Privatization, Human Capital, and Intergenerational Mobility: Long-term Evidence from China*

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Abstract

This paper examines the long-term impact of privatization on the next generation's education, labor market outcomes, and intergenerational mobility. We focus on the 1997–2000 privatization of state-owned enterprises (SOEs) in urban China, which led to over 35 million layoffs and fundamentally transformed the labor system from a centrally planned structure to a fully market-oriented one. We identify the causal impact by leveraging variations in reform intensity across regions, children's birth cohorts, and parental employment status before the reform. We find that greater exposure to the reform resulted in fewer years of schooling and lower lifetime earnings in the second generation, particularly among girls and children of laid-off fathers. The effect is primarily driven by parental income loss after layoffs. This effect is primarily driven by parental income loss following layoffs. Additionally, we show that the reform weakened intergenerational persistence in income and education, suggesting a correction of labor market distortions from the prereform job assignment system.

Keywords: Privatization, Layoff, Intergenerational Impact, Long-term, Social Mobility

JEL Codes: J20, J40, P31

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1 Introduction

Large-scale government policies play a crucial role in shaping individuals' human capital development and, consequently, intergenerational mobility (Cunha et al., 2006; Heckman and Mosso, 2014). The existing literature emphasizes the impact of policies such as public education quality and welfare programs (Black and Devereux, 2011; Currie and Almond, 2011). In this paper, we extend the discussion to labor market institutions by examining a major economic transformation, the privatization of state-owned enterprises (SOEs) in a transitional economy, which led to widespread layoffs in the public sector and fundamentally transformed the labor system from a centrally planned structure to a fully market-oriented one. We investigate how this reform affected the next generation's human capital accumulation and intergenerational mobility.

China's SOE reform in the late 1990s, officially announced in 1997, is one of the largest privatization movements in modern history from the perspective of the scale of layoffs. To improve efficiency in the state sector, the government closed or privatized most small and medium-sized state-owned enterprises (SOEs) and urban collective enterprises (UCEs), leading to the displacement of more than 35 million workers in six years to address overstaffing (Meng, 2000; Solinger, 2002; Meng, 2012). As shown in Figure 1, the share of workers in SOEs and UCEs fell from more than 70% in 1992 to less than 30% in 2008. This is the key feature of the privatization movement.

Unlike most layoffs in market economies, China's massive wave of layoffs signaled a transformation from a centrally planned labor system dominated by public-sector jobs to a fully market-oriented labor market.[1] Before privatization, SOEs and UCEs provided lifelong employment with fixed wages, preventing them from freely hiring or dismissing workers.[2] Additionally, jobs were assigned to labor market entrants upon graduation, with personal networks playing a more significant role than individual human capital in securing employment (Meng, 2000; Dong, 2003). Following the massive layoffs, the old system was completely abolished, allowing firms and workers to engage freely in a labor market where wages were determined by market forces.

Most existing studies focus on the *contemporary* effects of the reform, including firm efficiency (Hsieh and Song, 2015; Berkowitz et al., 2017; Chen et al., 2021), precautionary savings (He et al., 2018), fertility (Xie et al., 2022a), and income inequality (Meng, 2004; Xu and Zuo, 2024, 2025). However, few examine its impact on the next generation's outcomes (Kong et al., 2019). This paper empirically investigates the *long-term* effects of the SOE reform on human capital accumulation, with a particular focus on its implications for intergenerational mobility.

Addressing the research question presents at least two key challenges. First, studying the effect

[1] Public-sector jobs include government positions, SOEs, and UCEs. However, the government sector was not affected by the reform.

[2] This system, known as the "Iron Rice Bowl" in the literature, reflects the government's effort to enforce absolute equality in the labor market under Mao's ideology (Berkowitz et al., 2017; He et al., 2018; Kong et al., 2019).

of parental layoffs requires addressing endogeneity concerns. China provides a unique setting for identifying the causal impact of privatization, as the movement led to substantial regional variation in layoff intensity. We exploit this variation by employing a difference-in-differences (DID) identification strategy, leveraging both geographical and cohort differences. To proxy for geographical reform intensity, we measure the reduction in public employment, including SOEs, UCEs, and government jobs, between 1996 and 2000.[3] Next, we classify children into treatment and control cohorts, assuming that those in their early years—defined as younger than 25 in 1997—were more likely to be affected.

Second, within each prefecture, not all families experienced layoffs. Only those employed in SOEs or UCEs faced layoff risks. Consequently, our DID estimation captures the average effect across all families, potentially diluting the true impact on affected households. To address this concern, we introduce a third dimension of comparison: individuals employed in SOEs/UCEs in 1996 (treated group) versus those who were not (control group).

To answer our research question, we combine two datasets. The first is a newly compiled dataset on prefecture-level employment before and after the reform to calculate the reduction in public employment as a proxy for the reform. The second is the nationally representative China Health and Retirement Longitudinal Study (CHARLS). This dataset links parents and children, provides detailed parental job histories, and tracks children's long-term economic outcomes, allowing for a analysis of intergenerational effects.

Ex-ante, the impact of privatization on the next generation is ambiguous. On one hand, layoffs create sudden and significant income shocks (Couch and Placzek, 2010; Bertheau et al., 2022; Schmieder et al., 2023). Research suggests that SOE employment helps reduce income inequality (Arnold, 2022; Xu and Zuo, 2024) and promote social stability (Wen, 2020). Privatization could therefore harm children's human capital development by triggering parental income shocks due to mass layoffs.[4] Most laid-off workers were low-educated and over 40, making reemployment difficult. As a result, their children may leave school early, reducing years of education and weakening long-term labor market prospects. Beyond income loss, job displacement can indirectly affect children's cognitive development by worsening parental health.[5] It can also disrupt well-established social networks, which play a crucial role in securing educational and job opportunities in China (Djankov et al., 2006; Jia et al., 2021), further exacerbating negative long-term outcomes.

[3]Government jobs were not the target of the reform. However, the available data does not distinguish between government and SOE employment. Since the government sector was unaffected, we assume no reduction in its employment share.

[4]Many studies document the negative effects of parental income shocks on children's outcomes (Oreopoulos et al., 2008; Rege et al., 2011; Hilger, 2016; Di Maio and Nisticò, 2019; Attanasio et al., 2020; Bulman et al., 2021). For a comprehensive discussion, see Page (2024).

[5]Job loss is associated with adverse health effects and increased stress (Charles and DeCicca, 2008; Kuhn et al., 2009; Browning and Heinesen, 2012).

On the other hand, privatization could generate long-term benefits for future generations by improving economic efficiency (Dewenter and Malatesta, 2001; Megginson and Netter, 2001; Estrin et al., 2009; Berkowitz et al., 2017; Mergele et al., 2025). Additionally, compared to the pre-reform period when both parents typically worked, a laid-off parent may spend more time with their children, potentially benefiting their development (Ruhm, 2004; Knabe et al., 2010; Fiorini and Keane, 2014; Hsin and Felfe, 2014; Nikolova and Nikolaev, 2021). Moreover, parents forced to transition from guaranteed SOE jobs to the uncertainties of a market economy may serve as new role models, shaping their children's attitudes toward work and education. Exposure to economic instability may also reinforce the importance of human capital, influencing children's educational investments and labor market decisions.

In addition to its impact on the next generation, the SOE reform also raises important questions about intergenerational mobility. Under the rigid planned economy, intergenerational mobility was limited, as jobs were assigned to new graduates. Individual ability played a lesser role in securing employment compared to parents' social networks, which often facilitated job placements for their children in the same workplaces. The labor market was highly structured and lacked competition. However, after the reform, the economy became more efficient, and the labor market more competitive, requiring the second generation to navigate employment opportunities independently.

We first present the DID results using the first two levels of variation. Our findings reveal a negative long-term impact of parental layoffs on the next generation's educational attainment and labor market outcomes. This effect is primarily driven by individuals whose parents were employed in SOEs or UCEs in 1996. In contrast, we find no significant effect when restricting the analysis to the control group.

The triple-differences estimation improves precision, reinforcing the negative impact of parental layoffs. We find a significant decline in children's educational outcomes, including years of schooling and the likelihood of completing high school and college. For example, a standard deviation increase (8 percentage points) in layoff intensity corresponds to a 1.81-year reduction in educational attainment. These negative effects extend to long-term labor market outcomes, as measured in the 2018 survey. For instance, the probability of earning more than 20K RMB annually has decreased by approximately 18 percentage points. Although we don't find a significant effect on overall employment, we do observe a reduced probability of public sector employment among the children of displaced workers. Public employment, which includes government jobs and SOEs in 2018, typically requires higher education and offers better job security and social status. These results are primarily driven by the lower educational attainment induced by parental layoffs. In terms of earnings, we show that parental layoffs lead to lower income for children at all levels.

Our results remain robust after accounting for key confounding factors. One concern is that regions with high layoff intensity may also have stricter One Child Policy (OCP) enforcement, which

could affect educational investment through Becker's quantity-quality tradeoff. To address this, we control for regional OCP fines interacted with the cohort and parent indicators and find our results unchanged. Another potential confounder is the 1999 college expansion, which increased college seats. We control for the annual number of college students per prefecture and also examine high school completion rates, and we show a similar pattern. Finally, we control for WTO accession to account for rising labor demand potentially pulling young adults out of school.

We also conduct a series of heterogeneity analyses and find that the effects are primarily driven by families with laid-off fathers rather than mothers. This finding reflects the fact that fathers were typically the primary financial providers during this period. The negative impact is also more pronounced for lower-educated fathers, indicating that families with lower SES are more vulnerable to the economic shock. Additionally, the negative effects are more significant for girls compared to boys. This observation is consistent with existing literature on gender-biased culture in China, which suggests that when fathers are the primary decision-makers, girls' educational attainment is generally lower than that of boys (Björkman-Nyqvist, 2013; Dessy et al., 2023).

We test the mechanism by examining the effects at the parental level. Consistent with previous findings (Couch and Placzek, 2010; Schmieder et al., 2023; Tian et al., 2022; Xu and Zuo, 2024), our analysis reveals a negative impact on parental employment and income. After a layoff, older workers struggle to re-enter the labor market, and the negative income effect persists through the survey year 2018. We do not find significant impacts on family structure, parental health outcomes, and child care time. Overall, the negative parental income shock is the primary mechanisms driving the observed intergenerational effects.

Finally, we examine the impact of SOE reform on intergenerational mobility in China. Numerous studies have explored the dynamics of social mobility in China over the past four decades since the economic reforms began in 1979 (Fan et al., 2021; Xie et al., 2022b). Our regression analysis, using the same dataset, indicates that intergenerational persistence weakened for households that experienced layoffs, both in terms of income rank and years of education. This could be attributed to the increased emphasis on individual ability as efficiency became more critical post-reform. Furthermore, parental job loss reduces household income and weakens social networks, meaning that even parents with relatively higher skills and income prior to the reform may struggle to support their children's education or help them secure better employment opportunities. These findings suggest that large-scale layoffs may have enhanced social mobility overall and alter the relative social standing of households.

This paper contributes to three strands of literature. First, it adds to research on the long-term effects of large-scale government policies on human capital development (Currie and Almond, 2011). Existing studies have largely focused on major education programs (Duflo, 2001; Angrist et al., 2006) and government welfare initiatives (Doyle Jr, 2008; Gertler et al., 2012). Recently,

growing research has explored the long-term impacts of government policies in China, such as the sent-down movement (Chen et al., 2020), the Household Responsibility System reform (Xu, 2021), the public health insurance program (Huang and Liu, 2023), and the industrialization (Chen, 2025). This paper highlights another pivotal policy in China's economic transformation—the privatization of SOEs—which aimed to address overstaffing and fundamentally reshape labor market institutions.

Second, our study contributes to the literature on job displacement. Most existing evidence on its intergenerational impacts comes from developed countries (Bratberg et al., 2008; Oreopoulos et al., 2008; Rege et al., 2011; Hilger, 2016), while research on developing countries primarily examines short-term school dropouts (Duryea et al., 2007; Di Maio and Nisticò, 2019; Britto et al., 2022).[6] Specifically, studies on China's SOE reform, often referred to as "shattering the iron rice bowl," analyze its impact as a unique form of job displacement. Prior research has examined its effects on savings, fertility, entrepreneurship, and income inequality (He et al., 2018; Xie et al., 2022a; Fang et al., 2023; Xu and Zuo, 2024, 2025). Our study extends this literature by investigating its intergenerational effects. The closest study, Kong et al. (2019), examines second-generation health outcomes using province-level variation. We improve the identification by leveraging prefecture-level reform intensity and examine the next generation's education and labor market outcomes. While Xie et al. (2022a) also documents negative educational impacts on the next generation, we extend the analysis to their long-term labor outcomes, emphasizing parental income loss during formative years and its implications for intergenerational mobility.

Third, we also add to the emerging literature on intergenerational mobility, primarily stemming from the U.S. (Chetty et al., 2017, 2014a,b, 2020). In China, industrialization has increased social mobility (Xie et al., 2022b), but in the last 40 years there has been an increase in persistence of intergenerational income since economic reforms were introduced in 1979 (Gong et al., 2012; Zhou and Xie, 2019; Fan et al., 2021). To explain the underlying mechanisms, past literature has focused on opportunities to attend elite universities (Duan et al., 2022; Jia et al., 2024), government expenditure (Huang et al., 2021b), trade shocks (Lou and Li, 2022), fertility restrictions (Xiao, 2022), and pandemics (Chae et al., 2025). We shed light on how large-scale economic reforms shape social mobility in China. Past literature has shown that the SOE reform successfully increases firm efficiency (Hsieh and Song, 2015; Berkowitz et al., 2017; Chen et al., 2021). We show that social mobility increases when guaranteed employment is abolished and efficiency increases.

In the remaining of the paper, we discuss the reform background in Section 2 and introduce the data in Section 3. We present our main empirical strategy in Section 4 and show the results in

[6]This literature often relies on firm closures (Bratberg et al., 2008; Oreopoulos et al., 2008; Rege et al., 2011) or the exogenous timing of parental layoffs (Hilger, 2016). Carneiro et al. (2021) finds that income stability, conditional on permanent income, benefits children's human capital accumulation.

Section 5. Section 6 presents the analysis on social mobility, and Section 7 concludes.

2 Institutional Background

From the 1950s to the 1990s, the labor market was centrally determined in urban China, suggesting that both employment and the wage rate were almost determined by the central government. Each year, the employment and the wage quotas would be assigned to the local government and when an individual graduated, he/she would be assigned to a work unit (SOE/UCE) mainly based on the educational attainment and family background (Zuo, 2018). The work unit not only provided lifelong employment to urban residents but also assumed numerous social responsibilities (Lin and Liu, 2001). For example, childcare was nearly free, and children's education was heavily subsidized (Du and Dong, 2013).

One important feature about this labor assignment system is that the second generation of SOE/UCE workers usually had the privilege of being assigned to the same or a different SOE/UCE, effectively inheriting their parents' jobs (Meng, 2000; Cai, 2015). Since the government was responsible for labor assignments and enterprises were not permitted to lay off employees (Meng, 2000; Naughton, 2007; Brandt and Rawski, 2008), this led to a significant number of redundant workers. The lack of operational autonomy for SOEs resulted in low motivation among managers and employees, contributing to low production efficiency (Lin and Tan, 1999; Hsieh and Song, 2015).

At the 15th National Congress of the Chinese Communist Party in 1997, the central government endorsed the SOE reform. Most small and medium-size SOEs were privatized or closed in the next six years. This resulted in a massive layoff across the country. After the privatization, newly job market entrants needed to find jobs themselves and the firms, including the SOEs and private firms, were allowed to freely hire and fire workers. The number of employed workers in SOEs decreased from 109 million in 1995 to 69 million in 2002 (the China Labor Statistical Yearbook, 1998, 2003). In Figure 1, we plot the change of employment share in central SOEs and local SOEs(UCEs) from 1992 to 2009. The total amount of workers working in SOEs account for more than 50% in 1992 and it has significantly decreased after 1997. By 2009, the UCE employment share has become negligible and the SOEs Employment share also decreased to less than 30%.

After being laid off, workers would receive some living subsidies. Since 1999, with the continuous improvement of the unemployment insurance system, firms have increasingly adopted economic layoffs through the termination of labor relations. According to the China Labour Statistical Yearbook produced by the National Bureau of Statistics of China, the subsidies received by most households were generally less than 1,000 yuan per year, resulting in an economic loss of up

to 80% compared to their employment income (Kong et al., 2019).[7] Moreover, our estimates are likely to be downward biased even when accounting for these subsidies.

The fundamental changes in the labor market had significant impacts on the parental generation. Many workers were laid off, and it was challenging for them to find new jobs during that period (Kong et al., 2019; Tian et al., 2022; Xu and Zuo, 2024). This negative income shock likely affected their children as well. Additionally, welfare benefits such as free education, medical insurance, and housing, which were previously provided by firms or the government, were no longer available. As a result, the second generation of SOE workers lost the job inheritance rights that had been passed down from their parents.

3 Data

3.1 Outcomes: The China Health and Retirement Longitudinal Study

Our primary data source is the China Health and Retirement Longitudinal Study (CHARLS), which is particularly well-suited for our research. CHARLS is an (approximately) biannually national representative individual survey, starting from 2011. It covers 126 cities and 450 villages/resident committees across 28 provinces, including a total of 19,000 respondents from 12,400 households.[8] It encompasses a broad spectrum of information, including education, employment, occupation, income, and demographic characteristics of individuals aged 45 years or older, as well as data on all household members.

In this study, we primarily utilize data from the 2018 wave of CHARLS and 2014 CHARLS Life History Survey. This dataset enables us to examine the long-term effects of early-life exposure to SOE reform on children's educational outcomes and labor market performance. In particular, the 2014 CHARLS Life History Survey traced individuals' residential histories and provided detailed employment and earnings information for every job held before 2014. This enables precise identification of individuals' locations during the SOE reform period (1997-2002) and the ownership status of their job before the reform (1997).

By the time of the survey, the children have completed their education and entered the labor market, ensuring that our analysis captures their full educational attainment and early career outcomes. Additionally, the 2018 data is not affected by the 2020 pandemic, allowing for a clearer assessment of these effects.

[7] Economic loss is the average percentage income fall if laid off in the SOE at the province-year level.

[8] CHARLS is conducted by Peking University, in collaboration with the Behavioral and Social Research Division of the National Institute on Aging and the World Bank. It is equivalent to the Health and Retirement Study in the United States. Full details of the sampling design, response rates, and data quality assessment can be found in Zhao et al. (2013). The quality of the CHARLS data is widely recognized, and it has been extensively used in existing literature (e.g., Huang et al. (2013); Zeng and Jian (2018)).

Data Sampling We restrict the sample to children born before the 1997 SOE reform, whose age were over the age of 22 in 2018, to mitigate sample selection issues, such as the impact of the SOE reform on fertility decisions, as found by Xie et al. (2022a). Additionally, we exclude individuals who were more than 60 years old in 2018, as this older cohort may have experienced other significant events in the 1960s that could confound the effects of the SOE reform, such as the Cultural Revolution (Bai and Wu, 2023; Li and Meng, 2022; Meng and Gregory, 2002) and the Sent-Down Movement (Li et al., 2010; Chen et al., 2020; Gong et al., 2020). All respondents had completed their education and entered the labor market by the time of the survey. Furthermore, we restrict the sample to children whose parents were active in the non-agricultural labor market before the reform, and we exclude parents who are over the age of 65 since most individuals retire after 65. In total, our sample comprises over 2,200 children-level observations from more than 1,400 households.

In our analysis, the primary outcomes of interest are children's educational attainment, employment status, occupational status, and earnings, all measured in the survey year. For education, we use three variables: years of schooling, high school completion, and college completion.[9] Employment outcomes are measured by whether the individual is employed and whether they work in the public sector. Additionally, since the CHARLS data only provide categorical information on children's annual income, we construct three binary indicators to assess income levels: whether annual income exceeds 20,000 RMB, 30,000 RMB, and 50,000 RMB—roughly corresponding to the 30th, 60th, and 75th percentiles of the national income distribution.

One advantage of our dataset is that 2014 CHARLS Life History Survey includes indiviudals' detailed recollections of each job they held, including start and end dates, occupation, reasons for leaving, and earnings. This allows us to examine parental outcomes, such as whether they were laid off after the SOE reform, whether they left the labor force following the reform, whether they were reemployed afterward, and their average annual income before 2014.

Parents' occupational history is a crucial variable in our empirical design. We use the pre-reform SOE and non-SOE status of parental job affiliation to divide parents into treatment and control groups, following Wang (2012) and Kong et al. (2019). The treated group comprises households where either parent worked in an SOE before the reform year of 1997, while those with both parents working in non-SOE sectors fall into the control group.

Summary Statistics We present the educational and labor market outcomes, as well as individual characteristics of the second generation (children), in Table 1. The demographic background information of the first generation (parents) is shown in Table 2. In both tables, we compare the treatment and control groups to highlight the differences between those potentially affected by the

[9] Both four-year and two-year college education are considered.

SOE reform and those who were not. The treated group of children includes those whose parents worked in an SOE or UCE before 1997. Similarly, the treated group of parents comprises those who worked in an SOE or UCE before 1997.

In Panel A of Table 1, we observe significant differences in educational attainment between treated and control group children. The treated group has, on average, more years of schooling, with a higher proportion of children completing high school and earning college degrees. This suggests that if the treated children had not been negatively affected by the SOE reform, their educational attainment could have been even higher. Panel B presents labor market outcomes, showing that while the employment rate is quite high (93%) in both the treatment and control groups, very few individuals in the second generation work in the public sector. Additionally, there is no significant difference in income levels between the two groups. Panel C shows no significant difference in gender and age across the treated and control groups. However, we do find that the treated group consists of children with more educated fathers, slightly older mothers, and fewer siblings. We account for these individual characteristics in our main regressions.

In Table 2, we first present gender, age, educational attainment, marital status and number of births for parents in Panel A. In 1997, the average age of the first generation is approximately 40 years for both the treatment and control groups. Fewer than 30% of parents have completed high school. The divorce rate is very low and similar across both groups. Given that the SOE reform may influence individuals' childbirth decisions, we report the total number of births after the reform and the number of births by gender in the pre-reform period. On average, parents in the treated group have fewer children compared to those in the control group.

Panel B shows that the treated group is significantly more likely to have been laid off after 1997 compared to the control group. Specifically, 32% of parents in the treatment group have experienced layoffs, whereas only 12% of those in the control group have. Additionally, annual earnings for parents in the treatment group are more than 30% lower than those in the control group. We also present health outcomes for adults. The SOE reform may affect children's economic outcomes by altering parenting behaviors. Overall, the proportion of individuals engaging in unhealthy behaviors, such as drinking and smoking, is lower in the treated group than in the control group, which may be attributed to the decrease in family income.

3.2 SOE Reform Intensity Measurement: Prefecture-level Data

Ideally, we would like to use prefectural level layoff data to proxy the reform intensity, however, such data is unavailable. Thus, we calculate the reduction of public sector employment from 1996 to 2000 as a proxy for reform intensity in each prefecture. In this section, we discuss the data source and the construction of the proxy.

Data Source Our geographical treatment variables come from employment data (coded as *zhigong*) at the prefecture level from multiple Chinese statistical yearbooks, including provincial statistical yearbooks, city statistical yearbooks and the China Statistical Yearbook for Regional Economy. From these yearbooks, we use the employment data coded by formal employment (*zhigong*) rather than any type of employment (*jiuye*) because the broader definition of employment includes contractual workers, who lack the job security provided by the public sector and are not the target of the reform.[10]

To calculate the public sector employment-to-population ratio, we use the 15-to-64-year-old nonagricultural population from the 2000 Census as the denominator for each year. The numerator is the total of government, SOE, and UCE employment.[11]

Constructing Exposure to the Reform To create a geographical intensity for the SOE reform, we take advantage of the key feature of the reform: it resulted in massive layoffs that vary across regions. We define the reduction in the regional public employment share from 1996 to 2000 in Equation 1.

$$\text{Reform Intensity}_p = \frac{\text{Public Employment}_{p,1996}}{\text{Working-age Population}_p} - \frac{\text{Public Employment}_{p,2000}}{\text{Working-age Population}_p} \tag{1}$$

We plot the geographical variation of the reform intensity in Figure 2. It shows that the intensity is stronger in the northeast and southwest regions. We also present the summary statistics of the reform intensity in Table A1. Data from 98 prefectures in the CHARLS dataset were matched with data from the statistical yearbook. On average, public employment shrank by 19 percentage points (p.p.) from 1996 to 2000, with 13 p.p. attributed to SOEs and 6 p.p. attributed to UCEs. The standard deviation of the reduction is 8 p.p.

Existing research on the impact of China's SOE reform has primarily used variations in reform intensity at the provincial level (He et al., 2018; Kong et al., 2019). Our analysis improves upon this by employing more granular data at the prefecture level, similar to recent work by Xie et al. (2022a) and Xu and Zuo (2024), allowing for a more precise identification of the reform's impact.

Using the reduction in public employment share is more suitable for our analysis than the pre-

[10] In terms of the employment data from the Statistical Yearbook, we note a new definition of formal employment, working employment (*zaigang zhigong*), emerging after 1998 as a response to the massive layoffs during the reform. This is due to some laid-off workers' continuing to receive partial compensation from their former employer, even though they were no longer working. As a result, these workers are classified under nonworking employment and are included in formal employment (*zhigong renshu*) but not in working employment. Therefore, we use the working-employment measure for the employment variable. For years before 1999, when only the definition of formal employment is available, we assume that the two definitions are equivalent.

[11] For the data missing problems in the numerator, we first digitized data from the provincial and city statistical yearbooks. We then used the China Statistical Yearbook for Regional Economy to fill in the missing data on working employment (*zaigang zhigong*) from 1999 to 2004. For the missing data prior to 1999, we used linear interpolation.

reform SOE or UCE employment shares used by Xie et al. (2022a) and Xu and Zuo (2024). First, since the key feature of the reform was mass layoffs, and our focus is on the effects of parental job loss on the next generation, the decline in public employment share better captures the causal impact. Second, this study examines long-term outcomes, measured 20 years after the reform. In this context, changes from 1996 to 2000 are exogenous to outcomes in 2018. In contrast, Xie et al. (2022a) and Xu and Zuo (2024) use pre-reform shares to better address exogeneity in their analyses, which focus on the immediate aftermath of the reform.

Validity of the Reform Intensity To validate the measure, we mainly do two additional work. First, we verify the credibility of our data source through cross-checking. We manually collect data at the provincial level from the China Labor Statistical Yearbook and create the same measure. This dataset includes all provinces in China, and we plot the corresponding map in Figure A1. We show that the distribution is consistent with the map at the prefecture level in Figure 2.

Second, we assess whether reform intensity is correlated with pre-reform economic indicators from 1990 by conducting a balance test. Any significant correlation could indicate potential confounding factors, as prefectures with differing initial economic conditions may have followed distinct economic trends over time. To examine this, we regress the reform intensity measure on sixteen indicators sourced from China's City Statistical Yearbook and present the results in Figure 3. The figure shows that while reform intensity is generally uncorrelated with most indicators at the 95% confidence level, it is significantly correlated with one variable: Foreign Direct Investment (FDI) as a percentage of GDP. This relationship likely arises because prefectures more integrated into the international economy had lower SOE employment and were thus less affected by the reform. To ensure that our results are not driven by this correlation, we control for trends related to FDI in our regression analysis in Section 5.3.

3.3 Complementary Data: The China Health and Nutrition Survey

We also use data from the China Health and Nutrition Survey (CHNS) spanning 1989–2004 to investigate the potential mechanisms through which SOE reform may have influenced the educational attainment and income levels of the second generation. The CHNS is a longitudinal survey covering 9 out of China's 31 provinces, jointly conducted by the Carolina Population Center at the University of North Carolina at Chapel Hill and the National Institute of Nutrition and Food Safety at the Chinese Center for Disease Control and Prevention. As one of China's most extensive longitudinal household surveys, the CHNS provides rich economic, health, sociological, and demographic data. Notably, its survey period coincides with China's SOE reform, offering a unique opportunity for analysis.

Although the CHNS is not nationally representative, its sample provinces exhibit substantial heterogeneity in geography, economic development, public resource allocation, and health indicators, collectively encompassing approximately 45% of China's total population. In contrast to the CHARLS, which was launched in 2010 and lacks data on individual characteristics before and after the SOE reform, the CHNS is particularly well-suited for mechanism analysis. It contains detailed information on parental characteristics both pre- and post-reform, covering three waves prior to the reform (1989, 1991, and 1993) and three waves afterward (1997, 2000, and 2004).

Our analytical sample is restricted to individuals who were active in the non-agricultural labor market before the reform. We exclude individuals over the age of 65 years, as most retire by this threshold. The dataset comprises over 30,000 individual-wave observations.[12] For the mechanism analysis, we examine labor market outcomes (employment status, earnings, and working hours), childcare time for children under age six, health status, health behaviors, and nutritional intake (daily calorie and protein consumption). Descriptive statistics for these mechanism variables are reported in Table A4.

4 Empirical Strategy

4.1 Main Specification: Children Generation

A fundamental challenge in studying the effect of parental layoffs is addressing endogeneity. As shown in Table A2, the characteristics of the child generation that experienced parental layoffs differ systematically from those who did not. For example, we observe that the parents in this group tend to have higher education levels and less children.

To address this issue, we first propose a Difference-in-Differences (DD) design by leveraging two layers of variation, the geographical variation of the reform intensity and the cohort differences. First, we utilize regional variations of the reform intensity. Children who were born in high reform intensity areas are expected to be more affected than those who were born in low intensity areas. We assume that children were born in the same places as where parents were laid off. Second, we compare individuals exposed to the SOE reform during their formative years (pre-school and educational years) with those who were not, based on children's cohort, similar to the design of Duflo (2001).

$$Y_{icp} = \beta_0 + \beta_1 \times \text{Reform Intensity}_p \times \text{Treated Cohort}_c + X_{icp} + \omega_c + \eta_p + \mu_{icp} \tag{2}$$

We present the specification in Equation 2, where i denotes individual (children), c denotes

[12] Due to variation in data availability across outcome variables, the empirical analysis is based on the maximum number of observations available.

birth cohort, and p denotes the prefecture of birth. The dependent variables include: (1) children's education; (2) employment; (3) occupation; and (4) earnings. The outcomes are all sourced from CHARLS in 2018. X_{icp} contains a vector of individual characteristics, including gender, father's years of education, mother's age, and number of siblings. For all specifications, we include prefecture of birth fixed effect and birth cohort fixed effect. Standard errors are clustered at the prefecture level to account for correlations within the same prefecture.

Reform Intensity$_p$ represents the intensity of SOE reform proxied by the reduction in the share of public employment of the prefecture between 1996 and 2000, as defined in Section 3.2. *Treated Cohort*$_c$ is a binary indicator variable that equals 1 for individuals who were younger than 25 years old during the 1997 SOE reform (born between 1972 and 1996) and 0 for those who were older than 25 (born between 1957 and 1972). A key assumption is that individuals more than than 25 years old have completed their education, are more economically independent, and are therefore less directly affected by parental layoffs.[13]

In the specification outlined in Equation 2, individuals are considered treated if they were born in regions with greater exposure to the reform and were young enough at the time of implementation. It reflects the overall intergenerational consequences of privatization, including its role in improving overall economic efficiency (Hsieh and Song, 2015; Berkowitz et al., 2017; Chen et al., 2021). However, the reform did not directly impact everyone. The key feature of the reform was mass layoffs. As shown in Table 2, parents who worked in an SOE or UCE in 1996 were significantly more likely to experience layoffs after 1997, making them the primary group directly affected by privatization.

To further exploit this variation, we employ a Difference-in-Differences-in-Differences (DDD) framework to estimate the intergenerational effects of the SOE reform on children's long-term outcomes. This approach leverages plausibly exogenous variations in prefecture-cohort-occupation exposure to the reform. In addition to regional and cohort-based differences, we compare individuals whose parents were employed in SOEs or UCEs in 1996—just before the reform—with those whose parents were not. The control group consists of individuals whose parents were employed in the government or private sector, as well as those who were self-employed or unemployed. *Parent SOE/UCE*$_i$ is an indicator variable equal to 1 if either parent worked in a SOE or UCE in

[13] According to China's Compulsory Education Law, children must start school by age six, with a maximum delay until seven in less developed areas. Compulsory education consists of nine years (six years of primary and three years of junior high school). High school lasts three years, university three to four years, and graduate school two to three years. Additionally, less than 1% of the population holds a graduate degree or higher. Thus, by age 25, most individuals have completed their education.

1996, otherwise 0. The specification is as follows:

$$
\begin{aligned}
Y_{icp} = {} & \beta_0 + \beta_1 \times \text{Reform Intensity}_p \times \text{Treated Cohort}_c \times \text{Parent SOE/UCE}_i \\
& + \beta_2 \times \text{Reform Intensity}_p \times \text{Treated Cohort}_c \\
& + \beta_3 \times \text{Parent SOE/UCE}_i \times \text{Treated Cohort}_c \\
& + \beta_4 \times \text{Reform Intensity}_p \times \text{Parent SOE/UCE}_i \\
& + \beta_5 \times \text{Parent SOE/UCE}_i + X_{icp} + \omega_c + \eta_p + \mu_{icp} \qquad (3)
\end{aligned}
$$

The key explanatory variable is $\textit{Reform Intensity}_p \times \textit{Treated Cohort}_c \times \textit{Parent SOE/UCE}_i$, which captures the direct long-term impact of the reform on the younger cohort whose parents were directly affected by the layoff movement. The coefficient β_1 quantifies the effect of a 100 percentage point increase in the privatization-induced layoff rate on children's long-term outcomes.

Additionally, we examine the coefficient β_2, associated with $\textit{Reform Intensity}_p \times \textit{Treated Cohort}_c$. This coefficient measures the long-term impact of the reform on the younger cohort, whose parents were not directly affected by layoffs. It corresponds to the β_1 estimated in Equation 2 for those control individuals.

The validity of our identification depends on the exogeneity of the intensity of SOE reform in prefectures. This means that, in the absence of the reform, the average outcomes for children in prefectures with varying reform intensities would have followed similar trends. A key threat to this assumption is the possibility that regions with varying levels of SOE reform were systematically different before 1997, potentially leading to differential trend effects across cohorts.

We evaluate the plausibility of the parallel-trend assumption by classifying children into finer groups according to their cohort, as outlined in Equation 4. We assume that effects of the SOE reform should be null for cohorts not exposed in early life. Specifically, we replace the treated cohort indicator with a set of dummy variables representing categorical age ranges at the time of the SOE reform in their county of birth (e.g., 0–3, 4–6, 7–9 years, etc.), using ages 25–27 as the reference group. This flexible approach allows us to estimate the effects for various exposure periods and assess the validity of the parallel-trend assumption.

The specification is as follows:

$$
\begin{aligned}
Y_{icp} = \beta_0 &+ \sum_c \beta_c \times \text{Reform Intensity}_p \times \text{Cohort}_c \times \text{Parent SOE/UCE}_i \\
&+ \sum_c \beta'_c \times \text{Reform Intensity}_p \times \text{Cohort}_c \\
&+ \sum_c \beta''_c \times \text{Parent SOE/UCE}_i \times \text{Cohort}_c \\
&+ \beta_2 \times \text{Reform Intensity}_p \times \text{Parent SOE/UCE}_i \\
&+ \beta_3 \times \text{Parent SOE/UCE}_i + X_{icp} + \omega_c + \eta_p + \mu_{icp}
\end{aligned} \tag{4}
$$

Another potential threat to identification is that the reform may be confounded by other concurrent policies and factors. To address this, we conduct a series of robustness check by adjusting the definition of the control group and accounting for confounding policies in Section 5.3. The results remain consistent.

4.2 Parents Generation

To explore potential mechanisms, such as change of parents' labor market outcomes and health status, we run the following specification at the parents' level:

$$
\begin{aligned}
\text{Y}_{ip} = &\beta_0 + \beta_1 \times \text{Reform Intensity}_p \times \text{SOE/UCE in 1996}_i \\
&+ \beta_2 \times \text{SOE/UCE in 1996}_i + \text{X}_i + \eta_p + \mu_{ip}
\end{aligned} \tag{5}
$$

Where, i denotes individual (parent), and p denotes the prefecture of the child's birth. The dependent variables include: (1) parents' labor market outcomes; (2) health status; and (3) family structure outcomes in 2018. X_i is a vector of individual characteristics, including gender, age, education, number of daughters born before the reform, and sons born before the reform. For all specifications, we control for prefecture fixed effects. The standard errors are clustered by prefecture.

SOE/UCE in 1996$_i$ is a treated group indicator equal to 1 if the individual worked in a SOE or UCE before the 1997 reform, in 1996, and 0 otherwise. The key explanatory variable is *Reform Intensity*$_p$ $\times$ *SOE/UCE in 1996*$_i$. The coefficient β_1 measures the impact of a 100 percentage point increase in the SOE layoff rate on parents' labor market outcomes.

5 Results

In this section, we first present the main results of the SOE reform on children's economic outcomes in tables. To check the validity of the parallel trend assumption, we also present the dynamic results as figures. Next, we present heterogeneous effects by children's gender and family background information. Lastly, we provide robustness checks and explore potential mechanisms by presenting the effects on parents.

5.1 Baseline Results

In this section, we first present the results of the double-diff analysis before moving to the triple-diff framework.

Our results from Equation 2 indicate that the privatization has a significantly negative long-term impact on the next generation's educational attainment and labor market outcomes. This effect is primarily driven by individuals whose parents were employed in SOEs or UCEs in 1996, as shown in Table 3. In contrast, no significant effect is observed when restricting the analysis to the control group (Table A5), while the effect remains negative but noisier when using the full sample (Table A6).[14] These results further support our main specification, the triple-difference design.

In Table 4, we present the triple differences results of the SOE reform on children's educational attainment. We focus on three main outcomes: years of education, high school completion and college degree. While years of education is a discrete variable that includes zeros due to the presence of illiterate individuals in the sample, the latter two are binary indicators. Following Chen and Roth (2024), we employ PPML regression for years of education and OLS for the binary outcomes.[15]

Overall, we find that the SOE reform significantly reduced the educational attainment of the second generation, as evidenced by the results across columns (1) to (3). Specifically, for children in the treated cohorts whose parents were employed in the public sector before the reform, an increase of one standard deviation in reform intensity (8 percentage points) led to a 17.2% ($0.08 \times 215\%$) reduction in years of education. Given a mean of 10.54 years of education, this corresponds to a reduction of approximately 1.81 years. The magnitude of this effect aligns with the structure of education, where advancing to the next level typically requires 3–4 additional years.

The negative impact on educational attainment is evident at every level, from middle school to college. Specifically, the estimated treatment effects show an 11.2 percentage point decline in middle school completion, a 20.1 percentage point decline in high school completion, and a 19.2 percentage point decline in college attainment.

[14] The corresponding figures are presented in Figure A3, A4, and A5.

[15] The OLS result for the years of education outcome shows the similar effect.

Moreover, the effects captured by β_2 remain consistently insignificant across all specifications, indicating that the reform had no significant impact on the educational attainment of individuals whose parents were not directly affected. This reinforces the parental channel as the primary mechanism, a key focus of our analysis throughout the paper.

Table 5 presents the treatment effects of the SOE reform on children's labor market outcomes. We focus on long-term employment and income, using data from 2018. Due to data limitations, we examine only binary outcome variables, including different income thresholds.

Overall, we find no significant impact on employment. With an employment rate of 95% in our sample, the strong incentive to work among the next generation appears unaffected by variations in their human capital attainment. However, the reform reduced the likelihood of individuals entering the public sector within the treatment group. This is likely because public sector jobs generally require higher educational attainment. In terms of magnitude, an 8 percentage points increase in reform intensity corresponds to an 18.4 percentage point decline in the probability of public sector employment.

Additionally, we observe a significant negative impact on earnings at all levels. Specifically, an 8 percentage points increase in reform intensity corresponds to a 8, 25.7, 31.52 percentage points decrease in the probability of earning annual incomes above 20K, 30K, and 50K RMB, respectively. The decline in the probability of earning a higher income (above 30K or 50K RMB per year) is sharper than that of earning a lower income (around 20K RMB per year). This suggests that the reform led to lower human capital accumulation, which in turn reduced individuals' earning potential.

We also present the dynamic effects in Figure 4, which follows the strategy outlined in Equation 4. The x-axis represents the age of the next generation during the reform year, 1997. Panels (a) and (b) show the intergenerational impacts of the SOE reform on educational attainment, while panels (c) and (d) present the labor market impacts. In all figures, the control group includes individuals aged over 25 in 1997. The effect is null for mature individuals during the reform year, who are less economically dependent on their parents. We find that those aged 0 to 22 in 1997 were negatively affected in terms of years of schooling, college completion, public sector employment, and the probability of earning above 30k RMB annually. These effects align with those in Tables 4 and 5. This figure provides further insight into the differential effect size based on the age at which individuals were exposed to the reform. Overall, we observe a relatively flat distribution of effects across different age groups, suggesting that the impact size remains consistent even before the age of 25.

5.2 Heterogeneous Effects

In this section, we further explore the heterogeneous effects by children's gender and family background characteristics. Given the influential son preference culture, family may treat girls and boys differently, especially if they face a reduction in the income. In addition, since fathers were usually the main income supporters in the families, whether it is fathers or mothers lost the job would be expected to have differential impact on next generations' educational and labor market outcomes.

By Gender We find that both boys and girls are negatively affected in their educational and labor market outcomes, as shown in column (1) and column (2) of Table 6. However, girls are slightly more affected in schooling years than boys, despite the fact that there are almost no differences in income effects between boys and girls. The results indicate that parental layoff shocks may affect resource allocation differently for sons and daughters, aligning with previous findings from other developing countries (Björkman-Nyqvist, 2013; Dessy et al., 2023).

The finding in this paper differs from that of Xu and Zuo (2025). While Xu and Zuo (2025) highlight the overall higher returns to education for girls and explain why the SOE reform overall incentivized greater educational investment among girls compared to boys, this study focuses specifically on the parental channel, examining the impact of parental income loss. In this context, when families face financial pressure, daughters are more likely to bear the burden, being sacrificed in favor of their male counterparts.

By Parents' Work Ownership Results from column (3) and column (4) of Table 6 suggest that children with fathers who previously worked in SOE or UCE are more negatively affected than children with mothers who were affiliated with the public sector in the pre-reform period. This is true for both the human capital accumulation and the labor market outcomes. For example, the negative treatment effect on whether children earned more than 30K is 25.7 percentage points for those whose fathers worked in the SOE/UCE before 1997 while there is no effect among individuals whose mothers were potentially laidoff. This is consistent with the fact that fathers generally played a dominant role in financially supporting the family, and once fathers lost their jobs, the negative income shock to the family may be larger than mothers' job loss. Such finding is consistent with previous literature (Hilger, 2016).

By Parents' Educational Attainment Additionally, we find that children's educational attainment is similarly affected regardless of whether their fathers have low or relatively high education levels. This suggests that the impact of parental layoffs does not vary significantly with paternal human capital. One possible explanation is that, before the reform, wage-setting in the state

sector was inefficient and largely based on tenure rather than skills (Ge and Yang, 2014). Although higher-educated fathers were more likely to secure reemployment and transition to the new economy, the negative effects on their children remain comparable to those with lower-educated fathers.

5.3 Robustness Checks

We conduct a series of robustness checks to validate our baseline findings. We revise the definition of the parental control groups and incorporate controls for several confounding policies and pre-reform economic factors. Also, we address the concern of lack of representative sample.

Different Control Group As a robustness check, we redefine our control groups. In Table A7, we present the intergenerational impacts of the SOE reform on years of schooling and income rank with three different control groups. In column (1) we exclude all unemployed individuals; and we restrict to only employed individuals in column (2). Furthermore, we restrict to those parents who worked in government as our control group since some literature suggests that government employees are most comparable to the SOE workers in column (3) (He et al., 2018). We consistently find that the children generation are negatively affected in their educational attainment and the income although the magnitudes differ by using different control groups. The negative effect ranges from 3.82 to 4.32 years of schooling and from 0.65 percentage points to 0.78 percentage points on the likelihood of earning more than 30K RMB in 2018.

A Binary Treatment Callaway et al. (2024) examines the Diff-in-Diff approach with continuous treatment, highlighting potential selection bias under the standard parallel trends assumption. To address this, we conduct an alternative analysis using a binary treatment instead, which is defined as 1 if the continuous treatment is bigger than the median level 0.19, and 0 otherwise. Results, displayed in Tables A14 and Table A15. The estimated effects are consistent with our baseline results.

Confounding Policies In this section, we discuss three leading confounding factors that may bias our baseline results. First, existing literature suggests that access to WTO has significant positive effect on China's economy growth. The prosperity of tradable sectors creates many job vacancies and demand for labor has significantly increased. This may pull young adults to leave the school and enter into the labor market. To address this concern, we include the regional NTR (Normal trade relationship) gap in the regression as an additional control.[16]

[16]The gap is constructed as the difference between the non-NTR tariff rates to which tariffs would have risen if annual renewal by U.S. Congress had failed and the NTR tariff rates that were locked in by PNTR status. The NTR

Second, Becker's quantity-quality theory predicts that a smaller family size could lead to more children's educational investment. China's one child policy has significantly decreased the family size and the strictness of the implementation of the OPC varies across regions. If the high layoff intensity areas happen to be those areas with strict implementation of OCP, our point estimate will be biased. To address this concern, we further include the penalty of violating the OCP in the regression. Following the existing literature, we use the measure of province-level average fertility fines from 1979 to 1986, expressed as a proportion of annual income, as a proxy for the implementation of the One Child Policy (OCP) (Huang et al., 2021a).[17]

Last, China has launched a college expansion program in 1999, which significantly increased the college seats in each province. This will potentially increase the probability of enrolling into colleges for young people. So, we calculate the regional number of college students from 1992 to 2000 in each year and add it as a control. In addition, if young people migrate for college education, we may have a selective sample. But the results on high school attainment will not suffer from this issue.

We present the results that include all three confounding policies in Table A8 and A9. All the controls are interacted with treated cohort dummy and the parents' affiliation with SOE/UCE dummy, defined the same as in the main regression. The results on educational attainment and labor market outcomes are consistent with our baseline findings. The second generation are still negatively affected in both their educational achievement and income, although the magnitudes slightly decrease.

Control for the Differential Trends of the Confounding Prereform Economic Indicators In Figure 3, we illustrate that the 1992 economic indicator, FDI as a percentage of GDP, is significantly and negatively correlated with reform intensity across prefectures. This relationship arises because prefectures more exposed to the international economy tend to have less SOE employment and are thus less affected by the reform. As a robustness check, we interact this variable with the treated cohort dummy and the parents' SOE/UCE affiliation dummy, incorporating them into our main regression. We show the results in Table A10 and A11. Overall, the findings are consistent with our main results.[18]

Address the Sampling Issues A key challenge in our analysis is the limited sample size, which consists of only about 2,000 individuals. This limitation is primarily due to the scarcity of data on

gap has been widely used by the existing literature to study the impact of the WTO on China's domestic economy; for detailed calculation, refer to the paper by Erten and Leight (2021).

[17] A map of this measure is shown in Figure A2. Overall, the reform intensity measure is not correlated with the fines, as shown in Figure A1 and A2.

[18] Due to missing data in the China City Statistical Yearbook, we replaced the missing FDI/GDP values with the provincial average to ensure the sample remains comparable with the main analysis.

intergenerational relationships in Chinese surveys. Additionally, the survey covers 98 prefectures, resulting in an average of just 20-30 individuals per prefecture. This raises two concerns. First, some prefectures may include too few individuals, which could threaten the representativeness of the sample. Second, when comparing the SOE and UCE employment shares, discrepancies emerge between our data and the statistical yearbook data. Specifically, Figure 1 shows that SOE and UCE employment accounted for 60% of the working-age population in 1996. However, in Table 2, our sample indicates that only 45% of parents worked in SOEs or UCEs, suggesting that our sample may not be fully representative.

To address these sampling concerns, we first exclude prefectures with fewer than 10 individuals in the sample. This result in a sample consisting of 72 prefectures across 18 provinces. We then reweight the parents based on their employment status (the Parent SOE/UCE$_i$ variable in Equation 3), using data from the China Labor Statistical Yearbook. By comparing the SOE and UCE employment shares between our sample and the yearbook data at the province level, we weight up the parents who worked in SOEs and UCEs in 1996. We show the results in Table A12 and A13, and they are consistent with our main findings.

5.4 Mechanism Discussion

In this section, we examine the underlying mechanisms in terms of intergenerational transmission that may explain our findings. Drawing on the existing literature on the long-term effects of early childhood and adolescent family environments, we hypothesize three main channels through which the SOE reform may have influenced the second generation's educational attainment and income. Notably, these channels do not necessarily operate in the same direction. First, parental layoffs may have led to a decline in family income, forcing households to reduce investments in their children's human capital. In some cases, children may have had to drop out of school and enter the labor force to help compensate for the family's financial loss. Second, unemployed parents may have had more time to engage in their children's education. Improvements in parenting skills could have offset the negative income shock, potentially benefiting children's cognitive and noncognitive development. Third, the negative income shock may have affected parents' health status, which in turn could have impacted children's health outcomes. A deterioration in either parental or child health could have had long-term adverse effects on educational attainment and labor market performance.

A Negative Income Effect The CHARLS dataset does not allow us to directly observe changes in parenting behaviors before and after the reform. Therefore, we conduct our analysis using parents' outcomes from 2018, as outlined in Equation 5. The results of the SOE reform on parents' labor market outcomes are presented in Table 7. We find that parents in high reform-intensity

areas are significantly more likely to have been laid off than those in low-reform-intensity areas, as shown in columns (1) and (2) of Table 7. These parents are also more likely to exit the labor force. Additionally, their income has been negatively affected, aligning with findings from previous studies (Tian et al., 2022; Xu and Zuo, 2024).

We further test these effects using an alternative data source, the China Health and Nutrition Survey (CHNS), which provides panel data on parents' outcomes before and after the reform. The analysis is as follows:

$$\begin{aligned} Y_{icp} = \beta_0 &+ \beta_1 \times \text{Reform Intensity}_p \times \text{Post}_t \times \text{SOE/UCE in 1996}_i \\ &+ \beta_2 \times \text{Reform Intensity}_p \times \text{Post}_t \\ &+ \beta_3 \times \text{SOE/UCE in 1996}_i \times \text{Post}_t \\ &+ \beta_4 \times \text{Reform Intensity}_p \times \text{SOE/UCE in 1996}_i \\ &+ \beta_5 \times \text{SOE/UCE in 1996}_i + X_{icp} + \omega_c + \eta_p + \mu_{icp} \end{aligned} \tag{6}$$

Where, the variable $Post_t$ equals 1 if the survey year is after 1997, the year of the reform. This specification captures the causal effect of the reform on affected parents. The results are presented in Table A18, where we consistently observe negative coefficients for β_1, in line with our previous findings.

In Table A18, we further use the CHNS panel dataset to replicate the analysis as shown in Equation 6 and find that parents' income and work hours have been negatively affected by the SOE reform, but the time use, especially childcare and housework time use are not affected.

Effects on Health, Family Structure, and Child Care Additionally, we observe suggestive but somewhat noisy evidence of deteriorating health among treated parents. Using the specification outlined in Equation 5, we present the results in Table A16. Column (1) indicates a higher likelihood of diabetes among the treated group as a consequence of the reform. However, we find no significant effects on other health behaviors or outcomes, such as drinking, smoking, or mental health. These results are similar but still noisy using the alternative dataset CHNS and the specification from Equation 6, as shown in Table A19.

Moreover, we do not find any evidence that the SOE reform has affected the family structure (divorce and post-reform fertility) and childcare provisions, which is shown in Table A17.

In Table A18, we further use the CHNS panel dataset to replicate the analysis as shown in Equation 6 to examine the effects on time use. We show a positive but noisy effect on time spend on child care and grocery.

6 Effects on Intergenerational Mobility

One key implication of our study is that the SOE reform may have influenced intergenerational mobility. This is particularly relevant in China, where parent-child income and educational ties were exceptionally strong before the reform (Gong et al., 2012). Under the rigid planned economy, intergenerational mobility was limited, as jobs were assigned to new graduates. Family background, such as parents' social networks, played a more important role in securing employment than individual ability. In particular, there was a tradition that children inherited the jobs from their parents after graduating in the same SOE/UCE (Fung, 2001; Warner, 2018). Overall, the labor market was highly structured and lacked true competition.

Many studies have explored the dynamics of social mobility in China over the past thirty years, particularly in the context of economic reforms and development (Fan et al., 2021; Xie et al., 2022b; Jia et al., 2024). For example, Xie et al. (2022b) find an increase in intergenerational occupational mobility due to the rapid industrialization across time. Jia et al. (2024) find that elite education has negligible impact on intergenerational income mobility by using the cross-sectional dataset.

In this section, we examine how the SOE reform has affected social mobility in income and education. Although our previous analysis shows that both the first and second generations were negatively affected by the reform, it remains unclear how the reform influenced the correlation between parents' SES and children's SES in affected versus unaffected households. We hypothesize that intergenerational persistence decreases for households that experienced layoffs. Post-reform, the labor market places greater emphasis on efficiency, making individual ability more important. Additionally, parental job loss weakens their income and social networks, meaning that even parents with relatively higher skills and income before the reform may struggle to support their children's education or help them secure better jobs. This suggests that the large-scale layoffs could increase social mobility overall, altering the relative social status of households.

To conduct the analysis on social mobility, we use the same sample as in the main analysis, and restrict it according to the age of parents and children. For children, we exclude those younger than 22 years old in 2018 as they are likely to still be in school. In addition, variation in children's income is stable from their early twenties (Fan et al., 2021). For parents, we exclude those who are older than 65 years as most individuals retire after 65.

We perform regression analysis as outlined in Equation 7 with the child's outcomes on the

left-hand side and the parents' outcomes on the right-hand side:

$$\begin{aligned}\text{Child's Outcome}_i = &\beta_0 + \beta_1 \text{Parent's Outcome}_i + \beta_2 \text{Parent's Outcome}_i \times \text{Parent Layoff}_i \\ &+ \beta_3 \text{Parent Layoff}_i + \beta_4 \text{Gender}_i + \beta_5 \text{Child Age}_i + \beta_6 \text{Child Age}_i^2 \\ &+ \beta_7 \text{Parent Age}_i + \beta_8 \text{Parent Age}_i^2 + \eta_p + \varepsilon_i\end{aligned} \tag{7}$$

Following the design of Jia et al. (2024), we interact the parents' outcomes with an indicator for whether the household experienced a layoff during the reform to investigate how the reform impacted social mobility. The outcomes include income quintile rank and years of education. To isolate the effect of layoffs from parental income level, we measure parents' income using their average income prior to the reform year of 1997, which reflects their socioeconomic status (SES) before the reform.[19] Children's income is measured as their average annual income in 2018, the CHARLS data only provide categorical information on children's annual income. We create five income quintile groups as the dependent variable (1–5, with 1 representing the lowest quintile and 5 the highest).[20] In addition, we use parents' average years of education as another measure of SES, as educational attainment is more stable than income over the life cycle and less prone to measurement errors (Fan et al., 2021).[21] We also control for age polynomials for both children and parents to account for life-cycle dynamics. The standard errors are clustered at the household level.

The regression results in Table 8 support our hypothesis. The coefficient β_1 represents the intergenerational correlation for households that did not experience layoffs. The coefficient β_2 captures the difference in the intergenerational correlation of income/education between individuals with laid-off parents and those whose parents did not experience layoffs. Furthermore, the sum of $\beta_2 + \beta_3$ reflects the overall impact of parental layoffs on children's income rank and years of schooling.

Our regression analysis in column (1) shows that $\beta_2 = -0.2$, indicating that parental layoffs reduce the correlation between parents' and children's income ranks. The intergenerational income rank-rank correlation is 0.1 for individuals whose parents did not experience layoffs, meaning that a 20 percentile increase in parents' income rank is associated with a 2 percentile (0.1×20) increase in children's income rank. In contrast, in families with laid-off parents, a 20 percentile increase in parents' income is linked to an approximate 2 percentile decrease in children's income rank. This effect remains significant whether the father or mother was laid off, as shown in columns (2)

[19] Parents' income has been adjusted to 2018 price levels using the Consumer Price Index.

[20] The intergenerational rank correlation is more robust and less prone to attenuation bias than the intergenerational log correlation (Nybom and Stuhler, 2017).

[21] Since the distribution of years of schooling tends to be multimodal (i.e., individuals complete education after reaching certain thresholds), transforming this variable into percentiles for rank estimation may not be appropriate.

and (3).[22] We observe similar results for the education correlation in column (4), indicating that layoffs have also weakened the correlation of educational attainment between parents and children, suggesting an increase in social mobility in affected households. We visualize the intergenerational correlation by parental layoff in Figure 5.[23]

It is important to note that the negative sign of β_3 is unexpected and it may be due to the endogeneity of parental layoffs. As shown in Table 2, treated parents have slightly higher educational attainment, so directly correlating the parental layoff indicator with children's outcomes could lead to biased results.

To address this concern, we implement a reduced-form design, utilizing the same variations as in our main analysis, showing as follows:

$$\begin{aligned}\text{Child's Outcome}_{icp} = {} & \beta_0 + \beta_1 \text{Parent's Outcome}_{icp} \\ & + \beta_2 \text{Parent's Outcome}_{icp} \times \text{Reform Intensity}_p \times \text{Treated Cohort}_c \times \text{Parent SOE/UCE}_i \\ & + \beta_3 \text{Reform Intensity}_p \times \text{Treated Cohort}_c \times \text{Parent SOE/UCE}_i \\ & + \beta_4 \times \text{Reform Intensity}_p \times \text{Treated Cohort}_c \\ & + \beta_5 \times \text{Parent SOE/UCE}_i \times \text{Treated Cohort}_c \\ & + \beta_6 \times \text{Reform Intensity}_p \times \text{Parent SOE/UCE}_i \\ & + \beta_7 \times \text{Parent SOE/UCE}_i + X_{icp} + \omega_c + \eta_p + \mu_{icp} \end{aligned} \tag{8}$$

The reduced-form results, presented in Table 9, yield the same signs for β_1 and β_2 as in Table 8, although the point estimates of β_2 are not significant. In addition, as we expect, β_3 in all columns is negative, which helps alleviate our concerns about endogeneity. For example, β_3 in column (1) suggests that a standard deviation increase in the intensity of the reform (8 percentage points) caused the income of the treated cohorts whose parents worked in the SOE/UCE before the reform to decrease by 8.41 percentiles in the income rank. This is consistent with our baseline results in section 5.1.

In terms of the overall effect of the SOE reform on intergenerational income mobility, $\beta_1 + \beta_2 + \beta_3$ in column (1) is -8.57, which indicates that the reform has decreased the parents-children income correlation and this is also true for the intergenerational educational attainment correlation. Since we rely on the reform intensity to proxy for the layoff, it is hard to directly compare the magnitude of the effect size between Table 8 and Table 9. But we find consistent results that the SOE reform has increased cross-sectional intergenerational mobility.

[22] If the income rank of either the father or mother is missing, we use the spouse's income rank to supplement it.
[23] We distinguish the income by fathers and mothers and provide the visualization in Figure A6.

7 Conclusion

This paper examines the long-term impact of privatization on the next generation's educational and labor market outcomes, as well as its implications for intergenerational mobility. We study one of the largest privatization movements in modern history, China's SOE reform. This reform resulted in more than 35 million involuntary job loss and have impacted nearly all aspects of urban households' life. Although many studies have documented negative effects of job loss in developed countries (Bratberg et al., 2008; Oreopoulos et al., 2008; Rege et al., 2011; Hilger, 2016), our research contributes to the relatively sparse literature on this topic in developing countries (Duryea et al., 2007; Di Maio and Nisticò, 2019; Britto et al., 2022).

We employ a triple-difference design, leveraging variations in three dimensions: prefecture-level reform intensity, parental job type before the reform, and children's age at the time of the reform. Our results align with previous literature, showing negative impacts on educational and labor market outcomes for the second generation in the long run. We attribute these effects to the negative income shock and the loss of social network caused by the massive layoff, indicating that the negative impact extends to the next generation. Given the extensive scale of the reform, the intergenerational effect is substantial.

Finally, we examine how the massive layoffs have shaped social mobility in China. The SOE reform has been considered one of the most important economic reforms in China. It has significant impacts on the overall income inequality (Xu and Zuo, 2024), firms' total productivity (Hsieh and Song, 2015; Berkowitz et al., 2017) and etc. The Great Gatsby curve suggests a negative correlation between income inequality and social mobility (Durlauf et al., 2022), but our findings suggest that intergenerational income mobility has increased although overall income inequality increased in the same time period. Although parents were negatively affected in their labor market outcomes due to the reform, the transmission was not perfect. In the process of "breaking the iron rice bowl," the next generation, especially those who do not use the social network of parents, takes advantage of the transitional economy. This finding highlights the importance of the improvement in the economic efficiency caused by privatization.

A broader lesson from China's SOE reform is that policymakers need to balance the short-run and long-run social and economic benefits and costs when implementing privatization policies. On the one hand, privatization has increased firms' productivity by decreasing the misallocation of labor and capital, etc. On the other hand, the long-term negative impact of massive layoff asks for setting up complete social security system to support the disadvantage groups. Otherwise, even though the short-run economic efficiency may increase, the society has to bear larger cost due to the increased inequality in the long-run.

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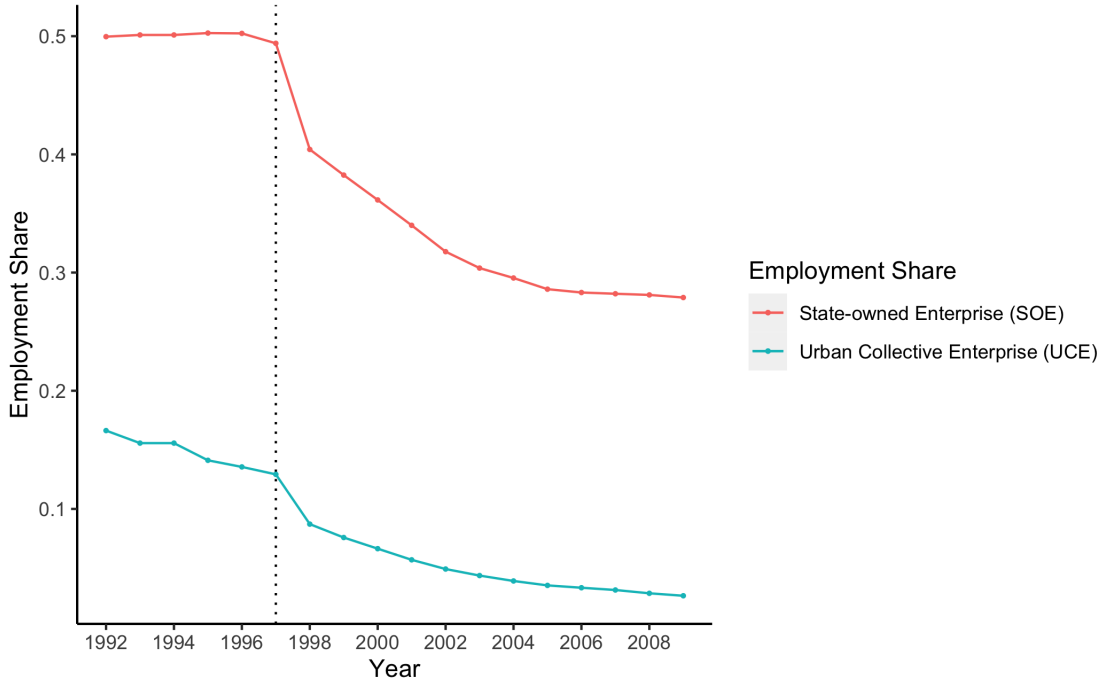
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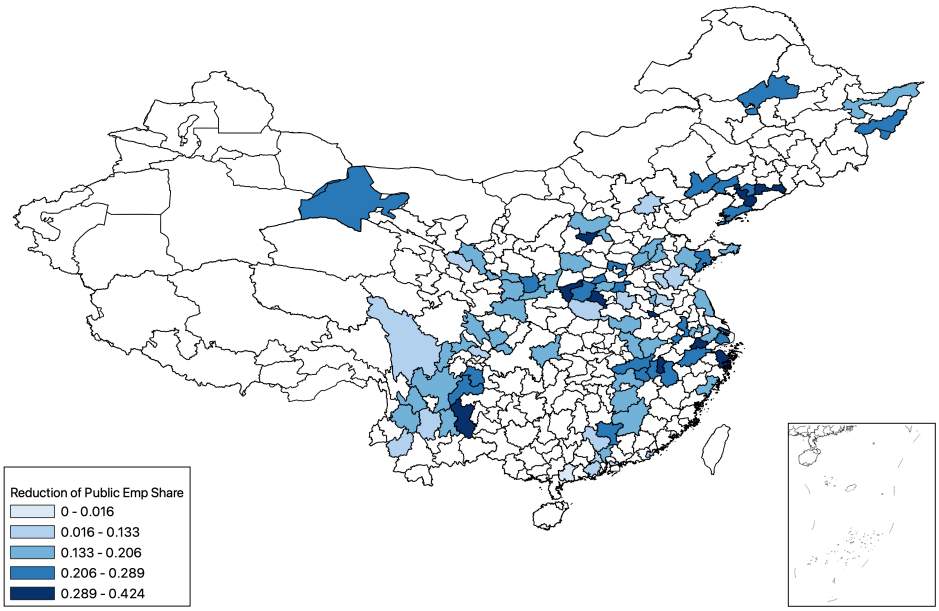
Figures

Figure 1: Share of Urban Labor Force Working in SOEs and UCEs



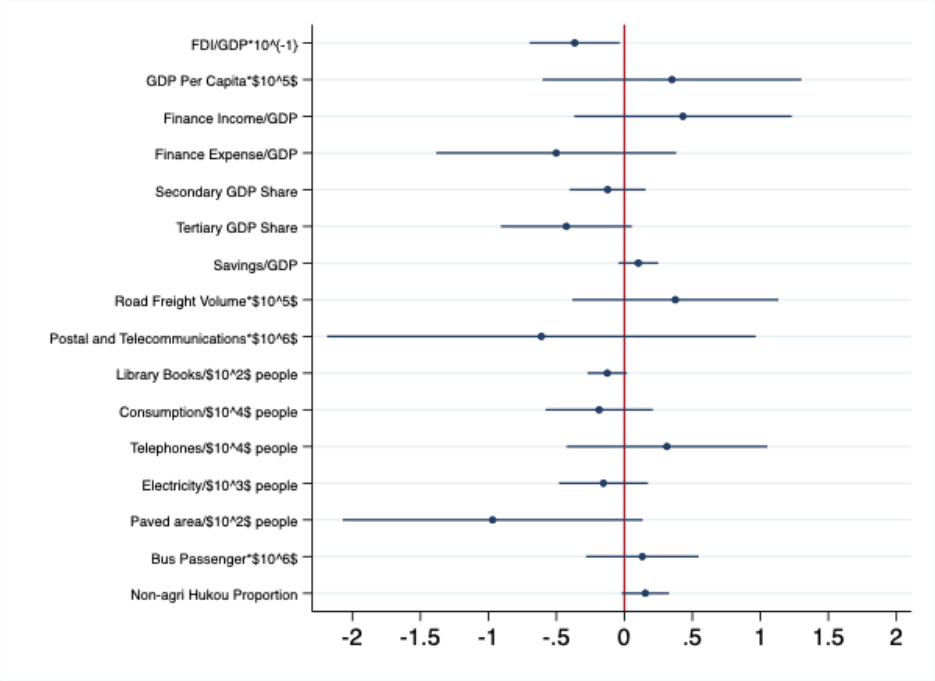
Notes: The figure reports the percent of workers that work in the SOEs from 1988 to 2013 in urban China. The nominator is the employment in each ownership (*Zhi Gong Ren Shu*), and the denominator is the 15-64 non-agriculture population from 2000 census. We add a vertical line for year 1997 when the SOE reform was officially announced by the central government. Employment data comes from China Statistic Yearbook.

Figure 2: Reduction of Public Employment Share



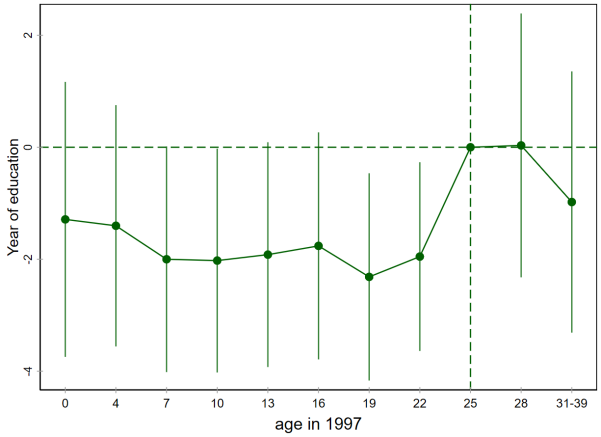
Notes: This figure reports the change of public employment share from 1996 to 2000 of the prefectures in our analysis. Data comes from Statistical Yearbook of each province and prefecture. The average rate is 0.19 percentage points.

Figure 3: Balance Test: Coefficients of Economic Indicators in 1990

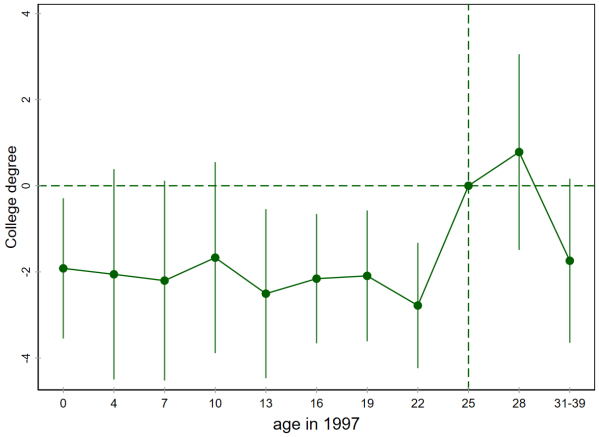


Notes: Data of the explanatory variables come from China City Statistical Yearbook. The outcome is our geographical treatment variable. We use 95% confidence interval in the graphs.

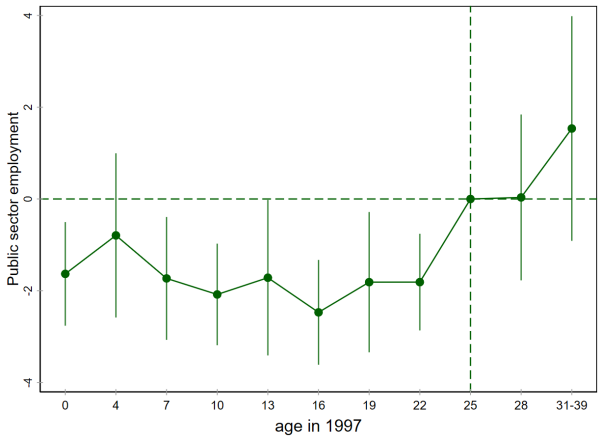
Figure 4: Coefficients of Reform Intensity$_p$ $\times$ Treated Cohort$_c$ $\times$ Parent SOE/UCE$_i$ in Equation 4



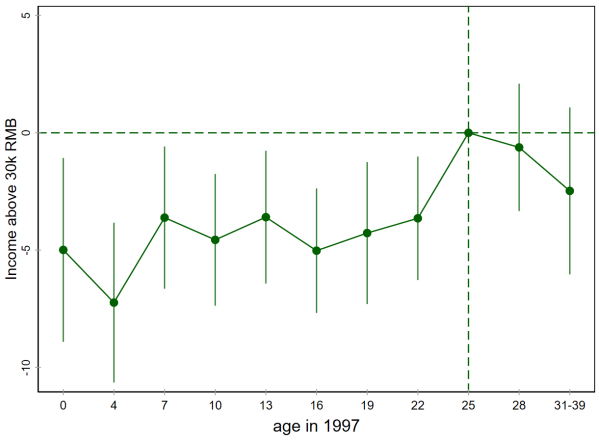
(a) Years of Education



(b) College Degree



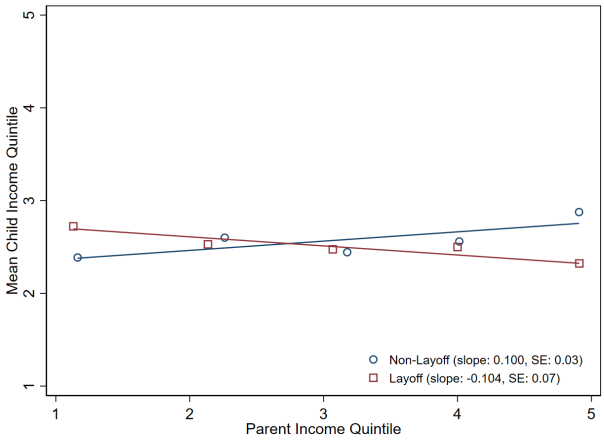
(c) Public Sector Employment



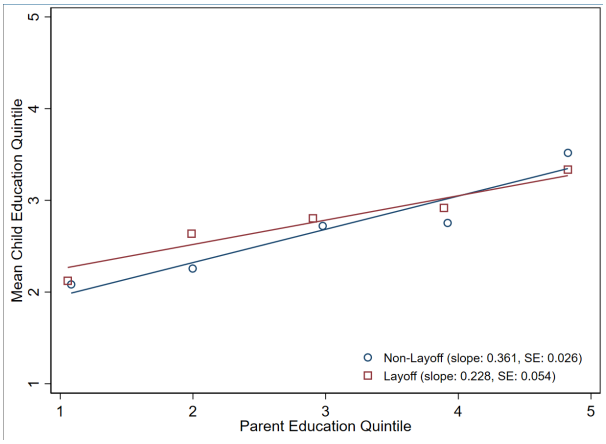
(d) Income above 30k RMB

Notes: The data source is CHARLS. We present the coefficients of Reform Intensity$_p$ $\times$ Parent SOE/UCE$_i$ $\times$ Cohort$_c$ from Equation 4. We present the results of the interaction term. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Employment and income outcomes are both in 2018.

Figure 5: Intergenerational Rank-Rank Correlation by Parental Layoff



(a) Income



(b) Education

Notes: The graphs present non-parametric binned scatter plots illustrating the relationship between child and parent income and education ranks, segmented by parental layoff status, using the entire sample. We report rank-rank slopes and display fitted lines for each group, estimated using OLS regression on each of the 5 plotted points.

Tables

Table 1: Summary Statistics

	Treat	Control	p-value
Panel A: Education			
Years of Education	11.48	9.90	
	(3.96)	(4.16)	0.00
Complete High School	0.62	0.42	
	(0.49)	(0.49)	0.00
College Degree	0.33	0.20	
	(0.47)	(0.40)	0.00
Panel B: Labor Market Outcomes			
Employment	0.94	0.94	
	(0.23)	(0.23)	0.82
Employed in Public Sector	0.08	0.06	
	(0.27)	(0.23)	0.04
Income above 20k RMB	0.81	0.78	
	(0.39)	(0.41)	0.14
Income above 50k RMB	0.65	0.64	
	(0.48)	(0.48)	0.40
Income above 100k RMB	0.45	0.42	
	(0.50)	(0.49)	0.13
Panel C: Other Individual Characteristics			
Male	0.50	0.53	
	(0.50)	(0.50)	0.22
Age in 1997	16.77	17.07	
	(7.88)	(9.09)	0.39
Father's Years of Education	8.41	7.56	
	(3.18)	(3.50)	0.00
Mother's Age in 1997	42.58	41.87	
	(8.10)	(9.55)	0.07
Number of Siblings	1.69	2.24	
	(1.47)	(1.51)	0.00
Observations	878	2010	

Notes: The data source is CHARLS. We present the second generation's summary statistics in this table. An individual is treated if either of her parents worked in SOE or UCE before 1997. Others are in the control group, including those whose parents were unemployed, self-employed, or employed by the private sector or the government.

Table 2: Summary Statistics: Parents

	Treat	Control	p-value
Panel A: Individual Characteristics			
Female	0.42	0.31	
	(0.49)	(0.46)	0.00
Age in 1997	41.24	40.63	
	(8.18)	(9.97)	0.19
High School (%)	0.29	0.23	
	(0.45)	(0.42)	0.01
Divorce (%)	0.03	0.03	
	(0.18)	(0.18)	0.95
Daughters Born Prereform	0.92	1.06	
	(0.93)	(1.00)	0.00
Sons Born Prereform	0.94	1.29	
	(0.85)	(0.98)	0.00
Kids Born Postreform	0.12	0.18	
	(0.40)	(0.48)	0.01
Panel B: Labor market and Health Outcomes			
Layoff after 1997	0.32	0.12	
	(0.47)	(0.32)	0.00
Leave Labor Force (97-00)	0.15	0.11	
	(0.36)	(0.32)	0.03
Reemployment (97-00)	0.19	0.20	
	(0.39)	(0.40)	0.78
Average Annual Earnings	9091.17	13249.01	
	(37489.51)	(25982.91)	0.01
Diabetes (%)	0.18	0.12	
	(0.39)	(0.32)	0.00
Drink Everyday	0.38	0.46	
	(0.48)	(0.50)	0.00
Ever Smoked (%)	0.46	0.57	
	(0.50)	(0.50)	0.00
Depression (%)	0.41	0.46	
	(0.49)	(0.50)	0.06
Observations	647	1048	

Notes: The data source is CHARLS. We present the parents' summary statistics in this table. A parent is treated if he or she worked in SOE or UCE in 1996. Others are in the control group, including those whose parents were unemployed, self-employed, or employed by the private sector or the government.

Table 3: Double-Diff Results on Treated: Intergenerational Impacts on Educational Attainment and Labor Market Outcomes

Panel A: Educational Attainment				
	(1)	(2)	(3)	(4)
	Years of Education	Complete Middle School	Complete High School	College Degree
Reform Intensity × Treat Cohort	-2.31***	-1.53***	-1.22	-2.31**
	(0.54)	(0.57)	(0.82)	(1.12)
Observations	675	675	675	675
Mean	11.58	0.87	0.63	0.33
R^2	0.11	0.39	0.36	0.39

Panel B: Labor Market Outcomes					
	Labor Force		Income		
	(1)	(2)	(3)	(4)	(5)
	Employment	Public Sector	Above 20k RMB	Above 50k RMB	Above 100k RMB
Reform Intensity × Treat Cohort	-0.30	-2.51***	-2.29***	-3.47***	-3.89***
	(0.34)	(0.79)	(0.85)	(1.08)	(0.88)
Observations	709	615	567	567	567
Mean	0.95	0.08	0.81	0.66	0.46
R^2	0.29	0.16	0.32	0.34	0.33

Notes: The data source is CHARLS. We present the results from Equation 2. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, with a mean of 0.19. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) from Panel A are binary. Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 4: Intergenerational Impacts on Educational Attainment of the SOE Reform

	Dependent Variable: Second Generation's Education			
	(1)	(2)	(3)	(4)
	Years of Education	Complete Middle School	Complete High School	College Degree
Reform Intensity × Treat Cohort × Parent SOE/UCE, β_1	-2.15***	-1.40*	-2.51**	-2.40**
	(0.76)	(0.84)	(0.97)	(0.94)
Reform Intensity × Treat Cohort, β_2	-0.24	-0.11	0.50	0.45
	(0.46)	(0.36)	(0.42)	(0.34)
Parent SOE/UCE × Treat Cohort, β_3	-0.46**	0.28	0.46**	0.55***
	(0.18)	(0.20)	(0.21)	(0.21)
Reform Intensity × Parent SOE/UCE, β_4	1.78**	1.63*	1.68	1.68**
	(0.76)	(0.87)	(1.03)	(0.84)
Observations	2187	2187	2187	2187
Mean	10.54	0.81	0.49	0.25
R^2	0.33	0.23	0.25	0.25

Notes: The data source is CHARLS. We present the results from Equation 3. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) from Panel A are binary. Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 5: Intergenerational Impacts on Labor Market Outcomes of the SOE Reform

	Dependent Variable: Second Generation's Labor Market Outcomes				
	Labor Force (0/1)		Income (0/1)		
	(1)	(2)	(3)	(4)	(5)
	Employment	Public Sector	Above 20k RMB	Above 30k RMB	Above 50k RMB
Reform Intensity × Treat Cohort × Parent SOE/UCE, β_1	0.28	-2.30***	-2.25**	-3.21***	-3.94***
	(0.44)	(0.64)	(0.99)	(1.20)	(0.80)
Reform Intensity × Treat Cohort, β_2	-0.43*	-0.03	0.75	0.21	0.11
	(0.24)	(0.23)	(0.54)	(0.54)	(0.53)
Parent SOE/UCE × Treat Cohort, β_3	-0.03	0.42***	0.40*	0.61**	0.71***
	(0.11)	(0.12)	(0.23)	(0.27)	(0.19)
Reform Intensity × Parent SOE/UCE, β_4	-0.39	2.39***	1.64	2.57**	2.74***
	(0.44)	(0.65)	(1.03)	(1.13)	(0.81)
Observations	2281	2004	1836	1836	1836
Mean	0.95	0.07	0.80	0.65	0.43
R^2	0.15	0.11	0.20	0.22	0.22

Notes: The data source is CHARLS. We present the results from Equation 3. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). All outcomes are binary. Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 6: Heterogeneity Results of the Second Generation

Panel A: Second Generation's Years of Education						
	Children Gender		Work in SOE/UCE before 1997		Father's Years of Education	
	(1)	(2)	(3)	(4)	(5)	(6)
	Male	Female	Father	Mother	< 6	≥ 6
Reform Intensity × Treat Cohort × Parent SOE/UCE	-1.99**	-2.92***	-2.81***	-0.91	-2.39***	-2.37***
	(0.86)	(1.23)	(0.80)	(1.74)	(1.32)	(0.87)
Observations	1130	1042	1616	564	1018	1163
Mean	10.80	10.30	10.07	11.87	9.54	11.42
R^2	0.35	0.39	0.33	0.43	0.38	0.35
Panel B: Second Generation's Income above 30k RMB in 2018 (0/1)						
	Children Gender		Work in SOE/UCE before 1997		Father's Years of Education	
	(1)	(2)	(3)	(4)	(5)	(6)
	Male	Female	Father	Mother	< 6	≥ 6
Reform Intensity × Treat Cohort × Parent SOE/UCE	-2.99**	-2.97**	-4.40***	-0.04	-3.27	-3.96***
	(1.43)	(1.33)	(1.53)	(2.47)	(2.08)	(1.26)
Observations	970	850	1351	476	842	985
Mean	0.63	0.68	0.64	0.69	0.60	0.69
R^2	0.30	0.28	0.26	0.35	0.32	0.28

Notes: The data source is CHARLS. We present the heterogeneity results from Equation 3. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2) and (3) from Panel A and all the outcomes from Panel B are binary. Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 7: Labor Market Outcomes of the First Generation

	(1) Layoff after 1997	(2) Leave Labor Force (97-00)	(3) Reemployment (97-00)	(4) log(Average Annual Earnings until 2014)
Reform Intensity × SOE/UCE in 1996	0.97**	0.71***	-0.17	-2.09**
	(0.39)	(0.18)	(0.35)	(0.94)
SOE/UCE in 1996	0.02	-0.14***	0.06	0.08
	(0.09)	(0.04)	(0.08)	(0.22)
Female	-0.04	0.07***	-0.04*	-0.38***
	(0.02)	(0.02)	(0.02)	(0.06)
Age in 1997	-0.01***	0.01***	-0.01***	-0.04***
	(0.00)	(0.00)	(0.00)	(0.00)
High School	0.01	-0.02	0.05**	-0.04
	(0.02)	(0.02)	(0.02)	(0.08)
Daughters Born Prereform	-0.01	-0.00	0.04***	0.00
	(0.01)	(0.01)	(0.01)	(0.03)
Sons Born Prereform	-0.01	-0.02**	0.03***	0.03
	(0.01)	(0.01)	(0.01)	(0.05)
Observations	1680	1680	1680	1651
Mean	0.20	0.13	0.19	8.51
R^2	0.17	0.15	0.11	0.22

Notes: The data source is CHARLS. We present the results from Equation 5. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is treated if he or she worked in SOE or UCE before 1997. We show the results on several labor market outcomes of the parents, including experiencing layoff after 1997, leaving labor force during 1997 to 2000, leaving a job during 1997 t0 2000 and getting reemployed later, and log of average annual earnings before 2014. Earnings is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 8: The Effects of Parental Lay-off on Social Mobility

	Dep Var: Children's Income Quintile			Dep Var: Children's Years of Education		
	(1)	(2)	(3)	(4)	(5)	(6)
	Household	Father	Mother	Household	Father	Mother
Average Income Quintile, $\beta 1$	0.10***	0.06*	0.10***			
	(0.03)	(0.03)	(0.03)			
Income Quintile $\times$Layoff,$\beta 2$	-0.20***	-0.16**	-0.26***			
	(0.07)	(0.07)	(0.07)			
Average Parental Years of Education, $\beta 1$				0.53***	0.35***	0.36***
				(0.03)	(0.03)	(0.03)
Parental Years of Education $\times$Layoff,$\beta 2$				-0.13*	-0.09	-0.08
				(0.07)	(0.08)	(0.06)
Parent Layoff, $\beta 3$	0.51**	0.25	0.45**	1.15**	1.07*	0.82*
	(0.25)	(0.19)	(0.18)	(0.58)	(0.65)	(0.45)
Observations	1842	1842	1842	2217	2217	2217
R^2	0.15	0.15	0.15	0.22	0.15	0.17

Notes: The data source is CHARLS. We present the results of Equation 7. Children's income and education are from the 2018 survey. Parents' income and education are based on retrospective questions. We calculate the average of their income before the reform year of 1997. Household income, father's income, and mother's income are used separately in columns (1)-(3). Parents' average years of education, father's education, and mother's education are used separately in columns (4)-(6). The layoff variable equals 1 if either parent experienced a layoff after 1997. We control for both parents and children's age. * significant at 10%, ** significant at 5%, *** significant at 1%.

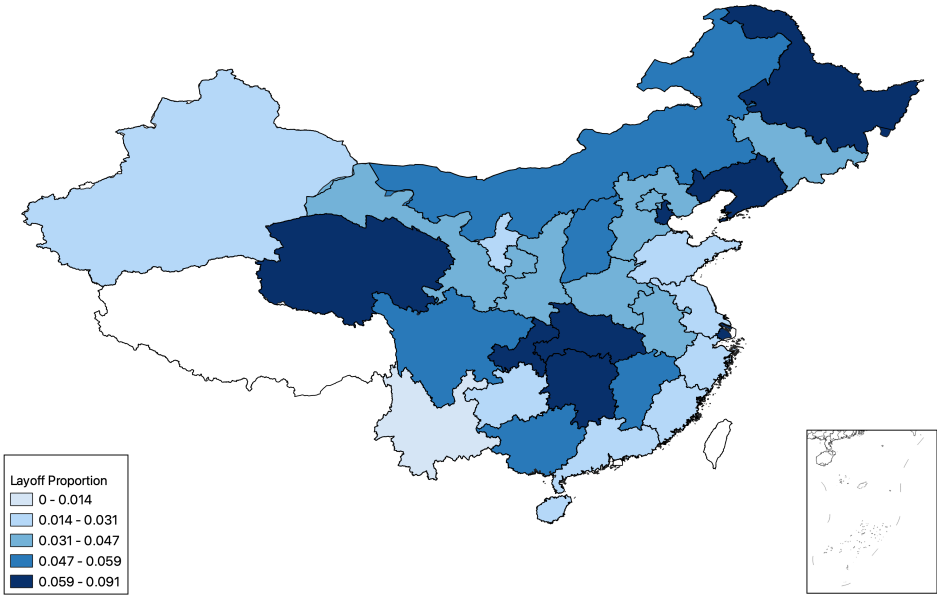
Table 9: The Effects of SOE Reform on Social Mobility

	Dep Var: Children's Income Quintile			Dep Var: Children's Years of Education		
	(1)	(2)	(3)	(4)	(5)	(6)
	Household	Father	Mother	Household	Father	Mother
Income Quintile, β_1	0.08**	0.07**	0.06			
	(0.03)	(0.03)	(0.03)			
Triple Diff $\times$Income Quintile,β_2	-0.24	-0.06	-0.12			
	(0.26)	(0.28)	(0.29)			
Years of Education, β_1				0.41***	1.04**	0.21***
				(0.05)	(0.51)	(0.03)
Triple Diff $\times$Years of Education,β_2				-0.34	-0.20	-0.22
				(0.29)	(0.25)	(0.21)
Reform Intensity $\times$TreatCohort $\times$ Parent SOE/UCE,β_3	-8.41***	-9.16***	-9.10***	-19.67**	-20.69***	-20.71***
	(2.15)	(2.19)	(2.28)	(7.58)	(7.49)	(7.23)
Observations	1821	1821	1821	2187	2187	2187
R^2	0.26	0.26	0.26	0.36	0.33	0.36

Notes: The data source is CHARLS. Children's income and education are from 2018 survey. Parents' income and education are from their retrospective question. We take average of their income before the reform year 1997. We use household income, father income, and mother income separately in the three columns. Triple Diff is Reform Intensity $\times$ TreatCohort $\times$ Parent SOE/UCE. We also control for other variables as in Equation 3. * significant at 10%, ** significant at 5%, *** significant at 1%.

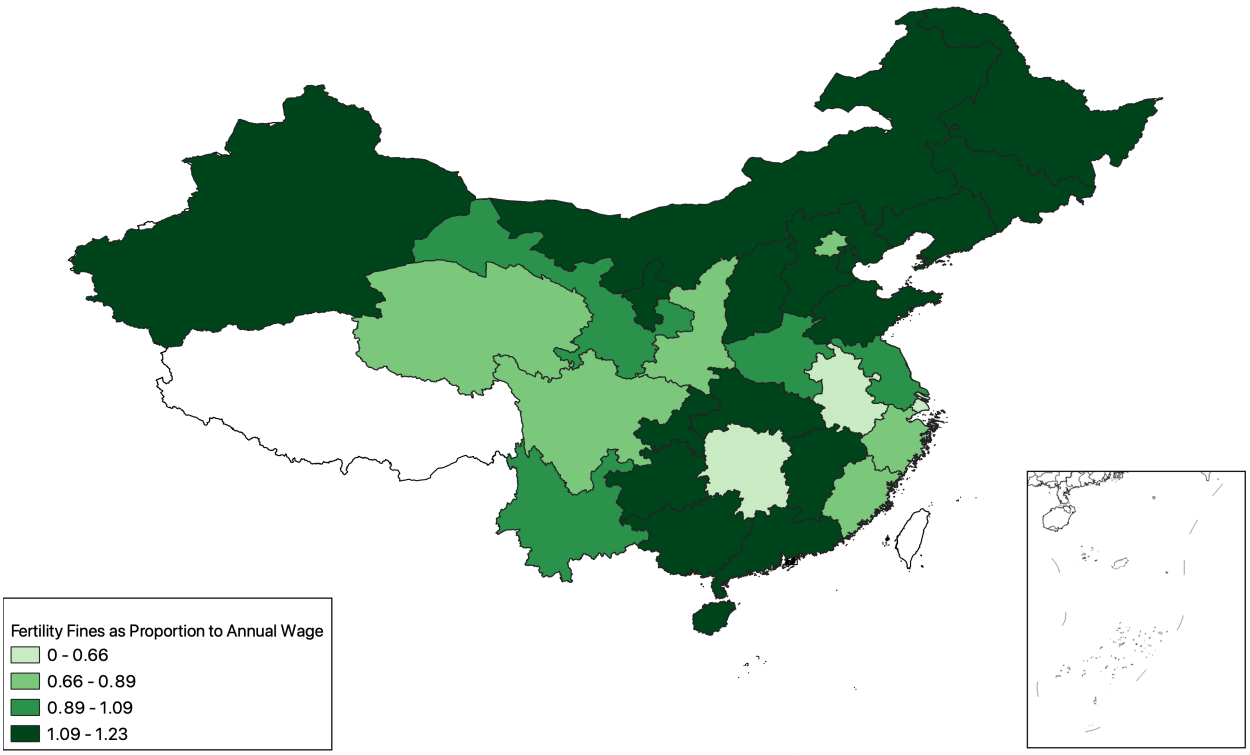
Appendix

Figure A1: Reduction of Public Employment Share



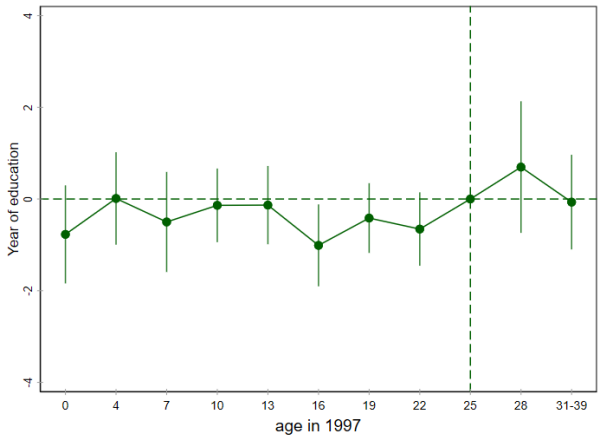
Notes: This figure reports the change of public employment share in each province from 1996 to 2000. Data comes from Statistical Yearbook of each province and prefecture.

Figure A2: Provincial Variation in Fertility Fines as Proportion to Annual Income

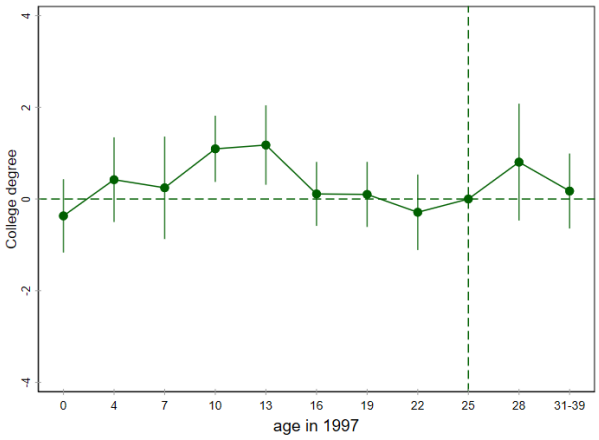


Notes: These figures show the provincial variation in fertility fines as proportion to annual income. The proportion is averaged from 1979 to 1986. We don't have data in Tibet and Taiwan.

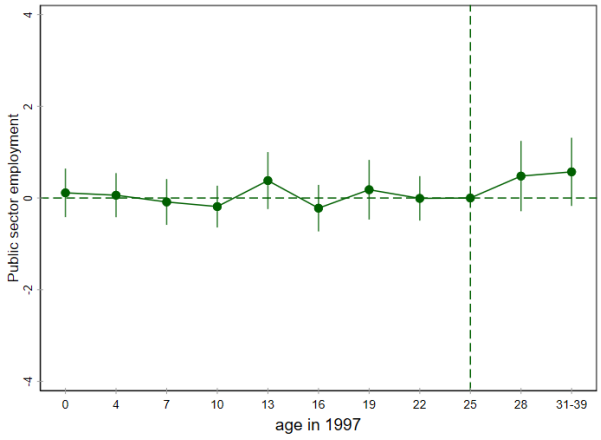
Figure A3: Coefficients of Reform Intensity$_p$ $\times$ Treated Cohort$_c$ in the Double-Diff Regression



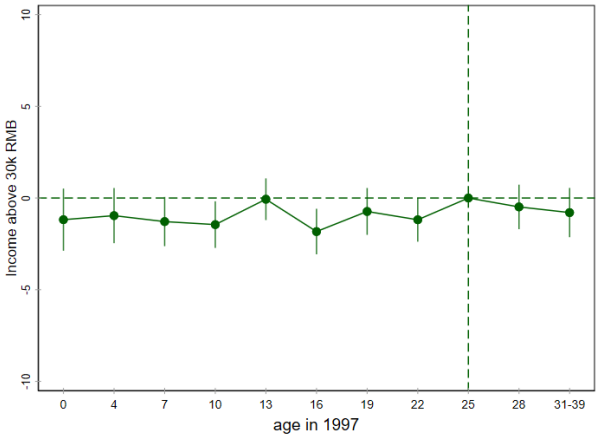
(a) Years of Education



(b) College Degree



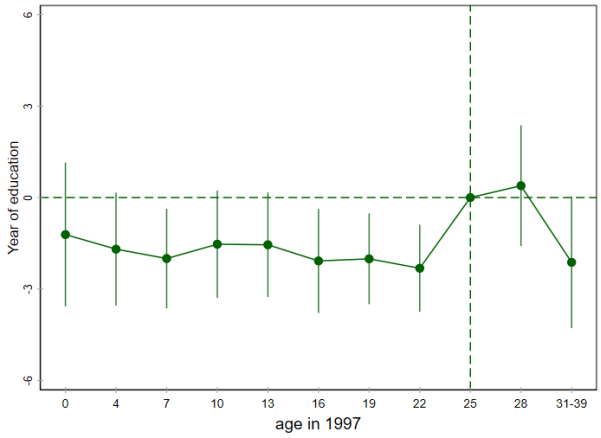
(c) Public Sector Employment



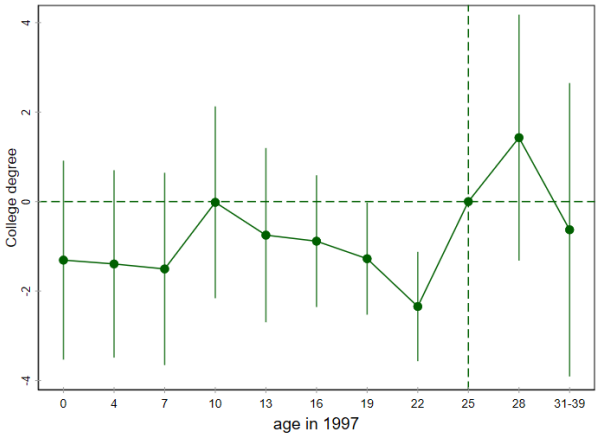
(d) Income above 30k RMB

Notes: The data source is CHARLS. We present the coefficients of Reform Intensity$_p$ $\times$ Cohort$_c$ from Equation 2. We present the results of the interaction term. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Employment and income outcomes are both in 2018.

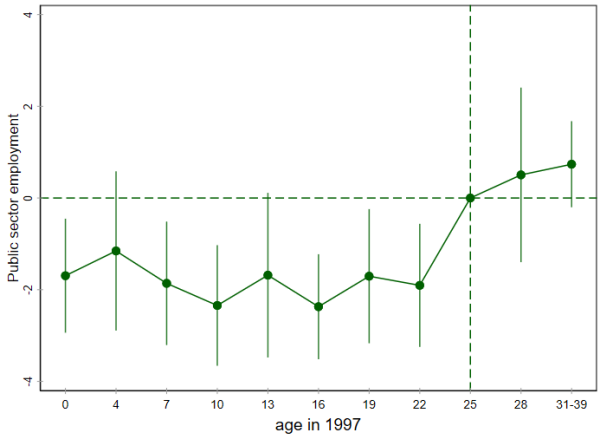
Figure A4: Coefficients of Reform Intensity$_p$ $\times$ Treated Cohort$_c$ in the Double-Diff Regression (w/ Treated Parents)



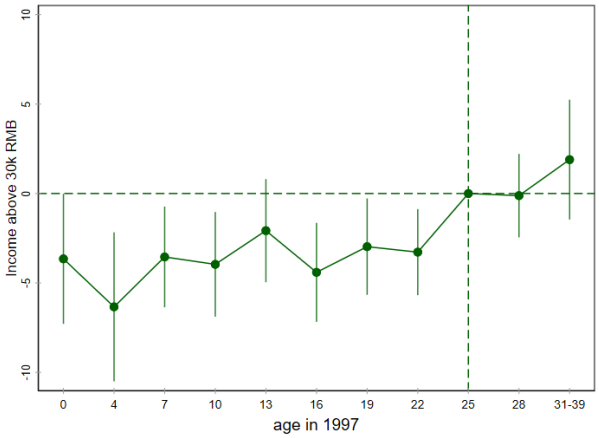
(a) Years of Education



(b) College Degree



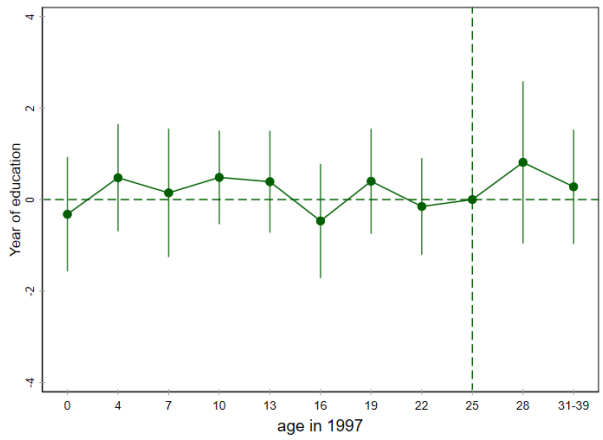
(c) Public Sector Employment



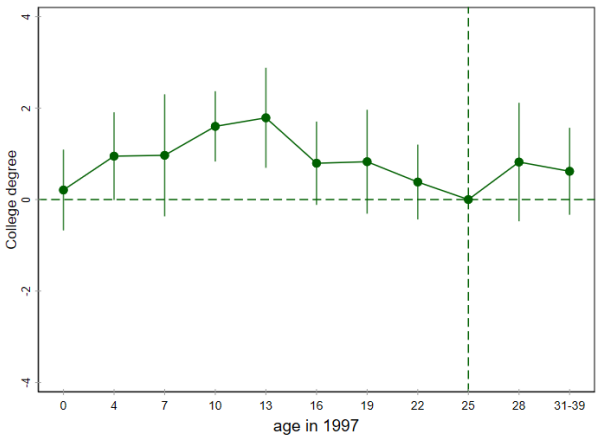
(d) Income above 30k RMB

Notes: The data source is CHARLS. We present the coefficients of Reform Intensity$_p$ $\times$ Cohort$_c$ from Equation 2. We present the results of the interaction term. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is treated if he/she worked in a SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Employment and income outcomes are both in 2018.

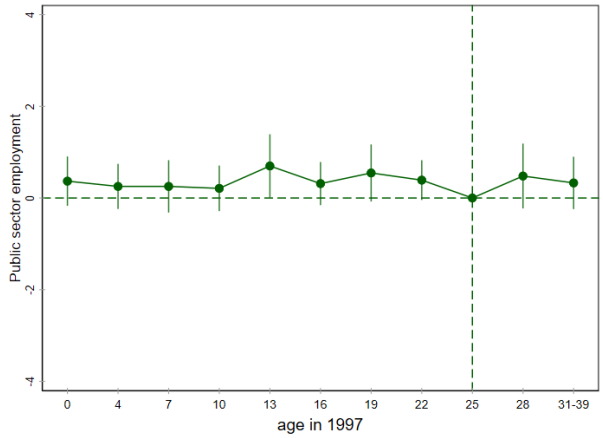
Figure A5: Coefficients of Reform Intensity$_p$ $\times$ Treated Cohort$_c$ in the Double-Diff Regression (w/ Control Parents)



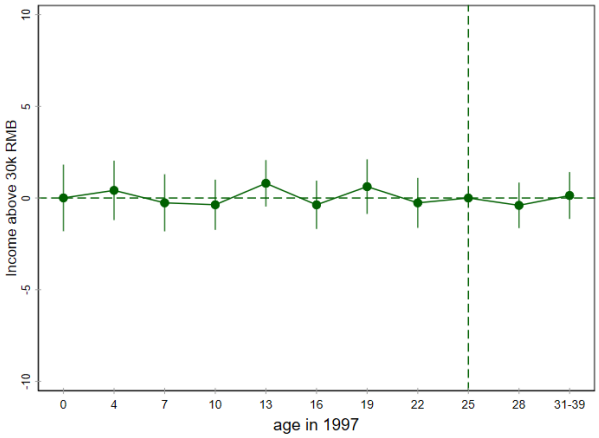
(a) Years of Education



(b) College Degree



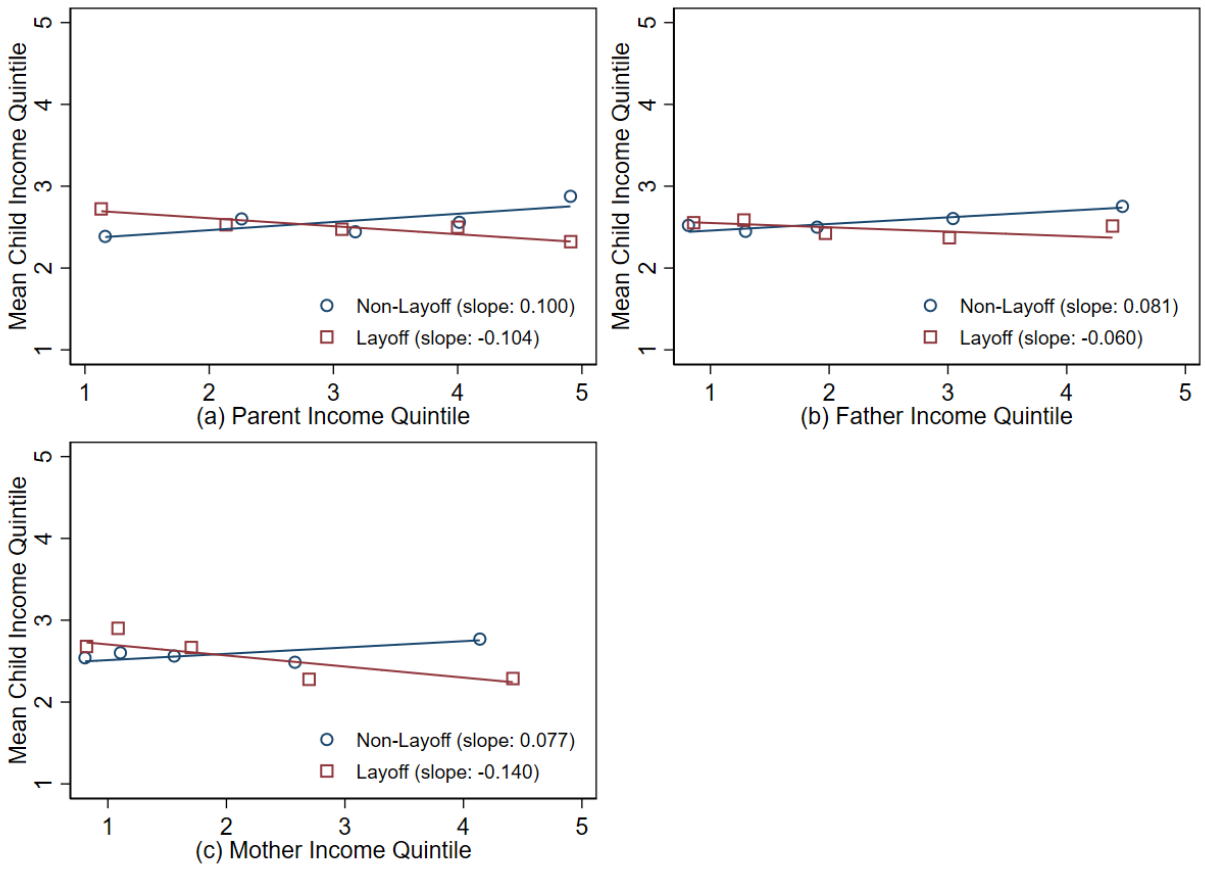
(c) Public Sector Employment



(d) Income above 30k RMB

Notes: The data source is CHARLS. We present the coefficients of Reform Intensity$_p$ $\times$ Cohort$_c$ from Equation 2. We present the results of the interaction term. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is control he/she neither worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Employment and income outcomes are both in 2018.

Figure A6: Intergenerational rank-rank correlation by layoff status



Notes: This graph presents a non-parametric binned scatter plot illustrating the relationship between child and parent income ranks, segmented by layoff status, based on the entire sample. We report rank-rank slopes and display fitted lines for each group, estimated using OLS regression on each of the 5 plotted points. The graph shows a strong positive correlation between child and parent income ranks in the non-layoff group. Experiencing a layoff decreases the income rank of the child and significantly changes the rank-rank slopes.

Table A1: Summary Statistics of the Reform Intensity Measurement

Variables	Mean	SD	Min	Max	N
Reduction in Public Employment	0.19	0.08	0.02	0.42	98
Reduction in SOE Employment	0.13	0.07	-0.03	0.36	93
Reduction in UCE Employment	0.06	0.04	-0.04	0.18	93

Notes: Data come from China's Provincial and City Statistical Yearbook and 1990 Census. The denominator of the share is the 15-64 non-agriculture population sourced from 2000 Census. We are not able to match every prefecture between the Census and the Statistical Yearbook, resulting in missing data for some prefectures.

Table A2: Summary Statistics of the Second Generation: by Parental Layoff Status

	Parental Layoff	No Parental Layoff	p-value
Panel A: Education			
Years of Education	10.94	10.26	
	(4.08)	(4.16)	0.00
Complete High School	0.55	0.47	
	(0.50)	(0.50)	0.00
College Degree	0.30	0.22	
	(0.46)	(0.42)	0.00
Panel B: Labor Market Outcomes			
Employment	0.94	0.94	
	(0.24)	(0.23)	0.69
Employed in Public Sector	0.06	0.06	
	(0.25)	(0.24)	0.82
Income above 20k RMB	0.77	0.80	
	(0.42)	(0.40)	0.23
Income above 30k RMB	0.59	0.65	
	(0.49)	(0.48)	0.01
Income above 50k RMB	0.38	0.44	
	(0.49)	(0.50)	0.02
Panel C: Other Individual Characteristics			
Male	0.52	0.52	
	(0.50)	(0.50)	0.91
Age in 1997	14.36	17.60	
	(7.55)	(8.94)	0.00
Father's Years of Education	8.23	7.74	
	(3.22)	(3.48)	0.00
Mother's Age in 1997	39.75	42.60	
	(7.96)	(9.36)	0.00
Number of Siblings	1.68	2.16	
	(1.58)	(1.49)	0.00
Observations	553	2399	

Notes: The data source is CHARLS. We present the second generation's summary statistics in this table. We classify children by whether either of their parents experienced layoff after 1997.

Table A3: Summary Statistics of the Second Generation: by Parental Layoff Status

	Treat w/ Parental Layoff	Treat w/o Parental Layoff	Control	F-stats
Panel A: Education				
Years of Education	11.33	11.57	9.90	
	(4.16)	(3.85)	(4.16)	43.22
Complete High School	0.59	0.64	0.42	
	(0.49)	(0.48)	(0.49)	49.86
College Degree	0.35	0.32	0.20	
	(0.48)	(0.47)	(0.40)	26.72
Panel B: Labor Market Outcomes				
Employment	0.93	0.95	0.94	
	(0.25)	(0.22)	(0.23)	0.41
Employed in Public Sector	0.09	0.07	0.06	
	(0.28)	(0.26)	(0.23)	2.26
Income above 20k RMB	0.81	0.81	0.78	
	(0.39)	(0.39)	(0.41)	1.10
Income above 30k RMB	0.63	0.67	0.64	
	(0.48)	(0.47)	(0.48)	0.74
Income above 50k RMB	0.42	0.47	0.42	
	(0.49)	(0.50)	(0.49)	1.81
Panel C: Other Individual Characteristics				
Male	0.48	0.52	0.53	
	(0.50)	(0.50)	(0.50)	1.26
Age in 1997	14.18	18.23	17.07	
	(7.20)	(7.88)	(9.09)	22.46
Father's Years of Education	8.50	8.35	7.56	
	(3.31)	(3.10)	(3.50)	17.10
Mother's Age in 1997	39.59	44.25	41.87	
	(7.35)	(8.02)	(9.55)	26.27
Number of Siblings	1.56	1.77	2.24	
	(1.56)	(1.42)	(1.51)	43.43
Observations	317	561	2010	

Notes: The data source is CHARLS. We present the second generation's summary statistics in this table. An individual is treated if either of her parents worked in SOE or UCE before 1997. Others are in the control group, including those whose parents were unemployed, self-employed, or employed by the private sector or the government. We also classify the treated children by whether either of their parents experienced layoff after 1997. We use Bonferroni test to test the equivalence of the three groups and present the F-stats in the last column.

Table A4: CHNS Sample Summary Statistics

	Treat	Control	p-value
Panel A: Outcomes			
Employment	0.79	0.80	
	(0.40)	(0.40)	0.03
log(Earnings)	8.40	8.45	
	(1.05)	(0.99)	0.00
log(Work Hours)	2.27	2.50	
	(1.88)	(1.80)	0.00
Child Care Hours per Week	6.30	6.90	
	(9.82)	(10.62)	0.04
Grocery Hours per Week	6.01	6.14	
	(6.18)	(6.29)	0.21
Smoke	0.33	0.32	
	(0.47)	(0.47)	0.14
Num of Cigarette per day	15.89	15.03	
	(9.05)	(8.84)	0.00
Alchohol	0.37	0.39	
	(0.48)	(0.49)	0.00
High Blood Pressure	0.19	0.19	
	(0.39)	(0.39)	0.98
log(Protein Intake)	4.23	4.24	
	(0.32)	(0.33)	0.45
log(Calorie Intake)	7.74	7.74	
	(0.29)	(0.30)	0.37
Panel B: Other Individual Characteristics			
Male	0.49	0.50	
	(0.50)	(0.50)	1.00
Age	40.75	41.32	
	(12.31)	(11.83)	0.00
Observations	21823	12624	

Notes: The data source is CHNS. We classify individuals working in SOEs or UCEs before 1997 as treat and others as control.

Table A5: Double-Diff Results: Intergenerational Impacts on Educational Attainment and Labor Market Outcomes

Panel A: Educational Attainment

	(1) Years of Education	(2) Complete Middle School	(3) Complete High School	(4) College Degree
Reform Intensity × Treat Cohort	-0.75*	-0.40	-0.17	-0.02
	(0.38)	(0.31)	(0.38)	(0.36)
Observations	2219	2219	2219	2219
Mean	10.56	0.81	0.49	0.25
R^2	0.09	0.23	0.24	0.25

Panel B: Labor Market Outcomes

	Labor Force		Income		
	(1) Employment	(2) Public Sector	(3) Above 20k RMB	(4) Above 50k RMB	(5) Above 100k RMB
Reform Intensity × Treat Cohort	-0.33	-0.54**	0.07	-0.62	-1.00*
	(0.20)	(0.26)	(0.43)	(0.50)	(0.57)
Observations	2318	2039	1862	1862	1862
Mean	0.95	0.07	0.80	0.65	0.43
R^2	0.15	0.10	0.20	0.22	0.21

Notes: The data source is CHARLS. We present the results from Equation 2. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, with a mean of 0.19. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) from Panel A are binary. Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A6: Double-Diff Results on Control: Intergenerational Impacts on Educational Attainment and Labor Market Outcomes

Panel A: Educational Attainment

	(1) Years of Education	(2) Complete Middle School	(3) Complete High School	(4) College Degree
Reform Intensity × Treat Cohort	-0.24	-0.10	0.55	0.43
	(0.49)	(0.38)	(0.43)	(0.36)
Observations	1508	1508	1508	1508
Mean	10.09	0.78	0.43	0.21
R^2	0.09	0.23	0.23	0.25

Panel B: Labor Market Outcomes

	Labor Force		Income		
	(1) Employment	(2) Public Sector	(3) Above 20k RMB	(4) Above 50k RMB	(5) Above 100k RMB
Reform Intensity × Treat Cohort	-0.43*	-0.07	0.66	0.12	-0.01
	(0.24)	(0.23)	(0.55)	(0.54)	(0.56)
Observations	1566	1381	1261	1261	1261
Mean	0.95	0.06	0.79	0.65	0.42
R^2	0.16	0.14	0.24	0.25	0.24
0.34	0.33				

Notes: The data source is CHARLS. We present the results from Equation 2. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, with a mean of 0.19. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) from Panel A are binary. Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A7: Intergenerational Impacts: Robustness Check

Panel A: Second Generation's Years of Education			
	(1)	(2)	(3)
	Exclude Unemployment	Only Employed	Only Govn't Employed
Reform Intensity × Treat Cohort × Parent SOE/UCE	-2.16***	-2.02***	-1.77*
	(0.77)	(0.76)	(0.91)
Observations	2088	1692	1101
Mean	10.54	10.65	11.23
R^2	0.33	0.36	0.41
Panel B: Second Generation's Income above 30k RMB in 2018 (0/1)			
	(1)	(2)	(3)
	Exclude Unemployment	Only Employed	Only Govn't Employed
Reform Intensity × Treat Cohort × Parent SOE/UCE	-3.43***	-4.13***	-3.54**
	(1.24)	(1.31)	(1.42)
Observations	1756	1427	951
Mean	0.65	0.66	0.69
R^2	0.22	0.26	0.32

Notes: The data source is CHARLS. We present the results from Equation 3, but change the control group for robustness checks. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. An individual is treated if either of her parents worked in SOE or UCE before 1997. Column (1) excludes unemployment from the control group. Column (2) only includes employed parents in the control group. Column (3) only includes government-employed parents in the control group. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A8: Control for Confounding Policies: Educational Attainment of the Second Generation

	Dependent Variable: Second Generation's Education			
	(1)	(2)	(3)	(4)
	Years of Education	Complete Middle School	Complete High School	College Degree
Reform Intensity × Treat Cohort × Parent SOE/UCE	-1.99***	-1.40	-2.13**	-2.19**
	(0.78)	(0.92)	(0.97)	(1.01)
Observations	1877	1877	1877	1877
Mean	10.75	0.82	0.51	0.26
R^2	0.09	0.23	0.27	0.26

Notes: The data source is CHARLS. We present the results from Equation 3, and also control for some confounding policies, including WTO accession, college expansion, and the one child policy. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) are binary. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A9: Control for Confounding Policies: Labor Market Outcomes of the Second Generation

	Dependent Variable: Second Generation's Labor Market Outcomes				
	Labor Force (0/1)		Income (0/1)		
	(1)	(2)	(3)	(4)	(5)
	Employment	Public Sector	Above 20k RMB	Above 30k RMB	Above 50k RMB
Reform Intensity × Treat Cohort × Parent SOE/UCE	0.40	-2.29***	-1.34*	-2.88***	-3.64***
	(0.48)	(0.70)	(0.75)	(1.02)	(0.82)
Observations	1963	1716	1600	1600	1600
Mean	0.95	0.07	0.80	0.65	0.45
R^2	0.16	0.11	0.20	0.23	0.23

Notes: The data source is CHARLS. We present the results from Equation 3, and also control for some confounding policies, including WTO accession, college expansion, and the one child policy. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A10: Control for Pre-determined Economic Indicator: Educational Attainment Outcomes of the Second Generation

	Dependent Variable: Second Generation's Education			
	(1)	(2)	(3)	(4)
	Years of Education	Complete Middle School	Complete High School	College Degree
Reform Intensity × Treat Cohort × Parent SOE/UCE	-2.40***	-1.54*	-2.66***	-2.55***
	(0.73)	(0.83)	(0.95)	(0.94)
Observations	2138	2138	2138	2138
Mean	10.55	0.80	0.49	0.25
R^2	0.09	0.24	0.25	0.26

Notes: The data source is CHARLS. We present the results from Equation 3, and also control for a confounding variable in 1992, FDI/GDP. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) are binary. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A11: Control for Pre-determined Economic Indicator: Labor Market Outcomes of the Second Generation

	Dependent Variable: Second Generation's Labor Market Outcomes				
	Labor Force		Income		
	(1)	(2)	(3)	(4)	(5)
	Employment	Public Sector	Above 20k RMB	Above 30k RMB	Above 50k RMB
Reform Intensity × Treat Cohort × Parent SOE/UCE	0.39	-2.35***	-2.17**	-3.15***	-3.95***
	(0.43)	(0.64)	(0.99)	(1.18)	(0.80)
Observations	2232	1964	1791	1791	1791
Mean	0.95	0.07	0.80	0.65	0.43
R^2	0.15	0.11	0.20	0.22	0.22

Notes: The data source is CHARLS. We present the results from Equation 3, and also control for a confounding variable in 1992, FDI/GDP. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A12: Address the Sampling Issues: Educational Attainment of the Second Generation

	Dependent Variable: Second Generation's Education			
	(1)	(2)	(3)	(4)
	Years of Education	Complete Middle School	Complete High School	College Degree
Reform Intensity × Treat Cohort × Parent SOE/UCE	-2.29***	-1.70**	-2.55**	-2.08**
	(0.83)	(0.72)	(0.97)	(0.92)
Observations	1954	1954	1954	1954
Mean	11.03	0.85	0.57	0.28
R^2	0.10	0.33	0.31	0.32

Notes: The data source is CHARLS. We present the results from Equation 3. We exclude prefectures that contain fewer than 10 individuals in the sample and reweight the data according to the proportion of SOE and UCE workers, using data from the China Labor Statistical Yearbook. This sample includes 72 prefectures across 18 provinces. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) are binary. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A13: Address the Sampling Issues: Labor Market Outcomes Results of the Second Generation

	Dependent Variable: Second Generation's Labor Market Outcomes				
	Labor Force (0/1)		Income (0/1)		
	(1)	(2)	(3)	(4)	(5)
	Employment	Public Sector	Above 20k RMB	Above 30k RMB	Above 50k RMB
Reform Intensity × Treat Cohort × Parent SOE/UCE	0.48	-2.75***	-2.64**	-3.58***	-3.24***
	(0.44)	(0.84)	(1.20)	(1.16)	(0.96)
Observations	2043	1792	1642	1642	1642
Mean	0.95	0.08	0.78	0.64	0.44
R^2	0.22	0.17	0.28	0.31	0.26

Notes: The data source is CHARLS. We present the results from Equation 3. We exclude prefectures that contain fewer than 10 individuals in the sample and reweight the data according to the proportion of SOE and UCE workers, using data from the China Labor Statistical Yearbook. This sample includes 72 prefectures across 18 provinces. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A14: Educational Attainment Results of the Second Generation, binary measurement of the reform intensity

	Dependent Variable: Second Generation's Education			
	(1)	(2)	(3)	(4)
	Years of Education	Complete Middle School	Complete High School	College Degree
Reform Intensity above the Mean (0/1) × TreatCohort × Parent SOE/UCE	-1.38***	-0.46	-1.98***	-1.12*
	(0.33)	(0.44)	(0.49)	(0.57)
Observations	2187	2187	2187	2187
Mean	10.54	0.81	0.49	0.25
R^2	0.09	0.23	0.25	0.25

Notes: The data source is CHARLS. We present the results from Equation 3. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. We define a binary Reform Intensity by assigning prefecture with intensity greater than 0.19 as 1, otherwise 0. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Columns (2)-(4) are binary. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A15: Labor Market Outcomes Results of the Second Generation, binary measurement of the reform intensity

	Dependent Variable: Second Generation's Labor Market Outcomes				
	Labor Force		Income		
	(1)	(2)	(3)	(4)	(5)
	Employment	Public Sector	Above 20k RMB	Above 50k RMB	Above 100k RMB
Reform Intensity above the Mean (0/1) × TreatCohort × Parent SOE/UCE	-0.28	-0.78***	-1.27***	-1.67***	-1.91***
	(0.21)	(0.30)	(0.45)	(0.57)	(0.54)
Observations	2281	2004	1836	1836	1836
Mean	0.95	0.07	0.80	0.65	0.43
R^2	0.15	0.11	0.20	0.22	0.22

Notes: The data source is CHARLS. We present the results from Equation 3. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture, the mean is 0.19. We define a binary Reform Intensity by assigning prefecture with intensity greater than 0.19 as 1, otherwise 0. An individual is treated if either of her parents worked in SOE or UCE before 1997. The Treat cohort consists of those younger than 24 in 1997 (or born after 1974). Income is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A16: Health Outcomes of the First Generation

	(1) Diabetes	(2) Drink Everyday	(3) Ever Smoked	(4) Depression
Reform Intensity ×SOE/UCE in 1996	0.64*	-0.29	-0.39	-0.46
	(0.37)	(0.44)	(0.32)	(0.46)
SOE/UCE in 1996	-0.08	-0.00	0.06	0.04
	(0.07)	(0.09)	(0.06)	(0.09)
Female	0.00	-0.42***	-0.74***	0.03
	(0.02)	(0.02)	(0.02)	(0.04)
Age in 1997	0.01***	-0.01***	-0.00	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)
High School	-0.02	0.04	-0.07***	-0.04
	(0.02)	(0.03)	(0.02)	(0.04)
Daughters Born Prereform	-0.01	-0.00	0.01	0.02
	(0.01)	(0.01)	(0.01)	(0.02)
Sons Born Prereform	-0.02	0.02	0.01	0.03
	(0.01)	(0.02)	(0.01)	(0.02)
Observations	1593	1592	1592	1500
Mean	0.14	0.43	0.52	0.44
R^2	0.06	0.24	0.56	0.07

Notes: The data source is CHARLS. We present the results from Equation 5. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is treated if he or she worked in SOE or UCE before 1997. We show the results on several labor market outcomes of the parents, including experiencing layoff after 1997, leaving labor force during 1997 to 2000, leaving a job during 1997 t0 2000 and getting reemployed later, and log of average annual earnings before 2014. Earnings is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A17: Fertility and Child Care Outcomes of the First Generation

	Family Structure		Child Care	
	(1)	(2)	(3)	(4)
	Divorce	Fertility Postreform	Kindergarten Provision	Parents as main Care Giver
Reform Intensity × SOE/UCE in 1996	-0.04	0.36	-0.45	0.22
	(0.19)	(0.35)	(0.45)	(0.34)
SOE/UCE in 1996	0.01	-0.12	0.18*	-0.05
	(0.04)	(0.07)	(0.10)	(0.07)
Female	0.01	-0.06***	0.07*	-0.04**
	(0.01)	(0.02)	(0.04)	(0.02)
Age in 1997	-0.00***	-0.01***	-0.01**	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
High School	0.00	-0.06**	0.07**	-0.04
	(0.01)	(0.03)	(0.04)	(0.02)
Daughters Born Prereform	0.02**	-0.04***	-0.04**	0.01
	(0.01)	(0.02)	(0.02)	(0.01)
Sons Born Prereform	0.01	-0.08***	-0.09***	0.02*
	(0.01)	(0.02)	(0.02)	(0.01)
Observations	1680	1680	973	974
Mean	0.03	0.16	0.49	0.93
R^2	0.06	0.23	0.31	0.11

Notes: The data source is CHARLS. We present the results from Equation 5. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is treated if he or she worked in SOE or UCE before 1997. We show the results on several labor market outcomes of the parents, including experiencing layoff after 1997, leaving labor force during 1997 to 2000, leaving a job during 1997 t0 2000 and getting reemployed later, and log of average annual earnings before 2014. Earnings is in 2018 prices. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A18: Parent Labor and Time Use Outcomes using CHNS Panel

	Labor Outcomes			Hours Use per Week	
	(1)	(2)	(3)	(4)	(5)
	Employment	log(Earnings)	log(Work Hours)	Child Care	Grocery
Reform Intensity ×Post × SOE/UCE in 1996	-0.64	-3.06**	-5.65**	13.68	5.22
	(0.57)	(1.44)	(2.70)	(9.54)	(3.66)
Reform Intensity ×Post	0.08	2.10	-0.32	-10.13	-17.63***
	(0.61)	(1.50)	(2.90)	(8.14)	(3.96)
Reform Intensity ×SOE/UCE in 1996	-0.23	-1.97*	1.41	-2.53	-6.36*
	(0.40)	(0.98)	(2.48)	(2.83)	(3.21)
SOE/UCE in 1996 ×Post	0.07	0.25	0.57**	-1.38	-0.41
	(0.06)	(0.15)	(0.27)	(0.94)	(0.39)
Observations	34106	29051	19406	15043	29967
Mean	0.80	8.42	2.37	1.43	2.43
R^2	0.17	0.12	0.29	0.20	0.14

Notes: The data source is CHNS. We present the results from Equation 5. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is treated if he or she worked in SOE or UCE before 1997. Post=1 if the survey year is after 1997. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A19: Parent Health Outcomes using CHNS Panel

	(1) Smoke	(2) Num of Cigarette	(3) Alchohol	(4) High Blood Pressure	(5) log(ProteinIntake)	(6) log(CalorieIntake)
Reform Intensity×Post × SOE/UCE in 1996	0.75	22.83	-0.52	0.83	-0.26	-0.27
	(0.49)	(16.16)	(0.48)	(0.69)	(0.60)	(0.45)
Reform Intensity ×Post	-0.37	28.58**	-0.04	-0.33	-0.53	-0.64
	(0.35)	(12.43)	(0.56)	(0.86)	(0.68)	(0.45)
Reform Intensity ×SOE/UCE in 1996	0.46	17.96	-0.12	-0.26	0.01	0.48
	(0.43)	(14.31)	(0.38)	(0.49)	(0.35)	(0.37)
SOE/UCE in 1996 ×Post	-0.07	-1.98	0.04	-0.09	0.03	0.04
	(0.05)	(1.68)	(0.05)	(0.07)	(0.06)	(0.05)
Observations	25135	8156	24997	23664	25806	25806
Mean	0.33	15.58	0.38	0.19	4.23	7.74
R^2	0.43	0.06	0.33	0.10	0.10	0.12

Notes: The data source is CHNS. We present the results from Equation 5. Reform Intensity measures the reduction of SOE and UCE employment share from 1996 to 2000 in each prefecture. A parent is treated if he or she worked in SOE or UCE before 1997. Post=1 if the survey year is after 1997. * significant at 10%, ** significant at 5%, *** significant at 1%.