the premiums based only on a set of dummy variables for Party membership and sector and without selectivity correction. These are in the top panel of figure 1. In the bottom panel are our preferred estimates, with separate coefficients for each category and selectivity correction. The basic pattern of coefficients is similar. The nonstate sector shows a drastic decline in the Party premium, while that in the state sector is relatively stable, though the simple OLS estimates show some increase.

Figure 1. Party Membership Wage Premium, OLS and Two-Stage Estimates



Focusing on our preferred, two-stage estimates, the wage premium for Party membership in the nonstate sector fell from 19% in 1988, to 12% in 1995, then fell again to 3% by 1999. The

premium in the state sector was 11% in 1988, remained at 11% in 1995, then rose slightly to 12% in 1999. This pattern is similar for various demographic groups.

The higher Party premium for the nonstate sector in 1988 is consistent with the idea that, early in the reform process, it was especially important for nonstate enterprises to employ Party members. They are likely to have been more important in maintaining good connections to and a good relationship with the government, as well as lending prestige and credibility to the nonstate enterprise. As the nonstate sector grew and became more accepted as part of the economy, these matters were probably less crucial. This is consistent with the initial high wage premium – above that in the state sector – followed by the sharp decline to nearly zero.

Additionally, in the early stages of reform, collective enterprises were the major component of the nonstate sector. Later, privately-owned enterprises grew to be a much larger share of the nonstate sector. In 1988, collective enterprises accounted for 92.5% of nonstate employment but by 1999, this had declined to 44.5%. It is possible that collective enterprises, especially early in reform, were less entrepreneurial in exploring new compensation systems than the later-arriving privately-owned enterprises. Overall, it seems clear that politically-based rewards became much less important in the nonstate sector and have nearly disappeared.

Regarding the state sector, the Party premium is remarkably stable between 11% and 12% over of three sample years. It is perhaps surprising that this premium did not fall as well. State-owned enterprises were given greater autonomy in their employment and compensation practices and it might be expected that they used this autonomy to move rewards more toward productivity and away from Party connections. However, as noted above, state-owned enterprises are often protected from competition so may feel less pressure to have more efficient employment practices. Also, rents may accrue to these enterprises and Party members may have retained

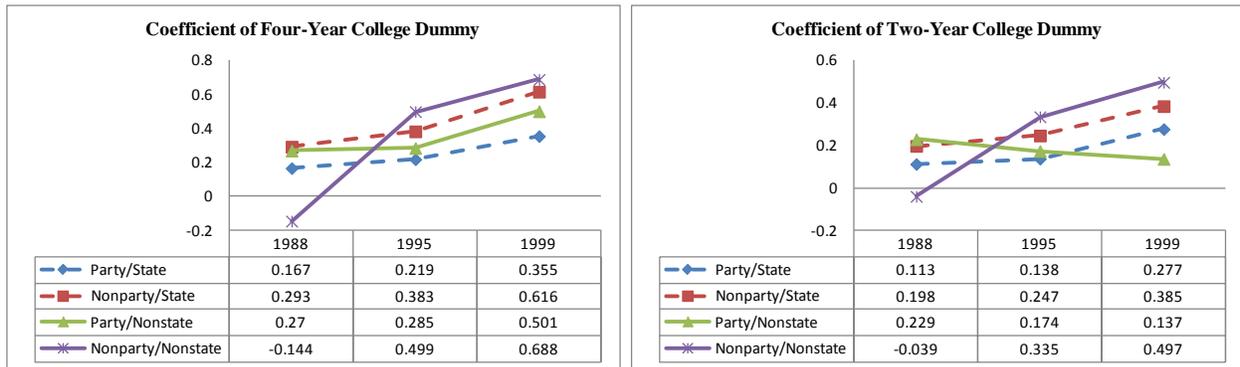
influence to continue receiving a large enough share of those rents to maintain their wage premium.

B. Changes in the Structure of Rewards

It is plausible to expect that the rewards for worker characteristics X to vary over time with the process of reform. We show how several of these changed over time for each of our four categories, i.e., member/non-member, state/nonstate. We focus on examining the rewards for three characteristics: education, experience, and gender.

Figure 2 shows how the returns to education evolved for each of the four categories. The left-side panel plots the coefficients for completion of four years of college and the right-hand side panel displays coefficients for completion of two years of college.

Figure 2. The Returns to Education



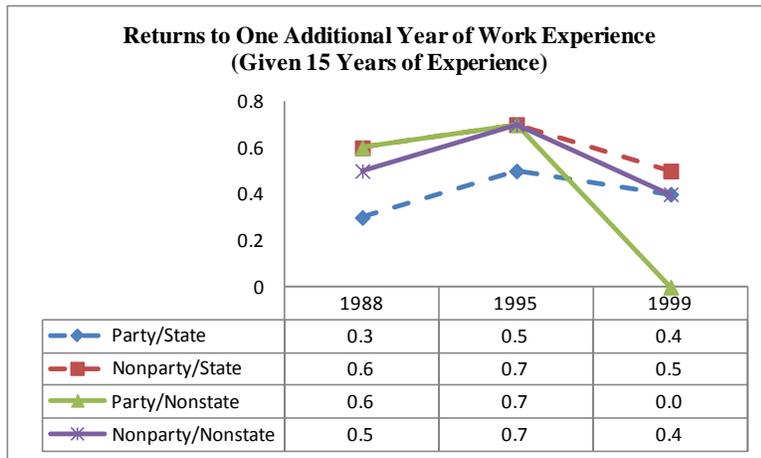
Overall, it is clear that the returns to education rose over this time period. With only the exception of the category of Party member/nonstate sector for two years of college, the returns to college were substantially higher in 1999 than they were in 1988. The category that stands out most strongly is the non-member/nonstate group. In 1988, the returns to a college education was negative for this category but by 1995 the return to both two and four year degrees for non-member/nonstate employees rose to exceed the returns in the other three groups. The return to college non-member/nonstate employees continued to rise and have the highest returns in 1999

for any group. The remaining categories, with the exception noted above, show similar patterns of increases in the returns to education.

The 1980s and 1990s was a time period of rapidly increasing returns to education and skill in market-based economies around the world. This is attributed to the growing productivity of skilled labor relative to unskilled labor. That the returns to education in China also rose dramatically indicates that this trend affected China as well and suggests that Chinese enterprises were moving toward compensation patterns which reward productivity.

Figure 3 shows the returns to one additional year of experience, given fifteen years of experience. These are computed using the coefficients on the experience variables in the earnings equations.

Figure 3. The Returns to One More Year Experience, Given 15 Years



The overriding pattern here is a decline in the return to experience. Though this return did rise somewhat from 1988 to 1995, it fell substantially from 1995 to 1999. This is especially true in the nonstate sector. Among Party members in this sector, the estimated return drops to essentially zero after 1995, but the drop for non-members is quite large as well. In the state

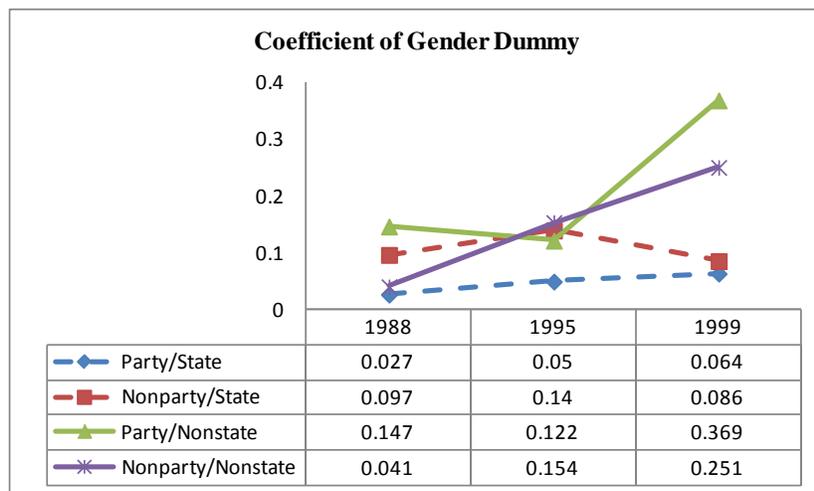
sector after 1995, the return to experience for both Party members and non-members fell somewhat, though not drastically.

As enterprises become more market oriented, one expects rewards to shift toward productivity. For many enterprises before reform, the skills acquired by experience are more relevant to operating in a centrally planned economy. These skills became less relevant as reform progressed, so we expect a decline in earnings for those with this kind of experience. Generally, this is the pattern we observe, though this effect is not particularly noticeable until the 1999 sample year. Reforms were in place in 1988, but accelerated after 1995, so perhaps were not developed enough by 1995 to have a large effect.

Also, notice that the decline in the return to experience after 1995 was most striking in the nonstate sector. This is consistent with the idea that this sector will be the most responsive to rewarding productivity and less concerned about political considerations, especially after reform had been in place for a while and was an accepted aspect of the economy.

Figure 4 presents a plot of the coefficients on the gender variable. They represent the estimated earnings differential for being male. The trends in these coefficients differ widely across categories. The general pattern is that the male earnings differential rose dramatically in the nonstate sector, both for Party members and non-members. In the state sector it rose slightly for Party members and, for non-members, it rose then fell.

Figure 4. The Gender Coefficient



Under the interpretation that reforms pressured enterprises, especially nonstate enterprises, to reward productivity, our findings imply that the labor market shifted dramatically to favor skills possessed by males. This holds most strongly in the nonstate sector. It is also likely that the state-dominated economy would dampen gender wage differences, either for political reasons or that relevant skills in a centrally planned economy differed little by gender.

VII. Summary and Conclusion

Not surprisingly, the substantial dose of reform in the Chinese labor market resulted in sizable changes in the pattern of compensation. The reforms gave much more autonomy to state-owned enterprises, converted some enterprises to quasi-private, locally-owned enterprises, and allowed privately-owned firms, with the latter two having substantial profit-based incentives. Our analysis of repeated cross-sectional data sets reveals that changes in earning determination were indeed substantial.

Perhaps the biggest change was the decline in the wage premium to Party members in the nonstate sector. By 1999, it had been driven to 3% from a 1988 level of 19%. Party membership simply carried little value for these employers as of 1999. There is the concern that Party

membership stands in for unobserved ability, causing an upward bias in the estimated Party wage premium. Though we believe that our estimates are largely free of this bias, any remaining bias of this sort implies that an even smaller reward – zero or negative – for Party members in this sector.

Interestingly, and somewhat surprisingly, the wage premium for Party members stayed virtually constant at 11% in the state sector over the time period examined. This suggests that, despite the reforms, this sector was more resistant to change. This is reinforced by the findings regarding changes in earnings equation parameters that determine the rewards for education, experience, and gender. The nonstate sector showed large changes in each of these, with returns to education rising rapidly, the return to experience falling, and the premium for male gender rising. In the state sector, the changes were generally in the same direction, but much smaller in magnitude. Evidently, the continued bureaucratic behavior and state influence rendered these enterprises less susceptible to change. However, given the continued growth of nonstate enterprises relative to state enterprises, earnings determination in the Chinese labor market is likely to come to be more and more like that in the nonstate sector.

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Table 1: Summary Statistics for 1988

Variable	Definition	All sample	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
Obs		17320	3805	9732	333	3450
annualearning	annual income	4379.768 (2541.179)	5273.359 (2761.310)	4230.872 (2122.025)	5124.850 (4273.400)	3742.328 (2854.945)
lnearning	log annual income	8.281 (0.455)	8.506 (0.329)	8.259 (0.430)	8.425 (0.425)	8.080 (0.528)
state	if ownership of the workplace is state-owned if individual is Party	0.782 (0.413)	1 (0.000)	1 (0.000)	0 (0.000)	0 (0.000)
partymember	member	0.239 (0.426)	1 (0.000)	0 (0.000)	1 (0.000)	0 (0.000)
experience	work experience	22.038 (10.816)	27.714 (9.378)	20.209 (10.528)	28.209 (9.883)	20.342 (10.808)
experience2	square of working experience	602.673 (516.888)	856.015 (529.092)	519.239 (473.161)	893.109 (582.876)	530.583 (514.484)
male	if individual is male	0.524 (0.499)	0.777 (0.416)	0.482 (0.500)	0.613 (0.488)	0.353 (0.478)
minority	if individual is minority	0.038 (0.191)	0.046 (0.210)	0.035 (0.183)	0.018 (0.133)	0.040 (0.195)
fourcollege	if individual has four years college education	0.062 (0.240)	0.141 (0.348)	0.052 (0.222)	0.042 (0.201)	0.003 (0.059)
twocollege	if individual has two or three years college education	0.068 (0.251)	0.139 (0.346)	0.058 (0.234)	0.063 (0.243)	0.016 (0.126)
professional _school	if individual has professional school education	0.112 (0.315)	0.172 (0.377)	0.118 (0.323)	0.063 (0.243)	0.032 (0.177)
senior_high	if individual has senior high school education	0.249 (0.433)	0.191 (0.393)	0.274 (0.446)	0.216 (0.412)	0.247 (0.431)
junior_high or below	if individual has junior high school education or less	0.510 (0.500)	0.357 (0.479)	0.498 (0.500)	0.616 (0.487)	0.701 (0.458)

Table 2: Summary Statistics for 1995

Variable	Definition	All sample	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
Obs		10580	2464	6188	217	1711
annualearning	annual income	6251.297 (3815.127)	7731.287 (4162.489)	5959.548 (3412.408)	6304.373 (3546.343)	5168.379 (4090.538)
lnearning	log annual income	8.570 (0.639)	8.836 (0.513)	8.533 (0.628)	8.595 (0.594)	8.320 (0.710)
state	if ownership of the workplace is state-owned	0.818 (0.386)	1.000 (0.000)	1.000 (0.000)	0.000 (0.000)	0.000 (0.000)
partymember	if individual is Party member	0.253 (0.435)	1.000 (0.000)	0.000 (0.000)	1.000 (0.000)	0.000 (0.000)
experience	work experience	19.375 (9.591)	24.735 (8.380)	17.910 (9.432)	23.410 (8.287)	16.444 (8.812)
experience2	square of working experience	467.394 (387.961)	682.008 (416.453)	409.722 (361.131)	616.396 (385.317)	348.009 (308.641)
male	if individual is male	0.531 (0.499)	0.731 (0.444)	0.490 (0.500)	0.544 (0.499)	0.391 (0.488)
minority	if individual is minority	0.043 (0.204)	0.039 (0.195)	0.046 (0.209)	0.051 (0.220)	0.040 (0.197)
fourcollege	if individual has four years' college education	0.079 (0.269)	0.153 (0.360)	0.068 (0.252)	0.041 (0.200)	0.013 (0.115)
twocollege	if individual has two or three years' college education	0.156 (0.362)	0.269 (0.444)	0.139 (0.346)	0.138 (0.346)	0.053 (0.224)
professional _school	if individual has professional school education	0.171 (0.376)	0.203 (0.403)	0.186 (0.389)	0.134 (0.341)	0.072 (0.258)
senior_high	if individual has senior high school education	0.244 (0.429)	0.169 (0.375)	0.263 (0.441)	0.244 (0.431)	0.281 (0.449)
junior_high or below	if individual has junior high school education or less	0.352 (0.477)	0.205 (0.404)	0.343 (0.475)	0.442 (0.498)	0.581 (0.494)

Table 2 (cont'd.): Summary Statistics for 1995

Variable	Definition	All sample	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
Obs		10580	2464	6188	217	1711
assigned	if the government assigned a job	0.759 (0.428)	0.912 (0.283)	0.759 (0.427)	0.737 (0.441)	0.540 (0.499)
Married	if ever married	0.885 (0.319)	0.981 (0.135)	0.855 (0.352)	0.963 (0.189)	0.847 (0.360)

Table 3: Summary Statistics for 1999

Variable	Definition	All sample	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
Obs		4456	1210	2321	154	771
annualearning	annual income	8385.246 (5724.796)	10309.840 (5601.338)	7842.396 (4306.349)	8191.876 (4863.277)	7037.613 (8440.665)
lnearning	log annual income	8.862 (0.613)	9.114 (0.524)	8.817 (0.583)	8.851 (0.579)	8.603 (0.693)
state	if ownership of the workplace is state-owned	0.792 (0.406)	1.000 (0.000)	1.000 (0.000)	0.000 (0.000)	0.000 (0.000)
partymember	if individual is Party member	0.306 (0.461)	1.000 (0.000)	0.000 (0.000)	1.000 (0.000)	0.000 (0.000)
experience	work experience	19.668 (9.463)	24.109 (8.543)	18.321 (9.072)	22.500 (8.397)	16.189 (9.561)
experience2	square of working experience	476.380 (379.491)	654.169 (402.127)	417.921 (348.151)	576.305 (368.184)	353.385 (331.760)
male	if individual is male	0.543 (0.498)	0.693 (0.462)	0.490 (0.500)	0.617 (0.488)	0.450 (0.498)
minority	if individual is minority	0.039 (0.193)	0.038 (0.191)	0.041 (0.198)	0.019 (0.139)	0.038 (0.190)
fourcollege	if individual has four years' college education	0.114 (0.318)	0.199 (0.400)	0.090 (0.286)	0.169 (0.376)	0.043 (0.203)
twocollege	if individual has two or three years' college education	0.234 (0.424)	0.350 (0.477)	0.201 (0.401)	0.305 (0.462)	0.140 (0.347)
professional _school	if individual has professional school education	0.143 (0.351)	0.147 (0.354)	0.149 (0.356)	0.143 (0.351)	0.122 (0.327)
senior_high	if individual has senior high school education	0.248 (0.432)	0.168 (0.374)	0.284 (0.451)	0.188 (0.392)	0.278 (0.448)

Table 3 (cont'd.): Summary Statistics for 1999

Variable	Definition	All sample	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
Obs		4456	1210	2321	154	771
junior_high	if individual has junior high school education or less	0.244 (0.430)	0.127 (0.333)	0.262 (0.440)	0.195 (0.397)	0.385 (0.487)
assigned	if the government assigned a job	0.694 (0.461)	0.838 (0.369)	0.692 (0.462)	0.727 (0.447)	0.471 (0.499)
fmparty	if father or mother is Party member	0.414 (0.493)	0.435 (0.496)	0.426 (0.495)	0.481 (0.501)	0.332 (0.471)
fschooling	years of schooling of father	7.963 (3.931)	7.823 (3.907)	8.103 (3.971)	7.643 (4.060)	7.825 (3.810)
mschooling	years of schooling of mother	6.302 (3.377)	5.952 (3.316)	6.535 (3.464)	5.955 (3.279)	6.222 (3.170)

Appendix

Table A1: Multinomial Logit Marginal Effects, 1988

	(1)	(2)	(3)	(4)
	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
1988 experience	0.0098 (0.0002)***	-0.0075 (0.0004)***	0.0011 (0.0001)***	-0.0033 (0.0003)***
male	0.157 (0.006)***	-0.069 (0.008)***	0.005 (0.002)***	-0.092 (0.005)***
minority	0.007 (0.015)	-0.055 (0.020)***	-0.008 (0.004)**	0.056 (0.017)***
fourcollege	0.350 (0.021)***	-0.197 (0.021)***	0.002 (0.005)	-0.155 (0.005)***
twocollege	0.374 (0.020)***	-0.251 (0.020)***	0.008 (0.005)	-0.132 (0.005)***
professional_ school	0.193 (0.014)***	-0.064 (0.015)***	-0.005 (0.003)*	-0.124 (0.006)***
senior_high	0.099 (0.010)***	-0.039 (0.010)***	0.005 (0.003)*	-0.065 (0.005)***
	(0.014)	(0.019)	(0.004)**	(0.016)
<i>N</i>	17320			
pseudo R^2	0.202			

Note: The equations include industry and region dummies.

Table A2: Multinomial Logit Marginal Effects, 1995

	(1)	(2)	(3)	(4)
1995	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
assigned	0.091 (0.009)***	0.006 (0.011)	-0.005 (0.003)	-0.091 (0.009)***
experience	0.0108 (0.0004)***	-0.0078 (0.0005)***	0.0011 (0.0002)***	-0.0040 (0.0004)***
male	0.123 (0.008)***	-0.072 (0.009)***	-0.002 (0.002)	-0.049 (0.006)***
minority	-0.016 (0.018)	0.012 (0.022)	0.004 (0.007)	-0.000 (0.015)
fourcollege	0.281 (0.024)***	-0.176 (0.024)***	-0.002 (0.005)	-0.103 (0.006)***
twocollege	0.253 (0.018)***	-0.158 (0.018)***	0.004 (0.004)	-0.099 (0.006)***
professional_ school	0.137 (0.015)***	-0.042 (0.016)***	-0.002 (0.003)	-0.093 (0.006)***
senior_high	0.076 (0.013)***	-0.022 (0.013)*	0.000 (0.003)	-0.053 (0.005)***
<i>N</i>	10580			
pseudo R^2	0.193			

Note: The equations include industry and region dummies.

Table A3: Multinomial Logit Marginal Effects, 1999

	(1)	(2)	(3)	(4)
1999	Party/State	NonParty/State	Party/Nonstate	NonParty/Nonstate
assigned	0.088 (0.015)***	0.000 (0.018)	-0.002 (0.005)	-0.086 (0.013)***
fmparty	0.055 (0.015)***	-0.013 (0.017)	0.011 (0.005)**	-0.052 (0.010)***
fschooling	-0.002 (0.002)	-0.002 (0.003)	-0.000 (0.001)	0.004 (0.002)**
mschooling	-0.006 (0.003)**	0.009 (0.003)***	-0.001 (0.001)	-0.003 (0.002)
experience	0.0125 (0.0007)***	-0.0083 (0.0009)***	0.0015 (0.0003)***	-0.0057 (0.0007)***
male	0.109 (0.014)***	-0.085 (0.016)***	0.007 (0.004)	-0.030 (0.010)***
minority	-0.013 (0.035)	0.048 (0.038)	-0.013 (0.008)	-0.022 (0.022)
fourcollege	0.467 (0.034)***	-0.404 (0.028)***	0.055 (0.020)***	-0.118 (0.009)***
twocollege	0.376 (0.027)***	-0.296 (0.026)***	0.028 (0.010)***	-0.108 (0.010)***
professional_ school	0.265 (0.032)***	-0.193 (0.030)***	0.014 (0.010)	-0.086 (0.010)***
senior_high	0.124 (0.026)***	-0.070 (0.025)***	0.006 (0.008)	-0.060 (0.010)***
	(0.024)	(0.027)**	(0.014)**	(0.017)
<i>N</i>	4456			
pseudo <i>R</i> ²	0.183			

Note: The equations include industry and region dummies.

Table A4: Multinomial Logit-OLS Two-Stage Earnings Equation Estimates, 1988

Year1988	(1) Party/State	(2) NonParty/ State	(3) Party/ Nonstate	(4) NonParty/ Nonstate
Mill_ratio	0.054 (0.054)	0.060 (0.021)***	0.028 (0.332)	-0.350 (0.212)*
experience	0.027 (0.005)***	0.055 (0.001)***	0.049 (0.017)***	0.044 (0.007)***
experience2	-0.000 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***
male	0.027 (0.028)	0.097 (0.007)***	0.147 (0.060)**	0.041 (0.071)
minority	0.018 (0.024)	0.001 (0.017)	0.068 (0.144)	0.084 (0.046)*
fourcollege	0.167 (0.039)***	0.293 (0.017)***	0.270 (0.098)***	-0.144 (0.263)
twocollege	0.113 (0.042)***	0.198 (0.016)***	0.229 (0.100)**	-0.039 (0.172)
professional_ school	0.051 (0.027)*	0.126 (0.010)***	0.097 (0.079)	-0.074 (0.144)
senior_high	0.045 (0.020)**	0.066 (0.009)***	0.107 (0.074)	0.048 (0.057)
_cons	8.083 (0.176)***	7.601 (0.025)***	7.753 (1.143)***	6.922 (0.224)***
<i>N</i>	3805	9732	333	3450
<i>R</i> ²	0.294	0.390	0.445	0.318

Standard errors in parentheses

* p<.10, ** p<.05, *** p<.01

Industry and regional dummies are included in regressions.

Table A5: Multinomial Logit-OLS Two-Stage Earnings Equation Estimates, 1995

Year 1995	(1) Party/State	(2) NonParty/ State	(3) Party/ Nonstate	(4) NonParty/ Nonstate
Mill_ratio	0.044 (0.087)	0.190 (0.057)***	0.050 (0.516)	0.008 (0.088)
experience	0.042 (0.010)***	0.067 (0.004)***	0.067 (0.036)*	0.065 (0.008)***
experience2	-0.001 (0.000)***	-0.001 (0.000)***	-0.001 (0.001)**	-0.001 (0.000)***
male	0.050 (0.044)	0.140 (0.014)***	0.122 (0.074)*	0.154 (0.034)***
minority	0.014 (0.039)	-0.116 (0.040)***	-0.121 (0.164)	-0.085 (0.080)
fourcollege	0.219 (0.064)***	0.383 (0.028)***	0.285 (0.188)	0.499 (0.149)***
twocollege	0.138 (0.061)**	0.247 (0.022)***	0.174 (0.118)	0.335 (0.091)***
professional_ school	0.070 (0.046)	0.198 (0.022)***	0.255 (0.091)***	0.253 (0.079)***
senior_high	0.030 (0.041)	0.072 (0.019)***	0.154 (0.090)*	0.083 (0.040)**
_cons	8.532 (0.272)***	8.110 (0.053)***	8.251 (1.854)***	8.090 (0.151)***
<i>N</i>	2464	6188	217	1711
<i>R</i> ²	0.317	0.280	0.513	0.353

Standard errors in parentheses

* p<.10, ** p<.05, *** p<.01

Industry and regional dummies are included in regressions.

Table A6: Multinomial Logit-OLS Two-Stage Earnings Equation Estimates, 1999

Year 1999	(1)	(2)	(3)	(4)
	Party/State	NonParty/ State	Party/ Nonstate	NonParty/ Nonstate
Mill_ratio	-0.049 (0.129)	0.164 (0.071)**	-0.087 (0.354)	0.036 (0.137)
experience	0.033 (0.011)***	0.044 (0.005)***	-0.005 (0.021)	0.038 (0.012)***
experience2	-0.001 (0.000)**	-0.001 (0.000)***	0.000 (0.000)	-0.001 (0.000)***
male	0.064 (0.043)	0.086 (0.023)***	0.369 (0.098)***	0.251 (0.047)***
minority	0.132 (0.049)***	-0.037 (0.060)	0.020 (0.214)	0.181 (0.141)
fourcollege	0.355 (0.128)***	0.616 (0.048)***	0.501 (0.269)*	0.688 (0.138)***
twocollege	0.277 (0.105)***	0.385 (0.037)***	0.137 (0.206)	0.497 (0.091)***
professional_ school	0.130 (0.084)	0.193 (0.036)***	0.178 (0.165)	0.267 (0.088)***
senior_high	0.019 (0.062)	0.116 (0.028)***	-0.005 (0.136)	0.216 (0.066)***
_cons	8.549 (0.365)***	8.482 (0.067)***	8.693 (1.221)***	8.468 (0.104)***
<i>N</i>	1210	2321	154	771
<i>R</i> ²	0.266	0.314	0.413	0.299

Standard errors in parentheses

* p<.10, ** p<.05, *** p<.01

Industry and regional dummies are included in regressions.