Marketing Politics? Economic Reforms and the Selection of Political Elites in China

Li Han[*]

Shorenstein APARC

Stanford University

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Abstract

Many argue that economic liberalization, by reducing the extent to which an autocrat can directly control economic resources, induces democratization. This paper suggests that in post-reform China the composition of the ruling Communist Party membership altered in such a way so as to keep political and economic control aligned. National survey data shows that membership increased more among educated individuals with greater private-sector opportunities. Exploiting exogenous variations in college graduates' labor-market outside options, we find evidence that such a change is mainly driven by the Party's increased demand for educated individuals working in the growing private sector. Such a strategy of co-opting new economic elite could help increase the Party's survival probability and strengthen its commitment to economic reforms.

1   Introduction

Why do some autocracies embrace economic reforms while others stubbornly refuse to do so? One central element in the answer is how the political leadership responds to economic liberalization. If the use of economic means or repression is how autocrats maintain political control, then economic liberalization is likely to induce democratization (Huntington 1991, Robinson 2001). But this provides autocrats with little incentive to embrace economic reforms – a dilemma in which many poor countries seem to be trapped. However, the bite of this argument is likely to vary with the type of autocracy. In an inclusive autocracy, for instance, by strategically incorporating certain groups into the elite club, the incumbent could defuse pressure from the opposition and strengthen its power to deal with potential political crises once the economy is liberalized. Such an entrenched autocracy is more likely to commit to economic reforms.

Broad comparisons using cross-country data support this conjecture. There were 82 autocracies in 2000.[1] Among them, 16 were pure single-party autocracies, 47 were hybrid autocracies featuring a monopolistic/dominant party, and 19 were pure personalistic/military autocracies. From Table 1 we can see that single-party autocracies tend to have more liberal economies. This difference is statistically significant.

This paper argues, and provides empirical evidence, that the organization of the Chinese Communist Party (CCP) constitutes an institutional device to co-opt new and powerful elements of the private sector. This rarely discussed political mechanism could be the key to understanding the ruling party's commitment to irreversible economic reforms. Adding such a political-economy dimension to the well-known Chinese model of economic development – often vaguely called the "Beijing Consensus" – also has important implications for other developing countries. Policy instability has compromised the effects of limited economic reforms in many autocracies (Krueger 2004, Ndulu and O'Connell 1999).

This paper examines the mechanism and dynamics of membership in the ruling CCP during economic liberalization. Figure 1 demonstrates how party composition has adapted to the economic reforms. Employment in state-owned enterprises (SOEs) and collective firms has been shrinking dramatically since the late 1980s. While many have interpreted

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[1]See table 2 for a list of single-party states as of 2000 coded by Geddes (2003, 2004) and Milner and Kubota (2005).

this as evidence that the roots of the party are withering (e.g. Groves et al, 1995), the number of party members has been growing at about 2% each year. The share of party members in the population grew from 3.8% in 1978 to 5.8% in 2005. Moreover, the largest increase is in educated young people.[2]

To provide some micro-level evidence, I first examine the impact of economic liberalization on the education mix of membership, using two waves of Chinese Household Income Project Survey (CHIPS) data (1988 and 1995). I consider 1988, when the state-owned economy was dominant in urban areas, as the base year. The analysis examines how the development of the private sector between 1988 and 1995 affected the joining rate of highly educated young people. I find that membership increased more among these people, especially in regions with more-developed private sectors. The change might be driven by their stronger motivation to join, or by the party's increased demand for them. Even though the first explanation (from the supply side) is counterintuitive, as increased market opportunities greatly improve the outside options of highly educated young people, the CHIPS data is unable to distinguish between demand and supply.

To test whether the party has higher demand for high-ability people, I explore the unique setting in colleges. The fact that there is only one party branch per college where students are admitted from across the country allows me to distinguish demand from supply. I exploit the variations in individual outside options to trace out the party's demand for different ability groups. The labor market is segregated by the household registration system (Hukou). Graduates who cannot find a job in the city where the college is located are likely to go back to their hometown because it is difficult to get a household registration card in other places. I argue that *hometown* private sector development generates variation in *prospective* outside options that is orthogonal to one's ability. Moreover, these hometown economic conditions do not affect the party branch's demand.

I find supportive evidence using data from two different colleges in China. Controlling for other characteristics, students with better outside options are less likely to join, which suggests that the development of the private sector reduces people's desire to join the party. I further exploit the variation in outside options to construct a difference-in-difference (DD) test. I compare the impact of hometown private sector development

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[2]The source of the data on party membership is the official statistics published in *People Daily* - the party mouthpiece newspaper.

on party membership rates of high-ability and low-ability students. An individual with better outside options will be less willing to pay the cost to join the party. But if the cost is low, then the outside options will play a smaller role. My hypothesis is that the party sets lower joining cost for high-ability students. If it is true, then the impact of the outside options on the joining rate of low-ability students should be greater than on that of high-ability students. The results from both colleges are consistent with this hypothesis.

As further evidence against the supply-side story, I examine the effect of party membership on student placement. Without controlling for ability, party members are more likely to find jobs in government and prestigious foreign firms. However, controlling for ability, membership only increases the probability of finding a government job. The result suggests that membership is only valued in the public sector. So the development of the private sector is unlikely to directly increase individual incentives to join the party.

To explain my empirical findings, I propose a screening model in which the party maximizes the political support of its members while individuals maximize their expected return. The key element in the model is that the *effective* political support is increasing in both members' loyalty and economic resources under members' control. Loyalty being unobservable, the party imposes costly requirements to screen for loyalty while rewarding members with potential economic benefits. The only difference before and after the reforms is in who controls over economic resources. Before the reforms, the party has the economic control. So it chooses loyal members and trusts them with economic resources. After the reforms, the private sector controls part of the economic resources. Only the public sector is under the party's control. The private sector values ability, so high-ability people have more access to economic resources. Therefore, the party increases the demand for high-ability people in order to keep as much control over economic resources as possible. This model generates predictions consistent with my empirical findings.

The model also explains the large increase in the share of college students who became party members in the 1990s. Despite the increased demand of the party, economic liberalization might have reduced the value of party membership because it is only valued in the public sector. Being unable to make clientelism deals with its members currently in the private sector, the party has to target high-ability young students before they find a job. It uses enhanced prospects to enter the public sector as a reward and lowers screening requirements for them. Even talented students with good outside options might

join the party if they feel the need to hedge their risk of not getting a good job in the private sector.

The model not only explains recent trends in the party's recruitment policy better than other demand-side stories (to be discussed in Section 6), but also sheds light on the party's past attitudes towards educated people. When the party directly controlled the economy, even in the period when economic development was the primary task and highly educated people were in great demand, intellectuals were never over-represented in the party.

The paper makes two main contributions. First, to the best of my knowledge, it provides the first systematic political economy analysis of how political elite selection is influenced by, and influences, economic reforms in an autocratic country. The ability to co-opt new elements of the market economy provides crucial incentive for an incumbent autocracy to commit to economic reforms. Compared with personalistic/military autocracies, single-party autocracies have an institutional advantage in making such a commitment. Second, this paper discovers that a silent gradual political transition has accompanied the well-known gradual economic transition in China. This finding sheds light on China's uncertain political future. The evidence in my paper is not favorable to the prediction of "big bang" regime change.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature. Section 3 describes the implicit contract between the CCP and its members. It also reviews the Party's policies of recruiting educated individuals from a historical perspective. Section 4 examines the increase in the education mix of new party members, using the national survey data. Section 5 shows that the party lowers the entry barrier for high-ability people. In section 6, I explain the empirical findings with a formal model emphasizing the party's incentive to control economic resources through its members. Section 7, which concludes the paper, discusses what other developing countries might learn from China's experiences.

2   Literature Review

Most recent theoretical studies on dictatorship assume that the identity of the ruling elite is exogenous (e.g., Acemoglu and Robinson 2000, 2001). While this is a good simplification for analyzing personalistic dictatorships, it may be misleading when we are consid-

ering a single-party or a dominant-party system. Political scientists have provided some cross-country evidence that autocracies of different types are characteristically different in their transition path and policy choices. Single-party autocracies are longer-lived than personalistic/military ones (Geddes 2003, 2004) and are sometimes less prone to trade protectionism (Milner and Kubota 2005). These results are consistent with my theory and evidence.

De Mesquita et al. (2002, 2003) develop a theory of selectorate and study how the relative size of the selectorate and the winning coalition affects policy choice and political survival. The body of work unpackages the black box of the ruling elite but does not address the formation of the ruling elite.

To see why selecting the selectorate matters, consider the widely cited series of papers of Acemoglu and Robinson (2000, 2001). Their papers assume that a dictator maintains political control through repression. If repression is ineffective, then the dictator's only credible choice is democratization. However, if we allow the selection of political elite as an alternative policy instrument, then their result may not hold. For instance, by incorporating certain groups into the elite club, the incumbent can postpone democratization for a fairly long time. Similarly, Wintrobe (2000) argues that the most often used policy instrument in dictatorships is repression and political patronage. My theory is also different from the political patronage approach. While political patronage typically refers to economic benefits used to buy political support (Miguel and Zaidi, 2003), those who accept the patronage may not be incorporated into the ruling class.

The second strand of literature related to the paper is empirical studies on the Communist Party membership in transitional economies. Sociologists find that the Communist Party membership is associated with economic benefits such as promotions and wage increases in transitional economies (Nee 1989, 1991, 1996; Szelenyi 1987; Rona-Tas 1994; Walder 1996).

In the context of China, a growing literature examines the return to the CCP membership. Morduch and Sicular (2000) study the benefits of joining the party in rural China where the resources are more tightly controlled by local officials and local party branches. Party membership increases one's chance of becoming a local official, but does not directly increase income.

Appleton et al. (2005) document that the average educational attainment of party members increased after the reforms. My paper develops this finding by pointing out

that, first, the largest increase is from recruitment of college students; second, the share of highly educated people increased more in regions with a more-developed private sector, and at a time of rapid economic liberalization. Appleton et al. also find that the CCP members enjoy a wage premium in excess of 10%. However, their estimates are likely to confound with the effects of ability and family background. Li et al. (2005) deal with the endogeneity problem using data on twins from a recent survey. They find that party members enjoy a wage premium of 30%. But the premium disappears after controlling for twin's fixed effect. Li et al. posit that the OLS estimate for membership premium is confounded with ability or family background effect. However, the conclusion is weakened if intra-household transfer exists. Empirical findings in my paper suggest that membership is mainly valued in the public sector. The membership premium in the private sector is most likely to reflect the ability effect.

Existing studies in this direction do not provide an explanation for the changes in the composition of membership and wage premium. My paper contributes to this literature by providing a theory consistently explaining the recent trends in membership.

3 Background

3.1 Membership as an implicit contract

Compared with political affiliations in democratic countries, the party membership in a one-party political system carries entirely different meanings. Even though the relationship between the party and its members is never written down in a well-recognized contract, there is little ambiguity about the benefits expected by, and requirements expected from the members. Such an implicit contract can be descried as follows.

Benefits While party membership in democracies is not directly associated with economic returns, the ruling party in an autocracy can directly reward its members with economic resources as well as political offices under its direct control. Such a practice is pervasive.[3] In a command economy, party members usually enjoy better entry jobs and career paths (Walder 1995). When the labor market was established in China around the middle of 1990s, the party's power to directly reward members shrank, but party membership still carries enhanced prospects of getting a job/promotion in the vast government

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[3]See Hanley (2003) for a description of communist parties in East Europe.

bureaucracy.

Requirements Parties in a democracy compete to get campaign contributions and votes. Both can be supplied by party members. So parties in democracies usually set minimal requirements for those who want to join. On the contrary, autocratic parties often impose high joining costs to screen for loyalty (Walder 1995, Bian 2001). The monthly membership fee in China is about $1\% - 3\%$ of one's wage. This cost is small compared to the opportunity cost of all the time-intensive requirements, such as long and tedious application process, frequent study sessions, community services, etc. In emergent situations such as fire, flood, war, and political crises, party members and candidates could be expected to risk their lives if the party asks them to do so. Once in the party, it is very costly for the members to voluntarily exit. Those who try to resign are usually considered as traitors. Their job opportunities are reduced and their reputation is stigmatized in mass media. When the Party expels someone, it is considered as a serious punishment and disgrace.

3.2 Changes in recruitment criterion over time

Throughout its history (1921-present), the CCP has constantly adjusted its recruiting policy to serve its political needs. The well-known dominant tradeoff is between loyalty (*red* or *hong*) and ability (*expertise* or *zhuan*).[4] In table 3, I summarize the main features in each of five periods.

(1) Revolutionary period (1921 - 1949). Political survival depends on battlefield outcomes. Loyalty was highly emphasized. Although support was also needed from the intellectuals, who tended to be descendants of the old regime, the party classified them as part of the "non-working class" and imposed stricter joining requirements to be sure of their loyalty (The 3rd national party representative conference proceedings, 1923). The intellectuals were also purged more often in several waves of devastating political movements (Feng 2003).

(2) Economic Reconstruction (1949 - 1966). After taking power in 1949 and establishing socialist institutions, the party's demand for ability increased because educated workers were indispensable in economic reconstruction. Intellectuals were declared to be part of the working class who had uniform joining requirements (The 8th party rep-

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[4]Mao Zedong first used these terms such as *hong* and *zhuan* in 1957.

resentative conference proceedings, 1956). Nevertheless, loyalty was still stressed over knowledge. A series of campaigns were organized to transform the ideology of the intellectuals and to make them show loyalty.[5]

(3) Cultural Revolution (1966 - 1978). The party paid less attention to economic efficiency. Loyalty was emphasized and the requirements for joining the party became extremely high for intellectuals and people associated with the pre-1949 ruling class (The 9th and 10th national party representative conference proceedings, 1969 and 1973).

(4) Partial reform era (1978 - 1992). When economic reforms became the dominant political goal, the party's demand for ability drastically increased.[6] The requirements for certain class origins were dropped. In 1980s the recruitment focused on highly educated individuals in the public sector, which still dominated the economy at that time. Loyalty was still an important criterion, and candidates had to accumulate enough evidence through years of hard work to get admitted. The college students quota was very restricted. While official data in unavailable before 1990, we know that party members only accounted for fewer than 3% of students in Tsinghua university in the 1980s.[7]

(5) Deepening reform era (1992 - present). The party has fully embraced market economy. And ability has become the most important criterion in recruiting. Even capitalists are explicitly welcomed to join the party. The party has made serious effort to recruit members in the new private sector. The difficulty of reaching out to this sector has made the party shift its recruiting focus to the college campus. Figure 1 demonstrates this dramatic increase. In 1990, only less than 1% college students are party members. As of 2005, this proportion has risen to 8%. Nowadays more than 1/4 of new recruit are college students.[8]

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[5]In 1957, Mao Zedong stressed that "the intellectual must be both 'red' and 'expert' ".

[6]In his speech in 1980, the party leader Den Xiaoping stressed that "*zhuan* (expertise) does not mean *hong* (loyalty), but to be *hong* must be *zhuan*."

[7]Source: documentation of Tsinghua univeristy party branch. Tsinghua university is the most prestigious university in China.

[8]The source of data is from People Daily - the party's mouthpiece newspaper.

4 The Impact of Economic Liberalization on Membership

We first examine the impact of economic liberalization on the composition of membership using national survey data. Intuitively, we need to compare the composition of membership before and after the reforms. However, the pre-reform data is nonexistent. Even if it did exist, such a comparison would be misleading. The reason is that the beginning of economic reform coincided with the end of the Cultural Revolution. During the Cultural Revolution, educated individuals were often punished because of their class origins. Many wrongs done to educated individuals were corrected in the early 1980s. Identified change of membership around 1980 may simply reflect the result of correcting wrongs. Instead we use the data after class origins were dropped as the criterion to join the party. We take economic liberalization as a continuous variable and measure it by the private sector penetration. We first describe the empirical strategy and the data before presenting the empirical results.

4.1 The Empirical Strategy

We measures the degree of private sector development in region r by an index D_r (to be defined), and the ability of individual i in region r by A_{ir}. X_{ir} are control variables of individual characteristics. Our testing hypothesis is that the party cares more about ability as the private sector becomes more developed. However, regional variation in private sector development is likely to be correlated with other omitted variables. A more liberal party branch leader may both favor high-ability individuals and private sector development. To address the omitted variable bias correlated with regional variations, we compare the effect with that in the base year when there are few good private firms. We estimate the following probit model in a difference-in-difference-in-difference form.

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\begin{aligned}
Pr(CCP_{irt}) &= \Phi(X_{ir}\gamma + \beta_1 D_r + \beta_2 \cdot post + \beta_3 A_{ir} + \beta_5 \cdot D_r \cdot A_{ir} \\
&+ \beta_5 \cdot post \cdot A_{ir} + \beta_6 \cdot D_r \cdot post + \beta_7 \cdot A_{ir} \cdot D_r \cdot post)
\end{aligned}
\tag{1}
$$

where *post* refers to the post-treatment period. Besides controls for individual characteristics X, this model includes controls for the effects of being high abilites (A) or being

in the region with developed private sector (D), and for general time effects ($post$). The second level interactions control for changes in the joining rate for the high abilities relative to the low abilities ($post*A$), changes in the joining rate in regions with developed private sector relative to that in regions with less developed private sectors, and differences in the joining rates of high abilities in regions with more developed private sectors relative to that of high abilities in less developed regions ($A*D$). All that remains to be identified is the effect of the private sector development on the high abilities in the post-development period.

4.2   The Data

We use data from the urban sample of the Chinese Household Income Project Survey (CHIPS) for year 1988 and 1995. The urban sample of 10 provinces is selected from significantly larger random samples drawn by the State Statistical Bureau (SSB). The selection method for our panel was chosen so as to construct a representative sample of urban residents. Liaoning and Shanxi provinces were chosen to represent the north, Jiangsu and Guangdong the eastern coastal provinces, Anhui, Henan and Hubei the interior and Gansu, and Yunnan the west. Beijing represented the three large province-level municipalities. The sample for year 1988 and 1995 consists of $31,827$ and $21,698$ individuals respectively.

Table 4 presents the summary statistics of the data. There are two interesting things worth noting. First, the share of party members has a big increase. In 1988, about 14% urban residents are party members. It increases by 8 percentage points from 1988 to 1995. The share of party members in urban residents is much higher than that of rural residents. Second, the share of people with a bachelor degree doubled.

In the estimation, we use only the subsample of young people aged between 22 and 30 years old. There are two reasons. First, 22 is the average college graduation age. Persons younger than 22 years old are more likely to be in college and tend to underreport their educational attainment. Second, we are interested in the changes in party recruitment. Young people are more likely to be new recruits.

In the survey data, the best measure of ability in CHIPS is education attainment. Thus, we divide the sample into two groups: those with bachelor degrees and those without. The former is considered as high-ability group and the latter as low-ability group. We

measure the development of private sector in the region by the ratio of employment in foreign firms to that in SOEs in 1994. It is due to the well-known fact that foreign firms usually offer higher pay than SOEs and other private firms. Moreover, a region with more foreign firms have more other private firms.

4.3 Estimation Results

As stated above, we use the subsample of CHIPS 1988 and 1995 in estimating the regression model (1). Demographic characteristics (age, gender, ethnicity) are controlled for, as well as the main effects and interactions of educational attainment, indicator of private sector development and the time dummy. Table 5 presents the estimation results.

To study the main effect of the private-sector development on membership, we first estimate equation (1) without controlling provincial dummies but including the employment ratio of foreign firms to SOEs. The first two columns in table 5 show the estimated coefficients and marginal effects respectively. The result shows that if the ratio increases by 1%, the membership rate decreases by 1.9%. The effect has no significant change from 1988 to 1995.

Studies have shown in many countries, educated people are more likely to get involved in political activities and the participation increases as the economy is more liberal.[9] We first examine the main effect of having a bachelor degree. Positive but insignificant coefficient on the dummy for bachelor degree shows that educational credentials have not become an important determinant of membership in 1988. The positive coefficient on the variable $post * bachelor$ shows that the likelihood of highly educated people joining the party has a small increase from 1988 to 1995. But again, it is not statistically significant. There is no robust evidence showing that highly educated people are more likely to join the party over time. Moreover, the negative coefficient on $bachelor * log(foreign/SOE)$ shows that in the base year, educated people are *less* likely to join the party in places where the private sector is more developed between 1988 and 1995. This result rules out the concerns that more liberal regions tend to recruit more highly educated people and thus have more-developed private sector.

The most interesting result is the coefficient on the three-degree interaction term – $post * bachelor * log(FDI/GDP)$. It shows that, if the employment ratio of foreign firms

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[9]See Pande (2007) for a survey.

to SOEs increases by 1%, the increase in the joining rate of those with bachelor degrees will be 6.3% higher than that of those without the degrees.

The result is surprising. High-ability people have more outside options in places with more marketized opportunities. The availability of outside options tends to reduce people's willingness to pay the joining cost set by the party. Why do we see the opposite result? We argue that as the private sector develops, the party increases the demand for highly educated people. This is the driving force of the result. Unfortunately we are unable to distinguish the party's demand from the individual supply using this data. So in the next section, we exploit the special setting of college recruitment to identify the party's differential demand.

5 Examining the Party's Demand

As mentioned in section 3, the party restricts the membership by imposing costly joining requirements. If it has higher demand for a certain group of people, it would lower the entry barrier, i.e., the screening cost. So to test that the party has higher demand for high-ability people is equivalent to testing that the joining cost is lower for them.

To identify the party's differential demand, we exploit special features of party recruiting in colleges. In each college, there is one party branch but students are usually admitted across the country. Students' hometown market conditions affect their outside options and hence their supply, but do not affect the party branch's demand. Therefore, using the data from students of the same college, we can trace out the party branch's demand with variations in students outside options.

College students are usually considered as high-ability people relative to the population. But there are variations in students' ability in this rather homogenous group and it can be measured by test scores. This makes the setting well suited for our purpose. We find supportive evidence using data from two different colleges.

5.1 Empirical Strategy

In the recent (9th-15th) national college Party organization conferences, academic performance is emphasized as an important criterion, even though political loyalty is always stressed, at least on paper. Anecdotal evidence suggests significant ability-based dis-

crimination in joining requirements. For example, for students with excellent academic performance, the party branch sometimes invites them to apply; and after they submit the application, the period of probation and training is often shortened; in the closed-door meetings where the recruiting decision is made, the academic performance accounts for a sizable part in the evaluation of applicants' overall performance and eligibility.[10]

Despite the abundant anecdotal evidence, there is no direct test for this phenomenon. Part of the reason is the lack of data. Consider the party as a monopolist "selling" the party ticket and individuals as potential buyers. To test that the party charges a lower "price" for the high-ability group, ideally one would like to have information not only on the joining rate (quantity), on the requirements imposed by the party (price) but also on the individual ability and political ideological bias. Unfortunately, individual joining requirements and political ideological bias are both difficult to measure.

An alternative approach is to identify two groups of people who are similar except for their ability and then compare the joining rates of the two groups. However, if ability is correlated with individual outside options, then this comparison can not identify the demand-side effect. So we explore another source of difference: difference in students' outside options. Holding ability fixed, those with good private sector opportunities will have a lower desire to join the party. But if joining costs are low, then private-sector opportunity should matter less in the joining decision. In another word, if the joining cost is high, one will join only if the gains are high, i.e. if one has no good opportunities in the private sector. But if the cost is very low, the joining decision does not depend on private-sector opportunities as much. So we identify the party's differential demand by comparing the impacts of private-sector opportunities on the joining rate of high- and low- ability group.

This test is motivated by the fact that the labor market is segregated by household registration (Hukou) system.[11] If one goes to a college outside the hometown and cannot find a job there with the registration card offered, the most likely outside option is his hometown because it is also hard to get the registration card in other places. So their hometown labor market conditions affect their outside options. If the private sector is

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[10]For example, in many universities, the party branch makes it explicit that the priority is given to those who won academic prizes.

[11]Each individual has to get the registration (Hukou) based on the place of birth and the parents' place of registration. It is associated with the access to local facilities such as housing, public schooling etc. The registration is hard to get in other places, particularly in big cities.

underdeveloped in his hometown, he/she is better off getting a job in the government sector. Thus they value party membership more than those from a province with well developed private sectors .

For illustration purpose, the following matrix of joining rates by ability group and hometown good-private-sector opportunities identifies the effect of discriminating screening effect , where J represents the probability of joining the party in each cell.

	Ability group	
	High	Low
good private opportunities	J_{gh}	J_{gl}
bad private opportunities	J_{bh}	J_{bl}

A simple test for the party lowering the barrier for high-ability individuals is whether the high-abilities are more likely to join, or $J_{gh} - J_{gl} > 0$ or $J_{bh} - J_{bl} > 0$. This provides a consistent estimate as long as individual ability and joining rates are not correlated. However, the assumption is likely to be violated. For example, a high-ability student may be more efficient in fulfilling the tasks assigned by the party, which makes it easier for him to meet the requirement. Therefore, a reasonable test for discriminating screening cost is whether having good private sector opportunities decreases joining rate *more* for the low-abilities individuals than for the high-abilities ones, or

$$(J_{bl} - J_{gl}) - (J_{bh} - J_{gh}) > 0. \tag{2}$$

This difference-in-difference estimate for the effect of discriminating screening cost is consistent under the assumption that the independent effect of private sector opportunities on joining rates is the same for the high abilities and the low abilities. Note that if the assumption is violated, the D-D estimate (2) may have a negative sign. In the extreme case, if the development of the private sector ONLY improves the outside option of high-ability individuals but not that of low-ability people, then $J_{bl} - J_{gl} = 0$ and $J_{bh} - J_{gh} > 0$. In this case, $(J_{bl} - J_{gl}) - (J_{bh} - J_{gh}) > 0$. Since we use the sample of college students, the difference of their ability is small. The extreme case is unlikely to happen. In realty, it is more plausible that the private sector development improves the out option more for the high-ability individuals. This will lead to the underestimate of the D-D estimate. So

if we find the estimate is positive, it is even stronger evidence that the screening cost for high-ability individuals is lower.

To implement the above test, we estimate the effect of discriminating screening cost from the following probit regression:

$$Pr(CCP_{ir} = 1) = \Phi(\alpha_0 + \alpha_1 \cdot A_{ir} + \alpha_2 \cdot Z_r + \alpha_3 \cdot (A_{ir} \times Z_r) + X_i\beta) \qquad (3)$$

where the outcome variable is the probability of joining the party, Φ is the standard normal cumulative density function, A_{ir} is the proxy for the ability of individual i from region r ; Z_r is the measure for the good private sector opportunities in region r, $A_{ir} \times Z_r$ is the interaction of A_{ir} and Z_r. X_i is the vector of covariates including gender, ethnicity, parents' political affiliation and dummies for majors, etc.[12]

Consider first Z_r and A_i are discrete variables in Equation 3, i.e., $Z_r = 1$ if private sector opportunities are good and $Z_r = 0$ otherwise; $A_i = 1$ if high ability and $A_i = 0$ otherwise. The relationship between the estimated α's and the tests of discriminating screening cost is straightforward. Using the previously shown joining rates matrix, the estimated constant term, α_0, corresponds to the joining rate (conditional on X) for individuals who have low ability and bad private sector opportunities. α_1 and α_2 give the marginal effect on joining rate of being high ability (α_1) and having good hometown private sector opportunities (α_2) respectively. The more outside options one has, the less willing one is to pay the joining cost. So we expect α_2 to be negative. α_3 gives how much being in high-ability group reduces the negative impact of private sector opportunities on the joining rate. This is the coefficient of interest. If the screening cost is low for high-ability individuals, it is expected that the private sector opportunity does not affect joining decision of high-ability people as much as for low-ability people. To test discriminating screening cost is equivalent to test $\alpha_3 > 0$.

In the actual estimation, we allows Z_r and A_i to be continuous. Therefore, the tests of discriminating screening cost are tests about the sign and magnitude of the marginal effects instead of coefficients in equation 3. The construction of measures for Z_r and A_i is described in details in the subsequent subsection.

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[12]This type of probit (or logit) specification has been used in identifying the effect of job-lock caused by employment-based health insurance, e.g. Madrian (1994).

5.2 The Data and Construction of Measures

I use the information on the graduating class of 2005 from two independent colleges. One college is in Shanghai and the other in Chengdu, Sichuan Province. Besides basic personal and hometown characteristics and political affiliation, we have data on College Entrance Test (CET) scores. In the data from the college in Shanghai, we also have information on parents' political affiliation, college course grades/GPA and placement information upon graduation.

Shanghai is the most developed region on the Chinese mainland, with more foreign headquarters than any other mainland cities. Chengdu is the capital city of Sichuan province, a less developed province in the Southwest of China. While offering all majors, majors in both universities are over-represented by economics, finance or business. The university in Shanghai is ranked among the top 15% of all 60 universities in Shanghai in 2005 (the Project of Chinese Universities Ranking[13]). The university in Chengdu is ranked lower than the one in Shanghai. This data set is well suited to our research question because economics students face relatively unconstrained choice between private and public sector, unlike science concentrators who may need to enter state-owned labs or research institutes.

Although the data is not a representative sample of college students, the two universities are typical in many aspects. Most importantly, the mandatory placement of college students ended by 1998 when the decline of the state sector makes job placement a heavy burden for the government. The university party branch and other agencies have no say at all in hiring. Private firms do not require applicants to list political affiliation on resume. Employers from government bureaucracy sometimes explicitly prefer to hire party members.[14]

College admission in China are based on student scores in the CET. The CET is similar to the SAT in the United States. Including subjects like maths, Chinese, English, physics, chemistry etc, it is an annual centralized test organized by the Ministry of Education and administered uniformly within each province, with minor variations across the provinces. Each university sets a quota of admission for each province. Universities rank the grades

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[13]The project is sponsored by Chinese research institute of management science.

[14]In national civil servant qualification exams in 2006, party membership is a pre-requisite for about 10% of positions. Anecdotal evidence shows that party members also get additional credits in interviews following the exam.

of their own applicants from each province and set the cutoff line according to the pre-set quota. The process is monitored by provincial admission commission. Different from the admission process in America, colleges usually have no access to students' archives before setting the cutoff line. All the information they have is the students' CET grades.

The university party branch has no role in admission process. The responsibility of the party branch is to recruit members from students after they enter the school. Party recruitment cannot be conditional on students' hometown. So the hometown private sector opportunities are orthogonal to the college party branch's recruiting decision.

To summarize, student party members are recruited before they go on the job market and party branch has no role in placement decision. This fact helps to get around the problems in previous studies. For example, if we find more party members enter public sectors, it is clearly not because that it is easier to join the party in government sector than in the private sector.

Our empirical test requires measures on individual ability and their hometown private sector opportunities. Rich information on academic performance in this data can be used to construct fairly precise proxies to ability. The best one is the CET scores. Everyone has to make full effort to improve this important score. Thus we measure students' ability by the decile of CET scores within students from the same province in this university. The CET decile is between 0 and 10. The CET decile for the lowest and highest grades in each province is 0 and 10 respectively. We use the decile instead of the level of scores to make it comparable across province. It may be the case that CET rank captures effects other than ability that may be correlated with the joining rate, e.g. it is likely that students from wealthy families have better academic performance. However, since we exclude the main effect of being in a certain ability group by using the difference-in-difference type approach, it will not contaminate our estimation of α_3 in equation (3).

Since foreign firm jobs are usually best paid, I measure the private sector opportunity Z_r by the log ratio of foreign investment to total GDP in the hometown city in 2003. The source of data is from the China statistics yearbook (2004).

Table 6 presents some descriptive statistics of the data from the college in Shanghai. There are 2016 students in total in this class. 18 of them joined the communist party in

high school[15] while 295 joined in college, roughly 15% of total students.[16] About 37.5% students are male. In China, the preference of women for majors such as accounting, business and economics etc is common. There is no much difference in the percentage of male students between party members and non-members. 44.3% of students have at least one parent affiliated with the party. The parents of party members are more likely to be party members. About 53% party members have party-member parents. Upon graduation, about 15% of students continue study in graduate school, 6.7% of them go to the government sector and 9% enters prestigious foreign firms.

It is interesting to examine party members and non-members' academic performance. The mean college grade of members is 82 (out of 100 points), 3 points higher than that of non-members. But the grade of members can be as low as 60 points (below 60 is Fail). And many high-scored students are not members. The first graph in Figure 2 shows the CET ranks of the party members. Although the party members are doing better on average, there are a considerable number of party members ranking low. The distribution of college GPA in the second graph of Figure 2 also exhibits the same pattern. From the graph, we can see that academic performance is far from being the dominant determinant of recruiting. It suggests that the party does not only care about ability in recruitment.

Table 7 presents some descriptive statistics of the sample of the graduating class of 2005 from the college in Chengdu. There are also more males than females in this class, but the gender ratio is less biased than that in the college in Shanghai. In this class, about 13% of students join the party before graduation. On average, female students are more likely to join the party. The average CET rank of party members is higher than that of non-members.

To summarize, party members are more likely to have a party-member parent and are more likely to find jobs in government sector and prestigious foreign firms. Their average grades are a little bit higher, but students with poor academic performance still have good chances to join the party.

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[15]Most high students do not meet the age requirement - 18 years old. In high school, party membership is only awarded as an honor to those with superior academic performance and active participation in campus events.

[16]The proportion is higher than the average (8%, see the previous subsection) because the graduating class usually have more party members than other classes. Another possible reason is that the college is among the first-tier and receives relatively larger quota from the party.

5.3 Estimation results

5.3.1 Results using the Shanghai sample

Table 8 presents empirical results from estimating the probability of joining the party as a function of the ability and the hometown private sector opportunities outlined above. All specifications include the demographic variables such as gender, ethnicity and parental political affiliation as well as the major dummies (although the coefficients of major dummies are not reported). Excluding those students from Hongkong, Taiwan and Macau and those who joined the party before entering the college, the full sample includes 1712 students in total.

We define those students whose CET decile is in [5, 10] as the high-ability group. Those whose decile is below 5 belong to the low-ability group. We also control the average grades in college courses.

Column (1) and (2) in Table 8 list respectively estimated coefficients and marginal effects from a probit model for joining rates of the high-ability group. Column (3) and (4) list coefficients and marginal effects for low-ability group.[17] For both groups, male students with at least one of parents being party members are more likely to join the party. Male students have an about 9% higher likelihood of joining than equivalent female students.[18] Parents' being the party member increases the likelihood of joining by about 5%. The effect is of similar magnitude for both groups.

The variable of interest for the estimation by group is the proxy to the hometown private sector condition: the log of the ratio of foreign direct investment to GDP. In column 2 of Table 8, the marginal effect of this variable is significantly negative for low-ability group while it is insignificant and the sign is positive for high-ability group. The estimates show that for high-ability group, the hometown labor market condition has negligible effects on the joining decision. In contrast, the effect is large for low ability people: if the ratio of FDI to GDP increases by 1% in their hometown, the low ability group have a 1.7% lower likelihood to join the party. This result supports our hypothesis. Since college students tend to join the party to insure themselves against the risk of not finding good private-sector jobs, the improvement of hometown private sector opportunities is likely to weaken this incentive. If it is costly to join the party,

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[17]The marginal effects are calculated at the mean for continuous variables.
[18]Historically, females are discriminated.

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the joining rate will decrease with the development of private sector. The sensitivity of joining rate of low-ability group to the private sector opportunities suggests the joining cost is so high for the low-ability group that they do not bother to join as long as they have better outside options. On the contrary, the cost does not seem to matter for the high-ability group.

The actual effect of this discriminating joining cost may be more easily seen by using the full sample to estimate a probit equation including the interaction between the proxy to private-sector opportunities and a dummy for low-ability group. The coefficients and marginal effects are listed in column 5 and 6 respectively in Table 8. This time we include the dummies for hometown provinces instead of controlling for the proxy to the private-sector opportunities. By including regional dummies, we get rid of the effect confounded with one's hometown fixed effects. The result shows that, being in low-ability group, if the ratio of FDI to GDP increases by 1%, the probability of joining the party will decrease by 1.4%.

We allow more flexible functional forms by estimating the probit equation including the interaction between the log ratio of FDI to GDP and the CET decile. The last two columns in Table 8 shows the result. For a student at the median of CET score distribution, if his score increases by 10 percentiles in the distribution, the likelihood of joining the party will increase by 3.3%. A 1% increase of log ratio of FDI to GDP will reduce the likelihood of joining by 3.3%. However, as shown by the coefficients of the interaction term, a 10% increase of percentile ranking will offset this negative effect by 0.5 percentage points. That is, the improvement of private-sector opportunities reduces dramatically the joining rates only at lower CET percentiles.

5.3.2 Estimation using the Chengdu sample

To confirm the result, we re-estimate equation (3) using the data from the college in Chengdu. The results presented in Table 9 exhibit similar patterns as those in table 8. CET deciles play a significantly positive role in joining the party in both high- and low-ability group. More hometown private-sector opportunity is likely to reduce the joining rate of low-ability group while the impact is insignificant for high-ability group. Column (3) in Table 9 shows that, for a student at the median of CET score distribution, if his score increases by 10 percentiles in the distribution, the likelihood of joining the party will increase by 1.5%. A 1% increase of log ratio of FDI to GDP will reduce the likelihood

of joining by 1.3%. However, as shown by the coefficients of the interaction term, a 10% increase of percentile ranking will offset this negative effect by 0.2 percentage points.

5.4   Robustness Checks

The results from both samples give evidence of ability-based discriminating joining cost. There may still be concerns that other factors can cause the identified effect. One concern is that given the same requirement, high-ability people are more efficient in accomplishing the tasks assigned by the party and hence it is less painful for them to meet the requirements. However, to the extent that most requirements imposed are time-demanding rather than skill-demanding, it is unlikely that the same requirement is less costly for high abilities. Moreover, the opportunity cost is likely to be higher for high-ability people. In similar religious cults, high-ability people tend to be screened out by these time-intensive requirements (e.g. Iannaccone 1992, Berman 2000).

Another concern is that those with good academic performance are likely to come from wealthier or privileged families. If that is true, the identified effect likely suggests the party discriminates based upon the social status. To rule out this concern, we conduct a placebo test using the information on parents' political affiliation, which is known to the party branch. Studies on Chinese labor market agree that on average the income of party members is higher, though it is hard to tell whether it is the ability effect or political rent (Appleton et al. 2003). Therefore, we estimate a probit equation similar to that in Column 7 and 8 in Table 8, this time with an interaction between the log ratio of FDI to GDP and a dummy for parents being party members. Table 10 presents the estimation result of the placebo test. The coefficient of the interaction term is not statistically significant. That is, the improvement of private sector opportunities has the same effect on students whose parents are party members and those whose parents are not. This result suggests that at least the party does not discriminate based upon family political affiliation.

5.5   Are the results driven by individual supply?

An important concern is that the individual supply-side factors underlies our findings. That is, high-ability people who want to enter the private sector are also more eager to join the party.

However, this story is consistent with neither anecdotal evidence nor findings in the sociology literature. The party has sought to set up branches and recruit new members in the private sector, especially in large-scale foreign firms. But its effort met some resistance. In the 1990s, foreign employers typically took a very cautionary attitude towards setting up party branches in their firms. They were concerned that the party organizations would work in the same way as unions in the western countries. Party members, once they got in good private firms, often hid their party activities (if there was any activity at all!) from the boss.[19]

Since the sixteenth National Party Congress in 2002, the party leadership has prioritized recruitment in the private sector. The party constitution was even revised to be able to legally admit capitalists. Since then, the local party branches have invested a lot of efforts in recruiting members in private firms. They can only get inside those firms under the promise that they do not intervene with the daily operations. Despite the effort, it is still difficult to recruit in the private sector. The major difficulty lies in the fact that the party is unable to reward people in the private sector. That is, membership is not "valued" there.

To illustrate this point, we use a multi-nomial model to analyze the determinants of job choices of students in our sample. We restrict the sample to those not going to graduate school and classify the jobs into three categories (in descending order of job compensation): jobs in prestigious foreign firms, government jobs, and jobs in other firms. The independent variable of interest is the dummy indicating students' CCP membership. It takes the value 1 if the student is a party member as of graduation, 0 if not. The control variables include gender, average grades in college and dummies for majors. The results are presented in Table 11.

Column I and II show the estimation results without controlling for average scores in college. Compared to other firms, party members are more likely to enter both government and big foreign firms. However, after controlling for the average grades as the proxy to ability, the effect of being a party member on the probability of entering big foreign firms almost disappears while it still plays a significant role in entering the government.

On the contrast, the higher is one's average grade, the more likely one will enter big

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[19]As the role model, People Daily (2002) reports the experience of the party branch in the Tianjin subsidiary of Motorola Inc. When members set up the branch in 1992, they hid their political affiliation in consideration of their career path.

foreign firms. Interestingly, the grade does not have a significant effect on the chance of entering government sector. The results are presented in column III and IV of Table 11. If average grades proxy ability, then the results suggest that the wage premium of party members in private sectors reflects ability while the government sector has better offer for party members and does not care much about their grades. The results also exclude an alternative explanation that foreign firms may infer ability from membership.

Since jobs in top foreign firms and government sector are better paid than other jobs, we can use the chance of getting the two types of jobs to measure the wage premium. Our result suggests that the OLS estimate without good proxy to ability overestimates the return to membership. The wage "premium" of being a member in private sector is likely to reflect ability effect while the government sector does reward the membership.

We also estimate a probit model in which the outcome variable takes the value one if the individual gets a job in big foreign firms and zero otherwise. Without controlling for scores, the effect of being a party member is also significant at the level of 1%. The effect disappears after controlling for scores. Table 12 shows the estimation result. It is consistent with the results of the multiple choice model. The result suggests that the ability effect is dominant.

Table 13 is motivated by the need to understand the role of membership in entering the former big SOEs, which have been privatized in the past ten years. We divide jobs into four categories: government jobs, jobs in prestigious foreign firms, jobs in former SOEs and other jobs. Jobs in former SOEs are not paid as well as government jobs and jobs in prestigious foreign firms. But since those former SOEs are usually of large scale and can get some policy favors through old ties with the government, their pay is better than other firms. We estimate the determinant of finding four types of job. The first three columns report the estimation result without controlling for student college grades. Membership plays a positive role in finding all three high-pay jobs. But after controlling for grades, the effect of membership is insignificant for entering not only foreign firms but also former SOEs. It suggests that the former SOEs have no preference for party members either. The result is consistent with the observed trend. As the private sector develops, the SOEs face fierce competition and have to play down the role of ideology.

The analysis above shows that the value of party "tickets" is low in good private firms. It is unlikely that people with better outside options in the private sector will have higher desire to join the party. The empirical evidence in section 4 and section 5 combined

strongly suggests that the party increases the demand for those whose attributes are valued by the market.

6 A Model of the Political Market

Why does the party increase the demand for high-ability people as the private sector develops? Our explanation is that economic control is central for political survival and the selection of membership is a key instrument to maintain this control. As the party's direct control over economic resources has been reduced as the result of economic liberalization, it reacts by chasing high-ability people because they are more likely to have access to economic resources.

This section models the political exchange between the party and its members in an overlapping-generation model. Individuals maximize its expected payoff while the party maximizes the political support. The rise of private sector increases the chance of high-ability people getting access to economic resources and makes high-ability people more valuable to the party. As a result, the party increases its demand for high-ability people.

The predictions are consistent with our empirical findings. Next we show that our model provides better explanation for anecdotal evidence and historical trends than alternative demand-side stories.

6.1 The Setup

There are two types of agents in this model: the party and the individual. The payoff structure is determined by the economic structure.

Individual: An individual belongs to one of two generations, with the size of each generation normalized to be 1. I use g as the index to generation. $g \in \{1, 2\}$, where $g = 1$ if young generation and $g = 2$ if old generation. Young people study while old people work.

Each individual is characterized by ability A_i and political ideology L_i. $A_i \in \{h, l\}$, where h denote high-ability and l denote low-ability. A fraction μ of each generation are type h while a fraction $1 - \mu$ are type l. Individual political ideological bias L_i in each ability group is uniformly distributed on $[L_0, L_1]$, $f(L_i) = \frac{1}{L_1 - L_0}$. The ideological

bias can be considered as loyalty to the party. We use these two terms interchangeably. For simplicity, we assume that the distribution of political ideology and ability are independent from each other. Ability is observable to the party while loyalty is not. All individuals are risk neutral and maximize expected payoff.

The party: The party can select members from both generations. I assume the party maximizes the total *effective* political support contributed by its members. Here political support refers to the power or help that the party can mobilize to repress the opposition in case of political crises. The *effective* political support S_i acquired from member i is assumed to increase in loyalty L_i and the resources under i's influence, denoted as R_i, $R_i \in \{0, 1\}$.

The party needs to identify those whose political ideology is closer in order to reduce the probability of defection in the extreme situation. Meanwhile, if one controls more resources, i.e. is of greater influence, he/she is more "useful" from the perspective of the party (see discussion in Section 3). Therefore, we write down the individual political support function as

$$S(L_i, R_i) = L_i^\alpha R_i \tag{4}$$

where $S_L, S_R > 0; S_{LR} \geq 0; S_{LL}, S_{RR} \geq 0$.

Since loyalty is not observed, the party imposes costly ideology-biased joining requirements to screen out less loyal people in each ability group of both generations. We denote the screening cost for type A of generation g as J_g^A, where $A \in \{h, l\}, g \in \{1, 2\}$.

Individuals who want to join the party need to fulfill the requirements. We assume it incurs individual cost $C_i = J_g^A(L_1 - L_i)$.

The cost for the party consists two parts, monitoring cost c for each member and the reward to each member B_i. $B_i = 0$ if member i enters the public sector while $B_i = B$ if member i enters the private sector. Let $Z(B_i, g)$ denote the cost of recruiting member i in generation g. So $Z(B_i, 1) = B_i + 2c, Z(B_i, 2) = B_i + c$. Therefore, the party's objective function can be written as follows.

$$\int_{i \in M} L_i^\alpha R_i - Z(B_i, g) di \tag{5}$$

where M is the set of members.

Individual access to economic resources R_i differs by generation and the type of job. For young people at school, $R_i = 0$. For old people at work, R_i depends on the type of

job. The key element in our analysis that the chance of get access to economic resources changes as the economic structure changes.

The structure of economy: Suppose there are two sectors: the private sector (of size β) and the public sector (of size $1 - \beta$). $\beta = 0$ before the reforms while $0 < \beta < 1$ after the reforms.

In each sector, there are two types of job: manager and worker. Workers in both sectors have no access to economic resources, i.e., $R_i = 0$ for worker i. Assume $R_i = 1$ for manager i in the public sector while $R_i = K$ for manager i in the private sector. Denote Y_i as the pay of individual i. Y_i for a worker in both sectors is normalized to 0. Assume for a public-sector manager $Y_i = B$, for a private-sector manager it is proportional to the resources under his control, $Y_i = W = \delta K$. For now, we only consider the case $W > B > 0$. We reserve the discussion of the case $B > W > 0$ to later part.

In the public sector, the party controls the resources and the allocation of labor to maximize its utility. Note that it only creates manager positions for members. So $R_i = 1$ for members and $R_i = 0$ for non-members. Private firms maximize profit and match manager positions with high-ability individuals. But there are matching failures. We assume the ex ante probability of becoming a private manager is $p(A_i, \beta)$, where $p(A_i, 0) = 0, A_i \in \{h, l\}$. So the expectation of economic resources controlled by individual i in the private sector is $E(R_i) = K * (\mu p(h, \beta) + (1 - \mu)p(l, \beta))$. It is a function of ability.

We make two assumptions:

1. The probability of being a private manager increases in ability, i.e., $p(h, \beta) > p(l, \beta)$.

2. The development of the private sector improves matching, i.e. $p(h, \beta) > p(l, \beta')$ if $\beta > \beta'$.

Note that before the reforms, there is no private sector and the party takes R_i as given. In contrast, after the reforms, in the presence of the private sector, the expectation of resources controlled by individual i increases in ability.

The timing of events is as follows. First, the party sets the requirement J_g^A. Second, people decide whether or not to join. The party recruits those who meet the requirement. Third, labor market outcomes are realized.

In the remaining part of this section, we solve for the optimal recruiting policy in pre-reform and post-reform settings respectively.

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6.2 The Analysis

This problem is a monopolistic screening problem. The revelation principle can be invoked to simplify the party's problem. Here the party can restrict its attention to imposing a menu of requirements $\{J_g^A\}$. For a given J_g^A, there is a critical value $\hat{L}_g^A$ such that an individual joins the party if and only if $L_i > \hat{L}_g^A$.

6.2.1 The Pre-reform Recruitment

Given that the party controls all the resources before the reform, the party's net payoff can be written as $\rho = \int_{i \in M} L_i^\alpha R_i - Z_i di$. The individual payoff can be written as $\Pi_i = max(B - C_i, 0)$.

The young generation has no access to resources, so $R_i = 0$. They cannot provide effective political support until they begin to work. The expected effective support provided by young member i is L_i^α. The cost for the party to recruit a young member is $B + 2c$. Members in the old generation are assigned to positions with $R_i = 1$. The effective support provided by old member i is L_i^α. The cost for the party to recruit an old member is $B + c$. So the party only recruits in the old generation, i.e., $\hat{L}_1^h = \hat{L}_1^l = L_1$. The optimization problem is

$$\max_{\{J_2^A\}} \quad \mu \int_{\hat{L}_2^h}^{L_1} (L^\alpha - (B + c)) f(L) dL + (1 - \mu) \int_{\hat{L}_2^l}^{L_1} (L^\alpha - (B + c)) f(L) dL$$

$$s.t. \quad (1) B - C_i = B - J_2^A (L_1 - L_i) \geq 0, for \quad L_i \geq \hat{L}_2^A \quad and \quad A \in \{h, l\}$$

$$(2) B - C_i = B - J_2^A (L_1 - L_i) \leq 0, for \quad L_i \geq \hat{L}_2^A \quad and \quad A \in \{h, l\}$$

The above constraint (1) and (2) are Incentive Compatible (IC) constraints for those with loyalty above and below the critical value respectively. Since the outside option and the reservation value for each type are both 0. Constraint (1) (2) are also Individual Rational (IR) constraint. The critical value satisfies both constraints is therefore

$$\hat{L}_2^A = L_1 - B / J_2^A. \tag{6}$$

Since the ability does not enter the objective function, it is easy to see that the optimal critical value is the same across ability group. Also the party will recruit till the political support contributed by the last member is equal to the recruiting cost. Therefore,

$$\hat{L}_2^h = \hat{L}_2^l = (B + c)^{\frac{1}{\alpha}}. \tag{7}$$

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The imposed screening requirement is also the same across ability group:

$$J_2^h = J_2^l = \frac{B}{L_1 - (B+c)^{\frac{1}{\alpha}}}. \tag{8}$$

6.2.2 The Post-reform Recruitment

After the reforms, both the party's and the individual payoff function changes due to the emerging private sector. Let's first consider the case $W > B > 0$.

The individual expected payoff function can be written as

$$E(\Pi_i) = \begin{cases} max(p(A_i,\beta)W, & p(A_i,\beta)W + (1 - (p(A_i,\beta))B - C_i) & \text{if } i \text{ in young generation} \\ max(0, & B - C_i) & \text{if } i \text{ is public-sector worker} \\ max(0, & -C_i) & \text{if } i \text{ is private-sector worker} \\ max(W, & W - C_i) & \text{if } i \text{ is private-sector manager} \end{cases}$$

Since $C_i \geq 0$, people in the private sector will not join the party. The critical value for workers in the public sector $\hat{L}_2^A$ satisfies $\hat{L}_2^A = L_1 - B/J_1^A$. The critical value in young generation $\hat{L}_1^A$ satisfies $\hat{L}_1^A = L_1 - (1 - (p(A_i,\beta))B/J_1^A)$. Note that, to make young people of the same loyalty join the party, the screening requirement needs to be lower for high-ability people because their outside option is higher.

The party's payoff function also changes. The political support obtained from old people in the public sector remains the same as before the reform. What changes is the young generation. The expectation of resources under young member i's control is $E(R_i|A_i) = Kp(A_i,\beta) + 1$ and the expected cost is $E(Z_i|A_i) = (1 - p(A_i,\beta))B + 2c$. The optimization problem can be written as

$$\max_{\{J_g^A\}} \mu \int_{\hat{L}_1^h}^{L_1} (L^\alpha E(R_i|h) - E(Z_i|h))f(L)dL + (1-\mu) \int_{\hat{L}_1^l}^{L_1} (L^\alpha E(R_i|l) - E(Z_i|l))f(L)dL$$

$$+ \mu \int_{\hat{L}_2^h}^{\hat{L}_1^h} (L^\alpha - (B+c))f(L)dL + (1-\mu) \int_{\hat{L}_2^l}^{\hat{L}_1^l} (L^\alpha - (B+c))f(L)dL$$

$$s.t. \quad (1)\hat{L}_1^A = L_1 - (1 - (p(A_i,\beta))B/J_1^A) \quad (2)\hat{L}_2^A = L_1 - B/J_1^A$$

The critical value for old generation $\hat{L}_2^A$ is easy to solve. Note the party recruits till the last person's political support is equal to the recruiting cost. So $\hat{L}_2^h = \hat{L}_2^l = (B+c)^{\frac{1}{\alpha}}$. Recall equation 7. It is the same as before the reforms. Since in the public sector, the party controls the resources, the critical value is the same across ability group.

For young generation, the critical value for high- and low-ability group is

$$\hat{L}_1^h = \left(\frac{c - Bp(h, \beta)}{Kp(h, \beta)}\right)^{\frac{1}{\alpha}}, \hat{L}_1^l = \left(\frac{c - Bp(l, \beta)}{Kp(l, \beta)}\right)^{\frac{1}{\alpha}} \tag{9}$$

Note that the critical value for young generation is decreasing in the probability of being a private manager. Under the assumption that high-ability people are more likely to become a private sector, the critical value for high-ability group is lower.

6.3 Predictions

We derive three predictions from the above analysis. Those predictions are in line with our empirical findings.

Proposition 1. *In the pre-reform period, the party does not recruit from young generation. In post-reform period, the recruitment of young people increases with the increase in high-ability employment in the private sector.*

The intuition is simple. Before the reform, young members cannot provide support before going to work. Meanwhile, there is a cost incurred by recruiting. So it is strictly better for the party to wait until they get old and begin to work. However, after the economic reforms, many high-ability people enter private sectors. And the party is not able to reward people in the private sector, so the party will lose them if it does not set an earlier recruiting season.

It explains the puzzling trend in Figure 1. In the 1980s, although economic reforms began and high ability people were in great demand, the public sector was still dominant. There were few decent jobs in private sectors that could offer higher pay. The party gave a very small quota to college students. When the liberalization deepened in early 1990s, more multinationals came in and domestic private firms expanded dramatically. Since then, the party has kept increasing the quota given to college students.

Proposition 2. *In the post-reform period, the screening cost for high-ability people in young generation is lower than that for low-ability people. Moreover, the critical value for them is lower too.*

Proof. In Appendix. □

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The prediction is consistent with our findings in Section 5. This result is driven by two forces. First, high-ability young people have better outside options. To attract them the party needs to lower the screening requirement. Second and more importantly, the critical value of loyalty for joining is lower for high-ability people. Since they are more likely to get access to economic resources, the party would like to trade off some loyalty for ability.

Proposition 3. *The ability gap between members and non-members increases as more high-ability people are employed by the private sector.*

Proof. In Appendix. □

This prediction is consistent with our findings in Section 4. Despite increased market opportunities, membership increased more among high-educated people with more outside out options. This result is driven by the mechanism shown in Proposition 2.

6.4 Why Not Other Demand-side Stories?

Both our empirical findings and the observed trend are consistent with the predictions of our model emphasizing the party's increased demand for ability and its incentives to control economic resources in the private sector. Other demand-side stories can not fully explain all the evidence we have.

An alternative explanation for the party's increasing recruitment among college students is that it is attracting the talent to the public sector. The argument is like that used by Avery et al. (2001) that law firms advance the recruiting season to compete for talented law students. However, the party's recruitment is different in that membership does not carry the commitment from students to go to the public sector. If they find high-pay jobs in the private sector, student members usually do not go to the public sector. Also party members are not necessarily of high ability at all. For that purpose test scores can do a better job. Furthermore, this story cannot explain why the party makes great effort to recruit those who are already in the private sector and are not likely to enter the public sector, such as private business owners. When the party sets up branches in a private firm, it commits not to intervene with the firms' daily operations and stresses members' job performance.[20] No public-sector opportunity is carried with

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[20]Proceedings from the national conference on party-building in the private sector, 2003.

membership in these firms.

Another plausible story is that the party realizes the importance to recruit college students after the Tian'anmen Square democratic movement in 1989. Nonetheless, the explanation is not consistent with the timing of changes in the membership policy. In 1990 and 1991, the party actually imposed even stricter requirements for college students and tightened the membership quota assigned to them. It is only when the SOEs were privatized or closed in the middle of 1990s, the recruitment among college students started taking off.

Official party documents calling for more effective recruitment in the "non-public sectors" often emphasize that people in the non-public sector has become the most vibrant part of the economy, and increasing recruitment in this sector helps solidify the party's power base.[21] In presenting his vision to the CCP congress delegates in early October, 2007, President Hu Jintao suggested the government needed to invite entrepreneurs and other influential Chinese into the party's big tent, lest they become a nascent opposition. Yet he made it clear the party's control must remain unchallenged (*Hu stronger as China communists regroup*, Associated Press, Oct 22,2007).

7   Conclusion and Future Research Direction

We have presented evidence that the party increases demand for high-ability members as the private sector grows. We interpret the evidence as strongly suggesting that the party attempts to maintain economic control through incorporating economically powerful members.

The evidence suggests economic liberalization "empowers" people with attributes valued by the market such that the party has to incorporate them as members. Optimists may consider the empowerment as a step towards democratization. However, by strengthening its political power through the pro-ability recruiting strategy, the party can actually postpone democratization.

The ability of adapting to economic liberalization is important for providing an incumbent autocrat incentives to adopt economic reforms. If this is really the key element of the China model of economic development, as argued by this paper, one important question for future research is what makes it so difficult for many autocrats to adopt

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[21]Proceedings from the national conference on party-building in the private sector, 2003.

the China model. The answer might lie in the way through which political elites are formed. One important thing to note is that the CCP is a pure political organization, and even the top leadership is open to any Chinese citizen regardless of gender, origin of class, place of residency, ethnicity, profession, etc. This condition is probably violated in those countries where political power is restricted to certain groups of people. The lack of social mobility might be a great obstacle to economic reforms.

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Appendices

A Proof of Proposition 1

Proof. The proof is straightforward. In the pre-reform period, the party does not recruit young people, i.e, $\hat{L}_1^h = \hat{L}_1^l = L_1$.

In the post-reform period, the critical value is

$\hat{L}_1^A = \left(\frac{c - Bp(A,\beta)}{Kp(A,\beta)}\right)^{\frac{1}{\alpha}}, A \in \{h, l\}$.

Notice that $\frac{\partial \hat{L}_1^A}{\partial p} = -\frac{1}{\alpha}\left(\frac{c - Bp(h,\beta)}{Kp(A,\beta)}\right)^{\frac{1}{\alpha}-1}\frac{1}{p^2(A,\beta)}\frac{c}{K} < 0$.

According to Assumption 2, $\frac{\partial p(A,\beta)}{\partial \beta} > 0$, i.e. the development of the private sector improves the opportunities for both group. Thus,

$$\frac{d\hat{L}_1^A}{d\beta} = \frac{\partial \hat{L}_1^A}{\partial p} \cdot \frac{\partial p(A, \beta)}{\partial \beta} < 0 \tag{10}$$

That is, the critical value for young people falls when the private sector develops.

Denote M_1 the size of membership among young generation, that is

$M_1 = \mu\frac{L_1 - \hat{L}_1^h}{L_1 - L_0} + (1 - \mu)\frac{L_1 - \hat{L}_1^h}{L_1 - L_0}$.

Therefore $\frac{\partial M_1}{\partial \beta} = -\frac{1}{L_1 - L_0}\left(\mu\frac{\partial \hat{L}_1^h}{\partial \beta} + (1 - \mu)\frac{\partial \hat{L}_1^l}{\partial \beta}\right) > 0$.

$\square$

B Proof of Proposition 2

Proof. To show $J_1^h < J_1^l$, first notice that the critical value

$\hat{L}_1^A = L_1 - (1 - p(A, \beta))B/J_1^A$.

The above equation can be written as $J_1^A = \frac{(1 - p(A,\beta))B}{L_1 - \hat{L}_1^A}$.

$\frac{dJ_1^A}{dA} = -\frac{B}{L_1 - \hat{L}_1^A} \cdot \frac{\partial p}{\partial A} + \frac{(1-p)B}{(L_1 - \hat{L}_1^A)^2} \cdot \frac{\partial \hat{L}_1^A}{\partial A}$.

By Assumption 1, $\frac{\partial p(A,\beta)}{\partial A} > 0$. Moreover, since $\frac{\partial \hat{L}_1^A}{\partial A} = \frac{\partial \hat{L}_1^A}{\partial p} \cdot \frac{\partial p(A,\beta)}{\partial A}$ and $\frac{\partial \hat{L}_1^A}{\partial p} < 0$, we have $\frac{\partial \hat{L}_1^A}{\partial A} < 0$. Therefore, $\frac{dJ_1^A}{dA} < 0$.

$\square$

C Proof of Proposition 3

Proof. Notice that in the post-reform period, the party only recruits among young generation and old generation in the public sector. The critical value for old generation in the public sector is the same for two ability groups. To prove Proposition 3, it is equivalent to prove that the development of the private sector reduces the critical value for high-ability young people more than for low-ability young people. That is,

$\frac{d\hat{L_1^A}}{d\beta} < 0$ and $\frac{d^2\hat{L_1^A}}{d\beta dA} < 0$

In Appendix A, we have shown that $\frac{d\hat{L_1^A}}{d\beta} < 0$. The following is to show $\frac{d^2\hat{L_1^A}}{d\beta dA} < 0$.

$$\frac{d^2\hat{L_1^A}}{d\beta dA} = \frac{d\hat{L_1^A}}{dp} \frac{\partial^2 p}{\partial\beta\partial A}. \tag{11}$$

By assumption 3, $\frac{\partial^2 p(A,\beta)}{\partial\beta\partial A} > 0$. In Appendix A, we have shown $\frac{\partial\hat{L_1^A}}{\partial p} < 0$. So $\frac{d^2\hat{L_1^A}}{d\beta dA} < 0$.

$\square$

Figure 1: Declining State Sector vs. Increasing College Party Members
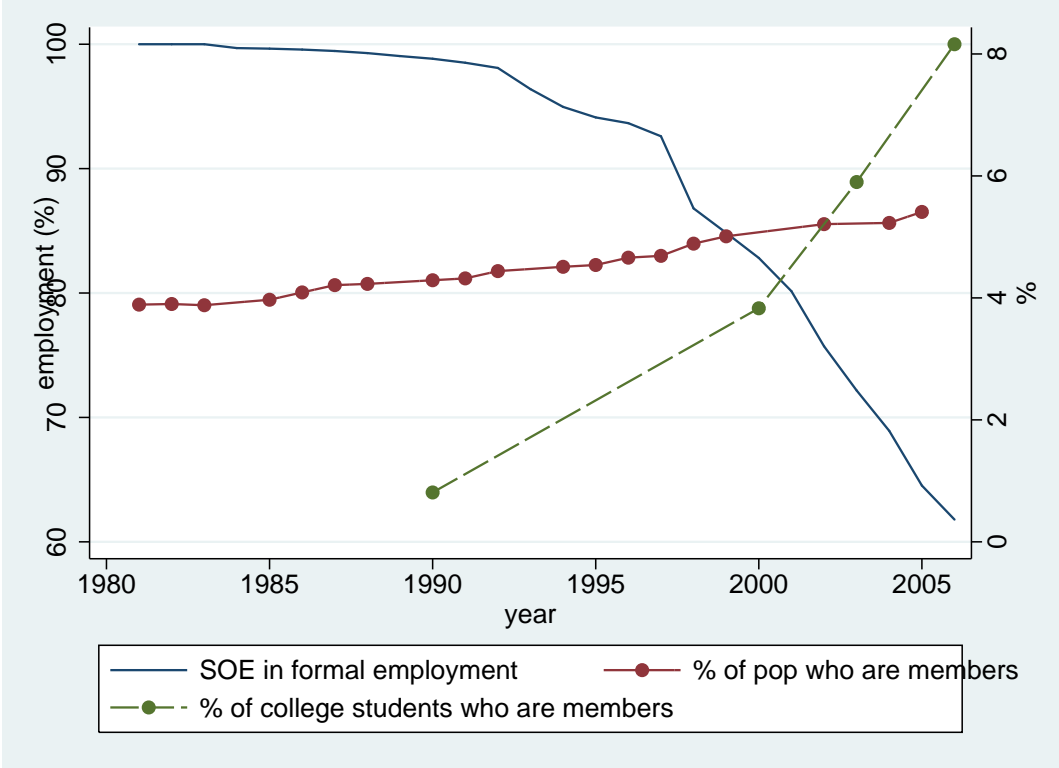
The source of employment data is from China Statistical Yearbook 2005. The source of data on party membership is the official statistics published in People Daily - the national party newspaper.

Figure 2: The CDF of CET rank: Party Members vs. Non-members
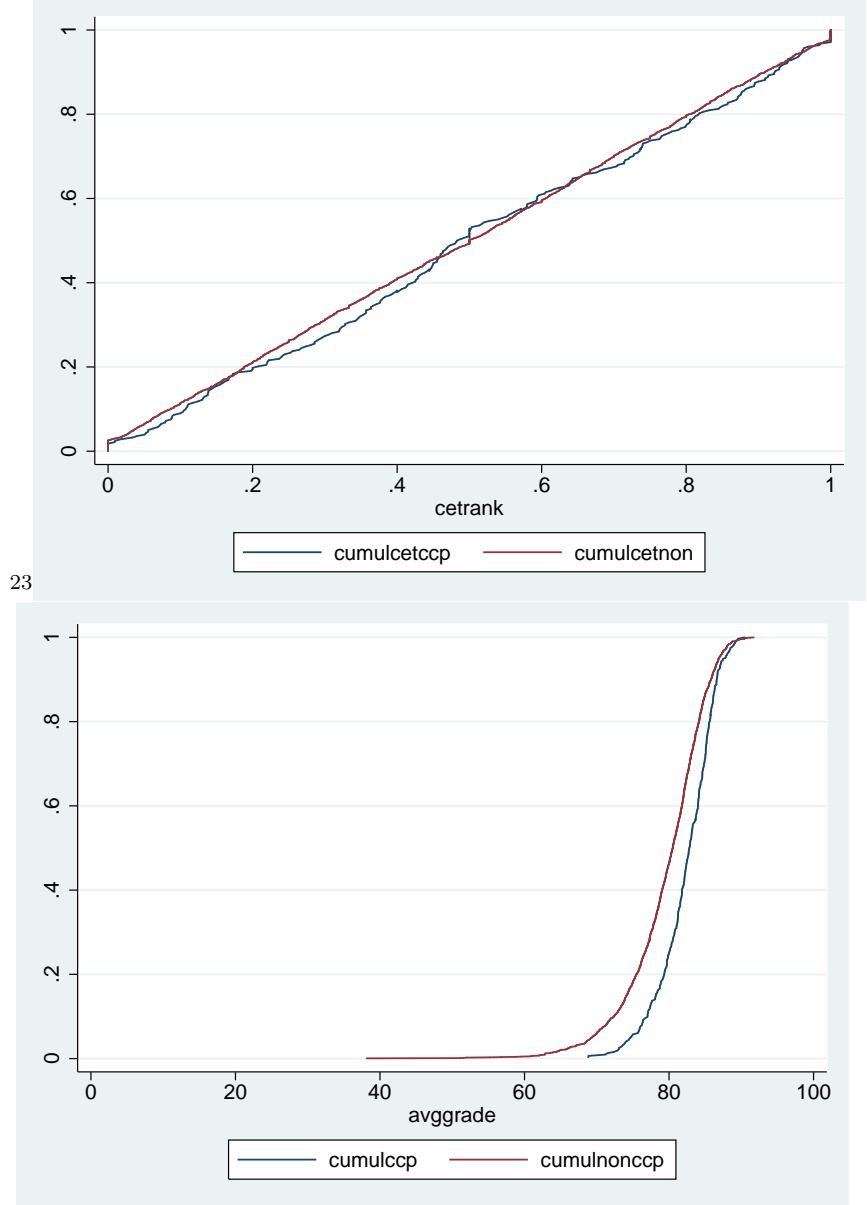
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Source: the data on Graduating class 2006 in a university in Shanghai.

Table 1: Summary statistics of marketization index of autocracies in 2000

Autocracy Type	Mean	Std. Dev.	Min.	Max.	Obs.
Pure Single Party	6.25	1.10	4.1	8.5	11
Hybrid Single Party	6.11	1.05	3.4	7.4	16
Personal/Military	5.16	.72	3.9	6.5	12

Source of data on autocracy type: Geddes (2003, 2004), Milner and Kubota (2005).

Source of data on economic freedom: www.freetheworld.com.

Table 2: List of Single-Party States

	1985	1999
Pure Single-Party States	Yugoslavia, Mexico, Nicaragua, Afghanistan, Cambodia, Laos, Malaysia, Singapore, Vietnam, Angola, Botswana, Coted'Ivoire, Kenya, Mozambique, Zimbabwe, Senegal, SierraLeone, Tanzania, Tunisia, Zambia, Albania, Bulgaria, Russia, China, CzechRepublic, Hungary, Poland	Mexico, Laos, Malaysia, Singapore, Vietnam, Angola, Botswana, Ethiopia, Cote d'Ivoire, Kenya, Mozambique, Zimbabwe, Senegal, Tanzania, Tunisia, China
Mixed Single Party States	South Africa, Paraguay, Guyana, Suriname, Bahrain, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Egypt, Bhutan, Brunei, Myanmar, Sri Lanka, Indonesia, Maldives, Nepal, Djibouti, Algeria, Burundi, Cape Verde, Comoros, Congo, Equatorial Guinea, Gabon, Gambia, Lesotho, Morocco, Rwanda, SaoTome, Seychelles, Swaziland, Uganda, Fiji, Samoa, Tonga, Cuba, Czechoslovakia, Slovak Republic, Mongolia, Croatia, Slovenia, Bosnia, Serbia and Montenegro, Romania	Paraguay, Peru, Bahrain, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Egypt, Afghanistan, Bhutan, Brunei, Cambodia, Indonesia, Maldives, Pakistan, Djibouti, Comoros, Congo, Zaire, Equatorial Guinea, Eritrea, Gabon, Gambia, Lesotho, Liberia, Morocco, Seychelles, Somalia, Swaziland, Fiji, Samoa, Tonga, Azerbaijan, Belarus, Georgia, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Cuba, Bosnia, Serbia and Montenegro

Source: The data on authoritarian regime compiled by Geddes (2000).

Table 3: A Conceptual Model of Communist Regime Dynamics: China as an Illustration

Historical Period	Regime's Overarching Goal	Social Class Bases/ Youths to Recruit	Dominant Modes of Political Screening	Role of Educational Credentials	Requirements for educated people
Pre-1949 CCP underground, Military confrontation with the Nationalist government	Fight a revolution	Workers & peasants/ Revolutionary youths	Class origin, political attitude	sometimes negative	more liaisons and longer observation period required.
1949-65 CCP in state power, socialist institutions established	Establish a new political-economic order	Liberated classes/ Inspired youths	Class origin, political participation	Becoming positive re-education required	same but more reformation campaigns.
1966-78 Cultural Revolution	Maintain the power of a political segment	Powerless groups/ Rebellion youths	Class origin, Party clientelism	negative	banned to join
1979-92 Economic reforms, state economy still dominant	Develop a modern economy	Professionals/Educated youths	Political attitude, participation and clientelism	Becoming important	same requirement but more encouraging
1992-now Economic reforms, state economy decline	Develop a modern economy	Professionals/Educated youths	Political attitude, participation and clientelism	very important	same stated requirement but more encouraging

Source: Table I in Bian (2001). Modification is made according to party constitution and Feng (2006).

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Table 4: Summary statistics for CHIPS

	All		Aged 22-30	
	Mean (s.d.)		Mean (s.d.)	
Variable	1988	1995	1988	1995
CCP	0.144	0.225	0.059	0.094
	(0.351)	(0.418)	(0.235)	0.291
Bachelor degree	0.037	0.067	0.045	0.095
	(0.188)	(0.25)	(0.207)	(0.294)
Male	0.474	0.54	0.463	0.5
	(0.499)	(0.498)	(0.499)	(0.5)
Age	32.3	38.156	26.573	26.861
	(18.4)	(17.783)	(2.346)	(2.366)
Minority	0.024	0.048	0.033	0.053
	(0.153)	(0.214)	(0.178)	(0.225)
N	33123	25291	3470	2394

Table 5: The Changes in Membership Composition (Dependent: $Prob(CCP)$)

	Coef.	Marginal effect	Coef.	Marginal effect
	(1)	(2)	(3)	(4)
post*bachelor*log(foreign/soe)	0.549**	0.063**	0.529*	0.060*
	(0.237)	(0.028)	(0.295)	(0.034)
post*log(foreign/soe)	0.064	0.007	0.063	0.007
	(0.123)	(0.014)	(0.090)	(0.010)
bachelor* log(foreign/soe)	-0.242	-0.028	-0.227	-0.026
	(0.269)	(0.031)	(0.235)	(0.027)
post*bachelor	0.954*	0.200	0.912	0.187
	(0.510)	(0.161)	(0.638)	(0.193)
log(foreign/soe)	-0.166*	-0.019*		
	(0.089)	(0.010)		
Bachelor	0.079	0.010	0.106	0.013
	(0.619)	(0.079)	(0.514)	(0.067)
post	0.319	0.038	0.319*	0.038
	(0.249)	(0.031)	(0.188)	(0.024)
male	0.488***	0.058***	0.496***	0.058***
	(0.077)	(0.009)	(0.054)	(0.006)
age	0.117***	0.013***	0.117***	0.013***
	(0.012)	(0.001)	(0.012)	(0.001)
minority	0.020	0.002	-0.017	-0.002
	(0.163)	(0.019)	(0.128)	(0.014)
provincial dummies	no	no	yes	yes
Psudo R^2		0.088		0.090
N		5864		5864

Source: CHIPS 1988 & 1995.

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.

Marginals for discrete change of dummy variable from 0 to 1

Table 6: Descriptive Statistics: a college in Shanghai

	Party Mebmers		Non-mebmers	
Variables	mean	(sd)	mean	(sd)
Male	37.3%	(0.484)	36.1%	(0.481)
Parent being in CCP	44.0%	(0.497)	53.0%	(0.50)
Avg. grade in college	79.6	(5.60)	82.3	(3.91)
Placement info.				
Graduate school	13.3%	(0.34)	21.7%	(0.413)
Govt. job	4.82%	(0.214)	7.99%	(0.272)
SOEs	22.3%	(0.416)	22.0%	(0.415)
Firms connected with Govt.	5.58%	(0.23)	3.83%	(0.192)
Foreign firms	24.7%	(0.432)	25.2%	(0.435)
Other private firms	29.2%	(0.455)	19.2%	(0.394)
N	313		1703	

Source: The graduating class 2005 from a college in Shanghai

Table 7: Descriptive Statistics: a college in Chengdu

	Party Mebmers		Party Mebmers	
	mean	**(sd)**	**mean**	**(sd)**
male	45.6%	(0.498)	0.349%	(0.477)
cetrank	0.520	(0.297)	0.534	(0.299)
N	2248		348	
	86.6%		13.4%	

Source: The graduating class 2005 from a college in Chengdu.

Table 8: The Determination of CCP Membership (Dep. Var: $Prob(CCP = 1)$): a college in Shanghai

	High ability		Low ability		All sample		All sample	
	coef.	marginal eff.	coef.	marginal eff.	coef.	marginal eff.	coef.	marginal eff.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
avg. grade	0.097***	0.019***	0.098***	0.021***	0.095***	0.019***	0.096***	0.020***
	(0.016)	(0.003)	(0.015)	(0.003)	(0.009)	(0.002)	(0.011)	(0.002)
CET decile	0.083**	0.016**	0.066	0.014	0.078**	0.016**	0.160**	0.033**
	(0.040)	(0.008)	(0.042)	(0.009)	(0.032)	(0.006)	(0.061)	(0.015)
log(FDI/GDP)	0.021	0.004	-0.092**	-0.020**	0.000	0.000	-0.155**	-0.032**
	(0.044)	(0.009)	(0.042)	(0.009)	(0.033)	(0.007)	(0.059)	(0.015)
low group*log(FDI/GDP)					-0.069**	-0.014**		
					(0.023)	(0.004)		
CET decile*log(FDI/GDP)							0.025**	0.005*
							(0.011)	(0.003)
male	0.442***	0.092**	0.432**	0.101**	0.406***	0.089***	0.409***	0.089***
	(0.133)	(0.029)	(0.139)	(0.034)	(0.083)	(0.021)	(0.096)	(0.021)
parent being CCP	0.238**	0.046**	0.225**	0.050**	0.229***	0.047**	0.228**	0.047**
	(0.119)	(0.023)	(0.112)	(0.026)	(0.067)	(0.016)	(0.081)	(0.016)
minority	-0.157	-0.028	-0.470	-0.080*	-0.292	-0.051	-0.284	-0.050
	(0.315)	(0.051)	(0.350)	(0.043)	(0.232)	(0.035)	(0.229)	(0.036)
major dummies	yes	yes	yes	yes	yes	yes	yes	yes
likelihood	-315.97		-322.76		-656.04		-656.63	
N	859		804		1712		1712	

Source: The graduating class 2005 from a college in Shanghai.

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.

Table 9: The Determination of CCP Membership (Dep. Var: $Prob(CCP = 1)$): a college in Chengdu

	Marginal Effects		
	High Ability	**Low Ability**	**All Sample**
	(1)	(2)	(3)
Male	-0.026	-0.056**	-0.040**
	(0.022)	(0.023)	(0.015)
CET decile	0.009**	0.013*	0.015**
	(0.004)	(0.007)	(0.007)
log(FDI/GDP)	0.005	-0.011*	-0.013*
	(0.007)	(0.006)	(0.008)
CET decile*log(FDI/GDP)			0.002**
			(0.001)
Pseudo R^2	0.057	0.086	0.061
N	1194	1094	2288

Source: data from the graduating class of 2005 in a college in Chengdu, Sichuan.

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.

Note: control variables include major dummies.

marginals for discrete change of dummy variable from 0 to 1.

Table 10: Placebo test: (Dep. Var: $Prob(CCP = 1)$)

	coef.	marginal effect
	(1)	(2)
CET decile	0.044*	0.010**
	(0.023)	(0.005)
log(FDI/GDP)	-0.001	-0.000
	(0.042)	(0.010)
parent membership dummy*log(FDI/GDP)	-0.009	-0.002
	(0.044)	(0.010)
Male	-0.021	-0.005
	(0.066)	(0.015)
parent membership dummy	0.149	0.034
	(0.236)	(0.054)
minority	-0.369*	-0.069**
	(0.210)	(0.034)
likelihood	-704.04128	
N	1712	1712

Source: The graduating class 2005 from a college in Shanghai.

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.

Table 11: The Determinant of Job Choice: Multiple Choice Model

	Marginal Eff.		Marginal Eff.	
	Government	Foreign firms	Government	Foreign firms
Being CCP member	0.043**	0.050*	0.045**	-0.005
	(0.016)	(0.027)	(0.018)	(0.026)
Avg. grade			-0.000	0.026***
			(0.001)	(0.002)
Male	-0.009	-0.140***	-0.010	-0.034
	(0.006)	(0.019)	(0.008)	(0.024)
log(FDI/GDP)	0.014**	0.049***	0.014**	0.037***
	(0.006)	(0.013)	(0.006)	(0.011)
Government related major	0.069**	-0.103**	0.077**	-0.072
	(0.035)	(0.040)	(0.036)	(0.046)
Humanities major	0.002	-0.003	0.001	-0.012
	(0.015)	(0.048)	(0.016)	(0.052)
Business major	-0.018	0.104***	-0.020	0.095**
	(0.020)	(0.027)	(0.020)	(0.031)
likelihood	-1316.43		-1262.56	
N	1695		1678	

Reference group: jobs in firms other than government and foreign firms.

Source: The graduating class 2006 from a college in Shanghai.

Marginals for discrete change of dummy variable from 0 to 1.

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.

Table 12: Job Choice: Foreign Firms vs. Other Firms

	Marginal effect	Marginal effect
	(1)	(2)
Being CCP member	0.048*	-0.010
	(0.028)	(0.027)
Avg. Grade		0.025***
		(0.003)
Male	-0.141***	-0.037
	(0.019)	(0.025)
log(FDI/GDP)	0.048***	0.037***
	(0.012)	(0.010)
Government related major	-0.112**	-0.073
	(0.042)	(0.050)
Humanities major	-0.002	-0.016
	(0.047)	(0.051)
Business major	0.111***	0.093**
	(0.027)	(0.031)
likelihood	-978.71446	-931.34864
N	1695	1678

Reference group: jobs in firms other than foreign firms.

Source: The graduating class 2006 from a college in Shanghai.

Marginals for discrete change of dummy variable from 0 to 1

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.

Table 13: Job Choice: Four Types of Firms

	Marginal Effect(I)			Marginal Effect(II)		
	Govt. jobs	SOEs	Foreign firm	Govt. jobs	SOEs	Foreign firm
	(1)	(2)	(3)	(4)	(5)	(6)
Being CCP member	0.000**	0.029	0.086**	0.001**	0.034	0.022
	(0.000)	(0.029)	(0.032)	(0.000)	(0.032)	(0.030)
Avg. grade				-0.000	-0.003	0.028***
				(0.000)	(0.003)	(0.003)
Male	-0.000	0.058**	-0.143***	-0.000	0.071**	-0.027
	(0.000)	(0.022)	(0.023)	(0.000)	(0.029)	(0.025)
log(FDI/GDP)	-0.000	-0.008	0.026*	-0.000	-0.006	0.016
	(0.000)	(0.017)	(0.015)	(0.000)	(0.017)	(0.014)
Government related major	0.001**	0.026	-0.083*	0.002**	0.044	-0.048
	(0.000)	(0.060)	(0.044)	(0.001)	(0.072)	(0.053)
Humanities	-0.000	-0.063	-0.016	-0.000	-0.070	-0.022
	(0.000)	(0.044)	(0.048)	(0.000)	(0.045)	(0.053)
Business majors	-0.000	-0.058	0.090**	-0.001	-0.059	0.085**
	(0.000)	(0.046)	(0.031)	(0.001)	(0.048)	(0.037)
Pseudo R^2	0.078			0.10		
N	1620			1605		

Reference group: jobs domestic private firms

Source: The graduating class 2006 from a college in Shanghai.

Marginals for discrete change of dummy variable from 0 to 1

Note: * 10% , ** 5%, ***1%. Robust standard errors, clustered by provinces, are show in parentheses.