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Leng Seong Che April 6, 2023

Assessing the Economic Premium of Communist Party Membership

By

Leng Seong Che

Bin Xu, Ph.D.

Co-Advisor

Weihua An, Ph.D.

Co-Advisor

Quantitative Theory and Methods

Bin Xu, Ph.D.

Co-Advisor

Weihua An, Ph.D.

Co-Advisor

Heeju Sohn, Ph.D.

Committee Member

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Abstract

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This study examines the economic premium of party membership after the shift to a market economy in China. Prior research has shown that party members enjoy a wage premium over non-party members, but the party membership effect may not be causal. Using panel data from the China Family Panel Studies, collected every other year from 2010 to 2018, this study finds that while party membership is associated with higher yearly incomes and greater household housing assets, the impact is not causal for both income and wealth measures. Instead, the income and wealth gap between party and non-party members can be attributed to individual characteristics. Specifically, the results from the OLS regression analysis, controlling for the year and income of the previous wave, suggest significant but decreasing effects of party membership. Also, party membership overall has a larger impact on wealth than income. Lastly, with a within-individual fixed-effects model controlling for individual heterogeneity, this study concludes that the impacts of party membership on income and wealth levels are no longer significant. These findings suggest that other factors beyond party membership play a more significant role in driving economic inequality in the market economy in China.

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Contents

Chapter 1

Introduction

Does political capital still contribute to economic inequality after the market transition in China? As the only political party in China, the Chinese Communist Party (CCP) and its membership relation to wage premiums have always been an intriguing subject to discuss. Since the 1980s, unprecedented economic reform has transformed China into a market-oriented economy in which a labor market was created. Most of the study's attention shifted to the labor market's competition, measuring human capital that facilitates one's opportunity for employment and wage inequality due to the labor market reform [Knight and Song, 2003]. The transition of China's economy to a market-oriented one leaves the question of whether one's political capital, CCP membership, still provides one a privilege in the presence of the market. While the focus seems to be shifted to economic productivity from loyalty to the CCP, do economic returns to party membership still appear significant today?

Since the Reform and Opening-Up policy under Xiaoping Deng's rule in the 1970s, economic reform has altered the political structure of China. While China maintained its one-party state characteristic, Zheng argues that it entered a "gray zone" in which China incorporated democratic elements into its political structure. Village elections and intra-party democracy were introduced to the state. However, it does not

mean that the CCP has loosened its control over the people and society; instead, the CCP continued to claim domination in China by introducing modern state institutions [Zheng, 2010]. With the CCP's intervention in the market, including building state-owned enterprises and interacting with private sectors, red private entrepreneurs emerged in the economic system. Since private entrepreneurs entered the market as new social strata and important productive forces, dynamic communication between politics and business was created. A concern about party members' translation of political power into economic advantages is expressed [Yang et al., 2020]. On the other hand, the conclusion, where CCP membership provides members with social capital that helps with their career advancement through personal connections or party sponsorship, was declined through new findings. Those who entered membership later in their career did not benefit from their political capital in terms of career advancement or mobility [Li and Walder, 2001].

This study reexamined the party membership effect on income inequality, exploring whether political power was converted to revenues for party members. The analysis builds on the debate over economic returns to political capital in China and the generalization of the new class theory in China. With the 2010-2018 panel data from the national social survey project, China Family Panel Studies, I will first analyze the cross-sectional data with OLS regression models controlling for years and income/wealth from the previous wave. Then, I will employ a within-individual fixed-effects model that removes time-invariant variables effects and separate the party effect from them. On the other hand, suggested by Jin and Xie [Jin and Xie, 2017], wealth inequality is indeed greater than income inequality. in the meantime, their results suggest that party membership has larger impacts on wealth than on income. To understand social inequality from multiple perspectives, this study will also investigate party membership effect on wealth. While the results of the cross-sectional data illustrate a wage and wealth premium for party members, the fixed-effects model tells

a different story. As omitted variable effects are controlled by the within-individual fixed-effects model, the party membership effect almost disappeared. A potential explanation is that the wage and wealth premium likely came from personal ability and family background [Li et al., 2007, Appleton et al., 2005].

Chapter 2

Background

2.1 Chinese Communist Party Recruitment

The history of CCP recruitment consists of three different time stages, the period of 1949 to 1966, 1966 to 1976, and 1978 to the present. The first time stage, from 1949 to 1966, indicated the period when the recruitment process was institutionalized. Members were recruited from competitive pools in organizations such as the People's Liberation Army. The second stage, from 1966 to 1976, was when the Cultural Revolution greatly impacted China. The recruitment process was simplified. Revolutionary peasants with a "red" background were most likely to be selected as members. The third stage, from 1978 to the present, was known as the post-Cultural Revolution period. China led by the CCP shifted its focus to economic development, and the capability of contributing to the national economy was valued for the recruitment [Rosen, 1990].

During the Mao era, education was not considered a measuring criteria of one's likelihood of entering the CCP since few revolutionary peasants and workers received education. In the revolution that aimed to liberate peasants and workers, the working class origin became an immediate proof of political royalty. In the post-Mao era,

recruiting new members of the Chinese Communist Party is a lengthy process. The criteria for measuring one's qualification for membership differ based on different historical periods, except for the consistent emphasis on political loyalty. Political commitment is an essential criterion for recruitment as it demonstrates one's loyalty to CCP. Membership in the Communist Youth League starting during junior high school served as an important indicator of one's political commitment and significantly increased one's likelihood of joining the party [Bian et al., 2001].

The recruiting process of the Communist Youth League (CYL) also has high standards where the active youths are monitored for their everyday activities, especially political activities. Active youths are expected to participate in study sessions. Their personal profiles and family backgrounds are examined by the organization for screening. Applicants to CCP need to go through a longer screening process, and more requirements, such as attending lectures and study sessions about the constitution and current policies, are presented. A closed-door evaluation of applicants' backgrounds for CCP recruitment is also stricter than the Communist Youth League recruitment. Among the 1,783 respondents from Shanghai and Tianjin to the survey conducted by the study, 31.4% of them were Communist Youth League members, and only 17.8% were successfully recruited by the CCP [Bian et al., 2001].

Studies also suggest education is a contributing factor to increasing one's opportunity to become a CCP member in the post-Mao era. Applicants who had high school or college degrees had better chances than those who did not [Walder, 1995]. After the economic reforms in the 1970s, educational attainment was evaluated during the screening process. The party generally favored applicants with higher educational attainments to meet the demands of the ongoing economic market [Bian et al., 2001]. A gender difference in chances of being recruited was also observed, where men were more likely to stand out during the screening [Walder, 1995].

2.2 The New Class and Market Transition Theories

Regarding social inequality in the state socialism, Djilas's "New Class" theory explains that the bureaucracy created a new class that controls the means of production [Nee, 1989]. Szelenyi agrees with Djilas's claim on the emergence of the new class and that the bureaucratic order dominated the East European countries during the last 1940s to early 1950s. In Szelenyi's reflection on his previous work, "Intellectuals on the Road to Class Power," he expands on the "New Class" theory and claims that the old bureaucrats were replaced by the new intellectuals. A piece of evidence was the reform by the Czech and Hungarian Communists, which can also be seen as a conflict between the bureaucrats and the intellectuals. By paying close attention to the Hungarian intellectuals, Szelenyi argues that they were eager to reform the Communist Party and society in general by joining the Party, indicating an emergence of the New Class project in Hungary [Szelenyi, 1987].

Besides, Szelenyi points out in 1978 that after the reform, the redistributive economy associated with the second economy increased social inequality in the state socialist societies by providing more advantages to those already privileged. He elaborates on the new class's purpose under the state socialism, which is to maximize their power in the redistributive economy as redistributors. They benefited from the reform by receiving material goods and a better living standard than the immediate producers [Szelenyi, 1978]. Based on Szelenyi's theory of social inequality in state socialism, Nee develops a market transition theory and evaluates it with survey data from China. As the economic system transformed from redistribution to markets, Nee proposes that the immediate producers will instead be rewarded according to their individual productivity and given the power of setting prices in transactions. Also, economic opportunities are no longer limited to the redistributive sector, while

markets offer chances for entrepreneurship as an alternative to socioeconomic mobility. In the meantime, Nee conducted an empirical study with the survey data from the Fujian Rural Survey project collected in China in 1985, which shows that the effect of political capital declines after the market transition; instead, the impact of education (human capital) and media use (cultural capital) increases compared to the redistribution period [Nee, 1989].

Another study Nee conducted in 1991 further supported his market transition theory. He collected survey data in rural China in the year of 1985, including samples from thirty villages in two counties. He found that after controlling human capital and household labor force composition, the effect of current cadre status is no longer statistically significant. Entrepreneurs have a probability of 3.9 times greater than other households to be observed in the top income quintile. The study also concluded the declining significance of redistributive power [Nee, 1991].

2.3 Career Mobility and Economic Returns

Accumulating political capital in the form of party membership was the sole way to career mobility during the Mao period. After the Mao period, political capital embedded in social relations within political institutions still played a crucial role in individuals' career development in the markets [Nee and Opper, 2010]. The market transition theory explains that economic opportunities beyond the control of the state increased as a result of markets. The state redistributive sectors lost their power over the economy. Under such circumstances, the Communist rulers aimed to combine the markets and the plan of allocating resources through central decisions. They monitored the markets and enforced regulations with reform programs. Ties to local officials could be effective in reducing transaction costs for enterprises [Nee and Lian, 1994]. In this case, party members who accumulated political capital, specifically

political connections, were also likely to convert the capital into revenues.

Another study supporting the importance of political capital in the post-Mao period found that party membership continued to be a significant predictor of one's mobility into political and managerial positions for occupation. Specifically, as party members' political royalty was screened during the recruitment process, their chances of taking a cadre position in the party and state hierarchies and a manager position in the state-owned or non-state organizations were higher than non-party members on average [Bian et al., 2001].

In the meantime, the "Three Represents" campaign launched by Zemin Jiang, who served as the president of China from 1993 to 2003, likely enlarged the party membership premium in the post-revolutionary era. This campaign, ratified in 2002, transformed the CCP from the representative of peasants and workers to the representative of "all advanced social productive forces" in China. Since the transformation, entrepreneurs and professionals have been allowed to join the CCP [Chung-Hon Shih, 2008]. "Three Represents" was criticized as representing the rich and powerful, welcoming capitalists to the party, and abandoning the peasants and workers. Jiang aimed to transform China into xiaokang shehui (comfortable society) by fully developing the economy in the coastal provinces, where the inner provinces and cities remained poor [Yongnian and Fook, 2003]. Introducing entrepreneurs and professionals expanded the social base of the CCP and the impact of party membership on the business sector and academia, amplifying party membership premium in society. In other words, as the wealthy and intellectuals became party members and accumulated political capital, they could enjoy a larger premium in the market economy. However, party membership in this case may not have direct impacts on income or wealth based on Nee's market transition theory[Nee, 1989].

Since Nee's series of studies related to his market transition theory, other scholars have examined party membership effect as political capital on income and concluded

similar results. Yan's study with 1988, 1995, and 2002 data from The Chinese Household Income Project Survey (CHIPS) found that while the party membership effect is still significant to earnings, it declines remarkably as the year increases for non-farm employment in rural China. Party premium were 74.1 % in 1988, 20.4 % in 1995, and 26.6 % in 2002 [Yan, 2019]. This pattern is consistent with Walder's study on the Tianjin survey data, where a decline of the party membership effect is also observed from 1976 to 1985 [Walder, 1990].

Contrary to the studies that discover the declines of the party membership effect after the market transition, other scholars find its remarkable unchanging correlation to individual earnings [Xie and Hannum, 1996, Liu, 2003, Dickson and Rublee, 2000]. A significant and positive effect of CCP membership was found on personal and family income and the family's welfare[Liu, 2003]. In Xie and Hannum's study with data from the 1988 CHIP, party members earn about 7.4% more than non-party members while controlling for education, work experience, and age [Xie and Hannum, 1996]. While using the same dataset from the 1988 CHIP, Dickson and Rublee found that, on average, party members earned 26.5 % more than non-party members on monthly income in 1988[Dickson and Rublee, 2000].

2.4 The Rise of Social Capital and Human Capital

Social capital and human capital are both means of achievement of certain ends for actors. While the former exists in the structure of relations among actors, the latter focuses on the changes in individuals. Social capital is accumulated through social interaction built under an extensive interpersonal trust [Coleman, 1988]. Social capital is similar to human capital in the way that it assumes that investments in social relations and networks can be made by individuals who, in the meantime, seek returns in the marketplace from the investments[Lin, 2002]. In other words, social

and human capital can be used by individuals to increase their likelihood of success. Defined by Bourdieu [Bourdieu, 2011], social capital is made up of social obligations or connections and "is convertible, in certain conditions, into economic capital." For him, social capital is a disguise for economic capital. The resources are linked to a durable network of mutual acquaintance and recognition as credits. The relationships can be "socially instituted and guaranteed by the application of a common name", such as a family name. They are maintained and reinforced based on material and symbolic exchanges in social networks. An individual's volume of social capital, claimed by Bourdieu, depends on the size of the network and the volume of the capital possessed by those whom the individual is connected to [Bourdieu, 2011].

Coleman constructs an argument about the role played by social capital in the family in creating human capital for offspring. The social capital in the family describes the relations between parents and children and is measured by the physical presence of parents in the family and their connections to the children. Through interaction, children are exposed to parents' human capital, in particular, education. When the social capital in the family is present, children are able to benefit from their parents' human capital. For Coleman, social capital is not fungible. It is a means of facilitating interpersonal trust and collective actions [Coleman, 1988].

While both emphasize the importance of social relationships in providing benefits to individuals and collective groups, Bourdieu's social capital theory differs from Coleman's as he considers social capital a mechanism that reproduces social inequality. To further investigate social inequality based on capital theories, Lin describes the formulation of processes leading to capital inequality. According to Lin[Lin, 2002], two processes, capital deficit and return deficit, contribute to capital inequality. Capital deficit describes the differential acquisition of capital due to differential investments or opportunities. For example, families can invest more capital in sons than in daughters, which leads to differential returns for men and women in the labor market.

Return deficit, instead, focuses on the return of capital. An example is that when men and women gain equal amounts of capital, men will receive greater rewards than women. Possessing less valued resources can lead to experiencing greater structural constraints and few opportunities for individuals. The two processes can result in social inequality among different social groups. [Lin, 2002].

As mentioned previously, Bian found that individuals whose parents were party members were more likely to join the CYL. In the meantime, the results showed that parental occupation was also significantly associated with children's participation in the CYL. Those whose parents had upper-class occupation types had better chances of joining the CYL [Bian et al., 2001]. While the CYL members were found more likely to join the CCP and that the CCP members, on average, earned more than non-CCP members, it is reasonable to speculate that party members whose parents were also members have benefited from social capital through kinship social networks. Throughout the process, based on Lin's capital inequality theory, women may be disadvantaged in earning equal capital and returns compared to men in the labor market [Lin, 2002].

Besides social capital, the income inequality can also be explained by human capital. While scholars found that higher income is associated with the CCP membership, they agree that the party membership effect may not be a causal one[Xie and Hannum, 1996, Liu, 2003, Dickson and Rublee, 2000, Knight and Song, 2003]. Without taking account of other factors, the income disparity cannot be accounted for only the party effect. Based on Dickson and Rublee's analysis, the party members appeared to be more likely to have high school and college education than others. Also, the chances of becoming a party member are dependent on factors such as education, and education is one of the determinants of income distribution [Dickson and Rublee, 2000]. Knight and Song have similar findings in their study, where the educational returns rose sharply in 1988 and 1995. They found that the income difference between

college degree holders and primary school leavers was 42% in 1995 [Knight and Song, 2003]. Thus, the disparity in income levels between party members and non-party members cannot be simply attributed to political capital.

Following the discussion of human capital effects such as education, the wage premium of party members reduced as education, work experience, sex, and occupation types became increasingly important. In other words, as these human capitals raise the probability of workers being recruited as party members, wage premium decrease due to the economic returns associated with human capital. Appleton et al. discovered that wage returns to human capital were higher for non-party members than for party members. Although their results suggested an increase in the wage premium for party membership, they found that the premium mainly appeared among low-ability jobs. Thus, this wage premium was found to be job-specific and did not imply a higher productive ability of party members over non-party members [Appleton et al., 2009].

While most studies used survey data collected from the early 2000s or before 2000, the study conducted by Guo and Sun [Guo and Sun, 2019] examined economic returns to CCP membership among college graduates with 2010 survey data. Their findings suggest that membership did not significantly influence college graduates' starting salaries; however, it did improve their opportunities of obtaining urban household registration type. Another finding of the study was that people who received party membership at an early age were more likely to be admitted to college. As educational credentials are important measures for attaining professional positions [Walder, 1995], membership received at an early age is likely to affect income indirectly.

As the studies mentioned above seem to align with the "New Class" theory discussed in Szelenyi's work [Szelenyi, 1987] that the rise of intellectuals changed the composition of Communist Parties, the study of Li et al. [Li et al., 2012] on attending elite colleges in China provides a similar finding that students from elite colleges,

those belong to the 211 program, are more likely to be CCP members and associated with the wage premium. However, educational attainment is not the essential reason for these elite college students to receive high earnings. Using data from the 2010 Chinese College Students Survey, Li et al. suggest that the human capitals and experiences accumulated during college also matter. Human capital, such as high English scores possessed by these students, is crucial in the job market. After controlling the variables relevant to human capital and experience, the wage premium of elite college students was reduced. In other words, a large proportion of wage premiums can be explained by human capital and the experience they earned in college. Thus, returns to education, in this case, are primarily due to other attributes instead of education level itself, which slightly contradicts the "New Class" theory, where it suggests the great importance of education effects in state socialism[Szelenyi, 1987].

This study will add to the current findings relevant to examining the extent of the generalization of the "New Class" and market transition theory to China. I seek to find whether party membership has a causal effect on income and wealth inequality in China by using the CFPS panel data spanning from 2010 to 2018. Based on Nee's market theory [Nee, 1989], Zemin Jiang's "Three Represents" campaign [Chung-Hon Shih, 2008], and Lin's social capital theory [Lin, 2002], party membership may not have direct impacts on income and wealth in the post-revolutionary era. As the CCP started to consider education as an important indicator of one's qualification and to recruit private entrepreneurs and professionals, the recruitment standards and the social base of the CCP changed significantly from Mao's era. A revolutionary (red) background is no longer the only determinant of party membership. The preferences for the wealthy and intellectuals altered the relationship between party membership and income. Human capital and social capital, instead, play a greater role in social inequality today. Thus, I hypothesize that a diminishing party membership impact will be observed after accounting for variables relevant to human capital and the

work sector. With a fixed-effects model that controls for variables that do not change over time for each individual, the party membership effect will be expected to be statistically insignificant.

Chapter 3

Data and Methodology

3.1 Data

This study used panel study data from the national social survey project China Family Panel Studies (CFPS), consisting of 14,960 households and 42,590 individuals, including 33,600 adults and 8,990 youths in 25 provinces/municipalities/autonomous regions in China. The CFPS is a nearly nationwide large-scale longitudinal survey study covering both economic and non-economic aspects of individuals residing in urban and rural China. The first wave of the survey project was conducted in 2010, and follow-up information was collected every two years after. This study used all five waves of the survey data from 2010 to 2018 and mainly focused on the individual-level questionnaire data of 33,600 adults who are at least 16 years old [Xie and Lu, 2015]. To obtain a nationally representative sample, only individuals who were given both cross-sectional and panel weights remained for this study. The sample used in the study consists of both rural and urban residents in China.

3.2 Outcome and Treatment Variables

One outcome of interest is the annual income of individuals. In the CFPS, coded answers for the question about income are used as the outcome in this analysis, indicating each individual's income in the Chinese Yuan in the past 12 months. The specific income values are converted to the natural logarithm form. The main explanatory variable is party membership, a binary variable that denotes whether or not a person is a CCP member at the time of the interview. In the first and second waves, the year of 2010 and 2012, the answers do not come as "Yes" or "No" for being a party member. Instead, each participant was asked to select which organizations he/she is a member of, given a list of choices such as the Communist Party of China, Democratic parties, People's Congress at county/district or higher level (delegate), and Labor union. Since this analysis focuses on the party membership effect, those who responded to "Communist Party of China" are recoded as "1" and otherwise as "0" to be consistent with binary responses in later waves.

Another outcome is the gross household housing assets, representing the wealth of households. The variable of household housing assets was stored in the household questionnaire data. Each individual was matched with his/her family id and later the household housing asset data. The unit of the coded answer is Chinese Yuan. The housing asset variable was assessed in the logarithm form due to its right-skewed distribution. 0 housing asset stays 0 in the analysis.

3.3 Covariates

The covariates included in this analysis are basic demographic variables, gender, age, household registration type, educational attainment, urban status, and marital status. For gender, females are coded as "0," while males are coded as "1". Age is a continuous variable ranging from 16 to 110. The variable for the house registration

type initially consists of four response categories, agricultural, non-agricultural, not registered, and not applicable (foreigners). I recoded the household registration type variable into binary, indicating either agricultural ("1") or non-agricultural type ("0"). The latter includes any types other than agricultural in this case.

Educational attainment responses to the survey project are classified into eight categories, illiterate/semi-literate, primary school, middle school, high school, 2- or 3-year college, 4-year college (Bachelor's degree), Master's degree, and Doctoral Degree. I regrouped them into three categories, high school and below ("1"), college ("2"), and above college ("3"). Urban status is binary, indicating whether or not a person resides in an urban area. Marital status initially has five levels, including never married, married, cohabitation, divorced, and widowed, and they are coded from "1" to "5". I recoded the marital status variable into a binary one with "1" being married and "0" being unmarried.

This analysis contains only individuals with non-missing information for the outcome (income of the past 12 months) and the treatment (party membership). For the filtered sample, those with missing information about covariates (educational attainment, urban status, household registration type, and marital status) are imputed with the "missForest" package in R.

After filtering and imputation, the first wave (2010) data of the CFPS consist of 25,045 unique individuals, including 53.89% males and 46.11% females as shown in 3.1. The mean age is 45.83. Among this sample population, 2,110 (8.42%) are party members. 70.42% of them hold agricultural household registration type, and 47.10% of them live in urban cities at the time of interview. 83.50% of the sample are married individuals. Regarding highest educational attainments, 22,978 of them received a high school education or below by the time of the interview, constituting a large proportion (91.75%) of the population. 2,017 (8.05%) of them hold 2-3 year-college or Bachelor degrees, while the remaining 50 (0.20%) individuals obtained master's or

Table 3.1: **Descriptive Statistics of Variables by Year**

	Within-Group Comparison				
	2010	2012	2014	2016	2018
Party Membership					
Party Members	2110	1689	27	508	75
	(8.42)	(11.74)	(7.61)	(8.62)	(1.18)
Non-Party Members	22935	12696	328	5385	6306
	(91.58)	(88.26)	(92.39)	(91.38)	(98.82)
Gender					
Male	13498	8430	244	3505	3611
	(53.89)	(58.60)	(68.73)	(59.48)	(56.59)
Female	11547	5955	111	2388	2770
	(46.11)	(41.40)	(31.27)	(40.52)	(43.41)
Household Registration Type					
Agricultural	17637	8333	300	4491	4400
	(70.42)	(57.93)	(84.51)	(76.21)	(68.95)
Non-Agricultural	7408	6052	55	1402	1981
	(29.58)	(42.07)	(15.49)	(23.79)	(31.05)
Education					
High School or Below	22978	12536	292	4867	5106
	(91.75)	(87.15)	(82.25)	(82.59)	(80.02)
College	2017	1804	57	970	1261
	(8.05)	(12.54)	(16.06)	(16.46)	(19.76)
Graduate	50	45	6	56	14
	(0.20)	(0.31)	(1.69)	(0.95)	(0.22)
Urban Status					
Urban	11797	7911		3124	3723
	(47.10)	(54.99)		(53.01)	(58.35)
Rural	13248	6474		2769	2658
	(52.90)	(45.01)		(46.99)	(41.65)
Marital Status					
Married	20913	11389	186	3785	4319
	(83.50)	(79.17)	(52.39)	(64.23)	(67.69)
Unmarried	4132	2996	169	2108	2062
	(16.50)	(20.83)	(47.61)	(35.77)	(32.31)
Observations	25,045	14,385	355	5,893	6,381

Source: China Family Panel Studies

Note: Percentages in parentheses

Urban status information is missing for 2014.

doctoral degrees. The average income for the 2010 sample is 12922.54 CNY and 8.62 in logarithm with a standard deviation of 1.63.

The 2012 sample consists of 14,385 individuals in total, where around 59% are males and 79% are married. 1,689 (11.74%) of them are party members. The average age of the 2012 sample is 43.20. 57.93% of them have agricultural household registration type, and 54.99% live in urban areas. 87.15% are high school graduates or below, 12.54% are college graduates, and 0.31% are master's or doctoral graduates. The average income is is 23163.66 CNY, 9.50 in logarithms with a standard deviation of 1.25 in 2012.

The 2014 sample consists of a relatively small sample size of 355 due to a large number of missing values for both income and party membership variables. The urban status variable is also missing in this wave. Among the 355 participants, around 69% are males, 52% are married, and 85% have agricultural household registration type. The average age is 32.53 in the 2014 sample. Twenty-seven of them are party members, which is a small portion of the sample (7.61%). Regarding the highest educational attainment, 82.25% hold high school degrees or below, 16.06% have college degrees, and 1.69% hold a master's or doctoral degree. The average income is 29597.18 CNY, around 10.02 in logarithms with a standard deviation of 0.82 in 2014.

The 2016 sample consists of 5,893 participants, which is also a small sample compared to 2010 and 2012 for the same reason of large missing values for income and party membership. Around 60% participants in the 2016 wave are males, 76% have agricultural household registration type, 64% are married, and 53% live in urban areas. 8.62% participants are party members. 82.59% are high school graduates or below, 16.46% are college graduates, and 0.95% are master's or doctoral graduates. The mean age is 35.19, and the average income is 29644.55 CNY, around 9.86 in logarithms, with a standard deviation of 1.07 in 2016.

The 2018 sample consists of 6,381 individuals, where about 57% are males, 69%

have agricultural household registration, 68% are married, 58% live in urban areas, and 1.18% are party members. Approximately 80% of them are high school graduates or below, 19.8% are college graduates, and 0.2% are master's or doctoral graduates. The average earning is 34442.79 CNY, around 10.09 in logarithm with a standard deviation of 0.97 in 2018.

The party membership recruitment may be based on some selection preferences. Figure 3.2 shows the between-group comparison of party membership for each year. There were generally more male than female party members from 2010 to 2018. In 2010, the number of male members was 1687 (79.95%) compared to 423 (20.05%) female members. The percentage of men among party members was 76.49%, 74.07%, 68.70%, and 61.33%, respectively, in 2012, 2014, 2016, and 2018. Regarding the household registration type, more members with the non-agricultural type were found than the agricultural type in 2010, 2012. However, more members with the agricultural type were found for the rest of the years. A large proportion of the party member group was those with high school or below degrees for all years. This observation may not be accurate as few individuals went to colleges or graduate schools in the sample. Further examination is needed to conclude the education effect on selection. More party members were found residing in urban areas than rural areas in 2012 (70.69%), 2016 (67.13%), and 2018 (54.67%), while the opposite situation happened in 2010, where more of them resided in rural areas (52.90%). There were more married members than single ones in 2010, 2012, and 2016, which can be due to the larger population of married people than single ones according to Figure 3.1.

3.4 Models

This study leverages mainly four models to examine the potential causal effect of the CPP party membership on individuals' income level on the CFPS data. To examine

Table 3.2: **Descriptive Statistics of Selection by Year**

	Between-Group Comparison				
	2010	2012	2014	2016	2018
Gender					
Male	1687	1292	20	349	46
	(79.95)	(76.49)	(74.07)	(68.70)	(61.33)
Female	423	397	7	2388	29
	(20.05)	(23.51)	(25.93)	(31.10)	(38.67)
Household Registration Type					
Agricultural	879	459	16	281	49
	(41.66)	(27.18)	(59.26)	(55.31)	(65.33)
Non-Agricultural	1231	1230	11	227	26
	(58.34)	(72.82)	(40.74)	(44.69)	(34.67)
Education					
High School or Below	1491	1096	12	296	38
	(70.66)	(64.89)	(44.44)	(58.27)	(50.67)
College	590	560	12	179	36
	(27.96)	(33.16)	(48.15)	(35.24)	(48.00)
Graduate	29	33	2	33	1
	(1.37)	(1.95)	(7.41)	(6.50)	(1.33)
Urban Status					
Urban	11797	1194		341	41
	(47.10)	(70.69)		(67.13)	(54.67)
Rural	13248	495		167	34
	(52.90)	(29.31)		(32.87)	(45.33)
Marital Status					
Married	1884	1477	13	3785	29
	(89.28)	(87.45)	(48.15)	(69.69)	(38.67)
Unmarried	226	212	14	154	46
	(10.71)	(12.55)	(51.85)	(30.31)	(61.33)
Observations	25,045	14,385	355	5,893	6,381

Source: China Family Panel Studies

Note: Percentages in parentheses

Urban status information is missing for 2014.

the party membership effect on wealth, the dependent variable, yearly income, will be replaced by housing assets in the four models.

$$\log Y_{income} = \beta_0 + \beta_1 X_{party} + \beta_2 X_{age} + \beta_3 X_{gender} + \beta_4 X_{house} + \beta_5 X_{urban} + \beta_6 X_{education} + \beta_7 X_{marital} + \epsilon \quad (3.1)$$

The first model is an OLS regression model on each cross-sectional year data while controlling the demographic variables, age, gender, household registration type, education level, and marital status. For 2014 data, the urban variable is missing and thus not included in this year's model. Cross-sectional national weights for individuals are added to the model for generating a national representative sample.

$$\log Y_{income} = \beta_0 + \beta_1 X_{party} + \beta_2 X_{year} + \beta_3 X_{age} + \beta_4 X_{gender} + \beta_5 X_{house} + \beta_6 X_{education} + \beta_7 X_{marital} + \epsilon \quad (3.2)$$

The second model is an OLS regression model on the five-wave panel data while controlling year and the demographic variables, age, gender, household registration type, education level, and marital status. Cross-sectional national weights for individuals are also added to the model.

$$\log Y_{income} = \beta_0 + \beta_1 X_{party} + \beta_2 X_{incomeLastWave} + \beta_3 X_{age} + \beta_4 X_{gender} + \beta_5 X_{house} + \beta_6 X_{urban} + \beta_7 X_{education} + \beta_8 X_{marital} + \epsilon \quad (3.3)$$

The third model is an OLS regression model on the five-wave panel data while controlling the demographic variables. The difference between the second and third

models is that the latter controls for income from the last wave instead of simply year. Controlling income from the last wave is likely to account for the effects of some omitted variables. Cross-sectional national weights for individuals are again added to the model.

$$\log Income_{it} = \alpha_i + \beta Party_{it} + \delta_t + U_i + e_{it} \tag{3.4}$$

The fourth model seeks a causal effect of party membership on income with the five-wave panel data. This fixed-effects model can likely control unobserved variables across individuals and time. i indicates observations, while t indicates time in the model. α_i refers to the intercept for each individual observation. δ_t is the coefficient for time regressions. U_i and e_{it} are within-entity error term and overall error term, respectively. β represents the common coefficient for the party membership effect after controlling for individual and time heterogeneity. The outcome $\log Income_{it}$ indicates the income in logarithm of individual i at time t. In the study of Li et al. [Li et al., 2007] on the wage premium of party members, they inferred that party membership increases one's income because of higher personal ability or more advantageous family backgrounds. These characteristics likely affect one's chances of becoming a party member. Thus, a fixed-effects model in this study aims to control omitted variables and heterogeneity. Panel national weights for individuals are instead added to this model.

Chapter 4

Results

In this section, economic return estimates to party membership based on the CFPS data and models discussed in the previous section are reported. I first employed an OLS regression model controlling demographic variables for each cross-sectional year, then another OLS model controlling for the year on the combined five-year data. After that, I again utilized an OLS regression model that controls for income from the most recent previous wave, which could control come omitted variable effects and provide more reliable return estimates to party membership effect. Lastly, estimated returns based on a within-person fixed-effects model are reported. Before discussing the economic returns to party membership, I will discuss the potential selection of membership based on the sample with the logistic regression method.

4.1 Selection Estimates

As indicated in the previous section, party membership selection has preferences. According to the logistic regression results shown in 4.1, a unit increase in income in the logarithm was associated with the 20.9% increase in odds of becoming a party member in 2010. A similar pattern appeared in each other year where every increase in income led to an increase ranging from 11% to around 30% in odds of being selected

Table 4.1: **Membership Selection Regression Results by Year**

	Dependent variable:				
	Party Membership				
	2010	2012	2014	2016	2018
	(1)	(2)	(3)	(4)	(5)
Income (log)	0.209***	0.110***	0.447	0.140***	0.301**
	(0.022)	(0.031)	(0.306)	(0.051)	(0.148)
Age	0.048***	0.040***	0.020	0.027***	-0.039***
	(0.002)	(0.002)	(0.023)	(0.005)	(0.014)
Gender	1.238***	1.021***	0.186	0.487***	0.175***
	(0.060)	(0.066)	(0.506)	(0.107)	(0.246)
Household registration	-0.781***	-0.795***	-0.835	-0.566***	-0.186***
	(0.065)	(0.078)	(0.512)	(0.113)	(0.295)
Urban	-0.126***	0.084		0.172	-0.341
	(0.063)	(0.072)		(0.113)	(0.270)
Education					
College	1.808***	1.719***	1.436***	0.897***	1.833***
	(0.074)	(0.079)	(0.536)	(0.121)	(0.274)
Graduate	3.161***	3.726***	2.371***	3.183***	1.833*
	(0.322)	(0.365)	(0.983)	(0.295)	(1.079)
Marital status	0.471***	0.329***	-0.260	0.169	-0.610**
	(0.078)	(0.086)	(0.480)	(0.124)	(0.293)
Constant	-7.626***	-5.863***	-7.579***	-5.294***	-5.913***
	(0.261)	(0.335)	(3.088)	(0.556)	(1.578)
Observations	25,045	14,385	355	5,893	6,381

Note: Standard errors in parentheses

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Urban status information is missing for 2014.

as a party member. However, the effect of income was not statistically significant in 2014. Age had significant and positive effects on selection in 2010, 2012, and 2016, and the respective effects are 0.49% ($e^{0.048}$), 0.41% ($e^{0.040}$), and 0.27% ($e^{0.027}$) in increasing the chances of being selected. The effect of age was minor for these three years, insignificant based on the p-value of 0.1 in 2014 and negative in 2018. Being a male and having a college and above college degree had positive and significant effects on party membership selection for all years. The odds for males were 244% ($e^{1.238}$) higher than females in 2010, which was the highest among all years.

Regarding education effects, individuals with college degrees had higher odds, ranging from 145% ($e^{0.897}$) in 2016 to 525% ($e^{1.833}$) in 2018, than those with below-college degrees, and graduate school degrees were associated with even higher odds for all years. Effects of living in urban cities and being married were inconsistent from 2010 to 2018, sometimes suggesting an increase in odds and the opposite at other times. Individuals with a non-rural household registration type generally had higher odds of being selected as party members than those with a rural one. The overall logistic regression results suggest that individuals with higher income levels, a higher age, a non-rural household registration type, and a college or above-college degree have higher odds of being selected. Also, males had better chances than females. This observation of selection preferences is mostly consistent with the descriptive statistics of selection in 3.2.

4.2 OLS Regression Estimates

The first five OLS models are associated with the method 3.1 for examining economic returns to party membership effect in every single year.

The party membership effect was significant and positive for each year. Figure 4.2 shows that all variables, including explanatory and controlled, were substantial for

Table 4.2: **OLS Regression Result by Year**

	Dependent variable:				
	log(income)				
	2010	2012	2014	2016	2018
	(1)	(2)	(3)	(4)	(5)
Party	0.231***	0.124***	0.285*	0.223***	0.231**
	(0.033)	(0.033)	(0.160)	(0.051)	(0.108)
Age	-0.023***	-0.001	0.006	-0.012***	-0.010***
	(0.001)	(0.001)	(0.005)	(0.001)	(0.001)
Gender	0.728***	0.488***	0.271***	0.470***	0.430***
	(0.018)	(0.020)	(0.094)	(0.028)	(0.023)
Household registration	-0.473***	-0.329***	0.255**	-0.047	-0.179***
	(0.023)	(0.024)	(0.119)	(0.037)	(0.028)
Urban	0.485***	0.279***		0.051*	0.133***
	(0.020)	(0.023)		(0.030)	(0.026)
Education					
College	0.685***	0.653***	0.714***	0.490***	0.504***
	(0.034)	(0.031)	(0.120)	(0.042)	(0.030)
Graduate	1.367***	1.300***	0.180	0.664***	0.162
	(0.181)	(0.161)	(0.342)	(0.171)	(0.201)
Marital status	0.549***	0.516***	0.200***	0.509***	0.308***
	(0.022)	(0.025)	(0.095)	(0.036)	(0.028)
Constant	8.853***	8.780***	9.186***	9.521***	9.991***
	(0.041)	(0.044)	(0.205)	(0.059)	(0.055)
Observations	25,045	14,385	355	5,893	6,381
R-squared	0.240	0.165	0.146	0.097	0.147
Adjusted R-squared	0.240	0.165	0.128	0.096	0.146

Note: Standard errors in parentheses

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Urban status information is missing for 2014.

estimating annual income for individuals in 2010. Being a male, living in an urban area, and having a college degree and above consistently increased individuals' income for all five waves. Being married also significantly increases individuals' income, which is a similar finding to the study of Li et al. [Li et al., 2009] with a 2002 national urban households survey data, but a higher coefficient in this analysis. After accounting for the demographic variables, party members received an income of about 23.1% more than non-party members on average in 2010 and 2018. In 2012, the party effect seems smaller but still significant, where party members earned 12.4% more than the general mass and 22.3% in 2016. In 2014, the party effect was the highest among the five wave data, indicating that changing from non-party members to party members, I expect to see a 28.5% increase in the geometric mean of income with the P-value smaller than 0.1.

The age effect shown in Figure 4.4 appeared to be significant and negative for the years 2010, 2012, 2016, and 2018. An increase in age is associated with a 0.01 to 0.023 decline in income logarithm on average. While the negative effect of increasing age is significant for 2010, 2016, and 2018, it is not significant for 2012. According to the P-value, the 0.006 increase in income brought by the effect of increasing age in 2014 is also insignificant. Overall, the findings on the age effect are not consistent with previous studies [Li et al., 2007, Dickson, 2014]. The reason can be that individuals' ages ranged from 16 to 110 in this analysis. The income of elderly individuals may be low compared to those who are at the age of 40s.

Regarding education, having a college degree has remarkably positive effects on annual income, ranging from a 49.0% increase in revenue in 2016 to a 71.4% rise in 2014. Having a graduate-level degree even provides more remarkable and positive effects. On average, having a graduate-level degree is associated with a 136.7% increase in annual income in 2010 and a 130% increase in 2012. The effect does not seem significant in 2014 and 2018 with P-values greater than 0.1.

Table 4.3: OLS Regression Result for Panel

	Dependent variable:	
	log(income)	
	Year Controlled	Last-wave-income Controlled
	(1)	(2)
Party	0.208***	0.102***
	(0.021)	(0.029)
Year 2010	8.989***	
	(0.024)	
Year 2012	9.639***	
	(0.024)	
Year 2014	10.235***	
	(0.048)	
Year 2016	10.028***	
	(0.027)	
Year 2018	10.334***	
	(2.572)	
Income from last wave		0.253***
		(0.008)
Age	-0.017***	-0.009***
	(0.0004)	(0.001)
Gender	0.626***	0.387***
	(0.012)	(0.020)
Household registration	-0.616***	-0.434***
	(0.013)	(0.024)
Urban		0.220***
		(0.022)
Education		
College	0.634***	0.281***
	(0.020)	(0.030)
Graduate	1.055***	0.837***
	(0.097)	(0.140)
Marital status	0.583***	-0.115***
	(0.014)	(0.028)
Constant		7.605***
		(0.084)
Observations	52,059	11,218
R-squared	0.980	0.277
Adjusted R-squared	0.980	0.276

Note: Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Overall, based on the regression analysis on the cross-sectional data in Figure 4.2, party membership resulted in an increase, ranging from 12.4% to 28.5%, to annual income. The regression model generated from the method 3.2 presents a similar result on the party membership effect. After controlling year and demographic variables, the party members received an increase of 20.8% over non-party members. The urban variable is not included in the model due to the lack of such a variable in 2014. Including the urban variable may drop data from 2014 in the model. Also, the constant value is missing in the result of the model 3.2 because all the categories of the dummy variable, year, are presented in the regressing results in Figure 4.2. Usually, the regression model results will output a constant and n - 1 dummy regressors.

Figure 4.3 shows that even after controlling differences across years, the party membership effect is still notable with the P-value smaller than 0.01. However, the coefficient of party effect is not as significant compared to most years in the cross-sectional year model results 4.2. Combining all cross-sectional year data shows that the party members earned 20.8 % on average than non-party members during the period of 2010 to 2018. While the constant value is dropped as an individual coefficient effect, it is included in the year dummy variables. For example, in 2010, the combined year and the constant impact were 8.989. Individuals' data that come from 2010 are associated with an 8.989 increase in income in the logarithm. Following the same interpretation, individuals' data from 2012, 2014, 2016, and 2018 are associated with 9.639, 10,235, 10.028, and 10.334, respectively. These coefficients are used directly as constant and year effects for the personal income estimates. All year dummy variables are significant with P-values smaller than 0.01.

Age and household registration type generally had notable negative effects on income. Both the year-controlled and last-wave-income controlled models in Figure 4.3 included significantly negative coefficients for age and household registration. Based on the year-controlled model, an increase in age leads to a 0.017 decrease in income,

and having an agricultural household registration decreases income by 61.6%. The last-wave-income controlled model suggests that an increase in age is associated with a 0.009 decrease in income and that having an agricultural household registration leads to a 43.4% decrease in income.

As discussed in the method section, the model 3.3 aims to remove effects from some omitted variables by holding the income from the previous wave. According to the results shown in Figure 4.3, the party membership effect has declined after controlling the income from the last wave. The model suggests that party members, on average, earned 10.2% more than non-party members. The variable denoting income from last seemed to capture some omitted effects (0.253) on income in the logarithm. Thus far, the last-wave-income controlled model presents the least impact of being a party member.

Also, the effects of being a male, living in an urban area, and educational attainment of the model 3.3 all follow similar patterns as the results of other models discussed above. They all have significant positive effects on income. However, a distinct and interesting finding is that marital status placed a negative effect on income in this model, indicating that married people earned 11.5% less than single individuals.

4.3 Fixed-Effects Estimates

In the last model 3.4, the set of controlled variables were slightly altered. The gender variable is removed from the model as the gender values were unlikely to change during the period of 2010 to 2018. As shown in 4.4, the analysis presented by this model had a distinct result on the party membership effect. After accounting for the time-invariant variables for individuals, the party effect became negative, in the meantime insignificant in this case according to the P-value > 0.1. While the controlled variables

Table 4.4: Fixed-Effect Model Result for Panel

	Dependent variable:
	log(income)
Party	-0.010
	(0.059)
Age	0.144***
	(0.002)
Household registration	-0.193***
	(0.043)
Urban	0.100***
	(0.038)
Education	
College	0.978***
	(0.057)
Graduate	2.054***
	(0.284)
Marital status	0.164***
	(0.032)
Observations	51,704
R^2	0.219
Adjusted R^2	-1.247

Note: *p<0.1; **p<0.05; ***p<0.01

behaved similarly to the previous models, the fixed-effects model weakened the party effect. This insignificant result (-0.011) of party membership effect is similar to the one (-0.003) from the twins' study of Li et al. [Li et al., 2007], which suggests that after controlling for unobserved variables such as personal ability and family backgrounds, the party effect almost disappeared.

4.4 Robustness Checks

In this section, I conducted a series of analyses that excluded the years with the least observations to check for the robustness of the main results regarding the economic return to the CCP membership. Due to the relatively low number of observations, the data sample for 2014 (355 observations), 2016 (5,893 observations), and 2018 (6,381 observations) were excluded. The overall time frame was reduced to two years, from 2010 to 2012. Regression results of the reduced sample based on model 3.2, 3.3, and 3.4 are reported in this section. Then, results of additionally controlling the work sector are presented.

The overall pattern of income estimates based on the 2010 - 2012 sample is mostly consistent with the complete sample from 2010 to 2018. As shown in Table 4.5, the party membership effect was 0.197 after controlling for years, suggesting that party members, on average, earned 19.7% more than non-party members. This result was significant based on the p-value of 0.01. The party effect dropped to 0.101 after controlling for the income of the last wave, where party members earned 10.1% more than the general mass. This result was also statistically significant based on the p-value of 0.01. However, the party effect coefficient became negative (-0.048) and statistically insignificant after controlling for the individual heterogeneity with the fixed-effect model 3.4.

The effects of the controlled variables in the three models shown in Table 4.5

Table 4.5: **Robustness checks 2010 - 2012**

	Dependent variable:		
	log(income)		
	Year Controlled	Last-wave-income Controlled	Panel Fixed-Effects
	(1)	(2)	(3)
Party	0.197***	0.101***	-0.048
	(0.024)	(0.032)	(0.078)
Year 2012	0.640***		
	(0.014)		
Income from last wave		0.250***	
		(0.009)	
Age	-0.018***	-0.009***	0.249**
	(0.0005)	(0.001)	(0.007)
Gender	0.648***	0.389***	
	(0.014)	(0.022)	
Household registration	-0.680***	-0.445***	-0.195***
	(0.015)	(0.026)	(0.067)
Urban	0.418***	0.224***	0.135
	(0.015)	(0.025)	(0.085)
Education			
College	0.629***	0.283***	0.252*
	(0.024)	(0.033)	(0.153)
Graduate	1.280***	0.841***	0.080
	(0.125)	(0.152)	(1.178)
Marital status	0.597***	-0.110***	0.136***
	(0.017)	(0.030)	(0.059)
Constant	8.620***	7.632***	
	(0.031)	(0.092)	
Observations	39,430	9,305	39,430
R-squared	0.257	0.279	0.128
Adjusted R-squared	0.257	0.279	-2.699

Note: Standard errors in parentheses

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

were similar to the complete sample result in Tables 4.3 and 4.4. Males continued to earn 64.8% more than females in the year-controlled model and 38.9% more in the last-wave-income-controlled model. Regarding household registration type, on average, individuals with the agricultural type earned 68% less than those with the non-agricultural type after controlling for the years, 44.5% less after controlling for income from the last wave, and 19.5% less after controlling for the individual heterogeneity. The education effects were also consistent based on the results in table 4.5. Individuals with college degrees earned 62.9% more than those with high school or below degrees after controlling for years, 28.3% more after controlling for income from the last wave, and 25.2% more after controlling for individual heterogeneity. A graduate school degree brought even more impact on earnings. Those with a graduate degree earned 84.1% to 128% more on average. However, after controlling for the individual heterogeneity in the fixed-effect model, the graduate school degree effect diminished, where the effect coefficient was statistically insignificant based on the p-value of 0.1.

Regarding urban status, those who resided in urban cities earned 41.8% and 22.4% more than those in rural areas after controlling for years and income from the last wave, respectively. Similar to the graduate degree, the urban effect was insignificant based on the fixed-effect model. Age and marital status effects were inconsistent in the three models. While the age effect was statistically significant and positive in the fixed-effect model, it was negative in the other two models. For marital status, it had significant and positive impacts on income in the year-controlled and fixed-effect models but negative impacts in the last-wave-income-controlled model. Overall, the results were similar to the table 4.3 and 4.4.

Accounting for the ownership sector of employment, the estimated effects on income declined, as shown in Table 4.6. The base category of ownership sector of employment in the models was state- or collectively-owned firms, including the gov-

Table 4.6: **Robustness checks 2010 - 2012 including ownership sector**

	Dependent variable:		
	log(income)		
	Year Controlled	Last-wave-income Controlled	Panel Fixed-Effects
	(1)	(2)	(3)
Party	0.090***	0.024	0.024
	(0.022)	(0.034)	(0.071)
Year 2012	0.247***		
	(0.013)		
Income last wave		0.431***	
		(0.016)	
Ownership Sector			
Private enterprise	-0.008	0.049	0.029
	(0.020)	(0.035)	(0.049)
Foreign-invested firm	0.351***	0.267***	0.293***
	(0.038)	(0.066)	(0.092)
Other ownership	-0.078***	-0.057*	0.059
	(0.018)	(0.031)	(0.044)
Age	-0.008***	-0.009***	0.191***
	(0.001)	(0.001)	(0.007)
Gender	0.433***	0.215***	
	(0.014)	(0.026)	
Household registration	-0.181***	-0.072**	-0.044
	(0.017)	(0.030)	(0.067)
Urban	0.159***	0.006	0.173*
	(0.016)	(0.031)	(0.092)
Education			
College	0.442***	0.187***	0.125*
	(0.019)	(0.032)	(0.118)
Graduate	1.084***	0.695***	0.016
	(0.092)	(0.132)	(0.843)
Marital status	0.293***	-0.147***	0.167***
	(0.018)	(0.038)	(0.054)
Constant	9.328***	6.213***	
	(0.035)	(0.159)	
Observations	17,434	4,057	17,434
R-squared	0.163	0.260	0.158
Adjusted R-squared	0.162	0.258	-2.628

Note: Standard errors in parentheses

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

ernment, public institutions, research institutes, and enterprises that are state-owned, state-controlled, or collectively-owned. Regarding private enterprises, individuals who worked in these firms did not seem to earn differently from those who worked in the state- or collectively-owned enterprises based on the statistical significance (P-value = 0.1). Individuals who worked in enterprises invested by Hong Kong/Macao/Taiwan Capital or foreign capital were grouped into the foreign-invested firm category. The results show that these workers earned 35.1% more than those who worked in state- or collectively-owned enterprises after controlling for years. Also, in the last-wave-income-controlled model, they, on average, earned 26.7% more than people from state- or collectively-owned enterprises. Accounting for individual heterogeneity, working in foreign-invested firms was associated with a 29.3% increase in earnings.

The last ownership sector category, "other ownership," includes rural family businesses, individually-owned businesses, private non-profit organizations, guilds, social organizations, residential community committees/village committees/autonomous organizations, etc. After controlling for years and income from the last wave, individuals who worked in these enterprises or organizations earned 7.8% and 5.7%, respectively, less than those who worked in state- or collectively-owned enterprises. The statistically significant (P-value = 0.01 and 0.1) and negative coefficients suggest that working in these enterprises or organizations did not bring income as high as working in the state- or collectively-owned and foreign-invested enterprises.

4.5 Housing Asset Estimates

Besides individual income, I further investigated wealth inequality by including another outcome variable, household housing assets. Using the 2012 CFPS data, Jin and Xie found that wealth inequality is larger than income inequality, indicated by a more right-skewed distribution. Also, they concluded that political capital indeed

Table 4.7: **Housing Asset Regression Results by Year**

	Dependent variable:				
	log(housing asset)				
	2010	2012	2014	2016	2018
	(1)	(2)	(3)	(4)	(5)
Party	0.619***	0.451***	-0.936	0.709***	0.564**
	(0.100)	(0.101)	(0.935)	(0.234)	(0.241)
Age	0.002	-0.002	0.034	0.020***	-0.006**
	(0.002)	(0.002)	(0.030)	(0.006)	(0.002)
Gender	-0.156***	-0.093	-1.086**	-0.057	-0.090*
	(0.053)	(0.062)	(0.550)	(0.130)	(0.051)
Household registration	-0.273***	-0.111	0.175	-0.706***	-0.367***
	(0.070)	(0.076)	(0.695)	(0.168)	(0.062)
Urban	-0.233***	0.048		-0.629***	0.596***
	(0.060)	(0.070)		(0.138)	(0.059)
Education					
College	1.007***	0.833***	-0.666	-0.223	0.620***
	(0.101)	(0.095)	(0.703)	(0.194)	(0.068)
Graduate	-1.921***	-1.414***	2.723	-1.660**	1.495***
	(0.540)	(0.498)	(2.002)	(0.772)	(0.447)
Marital status	0.358***	0.462***	-0.856	0.400**	0.595***
	(0.067)	(0.078)	(0.554)	(0.163)	(0.063)
Constant	9.601***	10.537***	9.896***	9.927***	12.023***
	(0.123)	(0.136)	(1.199)	(0.271)	(0.123)
Observations	25,029	14,339	355	5,716	6,340
R-squared	0.011	0.014	0.028	0.016	0.090
Adjusted R-squared	0.011	0.014	0.028	0.015	0.089

Note: Standard errors in parentheses

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Urban status information is missing for 2014.

has a larger effect on household wealth than on income. While jobs in the state- and collectively-owned enterprises are usually associated with low wages, it does mean that party members have low wealth. Political capital has greatly contributed to household wealth in China. Before the economic reform, housing was publicly owned. Houses were distributed to urban residents with huge discounts based on the Welfare Housing Policy. After the transition to the market economy, housing was privatized, and the ownership was given to the current residents [Jin and Xie, 2017]. The accelerated economic growth has boosted the value of the houses they own. While income is a flow, measuring wealth can produce more reliable estimates of party membership effect on economic inequality. To understand the party membership effect on wealth inequality in China, I used a similar set of models to predict housing assets as a wealth determinant.

How does political capital affect wealth inequality in China? The cross-sectional results in Table 4.7 show that party membership played a significant role in accumulating housing assets in 2010, 2012, 2016, and 2018. In 2010, party members accumulated 61.9% more on housing assets than non-party members. This premium dropped to 45.1% in 2012 but increased back to 70.9% in 2016. In 2018, party membership was associated with a 56.4% increase in housing assets. After combining all-year data and controlling for years shown in 4.8, the party effect on housing assets was 0.537 and did not change significantly. Overall, party membership led to an increase ranging from 12% to 29% in individual income and an increase ranging from 45% to 71% in housing assets. The effect of party membership was much higher on housing assets than on income, suggesting that political capital impact is greater on wealth than income inequality. This conclusion is consistent with Jin and Xie's study [Jin and Xie, 2017].

The party membership effect on housing assets declined drastically to 0.197 after controlling for assets from the last wave, suggesting that party members, on average,

Table 4.8: **Housing Asset Regression Results – Year Combined**

	Dependent variable:		
	log(house asset)		
	Year-Controlled	Last-wave-asset Controlled	Panel Fixed-Effects
	(1)	(2)	(3)
Party	0.537***	0.197**	-0.048
	(0.065)	(0.100)	(0.195)
Year 2012	1.094***		
	(0.040)		
Year 2014	0.218		
	(0.138)		
Year 2016	0.377***		
	(0.059)		
Year 2018	2.709		
	(8.081)		
Housing asset from last wave		0.372***	
		(0.008)	
Age	0.002*	-0.002	0.182***
	(0.001)	(0.003)	(0.008)
Gender	-0.126***	-0.002	
	(0.036)	(0.066)	
Household registration	-0.188***	0.035	-0.674***
	(0.042)	(0.080)	(0.144)
Urban		0.088	-0.217*
		(0.076)	(0.126)
Education			
College	0.717***	0.935***	-0.003
	(0.062)	(0.101)	(0.190)
Graduate	-1.378***	-0.868*	-2.878***
	(0.303)	(0.474)	(0.941)
Marital status	0.408***	0.584***	-0.016
	(0.045)	(0.093)	(0.107)
Constant	9.393***	6.465***	
	(0.075)	(0.182)	
Observations	51,779	11,170	51,601
R-squared	0.025	0.194	0.055
Adjusted R-squared	0.025	0.194	-1.726

Note: Standard errors in parentheses

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

accumulated housing assets 19.7% more than non-party members. Having a college degree generally led to an increase ranging from 62% to 100.7% in housing assets based on the cross-sectional results. A similar pattern was applied to marital status, where married individuals accumulated 35.8% to 59.5% more housing assets than single individuals. The results of year-controlled and last-wave-asset-controlled models demonstrated greater coefficients of college degree effects and similar coefficients of married effects. After controlling for individual heterogeneity with a fixed-effect model on the panel data, the party membership coefficient dropped to -0.048 and was no longer significant, which was similar to the income estimates shown in Table 4.4.

Chapter 5

Discussion

This study joins the debate on economic returns to political capitals in China since the market transition. The theory proposed by Nee [Nee, 1989] describes the change from a redistributive economy to markets for state socialism. He argues that in the market economy, opportunities are not limited to redistributive state sectors, and immediate producers can benefit from their individual productivity. Human capital such as education effect increases, while political capital decreases. Analysis in this study mainly supports the market transition theory by showing the potential absence of party membership effect in income and wealth estimations.

By employing a within-individual fixed-effects model that controls time-invariant confounders, such as personal ability and family background [Li et al., 2007], I compared its regressing results to the other OLS regression models in the study and noticed the diminishing effects of party membership on both income and housing assets. Indeed, after controlling for variables that do not change over time for each individual, the effect of party membership is no longer statistically significant. Based on the CFPS panel data from 2010 to 2018, this study also recognizes the importance of some demographic variables, including gender, age, household registration type, urban status, and marital status. In most models, these variables have statistically

significant effects on income estimation. In particular, the educational attainment as human capital has significant effects on income in all the model results. The similar results were also observed in the housing assets estimates, where the married individuals and individuals with college degrees tend to have higher housing assets than those who do not possess these traits.

This study speaks to current studies on economic returns in China. In Knight and Song's work [Knight and Song, 2003] on analyzing changes in the Chinese urban wage structure, education was found to be rising sharply. While my analysis does not show an increasing trend of education effect, it can be inferred that education is a crucial measure for estimating personal income based on the coefficients of education dummy variables in each model. Also, the estimated effect of the master's or doctoral degree on income is almost always higher than the 2-3 years college or Bachelor's degree. Thus, this study supports that education is an essential estimator of economic returns. Within the studies that also used fixed-effects models to separate the party membership effect, they concluded that party effect as political capital gradually decreased. The wage premium associated with party members is likely due to access to social networks, personal characteristics, and family background [Appleton et al., 2005, Li et al., 2007].

Some scholars followed Mincer's wage function [Mincer, 1975] for their cross-sectional data, which predicts wage based on years of schooling, experience, and experience squared [Xie and Hannum, 1996, Appleton et al., 2005]. This study did not employ Mincer's wage function as years of schooling information is missing for 2014 data, and no direct information about work experience can be obtained from the survey data. Some studies used age - years of schooling - 6 to construct work experience variable [Liu, 2003], which cannot be achieved without information about years of schooling. On the other hand, since experience and age are likely highly correlated with each other, I decided to include only the age variable in my study. The

age effect is statistically significant and negative in estimating income in my analysis. As discussed in the result section, it could be because the sample data included individuals aged between 16 to 110. A large proportion of elderly people are likely to be present in the sample. Further analysis should be done to investigate the age composition of the sample and economic returns to the age effect.

This study contributes to the current debate over economic returns to political capital with relatively recent survey data. Most studies investigated the issue using survey data collected from the early 2000s or before 2000. This analysis adds new insights to the study of economic returns in China. Also, this study focuses on individual-level income and wealth inequality in both urban and rural contexts. The current literature examined the party membership effects on household income and wealth with cross-sectional data and concluded that the effects was significant and positive in rural and urban areas [Jin and Xie, 2017, He and Xie, 2022]. While this study presented similar results on the individual level to the previous research with the cross-sectional data, the panel data covering every other year from 2010 to 2018 suggested that the party membership effect was instead insignificant with a within-individual fixed-effect model.

There are some limitations to the study that can be improved in the future. To build a convincing fixed-effects model, one needs to complete more analysis to understand the sample composition. Variables that do not change or change a little throughout the years should not be placed in the model. The fixed-effects model is unable to discern the impact of observed variables that are time-invariant [Appleton et al., 2005]. Also, some years, such as 2014, contain relatively fewer observations than others after removing missing data for income and party membership, which could make the results biased. Further study should check every determinant of income that is included in the fixed-effects model and see if it stays the same throughout the years in the panel data. In this analysis, only gender is removed from the model as

it was unlikely to change during the five waves of the survey study. Further study can also examine the interactive effect of party membership and gender on income to gain a deeper understanding of economic returns in China. On the other hand, based on Lin's social capital theory [Lin, 2002], the impact of capital inequality on social inequality in the marketplace is also an intriguing topic to explore. Further study can focus on examining the impacts of unequal acquisition of capital and unequal returns to capital, particularly how they contribute to income and wealth inequality.

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