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On the evolution of the wage premium for party membership in China

Alessia Amighini[1][2], Weidi Fang[3], Martin Zagler[1,3]

Abstract. We analyze the evolution of wage differentials between party members and non-members across more than two decades (1995-2018). We apply the Oaxaca-Blinder composition method to disentangle the contribution to the wage gap of different levels of human capital from discrimination against non- members. We also run quantile regressions to estimate the slope of the wage premium functions applying the Machado-Mata decomposition. Our results show party wage premium has decreased over time, but it is still high. There is also evidence of a widening divergence between urban and rural workers, with the former getting higher wage premia since 2013, while the latter have lost most of their return to party membership and is still positive only for workers in the top quintile. A positive discrimination for CPC members (not justified by characteristics) started in 2013; the party still recruits elites but over-pays them for party loyalty more than for their qualifications, attracting opportunists.

1. Introduction

> *"An ability to groom talented officials largely determines the rise and fall, as well as the survival or demise of political parties and countries."*
> (Xi Jinping, as cited in the Economist on 23 September, 2023)

This paper aims to shed light on the success of the recruitment process of the Chinese Communist Party (CPC) over the last decades. The impact of party membership on wage levels in China has been frequently investigated in the literature. A recent meta-analysis has found 622 estimates extracted from 71 English and Chinese articles since 2000 (Ma and Iwasaki 2021). Most estimates suggest that Communist Party of China (CPC) membership positively affects wage levels, but results are not conclusive as regards the size and evolution of wage premia for party membership

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over time. Most of the oldest studies have been conducted either on single-time or limited coverage cross-sectional survey data, or with empirical strategies that do not allow to disentangle among the various explanations of wage differentials between party members and non-members. Only recently have some studies been refined in terms of data and methodology, as well as time coverage, but none so far has included all available cross-sectional survey data on workers in both urban and rural China.

In this paper, we analyze the evolution of wage differentials between CPC members and non-members over more than two decades (1995-2018). We apply the Oaxaca-Blinder (1973) decomposition method to estimate the contributions to the wage gap of the explained differences (due to different levels of human capital) and unexplained differences (due to discrimination against non-CPC members, or unobservable ability), which allows to disentangle the human capital effect from political and social capital effects. To our knowledge this is the first paper to present the Machado-Mata decomposition based on quantile regressions to estimate the slope of the wage premium functions for urban and rural workers. Our main contributions to the literature are the following. First, unlike the previous literature, we rely on data spanning over more than two decades and include four-time points of cross-sectional survey data that allow tracking wage gap trends between CPC members and non-members across various eras of Chinese reforms since the early 1990s (Chinese Household Income Project (CHIP) surveys 1995, 2002, 2013 and 2018)[4]. Second, we include both urban and rural workers in different areas of China. Rural workers have invariably been excluded from the data in previous research on the wage impact of party membership, due to their negligible share until the 1990s (18.5% of CPC members in CHIP 1995), but this is no longer appropriate in later surveys, as they account for about 30% of party members since the early 2000s.

Our results are consistent with the more recent evidence on wage premia for CPC members that are not due to higher human capital compared to non-members (Ma, 2022). Moreover, by comparing data across more than two decades, we can further show the following: First, the party wage premium has decreased over time, from an average of 50% in 1995 and 2002 to 30% in 2013 and 2018. Second, the slope of the wage premium function has shifted. Whereas in 1995 lower quantiles of the income distribution received higher membership premia, in 2002 the curve is flat (everyone received the same premium), and in 2013 and 2018, the wage premium is (mostly) increasing, meaning that well paid individuals received a higher premium for party membership than low paid ones. Third, most of the wage differences in 1995 and 2002 are due to workers' characteristics. That basically means that the party recruited

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[4] The Chinese Household Income Project (CHIP) was initiated in 1988, before the beginning of economic reforms that started in the early 1990s, and so far, it has produced a total of five rounds of surveys.

the more qualified people ("the elites") of the workforce, hence there is no pure discrimination present. In 2013 and 2018, however, 10 to 15 percentage points (a third of total wage differences) is not due to workers' characteristics, i.e. party members get a higher wage even for identical characteristics, which suggests pure discrimination against non-members. Fourth, there is some evidence of a widening divergence in the function of party membership between urban and rural workers, with the former getting higher wage premia since 2013 (especially the mid to top quantiles of the wage distribution), compared to rural workers who have lost most of their return to party membership. Overall, positive discrimination for CPC members (not justified by characteristics) shows up clearly since 2013; the party still recruits elites but over-pays them for party loyalty and not only for their qualifications. This is consistent with abundant anecdotical evidence from qualitative studies on the CPC, pointing to an increasing trend of pay assessment according to party loyalty at least since 2009 (see, e.g. McGregor, 2012)[5]. Moreover, higher premia for urban members compared to rural ones confirms China's policy aimed at achieving an expansion of the middle class in urban China (Su and Heshmati, 2013), to the detriment of rural citizens.

The remainder of the paper is structured as follows. Section 1.1 reviews the empirical literature on the wage gap between CPC members and nonmembers. Section 1.2 describes the evolution of party membership over time and discusses the relevant hypotheses for CPC wage premia advanced in the extant literature, and Section 1.3 describes wage negotiations in change. Section 2 describes the data. Section 3 presents the methodology, results, and robustness of the Oaxaca-Blinder decomposition. Section 4 does the same for Machado-Mata decomposition by quantiles. Section 5 concludes.

1.1.   Literature review

Assessing the wage gap related to party membership in China has attracted a lot of scholarly interest over the years, as a chief case study on the role of human vs. political capital in accessing higher-wage jobs. Most empirical studies used the CPC membership dummy variable as a control variable in wage function and showed that CPC membership positively affects the wage level (e.g., Gustafsson and Li 2000; Ma 2018a; Wang and Lien 2018; MacDonald and Hasmath 2018; Yan 2019; Gustafsson and Wan, 2020). By contrast, a set of studies, such as Li (2003), Li et al. (2007), Gao and Smyth (2010a), Li et al. (2012), Xing (2014), Mishra and Smyth (2015), Wang, Milner, and Scheffel (2017), McLaughlin (2017), and Ma (2018a), reported that the effect of party membership on wages is not

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[5] McGregor (2012) refers to all sectors, including services and legal services: "Nearly all law firms, about 95 percent, had party committees, which assessed lawyers' pay not just according to their legal work but to their party loyalty as well." (p. 23).

statistically significant. A few studies directly investigated the impact of CPC membership on wage levels (Li et al. 2007; Appleton et al. 2009; McLaughlin 2017; Yan 2019; Ma and Iwasaki 2019). Table A1 gives an overview of the literature.

The mixed results in previous studies are likely to come from the different econometric methods and survey data used. For the methods of estimation of wage premium of CPC membership, most previous studies use the ordinary least squares regression (OLS) model or quantile regression (QR) model to estimate the wage premium of CPC membership. A few studies addressed the heterogeneity problem using a fixed-effects model (Appleton et al. 2005; Li et al. 2007). Some studies addressed the selection bias problem using a selection-adjusted wage function, such as a Heckman two-step model or a Maddala model (Yueh 2004; Appleton et al. 2009; Ma 2018a). Few studies have used the instrumental variables (IV) method to address the endogeneity problem (Mishra and Smyth 2015; McLaughlin 2017).

Only recently have decomposition models (the Blinder–Oaxaca model, the Oaxaca–Ransom model, and the Oaxaca–Choe model) been applied in studies on the wage gap between CPC members and non-members. Their aim is to investigate how the explained (differences in human capital) and unexplained (discrimination against CPC members, unobservable ability) differences contribute to the wage gap, but only considering the urban population (Ma, 2022a). Ma (2022b) extends the time span covered from 2002 to 2018 (using three CHIPs surveys: 2002, 2013 and 2018), but still limits to the urban population, although the share of rural residents in half of the samples surveyed is greater than that of urban residents. Her results show that education is the main contributing factor to the wage gap between CPC members and non-members in 2002, 2013 and 2018. Moreover, the endowment difference in the wage gap is greater for workers in State-Owned Enterprises (SOEs) than elsewhere.

The issue of the wage premium of CPC membership is linked to another important issue in contemporary China: rising income inequality. Income inequality shows up between party members and non-members. Higher wage and more powerful jobs are granted to workers through their political loyalty to the CPC, not because the CPC attracts the best workers. This contradicts views on the CPC's recruiting strategy shifting from selecting politically loyal people to "rewarding educational credentials and occupational competence as a result of marketization" (Gu and Zheng, 2018, p. 501). Income inequality also shows up between urban and rural workers, not only due to higher human capital, higher opportunities, and higher wages in urban employment compared to rural, but also due to different returns to political capital in the form of party membership in urban vs. rural China: According to Yan (2019), party membership had a statistically significant and positive effect on non-farm earnings in rural China, but those effects decreased rapidly over time. In

contrast, party membership exerted more and more of an effect on earnings in urban China.

Moreover, the issue of the inheritance of CPC membership finds support in the data. Empirical studies tend to suggest membership is not limited to the best candidates, unconditionally on other characteristics. Ma (2022a) finds that the probability of gaining CPC membership does not show a completely random distribution, but it is higher for a male worker and a worker with parents who are CPC members. The evidence of inheritance of CPC membership combined with pure discrimination against non-members on wage levels suggest a trend towards increasing selection of citizens into the CPC among those who already are from a family showing utmost political loyalty and who are granted economic benefits compared to non-members.

Therefore, analysing the party membership function in China, its structure and its evolution over time is an important step in understanding whether, in China's transition from a planned economy to a market-oriented economy, the principle of competition has been introduced in the labour market (Yan, 2019). It is often thought that the value of political capital has a weak relationship to labour productivity, while the value of human capital contributes positively to labour productivity. A well-known study utilizing micro-data from a farm survey (Nee, 1989) performed an empirical analysis under the hypothesis that marketization weakens the earning premium for political capital, while raising the rate of return for human capital. Hence, a market transition hypothesis was advanced, stating that as markets expand over hierarchies in Chinese governance structures, then labour productivity is expected to increase. However, there are many other empirical studies that do not support Nee's hypothesis. Much of the literature supports the positive influence of *both* human and political capital on individual employment, promotion, and earning as marketization of the economy progresses.

1.2. Party membership and hypotheses for the CPC wage premium

The Communist Party of China (CPC) had only 53 members when it was founded in 1921 by Chen Duxiu and Li Dazhao; it now counts 96.71 million, 6.85 percent of the population (Guo, 2022). Notwithstanding a long and demanding selection process, with a low acceptance rate, applications are about 20 million per year (Table A2). The composition of the CPC membership has also evolved considerably over a century of life, attracting progressively more intellectuals, professionals and entrepreneurs: the share of blue-collar and rural workers in the party fell from 41.5 percent in 2007 to 34.8 in 2019, while the proportion of managers increased from 22.4 to 26.7 percent, according to the party's organization department.

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This is not surprising, given that the influence of the CPC is still remarkable in many areas, including on firm management. In both state-owned enterprises (SOEs) and privately-owned enterprises (POEs), each firm must accept management, supervision, and guidance from a CPC organization.[6] Although only 8.4 percent of members worked for the party and government entities as of 2019, positions of authority everywhere in the country are most likely held by party members. Direct connections to the party help party-building activities and secure favorable regulatory or tax conditions, as well as access to resources such as bank loans (Li et al., 2007). Even less than top advertised positions often require CPC membership (Dickson, 2021). Therefore, party membership can be a career boost, both in terms of job types and wage levels.

Membership rose at an average of 2.4 percent annually between 2002 and 2012 (under Hu Jintao as the party's general secretary). In 2013, at the beginning of Xi Jinping's first government mandate, the party's organization department set an annual growth rate target for membership of 'about 1.5 percent' over the following decade to 'control numbers' and 'improve the quality' of members (Guo, 2022). Despite that mandate, acceptance rates have ranged between 8.8 and 12.3 percent since 2013, and peaked to an unprecedented 21.3 percent in 2021, the first century's anniversary (with more than 4.38 million people joining that year). As a consequence, CPC membership was 3.7 percent up from the 2020 figure, and 15.9 percent more than the figure when the 18th CPC National Congress was held in late 2012, according to a report ahead of the 101st founding anniversary of the CPC on July 1 2022.

The composition of Party membership has continuously improved with better levels of education and steady growth in the proportion of female members and those from ethnic minority groups. About 51.46 million Party members, or 53.2 percent of the overall membership, hold junior college degrees or above, 1.3 percentage points higher than that at the end of 2020. As of the end of 2021, the CPC had 28.43 million female members, accounting for 29.4 percent of the total membership, up 1 percentage point from a year earlier. The proportion of members from ethnic minority groups grew by 0.1 percentage points to 7.5 percent. Workers and peasants continue to make up the majority of the CPC members, accounting for 33.6 percent of the total membership. The leading force of Party organizations at village and community levels has also been improved, featuring a rising proportion of Party secretaries aged 35 and below and those with junior college degrees or above.

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[6] Article 19 of The Company Law of the People's Republic of China (revised in 2013) states: "In a company, an organization of the Communist Party of China shall be established to carry out the activities of the party in accordance with the charter of the Communist Party of China. The company shall provide the necessary conditions for the activities of the party organization."

Five main hypotheses have been identified in the theoretical debate about the influence of CPC membership on wage differential compared to non-members (Ma and Iwasaki 2021).

Human capital effect. According to the human capital theory (Becker 1964; Mincer 1974), individual abilities (including organizational ability, collective control capability, job motivation, and non-cognitive social ability) allow workers to succeed in entering the CPC, and therefore to reach higher paid jobs not directly because of party membership, but due to their higher human capital. Conventional wisdom has it that CPC members have higher human capital, considering the hard selection process they have to pass to enter the party. The data show that indeed the share of CPC members with above junior college degree increased from in 38.6 percent 2011 to 53.2 percent in 2021 (data from Statista.com). Therefore, to the extent that CPC members do have higher human capital (a higher education level) than nonmembers, the wage level of CPC members shall be higher due to the human capital effect.

Signaling effect. According to the signaling hypothesis (Spence, 1973), CPC party membership may operate as a signal of higher ability to navigate the complexities of the Chinese system and stronger political loyalty (both unobservable abilities independent on the level of human capital). Therefore, CPC members would achieve higher wages than non-members even in the absence of different characteristics.

Political and social capital effect. Unlike CPC nonmembers, members can use party organizations and connections to obtain economic benefits (Bian 1994, 1997; McLaughlin 2017), so they can reach better positions linked to higher wage levels.

Marketization hypothesis. There is a view according to which market-oriented reforms would reduce the benefits from recruiting CPC members, to the extent they may interfere with the profit-maximizing decisions of firms (Nee, 1989).

Negative rumor hypothesis. Corruption and other income-seeking activities by CPC members have become increasingly apparent since the 1990s. From 2012 to 2017, approximately 1,537,000 party members were sanctioned because of legal violations, and approximately 58,000 were put on trial. Therefore, since Xi Jinping enforced an anti-corruption campaign in China starting in 2012 to eradicate the negative reputations caused by corruption and legal disputes among CPC members, the party reputation has deteriorated, and the advantage of recruiting CPC members (or workplace discrimination against non-members of CPC) may have decreased.

The human capital effect, the signaling effect, and the political and social capital effect all suggest that CPC membership positively affects wage

levels, while the marketization hypothesis and the negative rumor hypothesis suggest that CPC membership may negatively impact on wages. Overall, the direction of the impact of party membership on wage levels in China is an empirical issue that we explore in the next sections.

1.3.   Wage Negotiations in China

Labor law is a recent development in China, and still lags far behind those of large developing countries. The International Trade Union Confederation (ITUC) ranks China under its fifth category, i.e. "…the worst countries in the world to work in. While the legislation may spell out certain rights workers have effectively no access to these rights and are therefore exposed to autocratic regimes and unfair labor practices." China's official policy has started adopting a variation of bargaining models on minimum wage rather than a unified approach on a national scale. The most prominent experiments of this approach have been in Guangdong and Zhejiang. The 'Guangdong model' of collective bargaining emerges in a context of large-scale, export-oriented manufacturers and promotes a hybrid worker representation. The so-called 'Wenling model' that emerged in Zhejiang is geared towards clusters of small and medium size firms. Even in those provinces, still today the major issue in China's labor market is the preference for agency labor to avoid signing labor contracts (Brehm, 2017). Most wages in China are hence negotiated on an individual basis.

The 2008 Labor Contract Law is by far the most important, and controversial, new law implemented in the reform period, specifying that workers are entitled to a detailed written employment contract when they are hired and severance pay (based on length of employment) if they are laid off. The Labor Contract Law was amended in 2013, in an attempt to fix the loopholes related to the hiring of agency labor. But employers continue to evade their legal responsibilities and lobby the government to relax certain provisions of the law that, they claim, restrict the hiring and firing of employees. At present, some enterprises not only use labor agencies, but also develop other ways to avoid the formal labor relationship between employees and enterprises, such as through contracting agreements and labor outsourcing, and some enterprises even require employees to register as independent self-employed workers and sign service agreements that are not even labor contracts.

This still occurs despite the first two major pieces of legislation - the 1992 Trade Union Law and the 1995 Labor Law - that established the fundamental rights of workers to be paid in full and on time, receive overtime payments and paid leave, and to be represented by a trade union. According to the China Labour Bulletin (2023), although all workers in China have the right to form or join a trade union, that right is severely curtailed in that all enterprise unions must be affiliated with

the one legally-mandated body, the All-China Federation of Trade Unions (ACFTU). Any attempt to establish an independent trade union will be seen by the Chinese Communist Party as a political threat and dealt with accordingly. The only time in the history of the People's Republic of China that an independent union was established was the short-lived Beijing Workers' Autonomous Federation (BWAF) in the spring of 1989. The BWAF was declared an illegal organization and disbanded in the wake of the military crackdown in Beijing on 4 June 1989. The failure of the ACFTU to stand with its members has meant that, after four decades of economic reform, the majority of China's workers have yet to benefit from the country's so-called "economic miracle," while a small group of Party and business leaders has become obscenely wealthy. Moreover, this extreme wealth inequality has worsened over the last five years as China's fast-paced economy slows down and an ever-increasing number of workers are consigned to low-paid, precarious employment with little or no welfare benefits. Even Premier Li Keqiang admitted in a press conference at the end of the 2020 National People's Congress that, based on official statistics, 600 million people in China still had an average income of less than 1,000 yuan. In 2022, the official claim is that the number of people in flexible employment has reached 200 million.

2. The Data

This study uses survey data from China Household Income Project (CHIP) in 1995, 2002, 2013, and 2018. This project is conducted by the Beijing Normal University, with assistance from the National Bureau of Statistics (NBS). Each wave of the project contains urban, rural as well as rural-to-urban migrant household data that are distributed more than 10 provinces in China. The survey questionnaires include household or individual income, job information, individual information. Thus, the information set includes all the variables we need in this study.

The filtering process is quite simple. We remove all observations whose primarily income is not positive. We keep the observations for workers between 16 and 60 years of age, because 16 is the minimum legal working age and 60 is general retirement age. We account for different groups of workers, according to: Gender, Ownership (Public vs. Private), Area (Urban vs. Rural). Table 1 shows the final number of observations of each group.

There was a total number of observations of 15 804 in 1995, 12 289 in 2002, 23 715 in 2013 and 28 786 in 2018. The share of party members where 21.1%, 16.0%, 12.0% and 11.9% respectively. The sample included more and more rural workers, with the share of urban workers, declining from 69.7% in 1995, to 49.0%, to 37.0% before increasing to 55.0% in 2018. Most party members lived in urban areas, namely 81.5%, 71.3%, 65.4% and 71.0%, respectively.

Table 1 Sample description

	1995		2002		2013		2018	
Party	Yes	No	Yes	No	Yes	No	Yes	No
Total	3339	12465	1966	10323	2847	20868	3425	25361
Urban	2722	8290	1401	4617	1863	6908	2433	13409
Rural	617	4175	565	5706	984	13960	992	12222
Public	2599	6733	1065	2540	1775	3375	2035	4512
Private	29	697	418	4575	662	14093	794	16621
Male	2511	6869	1468	6193	2080	12474	2350	14987
Female	828	5596	498	4130	767	8394	1075	10644

Source: China Household Income Project (1995, 2002, 2013, 2018)

The dataset offers information on wages as well as individual, demographic, and occupational characteristics. The variable of interest (dependent variable) for our analysis is wages. Unfortunately, the 1995 wave of CHIP provides only annual income, whereas all other waves provide hourly income. This is clearly a limitation of the analysis, and results for 1995 should be treated with care. In particular, should party members be more likely to work in full time jobs, we would overestimate the party wage premium. Both annual and hourly wages were converted in logs to obtain semi-elasticities in our estimation.

The explanatory variable in our analysis is party membership. We have described in chapter 3 the difficult and random character of joining the Communist Party of China, and we have given the distribution of party members in our sample above. Figure 1 presents the kernel density of (log) annual income (1995) or (log) hourly income (all other years) for the entire sample.

Figure 1 Kernel density of (log) income
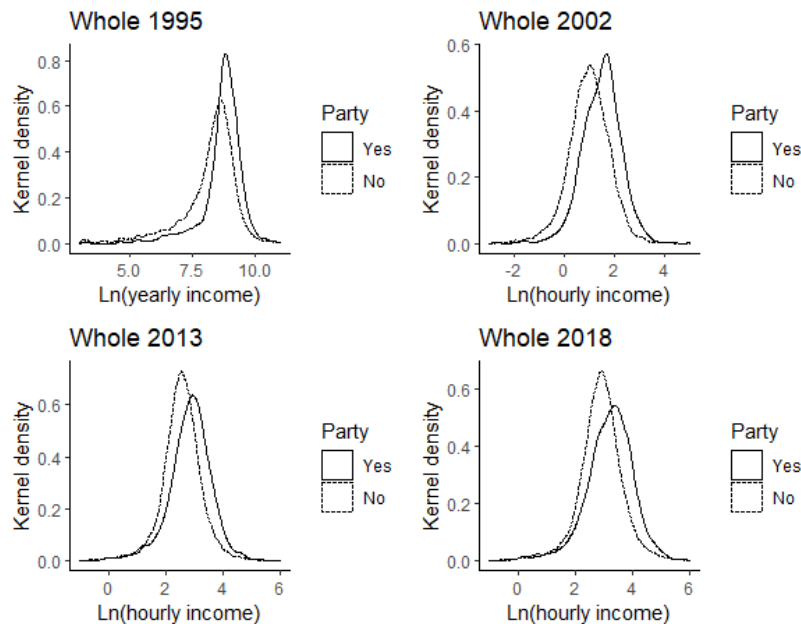
In the appendix, we present the kernel density for the urban and rural population separately. We find that there appears little to no difference between CPC members and not for the rural population, whereas the graphs look similar for the urban population and the whole sample. Note

that the kernel densities for the urban population are virtually identical to Ma (2022). Currently (2022) around one third of the Chinese population lives in rural areas, and it would be a neglect to ignore this group altogether. Form figure 1 above, it appears that party members obtain a higher income. Figure 2 below shows the unconditional wage premium for party members by quantiles of the income distribution for all four waves of the survey. The data seem to show that party membership seems to pay off, without controlling for individual characteristics.

Figure 2 Unconditional CPC wage premium
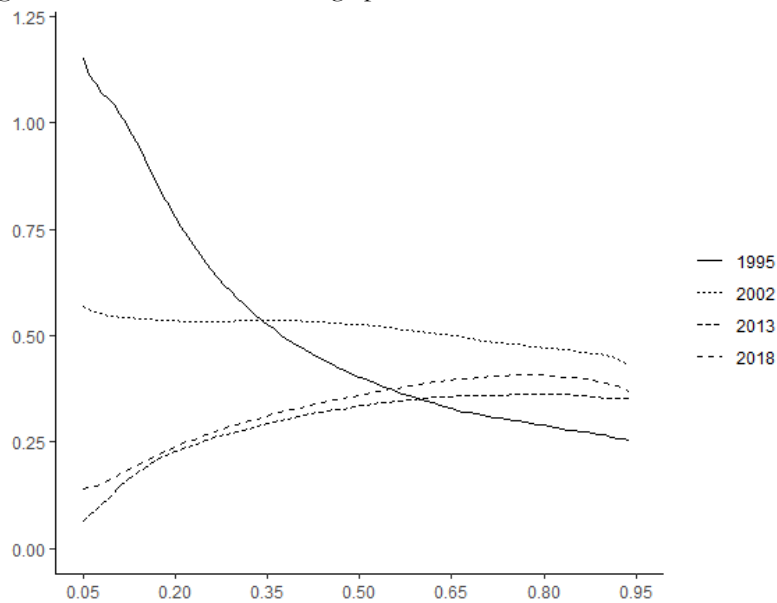
The 1995 CHIP shows a sharp drop in the CPC wage premium from the lowest income earners (with a wage premium above 100%) to the highest earners (where the wage premium is around 25%). Note that this may be due to the fact that we only register annual income and not hourly income in 1995. The 2002 curve is still falling, from 55% for the lowest incomes to around 45% for the highest incomes. The CPC wage premium was lower in 2013 than in 2002 (and even a bit lower than in 2018). This result confirms the conclusions that the wage premium of CPC membership decreased from 2002 to 2013 as the market-oriented economic reform progressed. Interestingly, the curve has turned and is now upward sloping. Low income earning party members had a 5% (in 2013) or 15% (in 2018) wage premium, whereas high earning party members achieved a wage premium of 35% to 40%. This is of course purely descriptive, as we have not controlled for any factors that might influence the results.

In order to do this, we have employed a number of control variables to ensure that our results provide evidence for pure (positive) discrimination of party members. In particular, we control for gender (male versus female), marital and ethnic status, years of schooling, experience, age group (16-24, 25-33, 34-42, 43-51, 52-60), area (urban versus rural), region (western, eastern, central, northeast), occupation (manual worker, manager, clerical worker, commercial, other), ownership (public, collective, joint venture, private, other) and the economic sector (manufacturing, mining, agriculture, utilities, transport, IT, wholesale and retail, finance, science, environmental management, education, health,

public sector and other). We have always picked the first category as our reference group.

Table 2 Descriptive statistics

	1995		2002		2013		2018	
Party	Yes	No	Yes	No	Yes	No	Yes	No
Income (log)	8.7	8.1	1.5	0.95	2.8	2.5	3.2	2.9
School (year)	11.0	9.2	11.0	9.0	12.0	9.5	13.0	9.9
Experience	25	17	26	18	23	21	23	22
Experience^2	699	404	735	436	666	566	672	607
Gender (f)	0.25	0.45	0.25	0.40	0.27	0.40	0.31	0.42
Married	0.97	0.79	0.96	0.77	0.91	0.80	0.92	0.83
Ethnic (Han)	0.039	0.044	0.048	0.060	0.059	0.057	0.053	0.050
Urban	0.82	0.67	0.71	0.45	0.65	0.33	0.71	0.52
Observations	3339	12465	1966	10323	2847	20868	3425	25361

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Full statistics (age group. region, industry, occupation) are available upon request. Not income (log) in 1995 is annual income, whereas it is hourly income in all other years.

Figure 3 Regions in China
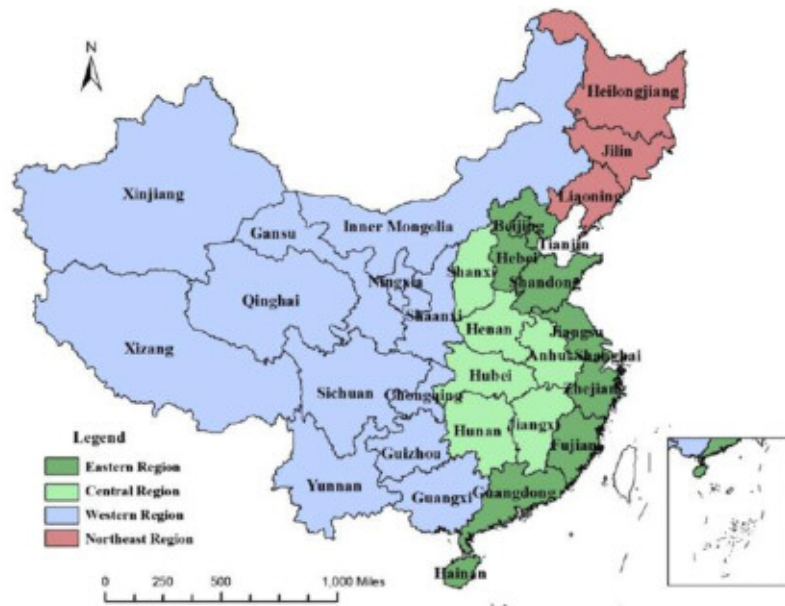
Source: Zhang et al (2022)

Experience was recorded in the 2013 survey only. For all other years we have constructed the variable as follows. For individuals that left school before the age of 16, we defined experience as age minus 16. For individuals that left school after 16, we have identified experience as age minus years of schooling minus 6 (which is the school entry year in China). We have also included the square of experience in our data. Because of the strong correlation with age, we dropped the age variable from our sample.

3. Oaxaca-Blinder decomposition

3.1. Methodology

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Given that our focus is on the wage premia associated with party membership rather than the broader wage gap, it is important for us to differentiate between wage differences resulting from workers' individual characteristics and those resulting from party membership. To put it differently, we aim to address the following question: what would the wage distribution of non-membership workers look like, if the returns to characteristics of non-membership are the same as party-membership workers?

The conventional methodology to answer this question is the Oaxaca-Blinder decomposition. Here, we first estimate the wage equation for the two groups (members and nonmembers) based on the Mincer's wage determination equation. Let W denotes wage and X the covariates. The wage equation of party-membership can be written as:

$$,$$

whereas for non-membership it equals:

$$.$$

Thus, the mean raw wage difference is:

$$\overline{\quad} - \overline{\quad} \quad - \quad - \quad .$$

If we add and subtract the counterfactual distribution of the non-membership group $\quad$ we have:

$$\overline{\quad} - \overline{\quad} \quad - \quad - \quad - \quad - \quad .$$

The first element is due to differences in individual characteristics, whereas the second term is due to different coefficients. The latter can be interpreted as a party premium (positive discrimination in favor of party members irrespective of qualification) in our current context.

$$\overline{\quad} - \overline{\quad} \quad - \quad - \quad \quad - \quad .$$

3.2.   Main Results

Following the Oaxaca-Blinder methodology, we first estimate the two groups (party members and not) for all four waves separately. Table 3 presents the results[7].

We find that education has a positive impact on income. An additional year of schooling yields between one percent (CPC members, 1995) and seven percent (CPC members, 2018) higher income. Experience also pays off, with diminishing returns. The first year rewards between an additional 1.5% (non party members, 2013 and 2018) and 5% (non party members, 1995). Towards the end of a working life (40 years of

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[7] We present results for the urban and rural population separately in the appendix.

experience), an additional year only yields between 1.3% (1995) and 0.2% (non party members, 2013) only. With the exception of CPC members in the first two waves (1995 and 2002), women get paid between 5% (CPC members, 2002) and 24% less (non party members, 2018). Living in an urban area leads to higher wages, even more so for party members. The premium lies between zero (non members, 2013) and 67% (members, 2002). There is little to no evidence for a wage premium for being married of belonging to the Han ethnic group. We find that the remaining control variables all matter (in a consistent manner). The type of occupation, sector, region and ownership all have an influence on income. As the Chinese income distribution widens over time, the regression can explain less and less of the variation of the data.

Table 3 OLS estimation of Mincer equations

	1995		2002		2013		2018	
Party	Yes	No	Yes	No	Yes	No	Yes	No
School	0.0098	0.0243	0.0372	0.0376	0.0584	0.0374	0.0669	0.0406
(years)	*(0.0039)	***(0.0032)	***(0.0062)	***(0.0031)	***(0.0074)	***(0.0022)	***(0.0069)	***(0.0022)
Experience	0.0291	0.0488	0.0165	0.0289	0.0312	0.0142	0.0288	0.0148
	**(0.0090)	***(0.0049)	(0.0115)	***(0.0045)	***(0.0104)	***(0.0037)	***(0.0104)	***(0.0036)
Experience^2	-0.0004	-0.0009	-0.0002	-0.0004	-0.0006	-0.0004	-0.0009	-0.0005
	*(0.0002)	***(0.0001)	(0.0002)	***(0.0001)	***(0.0002)	***(0.0001)	***(0.0002)	***(0.0001)
Gender	-0.0452	-0.1250	-0.0534	-0.1223	-0.1701	-0.2589	-0.1186	-0.2444
(female)	(0.0255)	***(0.0160)	(0.0357)	***(0.0152)	***(0.0317)	***(0.0105)	***(0.0297)	***(0.0101)
Married	0.1644	0.0249	0.0151	0.0489	-0.1113	0.0546	0.0215	0.0708
	*(0.0812)	(0.0311)	(0.0844)	(0.0269)	(0.0603)	***(0.0160)	(0.0561)	***(0.0157)
Ethnic (Han)	0.0308	-0.1114	0.2035	0.0239	0.0475	0.0346	0.1359	0.0034
	(0.0546)	***(0.0036)	***(0.0706)	(0.0302)	(0.0583)	(0.0213)	***(0.0587)	(0.0217)
Urban	0.4394	0.2914	0.6763	0.5144	0.1535	-0.0255	0.1914	0.0340
	***(0.0514)	***(0.0289)	***(0.0494)	***(0.0232)	***(0.0362)	*(0.0124)	***(0.0333)	**(0.0106)
CONTROLS								
Sector	x	x	x	x	x	x	x	x
Ownership	x	x	x	x	x	x	x	x
Occupation	x	x	x	x	x	x	x	x
Age group	x	x	x	x	x	x	x	x
Region	x	x	x	x	x	x	x	x
R^2	0.5262	0.4974	0.3451	0.3220	0.1932	0.1202	0.2328	0.1379
Adj. R^2	0.5214	0.4960	0.3332	0.3196	0.1828	0.1187	0.2246	0.1366
Observations	3339	12465	1966	10323	2847	20868	3425	25361

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Full results are available upon request.
Standard deviations in parenthesis: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Table 3 shows that there are differences in coefficients between members of the CPC and not, and this indicates pure discrimination. We follow the Oaxaca-Blinder decomposition presented above to identify differences in wages based on different characteristics and based on discrimination (coefficients). Table 4 gives these results.

*Table 4* Oaxaca-Blinder decomposition of the CPC wage premium

	1995	2002	2013	2018
Total difference in income	0.5263	0.5107	0.2829	0.3167
by characteristics	0.4294	0.4673	0.2760	0.2898
by coefficients	0.0969	0.0433	0.0130	0.0270
Explained income premium	81.59%	91.52%	95.50%	91.48%

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018)

As demonstrated in figure 2 above, there is a continued income premium for members of the Chinese Communist Party. This income premium has fallen from around 50% in 1995 and 2002 to around 30% in 2013

and 2018. A large part of this premium, however, can be explained by differences in characteristics. CPC members are more educated, more experienced, more male, and probably work in the "right" firms, sectors, regions, and occupations. In the last three waves of the survey, only less than 10% of the income premium cannot be explained by characteristics. (Positive) discrimination of CPC members gave them a 10% higher income in 1995, a 4% higher income in 2002, only a 1% higher income in 2013 and a 3% higher income in 2018. According to the Oaxaca-Blinder decomposition, there may be a little bit of discrimination, but certainly not very much. Figure 4 below shows the Oaxaca-Blinder decomposition graphically.

Figure 4 Oaxaca-Blinder decomposition of the CPC income premium
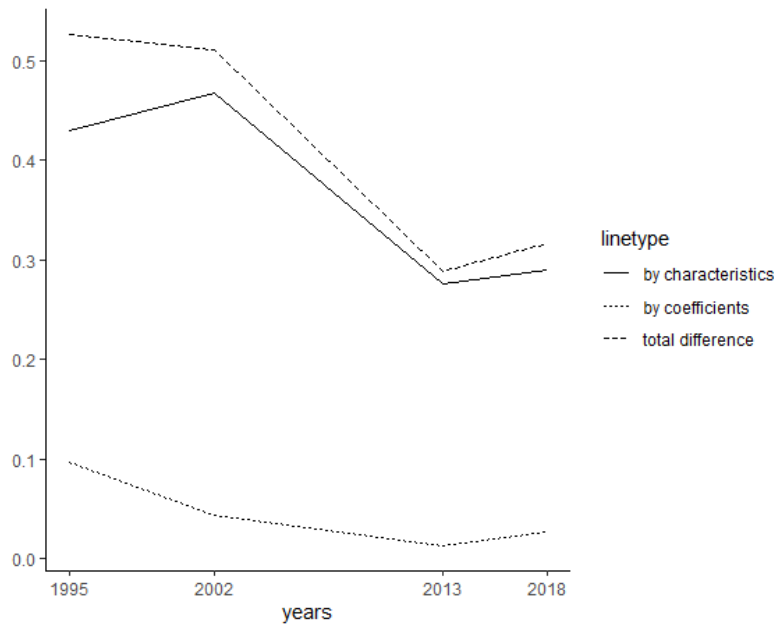
However, entering the "right" industry or being promoted to the "right" occupation, and even transferring from a rural to an urban area, may also be a result of party membership, so the estimates obtained above may be a lower bound. We will discuss another limitation of the Oaxaca-Blinder method in the following section, when we will apply quantile regressions and the Machado-Mata decomposition method. Before, we would like to present a few robustness checks.

3.3.   Robustness tests

We have run the analysis for several subgroups of the sample. In particular, we have distinguished between individuals living in urban and rural areas, between workers in the public and private sector, and between men and women. Table 5 below summarizes the results.

The first row repeats the results of table 4. The second line essentially reproduces the results obtained by Ma (2022b), limiting the sample to the urban population only. Whilst we cannot estimate the wage premium in 1995 (just like Ma) due to a lack of data, we also observe that the unexplained part of the income premium has decreased from one third

in 2002 to 11% in 2013 and 4% in 2018. Results for the rural population are interesting. We find a strong negative income premium in 2013 and 2018 (a lack of data does not allow us to estimate it for 1995 and 2002), implying that joining the party leads to a decline in income. This may be due to the quality of the data, but may also be explained by ideology (people join the party because they believe in their ideals irrespective of personal gain) or by non-instantaneous non-immediate factors. CPC membership may imply privilege and/or a ticket out of "misery" with a job posting in the urban centers, otherwise unachievable. We observe a small decline in the explained premium for individuals working in the public sector, and interestingly an even stronger decline in the private sector, where party members may be recruited not for their qualifications but for their contacts to the party and public contracts.

Table 5 Explained CPC income premium by categories (in %)

	1995	2002	2013	2018
Total	81.59	91.52	95.50	91.48
Urban	-	66.57	88.58	95.62
Rural	-	-	-105.4	-62.88
Public sector	-	80.07	76.65	72.26
Private sector	-	-	77.64	63.36
Male	82.04	98.57	92.79	103.31
Female	-	80.48	118.12	102.28

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Estimation results available upon request.

Last, when looking separately at men and women, we find that for the first available datapoint (men in 1995 and women in 2002), we can explain 80% of the wage differentials. Moving forward, the entire wage differential gets explained by characteristics.

4. Machado and Mata decomposition

4.1. Methodology

The big disadvantage of the Oaxaca-Blinder decomposition method is that it looks at means only, thus averaging out a lot of heterogeneity within the data. In order to account for this, we apply the decomposition method on conditional quantile regression proposed by Machado and Mata (2005) and further developed by Melly (2005).

As an extension of OLS regression, quantile regression (Koenker and Bassett, 1978) is based on the conditional quantiles of dependent variable **Y** by giving a matrix of independent variable **X**. By the following linear regression form:

$$Y = \beta X + \mu$$

The quantile regression is the solution to the following minimization problem:

where   denotes the value of the quantile with   .

The counterfactual analysis of the Machado-Mata decomposition method is based on the coefficients of the quantile regression. The problem of the quantile regression is   thus the coefficients of the quantile regression describes the impact of covariates **X** on each quantile rather than on individual observations. To solve this problem we need transpose the conditional distribution of **Y** on **X** to a marginal distribution (unconditional distribution) of **Y**. Of course, we could derive the unconditional distribution directly from the data, however, such distribution does not contain any information of **X**.

The procedure of Machado Mata method can be described as follows:

1. Draw a random sample of size   from the uniform distribution   :   , let   be the quantiles.
2. Estimate   for each   and obtain   rows of coefficients   for   each   quantile   regression.   Do   the   same   for   non-membership sample and obtain   rows of coefficients   .
3. Generate a random sample of   columns from the real sample   with replacement, denotes as   . Do the same for non-membership group and obtain   .
4. Mimic the marginal distribution for party-membership sample: . And for non-membership group: .
5. Build counterfactual distribution for non-membership group: .

The total wage difference can be decomposed into two parts, difference in the distribution of characteristics and changes in the coefficients (discriminatory part):

4.1.   Main Results

Tables 6a and 6b below show the results of the quantile regressions in 2018 for members of the CPC and those that are not members[8]. We show the estimates for the 5%, 20%, 35%, 50%, 65%, 80%, and 95% threshold ($|$).

The model performs well in estimating Mincer equations for all quantiles except on the edge, at the 0.05 and the 0.95 percentile. This is true for all four waves of the survey, irrespective whether we look at CPC members or individuals without party membership. So these results should be treated with care.

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[8] We refrain from presenting the regression output for all other years for the sake of space. These data are available upon request.

We find that education matters. There is a consistent wage premium of 4% for non-members and of 6 to 7% for members in 2018. When comparing medians (0.50) over the years, we observe lower returns to education. In 1995, the education wage premium was 1% for members and 2% for nonmembers, it was 3% and 4% respectively in 2002, it switched to 4% and 5% in 2013 and 7% and 4% in 2018. This means that party members were rewarded with higher wages for every year of education than nonmembers only in the last two waves of the survey.

Table 6a Quantile estimation of Mincer equations (CPC members): 2018

Percentile	0.05	0.20	0.35	0.50	0.65	0.80	0.95
School (years)	0.0467 (0.7362)	0.0758 ***(0.0082)	0.0722 ***(0.0062)	0.0729 ***(0.0062)	0.0629 ***(0.0067)	0.0612 ***(0.0074)	0.0595 ***(0.0153)
Experience	-0.0109 (0.0486)	0.0508 ***(0.0123)	0.0344 (0.0093)	0.0397 ***(0.0092)	0.0238 *(0.0100)	0.0266 *(0.0111)	0.0078 (0.0230)
Experience^2	-0.0004 (0.0003)	-0.0006 ***(0.0001)	-0.0005 (0.0001)	-0.0005 ***(0.0001)	-0.0005 ***(0.0001)	-0.0005 ***(0.0001)	-0.0002 (0.0002)
Gender (female)	-0.2808 ***(0.0402)	-0.2483 ***(0.0119)	-0.2528 ***(0.0097)	-0.2458 ***(0.0090)	-0.2450 ***(0.0096)	-0.2411 ***(0.0120)	-0.2166 ***(0.0256)
Married	0.1159 (0.0624)	-0.0530 ***(0.0184)	-0.0476 ***(0.0150)	0.0537 ***(0.0139)	0.0601 ***(0.0149)	0.0835 ***(0.0186)	0.0708 (0.0396)
Ethnic (Han)	0.0212 (0.0861)	-0.0066 (0.0254)	0.0014 (0.0207)	0.0193 (0.0192)	0.0169 (0.0206)	0.0235 (0.0257)	-0.0140 (0.0547)
Urban	0.1224 ***(0.0420)	-0.0037 (0.0124)	0.0056 (0.0101)	0.0108 (0.0093)	0.0179 (0.0100)	0.0368 ***(0.0125)	0.1043 ***(0.0267)
CONTROLS							
Sector	x	x	x	x	x	x	x
Ownership	x	x	x	x	x	x	x
Occupation	x	x	x	x	x	x	x
Age group	x	x	x	x	x	x	x
Region	x	x	x	x	x	x	x
Observations	25631	25631	25631	25631	25631	25631	25631

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Full results are available upon request.
Standard deviations in parenthesis: *** p < 0.001; ** p < 0.01; * p < 0.05.

*Table 6b* Quantile estimation of Mincer equations (non members): 2018

Percentile	0.05	0.20	0.35	0.50	0.65	0.80	0.95
School (years)	0.0416 ***(0.0086)	0.0408 ***(0.0025)	0.0398 ***(0.0021)	0.0396 ***(0.0019)	0.0415 ***(0.0021)	0.0427 ***(0.0026)	0.0503 ***(0.0055)
Experience	-0.0061 (0.0145)	0.0174 ***(0.0043)	0.0163 (0.0035)	0.0178 ***(0.0032)	0.0191 ***(0.0043)	0.0155 ***(0.0043)	0.0138 (0.0092)
Experience^2	-0.0003 (0.0009)	-0.0014 ***(0.0002)	-0.0010 (0.0002)	-0.0010 ***(0.0002)	-0.0007 ***(0.0002)	-0.0007 ***(0.0002)	-0.0003 (0.0004)
Gender (female)	-0.0837 (0.1386)	-0.1148 ***(0.0352)	-0.0923 ***(0.0265)	-0.0875 ***(0.0263)	-0.1096 ***(0.0286)	-0.1297 ***(0.0316)	-0.1205 (0.0656)
Married	0.1067 (0.2620)	-0.0226 (0.0665)	-0.0158 (0.0500)	0.0161 (0.0540)	0.0341 (0.0598)	0.0763 (0.0598)	0.0212 (0.1240)
Ethnic (Han)	0.0243 (0.2744)	0.0833 (0.0696)	0.1844 ***(0.0524)	0.1789 ***(0.0521)	0.1343 ***(0.0566)	0.0797 (0.0626)	0.2266 (0.1299)
Urban	0.2946 (0.1556)	0.2700 ***(0.0395)	0.1829 ***(0.0297)	0.1793 ***(0.0296)	0.1728 ***(0.0321)	-0.1894 ***(0.0355)	0.1052 (0.0763)
CONTROLS							
Sector	x	x	x	x	x	x	x
Ownership	x	x	x	x	x	x	x
Occupation	x	x	x	x	x	x	x
Age group	x	x	x	x	x	x	x
Region	x	x	x	x	x	x	x
Observations	3425	3425	3425	3425	3425	3425	3425

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Full results are available upon request.
Standard deviations in parenthesis: *** p < 0.001; ** p < 0.01; * p < 0.05.

We obtain a gender wage gap of 10% for members and 25% for nonmembers. We find some evidence that urban jobs and being ethnic Han yield higher wages, predominantly for nonmembers, whereas marriage seems to boost wages for party members in the upper half of the income distribution, but lowers wages in the lower half.

Figure 5 shows the party membership premium for the four waves of the survey for the entire population graphically. We note that the total (or unconditional) party membership premium was falling in 1995, from 100% to 50%, was constant around 50% in 2002, but was increasing – albeit at lower absolute levels (in the range from 10% to 35%) in 2013 and 2018. Whereas party membership used to benefit individuals on the lower end of the income distribution in 1995, it was most beneficial to individuals in the upper end of the income distribution in 2013 and 2018.

Figure 5 Machado-Mata decomposition of the CPC income premium
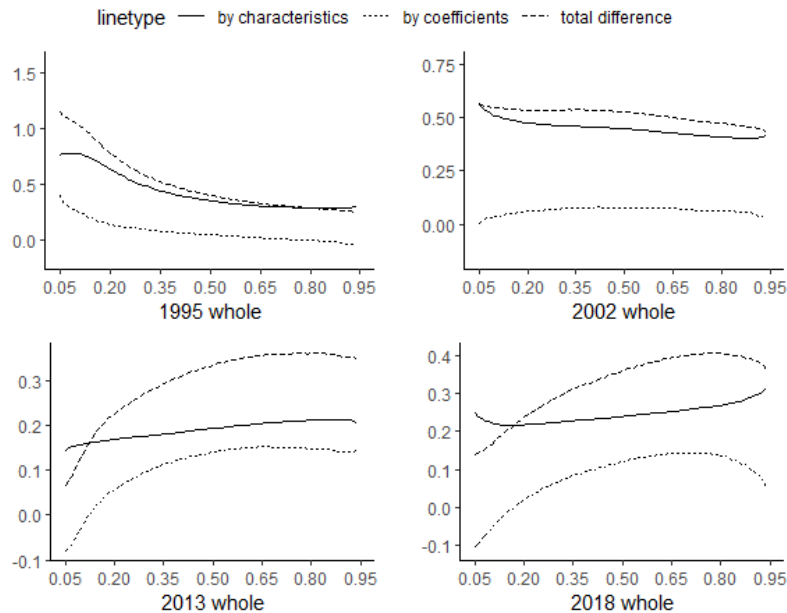
The Machado and Mata decomposition reveals an even more important finding. Whilst in 1995 and 2002 almost all of the party membership premium can be explained by different characteristics, in 2013 and 2018 a large part cannot be explained by differences in characteristics, and is therefore due to different rewards for identical characteristics. We can speak of positive discrimination of party members in this case. The unexplained wage premium for party membership can reach 15% of total wages. Whilst the party in 1995 and 2002 recruited the elites, and therefore they would earn higher wages, in 2013 and 2018 an increasing number of protagonists seem to exploit party memberships for individual benefits in the form of higher wages. Figure 6 below reproduces figure 2 for the conditional CPC wage premium, where we have controlled for all

observable differences in characteristics, and therefore figure 6 shows positive discrimination for party membership.

From figure 6 we can infer that party membership was particularly attractive for individuals with low income in 1995, it was more or less neutral for all income categories in 2002, but had a positive impact for higher earners in 2013 and 2018.
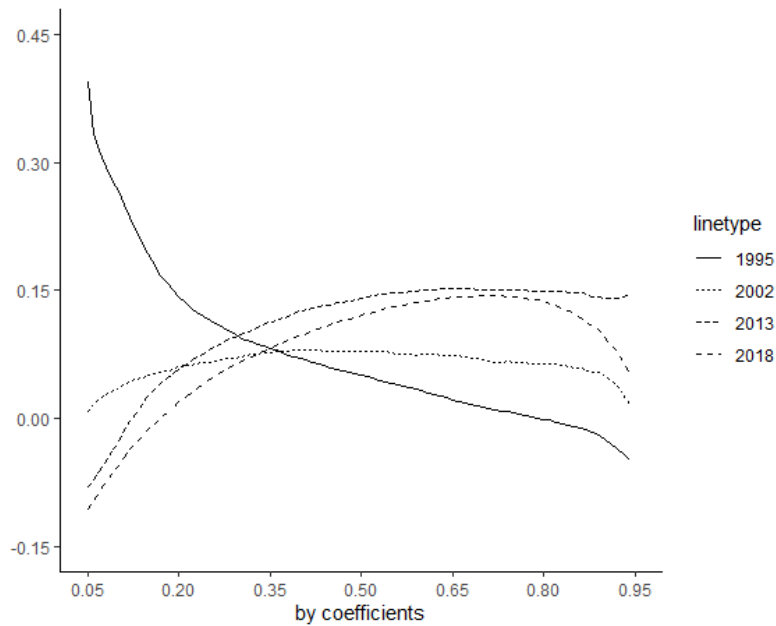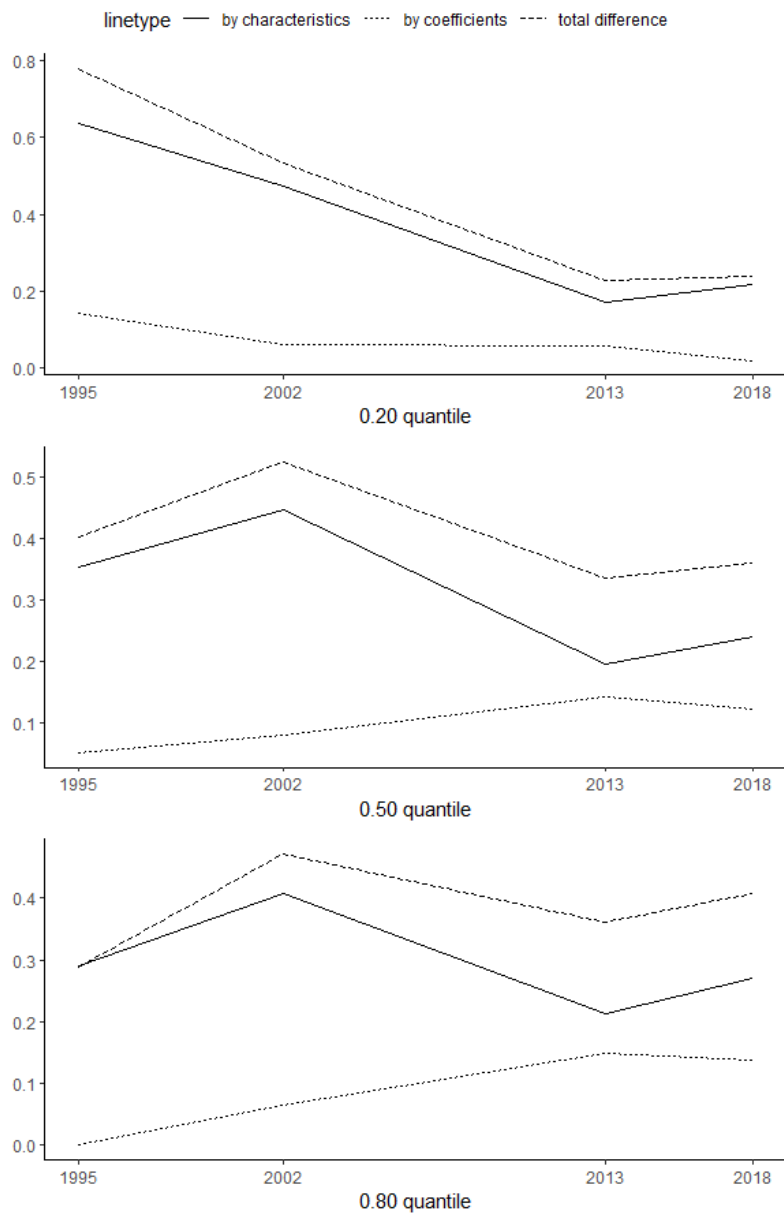
Figure 6 Conditional CPC wage premium

Figure 7 tracks the evolution of the unconditional and conditional CPC wage premium over time for the 0.20, 0.50 and 0,80 quantiles. We observe that for lower incomes (0.20 quantile) the membership wage premium has fallen, and it has always been due to different characteristics, whereas there has never been (positive) discrimination. For the median (0.50 quantile) and the high earners (0.80 quantile), we see a smaller drop in the unconditional CPC wage premium, and an increase in the unexplained CPC wage premium. These individuals obtain higher wages mainly because they are members of the Communist Party of China, and not because they are better qualified.

Figure 7 CPC wage premium for selected quantiles

4.3. Robustness

When we look at the urban population, we actually find that the difference between the unconditional and conditional CPC wage premium for the urban population has actually widened over the years. This is in contrast to the results obtained with the Oaxaca-Blinder decomposition method and Ma (2022b), and reproduced in the previous chapter. Apparently, averaging has eliminated most of the underlying heterogeneity. Figure 8 shows on the left the wage premium curve across all quantiles, whereas on the right we present the evolution over time for specific quantiles.
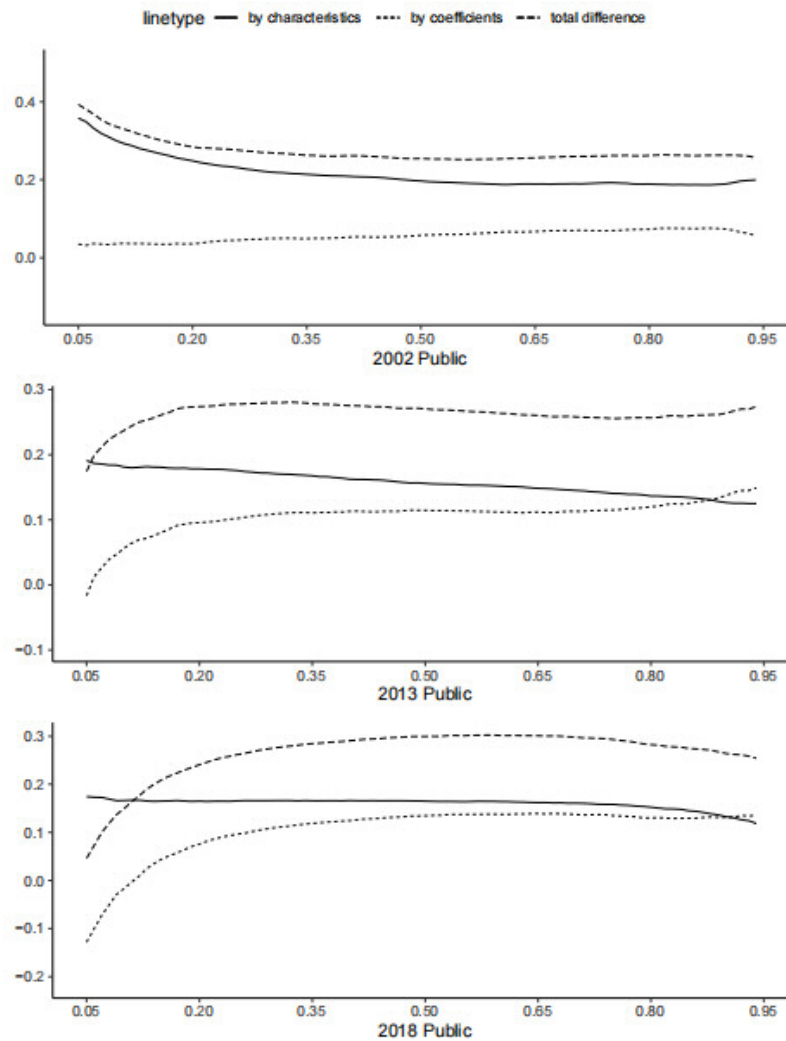
Figure 8 CPC wage premium for the urban population
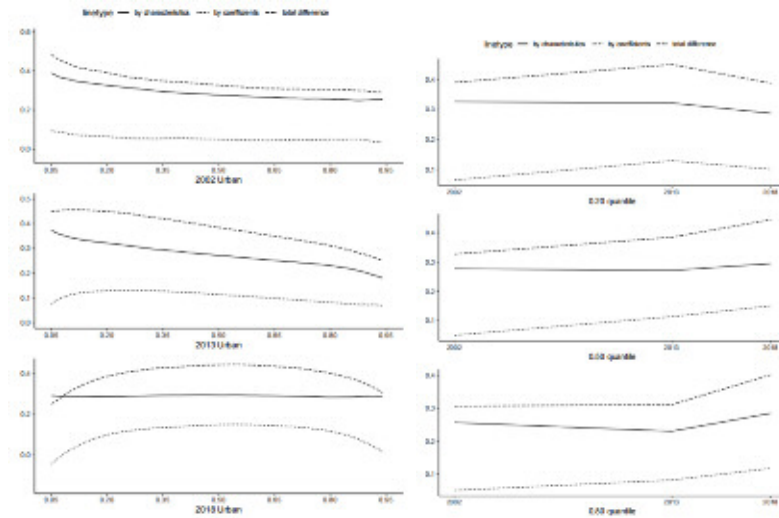
There is evidence of a widening divergence in the function of party membership between urban and rural workers, with the former getting higher wage premia since 2013 (especially the mid to top quantiles of the wage distribution), compared to rural workers who have lost most of their return to party membership, which even became negative for the lowest quantile since 2013, and is still positive only for workers in the top quantile. This result confirms previous evidence that in rural China, party membership and education had a statistically significant and positive effect on non-farm employment choice and earnings, but those effects decreased rapidly over time. In addition, for those with party membership, the earnings premium was significantly reduced for those who did not occupy high-ranking positions in their organization (Yan, 2019). On the contrary, in urban China, party membership exerted more and more impact on individuals' earnings. This is consistent with President Xi's policy aimed at achieving prosperity through an expansion of the urban middle class in China (Su and Heshmati, 2013).

Last, we looked at employees of publicly owned firms, figure 9. We find that most of the CPC wage premium can be explained by different characteristics in 2002. There is a widening gap with an increase in income. In 2013 and 2018 there is widening increase in positive discrimination in favor of party members, and it gets stronger for higher earners.

Figure 9 CPC wage premium for the publicly owned firms

5. Conclusions

This paper has analyzed the evolution of wage differentials between party members and non-members in China across more than two decades (1995-2018). We have applied the Oaxaca-Blinder composition method to disentangle the contribution to the wage gap of different levels of human capital from discrimination against non- members. We have also run quantile regressions to estimate the slope of the wage premium functions applying the Machado-Mata decomposition.

Our results show the party wage premium has decreased over time, but it is still high. There is also evidence of a widening divergence between urban and rural workers, with the former getting higher wage premia since 2013, while the latter have lost most of their party premium and is still positive only for workers in the top quintile. A positive discrimination for CPC members (not justified by characteristics) started in 2013; the party still recruits elites, but over-pays them for party loyalty more than for their qualifications, attracting opportunists.

We have started this paper with a quote from a 2022's Xi Jinping speech, where he stresses the importance of selecting the most talented people for party membership. This paper has shown that until 2002, this has been largely the case. Since 2013, however, there is pure discrimination in favor of party membership, and this will inevitably attract more opportunists into the ranks of the CPC. It remains to be seen whether we are witnessing the beginning of the fall and demise of party and nation.

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Appendix

Table A1 Results on wage premium from CPC membership in literature

Author(s)(year)	Data	Model(s)	CPC wage premium
Gustafsson and Li (2000)	CHIPs 1998 and 1995	OLS	1988: Male 5.6%; Female 10.2% 1995: Male 7.7%; Female 10.1%
Li (2003)	CHIPs 1995	Cohort, OLS OLS	Not significant 7.3%　11.0%
Knight and Song (2003)	CHIPs 1988 and 1995	OLS	1988: 4.1%; 1995: 8.6%
Yueh (2004)	CHIPs 1995 and 1999	H2S	1995: 10.04% 10.37% 1999: 15.77% 16.45%
Appleton et al. (2005)	CHIPs 1998, 1995, 1999 and 2002	FE	1988: 6.8%; 1995: 14.6%; 1999: 18.1%; 2002: 15.2%
Bishp et al. (2005)	CHIPs 1988 and 1995	OLS QR	1988: 13.0%; 1995: 9.51% 1988: 3.31% 10.35%
Li et al. (2007)	Twin survey	Total: OLS FE Twins: OLS FE	10.0%　12.4% Not significant -29.80% Not significant
Shu et al. (2007)	SWSC2000		Total: 11.3%; Male: 10.6%; Female: 14.5%
Braunsterin and Brenner (2007)	CHIPs 1995 and 2002	OLS	1995: Male 7.3%; Female 11.2% 2002: Male 6.45; Female 10.9%
Bishop and Liu (2008)	CHIPs 1998 and 1995	OLS	Male: 3.25% 4.11%; Female: 7.07% 12.60%
Guo and Hammitt (2009)	CHIPs 1995	OLS	3.2%　7.7%
Deng and Li (2009)	CHIPs 1988, 1995 and 2002	OLS	1988: 6.1%; 1995: 7.9%; 2002: 8.4%
Appleton et al. (2009)	CHIPs 1988, 1995 and 1999	H2S	1988: 10%; 1995: 14%; 1999: 14%
Gao and Smyth (2010)	CULS2005	OLS	Male: 6.52% 7.83%; Female: not significant
Gao and Smyth (2011)	CASS survey 2007	OLS	12.46%　14.90%
Laura and Poncet (2010)	CHIPs 1995	OLS	7.0%　10.0%

Li et al. (2012)	CGSS2010	OLS	9.80% (when control for other factors: not significant)
Xiu and Gunderson (2013a)	CHIPs 1995 and 2002	OLS	Total: 7.4% 12.6% Male: 6.7% 11.6% Female: 9.1% 14.4%
Xiu and Gunderson (2013b)	LHSCCC	OLS	Male: 7.1% 12.7% Female: 14.2% 19.8%
Mishra and Smith (2014)	CEES2007	GMM	15.80%
Xing (2014)	CHIPs 2002	OLS	Urban residents: natives 14.4%, migrants 14.7% Rural residents: local 13.1%, migrants in rural survey 11.9%, migrants in urban survey: not significant
Mishra and Smyth (2015)	CEES2007	OLS IV	14.2% 14.5% not significant
Kwon et al. (2015)	CHIPs 1998, 1995, 2002 and 2007	OLS	1988: 7 8%; 1995: 10 11%; 2002: 7 8%; 2007: ?
Bian et al. (2015)	CFCS1999	OLS	5.8% 8.0%
Wang et al. (2017)	CGSS2003-2010	OLS	Not significant
McLaughlin (2017)	CHIPs 2002	OLS IV	9.0% 17.4% 32.8% or not significant
Ma (2018a)	CHIPs 2002 and 2013	Maddala	2002: migrant 21.4%, urban 20.7% 2013: migrant not significant, urban -24.1%
Wang and Lien (2018)	Original migrant survey	OLS QR	16.13% 5.35% 20.16%
MacDonald and Hasmath (2018)	CHES2011	OLS	2.42% 6.42%
Gu and Zheng (2018)	CGSS 2003 (urban)	H2S	Not significant
Guo and Sun (2018)	CCSS 2010	ATT	Not significant on entry wages
Wang, Nikolov and Acker (2019)	1988, 1993, 2002, 2003, 2013	PSM	7.5% 25%
Ma (2022)	CHIPs 2002 and 2013 (urban)	OLS H2S BO OR OC	2002: 7.6% - 37.4%; 2013: 4.4% - 31.8% 2002: 7.5%- 8.5%; 2013: not significant Human capital differences explain 66.2% of wage gap in 2002, 91% in 2013.

| | | | Human capital differences explain 85% of wage gap in 2002, 95.3% in 2013. |
| | | | Human capital differences explain 51.6% of wage gap in 2002, -56.5%% in 2013. |

Note: ATT: average treatment effect on the treated; CASS: Chinese Academy of Social Sciences; CCSS: China College Student Survey; CESS: xxxx, CFCS: xxxx; CGSS: Chinese General Social Survey; CHES: China Household Ethnicity Survey; CHIP: Chinese Household Income Project surveys; CULS: xxxx; LHSCCC: xxxxxx; SWSC: xxxx; OLS: ordinary least squares model; IV: instrumental variable model: QR: quantile regression model; FE: fixed-effect model; GMM: generalized method of moments: H2S: Heckman two-step selection method; BO: Blinder-Oaxaca; OC: Oaxaca-Choe; OR: Oaxaca-Ransom; PSM: propensity score matching.

Source: authors' update of Ma (2022)

Table A2 Number of submitted and accepted applications for the Chinese Communist Party (CCP) membership in China from 2013 to 2021 (in 1,000)

Year	Submitted applications	Accepted applications	Acceptance rate (%)
2013	21,661	2,402	11.1
2014	21,815	2,057	9.4
2015	22,247	1,965	8.8
2016	20,264	1,911	9.4
2017	19,275	1,982	10.3
2018	19,226	2,055	10.7
2019	18,992	2,344	12.3
2021	20,625	4,383	21.3

Source: own adaptation from Statista.com

Figure A1 Kernel density of (log) income for the urban population
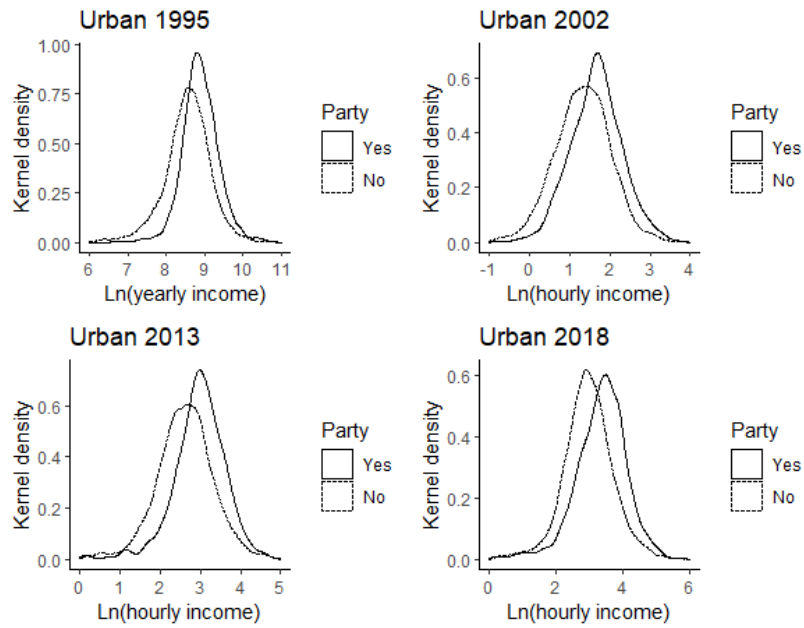

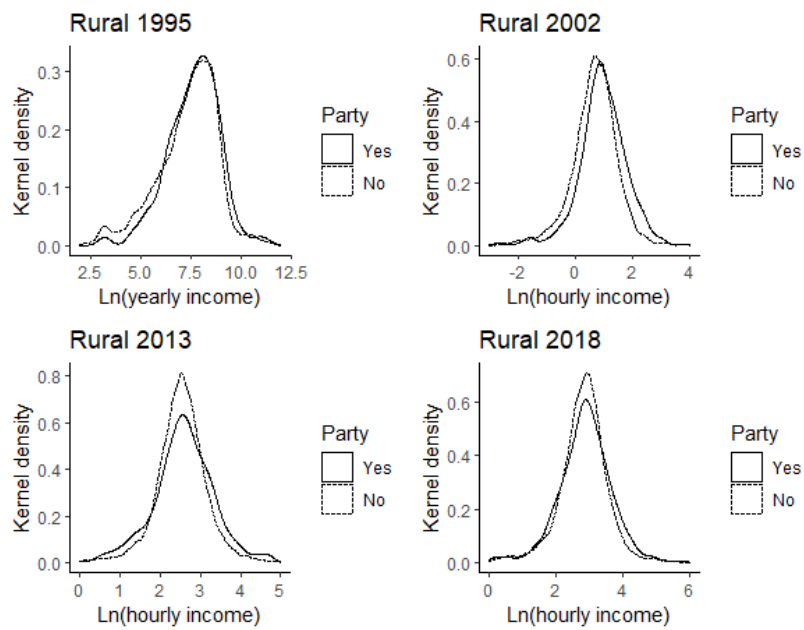*Figure A2* Kernel density of (log) income for the rural population

Table A3 OLS estimation of Mincer equations: Urban population

	1995		2002		2013		2018	
Party	Yes	No	Yes	No	Yes	No	Yes	No
School	0.0148	0.02438	0.0371	0.0469	0.0809	0.0677	0.0729	0.0497
(years)	***(0.0029)	***(0.0026)	***(0.0062)	***(0.0040)	***(0.0086)	***(0.0041)	***(0.0082)	***(0.0030)
Experience	0.0209	0.0453	0.0057	0.0167	0.0291	0.0231	0.0338	0.0169
	***(0.0063)	***(0.0040)	(0.0116)	**(0.0057)	***(0.0119)	***(0.0066)	***(0.0116)	***(0.0050)
Experience^2	-0.0002	-0.0007	0.0000	-0.0001	-0.0003	-0.0004	-0.0009	-0.0005
	(0.0001)	***(0.0001)	(0.0002)	(0.0001)	(0.0002)	**(0.0001)	***(0.0002)	***(0.0001)
Gender	-0.0439	-0.1349	-0.0529	-0.1193	-0.1595	-0.2173	-0.0891	-0.2065
(female)	*(0.0176)	***(0.0124)	(0.0336)	***(0.0193)	***(0.0333)	***(0.0179)	**(0.0319)	**(0.0136)
Married	0.0599	0.0786	0.1128	0.0346	-0.0639	0.0440	0.0666	0.0953
	(0.0586)	**(0.0264)	(0.0862)	(0.0379)	(0.0711)	(0.0292)	(0.0643)	***(0.0225)
Ethnic (Han)	0.0308	-0.0574	0.1773	0.0800	-0.0077	0.0562	0.1216	-0.0299
	(0.0546)	(0.0295)	*(0.0853)	(0.0472)	(0.0660)	(0.0415)	(0.0762)	(0.0366)
CONTROLS								
Sector	x	x	x	x	x	x	x	x
Ownership	x	x	x	x	x	x	x	x
Occupation	x	x	x	x	x	x	x	x
Age group	x	x	x	x	x	x	x	x
Region	x	x	x	x	x	x	x	x
R^2	0.3294	0.3138	0.3187	0.3002	0.2520	0.2112	0.2526	0.1811
Adj. R^2	0.3217	0.3111	0.3017	0.2950	0.2377	0.2072	0.2417	0.1790
Observations	2722	8290	1401	4617	1863	6908	2433	13409

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Full results are available upon request.

Standard deviations in parenthesis: *** p < 0.001; ** p < 0.01; * p < 0.05.

Table A4 OLS estimation of Mincer equations: Rural population

	1995		2002		2013		2018	
Party	Yes	No	Yes	No	Yes	No	Yes	No
School	-0.0057	0.0275	0.0293	0.0222	0.0120	0.0205	0.0379	0.0279
(years)	(0.0176)	***(0.0074)	(0.0176)	***(0.0047)	(0.0132)	***(0.0027)	***(0.0129)	***(0.0031)
Experience	0.0279	0.0461	0.0022	0.0322	-0.0123	0.0074	0.0057	0.0128
	(0.0645)	***(0.0149)	(0.0430)	**(0.0082)	(0.0200)	(0.0046)	***(0.0234)	***(0.0055)
Experience^2	-0.0009	-0.0009	0.0002	-0.0006	0.0000	-0.0002	-0.0003	-0.0003
	(0.0011)	*(0.0004)	(0.0008)	**(0.0002)	(0.0004)	*(0.0001)	(0.0004)	***(0.0001)
Gender	0.0270	-0.1517	0.0208	-0.1406	-0.1259	-0.2812	-0.2131	-0.2881
(female)	(0.1958)	***(0.0446)	(0.1196)	***(0.0232)	(0.0677)	***(0.0129)	**(0.0685)	***(0.0151)
Married	0.7573	0.0101	-0.1546	0.0703	-0.1783	0.0564	0.0201	0.0290
	*(0.3845)	(0.0714)	(0.2188)	(0.0378)	(0.1058)	***(0.0189)	(0.1092)	(0.0221)
Ethnic (Han)	-0.1838	-0.2313	0.1604	0.0187	0.0743	0.0138	0.0702	-0.0005
	(0.2428)	*(0.0910)	(0.1389)	(0.0403)	(0.1065)	(0.0245)	(0.0939)	(0.0270)
CONTROLS								
Sector	x	x	x	x	x	x	x	x
Ownership	x	x	x	x	x	x	x	x
Occupation	x	x	x	x	x	x	x	x
Age group	x	x	x	x	x	x	x	x
Region	x	x	x	x	x	x	x	x
R^2	0.3695	0.4057	0.1257	0.1653	0.1473	0.0894	0.1417	0.0909
Adj. R^2	0.3349	0.4010	0.0731	0.1604	0.1158	0.0871	0.1103	0.0883
Observations	617	4175	565	5706	984	13960	992	12222

Source: authors' elaboration on China Household Income Project (1995, 2002, 2013, 2018). Full results are available upon request.

Standard deviations in parenthesis: *** p < 0.001; ** p < 0.01; * p < 0.05.