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Born to be different: The role of local political leaders in poverty reduction in China

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ABSTRACT

By incorporating imprinting theory into a political–economic framework, this paper studies the role of local political leaders in poverty reduction. Exploiting exogenous turnovers of city-level party secretaries in China, I find that city secretaries with early-life poverty experiences are more likely to increase the incomes of poor families in their jurisdictions. I further find that the effect of city secretaries' poverty experiences on the income of the poor is more pronounced in the counties that are not officially categorized as impoverished by the central government and among the families living above the poverty line set by the Chinese government but below the international poverty line proposed by the World Bank. It is suggested that local political leaders affect poverty reduction outcomes by instilling their personal preferences, which can be shaped by their early experiences, into their economic decisions.

1. Introduction

Poverty reduction has long been an important issue in economic and social studies. In the past three decades, China has achieved great success in the fight against poverty through a series of nationwide anti-poverty policies. However, the outcomes of these nationwide policies have varied substantially across regions. In this paper, I study the role of local political leaders in poverty reduction in China, finding that local political leaders born in poverty are more likely to increase the incomes of poor families in their jurisdictions. It is further suggested that the early-life poverty experiences of local leaders increase their willingness, rather than ability, to participate in the anti-poverty campaign. By incorporating imprinting theory into a political–economic framework, this paper provides an alternative explanation for the subnational variations in policy outcomes besides the career incentives of local leaders.

It has been well documented in previous literature that national political leaders have distinct ways of thinking and acting, which exert significant impacts on economic and social outcomes such as GDP growth (Jones & Olken, 2005), economic reforms (Dreher, Lamla, Lein, & Somogyi, 2009), fiscal performance (Hayo & Neumeier, 2014), military decisions (Horowitz & Stam, 2014), and national security (Fuhrmann & Horowitz, 2015). Despite a large body of literature that investigates the individual effect of national leaders on the paths of social development, few studies focus on the heterogeneity in the policy preferences of local leaders, especially the heterogeneity related to their early experiences. The majority of existing studies take local leaders as homogenous political agents who act in an opportunistic manner out of the identical motive of promotion, and attribute the variations in the policy enforcement by local governments to the career concerns of local leaders.[1] The literature is relatively thin in using non-political factors of local leaders to explain the subnational variations in policy outcomes.

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[1] Xu (2011), which focuses on Chinese political economy, provides an extensive review of this strand of literature.

The heterogeneity in the policy preferences of local leaders can exist even in countries with a low level of local political autonomy. China provides such an example. Under the system of political centralization, the central government of China adopts a target-based scheme to manage local governments. Promotions for local politicians are often linked to measurable economic indicators such as GDP growth rate (Li & Zhou, 2005; Maskin, Qian, & Xu, 2000; Qian & Xu, 1993) and increase in fiscal revenues (Jin, Qian, & Weingast, 2005; Montinola, Qian, & Weingast, 1995; Qian & Weingast, 1997). Local leaders receive political rewards if certain performance criteria are met; otherwise, they get punishments. However, the political contracts between the central and local governments are usually, if not always, incomplete, which do not cover all aspects of government activities (Hart, Shleifer, & Vishny, 1997; He, Wang, & Zhang, 2020; Holmstrom & Milgrom, 1991). In non-contractable fields in the absence of political pressure imposed by the central government, local leaders have a great deal of discretion and are allowed to make economic decisions via individual preference.

Although the importance of poverty reduction has been repeatedly emphasized by China's central government for decades, local political leaders may not have the same degree of incentives to fight poverty. To identify this issue, I exploit the fact that the Chinese government and the World Bank do not use the same standard to measure poverty.[2] For some reasons, Chinese poverty line is lower than the international poverty line proposed by the World Bank. While the World Bank poverty line is more likely to reflect the costs of basic necessities, local leaders pursuing promotions should care more about the official standard set by the central government. For local leaders, lowering the poverty rate defined by the Chinese government is a compulsory task, while reducing the population living below the World Bank poverty line is an option. The gap between the two poverty lines provides a unique opportunity to study the role of local political leaders in poverty reduction.

This paper studies the experiences of local political leaders as a potential determinant of their incentives to participate in the anti-poverty campaign. Previous literature shows that individuals with similar backgrounds tend to be more concerned about each other's wellbeing. For example, using a quasi-natural experiment in India, Chattopadhyay and Duflo (2004) find that female policy-makers invest more in infrastructure that is directly relevant to the needs of women; and Washington (2008) finds that male legislators with daughters are more likely to vote on reproductive rights issues.[3] In this paper, I focus on the early-life poverty experiences of local leaders and incorporate imprinting theory into a political–economic framework. Imprinting theory was developed in the biological literature and originally referred to the observation that some species of animal develop a permanent attachment to the first moving object they perceive after birth. A revised version of this theory is used in the social sciences and argues that people's beliefs and values cultivated by their early experiences tend to persist throughout their whole life, regardless of changes in external environment (see, e. g., Tulving, 2002; Marquis & Tilcsik, 2013; Simsek, Fox, & Heavey, 2015).[4] Despite their improved living standards in adulthood, local political leaders born in poverty may still show more sympathy toward the poor and thus have stronger willingness to fight poverty.

Based on imprinting theory, I conjecture that local political leaders with early-life poverty experiences are more likely to increase the incomes of poor families in their jurisdictions. I test for this hypothesis using the political context in China. I primarily focus on the role of city secretaries rather than mayors, because city secretaries have more political power than mayors despite the same political rank they share. Chinese cities provide an appropriate setting to examine the imprint effect of local leaders' early experiences on poverty reduction for three reasons. First, as the ruling party, the Chinese Communist Party (CCP) applies the one-level-down appointment system to manage local cadres. For households that do not vote for their governors, the replacement of city secretaries can be viewed as a series of exogenous shocks. Second, as city secretaries rarely serve in their hometowns,[5] the imprint effect formed in their cities of birth can be distinguished from the effect of the external environment in their current cities of appointment. Third, China's economic decentralization allows local leaders to choose different economic growth patterns in their jurisdictions, so city secretaries are able to adopt policies that exert heterogenous effects on households with different income levels. Thus, the poverty reduction outcomes in a given city should partially depend on the city secretary's willingness to help the poor.

To study the imprint effect of city secretaries' early experiences on the incomes of poor families in their jurisdictions, I draw the data on household income from the China Family Panel Studies (CFPS) surveys during 2009–2017 and measure the poverty imprints of city secretaries using the GDP information from their cities of birth. Poor families are identified through the international poverty line proposed by the World Bank in 2015. Using the sample consisting of the poor families in the CFPS surveys, I regress the income of the poor against the measure of poverty imprint and a battery of control variables through the OLS method. The OLS results suggest that the poverty imprints of city secretaries significantly increase the incomes of poor families in their jurisdictions. Then, several additional tests are conducted to confirm that the relationship between the poverty imprints of city secretaries and the incomes of poor families is a causality instead of a mere correlation.

Furthermore, I examine the mechanisms by testing the heterogeneity of the imprint effect of city secretaries' early experiences. I find that the imprint effect diminishes in the counties that are officially categorized as impoverished by the Chinese government and

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[2] Throughout this paper, "poverty" refers to absolute poverty.

[3] A number of experimental studies also find that people with similar backgrounds are more likely to have favorable impressions of each other. For example, Kinzler, Dupoux, and Spelke (2007) find that infants are more likely to look at native speakers than non-native speakers, suggesting that the tendency to show interest in those who are culturally similar emerges in early life; Glaeser, Laibson, Scheinkman, and Soutter (2000) find that when subjects are culturally closer, the levels of both trust and trustworthiness rise; and Heblich, Lameli, and Riener (2015) find that subjects tend to cooperate with those who have the accents of their hometowns and compete with those who do not.

[4] A number of empirical studies support the validity of imprinting theory in a corporate context, finding that the early experiences of firm managers significantly affect corporate policies (e.g., Bernile et al., 2017; Campbell et al., 2019; Kish-Gephart & Campbell, 2015; Malmendier et al., 2011; O'Sullivan et al., 2021).

[5] During the sample period in this paper (2009–2017), no city secretaries serve their hometown cities.

among the families living below Chinese poverty line. In both cases, the political pressure of poverty reduction imposed by the central government offsets the role of local leaders' willingness to fight poverty. The varying imprint effects suggest that the early-life poverty experiences of local leaders increase their willingness, rather than ability, to participate in the anti-poverty campaign.

This paper makes contributions in three ways. First, it adds to a large body of literature on poverty reduction and political economy. Previous studies have examined various determinants of poverty reduction from the perspectives of education (e.g., Krueger & Lindhal, 2001), finance (e.g., Burgess & Pande, 2005; Pitt & Khandkar, 1998), government policies (e.g., Besley & Burgess, 2000, 2004; Lin, 1992; Tebaldi & Mohan, 2010), and others. By incorporating imprinting theory into a political–economic framework, this paper uncovers a new determinant of poverty reduction (i.e., the early-life poverty experiences of local political leaders) and provides an alternative explanation for the variations in the policy enforcement by local governments besides the career concerns of local leaders.

Second, this paper adds to a long-standing discussion on the extent to which political leaders can affect economic outcomes. Determinism theory in sociological studies claims that political leaders are irrelevant to societal development paths because individuals make similar choices when presented with the same structural conditions. Despite their great power, political leaders must make decisions by choosing between a predetermined set of choices (Di Maggio & Powell, 1983; Lieberson & O'Connor, 1972). Assuming homogenous political agents, determinism theory highlights the role of institutions as a key driver of economic development, which is supported by a number of studies (e.g., North, 1990; Knack & Keefer, 1995; Levine, 1998; La Porta, Rafael, Shleifer, & Vishny, 1998, 1999; Acemoglu, Johnson, & Robinson, 2001). However, not all studies support the decisive role of institutions in economic outcomes (e.g., Allen, Qian, & Qian, 2005; Easterly, Kremer, Pritchett, & Summers, 1993; Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004; Weber, 1947). Recent empirical studies find significant leader effects on economic growth in autonomous settings (e.g., Jones & Olken, 2005; Yao & Zhang, 2015). Unlike the majority of studies, which primarily focus on GDP per capita or GDP growth rate, this paper investigates the leader effect on poverty reduction.

Third, this paper contributes to a growing body of literature that investigates how people's behaviors are shaped by their experiences. Some studies focus on the early experiences of firm managers (e.g., Bernile, Bhagwat, & Raghavendra Rau, 2017; Campbell, Jeong, & Graffin, 2019; Kish-Gephart & Campbell, 2015; Malmendier, Tate, & Yan, 2011; O'Sullivan, Zolotoy, & Fan, 2021), whereas others focus on their adulthood experiences, such as military experience (Benmelech & Frydman, 2015) and piloting experience (Cain & McKeon, 2016; Sunder, Sunder, & Zhang, 2017). On a more related point, using the General Social Survey data, Giuliano and Spilimbergo (2014) find that individuals growing up in a recession tend to support more government redistribution. However, few studies consider the experiences of local political leaders. Due to the incompleteness of the political contracts between the central and local governments, local leaders should be viewed as heterogeneous agents that can instill their personal preferences into their economic decisions. Given that political leaders have far more influence than firm managers, the imprint effect exerted by them should receive considerable attention in both academic studies and policy research.

The rest of this paper is organized as follows. Section 2 introduces the institutional background in China. In Section 3, I present data and variables. In Section 4, I investigate the imprint effect of local political leaders' early-life poverty experiences on the income of the poor. In Section 5, I examine the mechanisms through which the imprinted local leaders increase the incomes of poor families in their jurisdictions. Section 6 concludes the paper.

2. Institutional background

2.1. The appointments and promotions of local political leaders in China

The administrative system in China is broadly composed of five layers: the center, provinces, prefectures (cities), counties, and townships. Following its transition from a planned economy to a market-oriented one, China can be described as a de facto federalist state characterized by political centralization and economic decentralization (Xu, 2011). Whereas local governments have significant autonomy in economic matters, the ruling party, the Chinese Communist Party (CCP), retains complete control over local politics. To achieve effective control, the CCP applies the one-level-down appointment system to manage local cadres, within which decisions on the appointments of local cadres are made by the CCP's organization department at a higher level (Huang, 1996; Landry, 2008). At the regional level, the party secretary is the highest-ranked politician responsible for local development. Although city secretaries and mayors share the same political rank, the former have more political power. Typically, the mayor takes the post of deputy party secretary, serving as the No. 2 political figure behind the city secretary in a city.

To address potential entrenched interests and curb corruption, the CCP rarely appoints city secretaries or mayors to their cities of birth. In addition, the CCP frequently rotates local leaders, which leads to unexpected turnovers of local politicians. Although city secretaries and mayors nominally serve a five-year term, most of them do not complete their terms. According to my hand-collected data, between 1978 and 2018, the average term of a city secretary or a mayor in China was approximately three years. Ru (2018) studies the political cycle due to the turnovers of city secretaries and documents that at the end of their terms, 38% of city secretaries were promoted, 14% were transferred to other cities to undertake another term as city secretary, and the remainder ceased to be city secretaries for various reasons (e.g., retirement, being placed under arrest, or serving as another type of government officials).

In China's reform era, local leaders pursuing promotions are required not only to maintain political loyalty to the CCP but also to demonstrate their competence in developing economy (Nathan & Gilley, 2002). China's economic decentralization allows local governments to control most key resources for local economic development, such as licenses, taxes, subsidies, land, bank loans, and business policies. Local leaders are given a great deal of discretion when using these policy tools. To transform the behavior of local government authorities from a "grabbing hand" model to a "helping hand" model, the central government uses the political tournament based on economic performance to motivate local leaders to promote local economic growth. Under this institutional

arrangement, local politicians are primarily evaluated based on measurable objectives, such as GDP growth rate (e.g., Li & Zhou, 2005; Maskin, Qian, & Xu, 2000; Qian & Xu, 1993) and increase in fiscal revenues (e.g., Jin et al., 2005; Montinola et al., 1995; Qian & Weingast, 1997). Local leaders receive political rewards if certain performance criteria are met; otherwise, they get punishments.

While the political tournament based on economic performance strongly motivates local leaders to boost economic growth, this evaluation system has its drawbacks. An undesirable consequence is that local leaders tend to strategically pursue the statistical numbers that are decisive for their promotions. For example, as local politicians find investments an "effective" way to promote local GDP growth, they compete with each other by investing more in transportation, urban infrastructure, fancier public buildings and squares, and heavy-industrial and chemical projects (Liu & Siu, 2011). In extreme cases, they undertake large-scale but ill-conceived projects, which naturally boost GDP growth but contribute little economic value. Out of pragmatic motives, local leaders pay insufficient attention to indicators that are not measured by authorities. For example, He et al. (2020) find that local governments did not make great efforts to improve water quality until the central government started to link water quality readings to political promotions in 2003, and that even after 2003, local governments enforced loose environmental standards for firms located downstream of monitoring stations because water quality readings only capture contaminant emissions from the regions upstream of monitoring stations. In the case of He et al. (2020), local officials care more about water quality readings, rather than water quality, suggesting that even well-intended central policies can be distorted by local governments in unexpected and potentially costly ways.

2.2. The fight against poverty in China

In the 1980s, the CCP proposed the mission of building a moderately prosperous (*Xiaokang* in Chinese) society in every respect. This mission required that extreme poverty be eradicated in China by the end of 2020. As noted in Section 2.1, the central government uses a target-based scheme to evaluate the performance of local governments, which is also the case in the fight against poverty. In 1986, the National Poverty Relief Agency of China (NPRAC), a department directly under the central government of China, was established to monitor the progress in poverty reduction. To measure the poverty rate in China, the NPRAC set dynamic poverty lines over time. The threshold of Chinese poverty line was RMB206 per person per year in 1986, and it was gradually raised to RMB1,196 in 2009 and to RMB1,274 in 2010. In 2011, the threshold was substantially increased to RMB2,300. During 2012–2019, China used the 2011 poverty line as a base and adjusted the poverty line every year to keep the poverty standard constant in terms of purchasing power parity (PPP). In 2020, the pre-scheduled deadline for poverty eradication in China, all families were lifted out of absolute poverty with disposal income exceeding RMB4,000 per person in current price.[6] The poverty lines set by the Chinese government serve as an important tool in the evaluation of local governments. Local leaders who do not make progress in lowering the official poverty rate should be held accountable.

The poverty lines set by the Chinese government are distinguished from the international poverty lines proposed by the World Bank. As the costs of basic necessities (e.g., food, clothing, and shelter) change, the World Bank also updated the threshold below which an individual or family is counted as poor. The international poverty line was originally set at US$0.99 per person per day in 1990 and was increased to US$1.25 in 2008. In 2015, the World Bank proposed three poverty lines, namely, US$1.9, US$3.2, and US$5.5 per person per day for low-income, lower-middle-income, and upper-middle-income countries, respectively (The World Bank, 2018). These monetary thresholds are converted to the 2011 PPP when they are used in different countries. According to the poverty standard proposed by the World Bank, poor families in China, a lower-middle-income country during the sample period in this paper (2009–2017), should be defined as those with disposal income lower than US$3.2 per person per day, which is equivalent to RMB4,941 per person per year in the 2011 PPP.[7] The most important reason why the Chinese government set poverty lines lower than those proposed by the World Bank is that the threshold of the national poverty line was primarily used as the reference for developing anti-poverty policies related to government aid. A higher poverty standard would result in a larger number of families identified as poor. Due to limited fiscal resources that can be allocated in poverty reduction, the central government has to prioritize the needs of the poorest ones in its agenda.

To eradicate absolute poverty, the Chinese government emphasized on the strategy of targeted poverty alleviation. In 1986, the government began to designate a certain number of counties as impoverished and enforce supporting policies specific for these counties. The first wave of impoverished counties included 331 counties in which disposal income per person was lower than RMB150 in 1986. In 2014, the government, for the last time, revised the list of impoverished counties and designated 832 counties as impoverished counties: about one in every three counties was officially categorized as impoverished. Poor households could benefit from more material and intellectual support once their county of residence was officially categorized as impoverished by the central government. Such support came not only from the government, but also from enterprises, especially state-owned enterprises (SOEs). For example, since the 18th CCP National Congress in 2012, a number of SOEs had been paired with specific targets of aid from the impoverished counties. These SOEs bore definite responsibilities until the targets of aid had shaken off absolute poverty. Besides, in a similar way, many other organizations such as state-owned banks and public colleges made efforts to help their targets of aid residing in the impoverished counties. By comparison, poor households that did not reside in the impoverished counties received less attention

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[6] Oher qualitative targets in the anti-poverty campaign include adequate food and clothing for subsistence (referred to as two assurances) and access to compulsory education, basic medical care, and safe housing (referred to as three guarantees). For more details of China's fight against poverty, see *China's Progress in Poverty Reduction and Human Rights*. Link: http://www.scio.gov.cn/zfbps/ndhf/34120/Document/1494400/1494400.htm.

[7] The World Bank (2014) converts US$1 to RMB4.23 in the 2011 PPP.

Table 1
Summary Statistics.

	Obs.	Mean	Std. Dev.	Min.	Max.
Family-Level Variables (Full Sample in the CFPS)					
Income per person (RMB)	46,440	15,454	41,021	0	3,828,202
Family Size	47,825	4.026	1.874	1	26
Children Proportion	47,825	0.144	0.165	0.000	1.000
Elderly Proportion	47,825	0.155	0.269	0.000	1.000
Average Education	47,825	2.482	0.922	1.000	7.000
Family-Level Variables (Subsample Consisting of Poor Families in the CFPS)					
Income per person (RMB)	7188	3494	2563	0	19,055
Family Size	7440	4.151	2.180	1	26
Children Proportion	7440	0.169	0.181	0.000	0.750
Elderly Proportion	7440	0.256	0.339	0.000	1.000
Average Education	7440	1.806	0.620	1.000	4.667
Characteristics of Local Political Leaders					
S_Poverty	549	4.754	0.615	1.788	7.306
S_Gender	549	0.965	0.183	0	1
S_Age	549	53.716	3.376	44	61
S_College	549	0.291	0.455	0	1
S_Term	549	3.616	1.650	1	10
M_Poverty	508	4.696	0.522	3.237	7.306
M_Gender	508	0.949	0.221	0	1
M_Age	508	51.679	3.788	41	62
M_College	508	0.289	0.454	0	1
M_Term	508	3.276	1.436	1	11
City-Level Control Variables					
log (City GDPPC)	600	10.451	0.632	8.409	11.986
log (City Population)	600	15.261	0.638	13.006	17.241

Notes: This table presents the summary statistics of the key variables used in this paper. Poor families are defined as those living below the World Bank poverty line. The definitions of all variables can be found in Section 3.

and hence less support from the government and the public.

The fight against poverty in China is a cooperation between the central government and local governments. While the central government is responsible for developing general rules, local governments are in charge of policy enforcement. The CCP advocates development in accordance with local conditions. Therefore, as the final decision maker for all economic matters within a city, the city secretary can use various instruments with discretion in this anti-poverty campaign. To understand how city secretaries can contribute to poverty reduction in their jurisdictions, several college faculties and I conducted a four-hour interview with a city secretary from a western province of China in 2016. The insights gained in this interview can be summarized by the following five points. First, industries with local characteristics should be strongly supported. As most of China's low-income population lives in rural areas, promoting the sale of agricultural products (both online and offline) is an effective way to increase the business income of the poor. Second, more job opportunities should be created in township and village enterprises so that the spare labor force in rural families can earn salaries without leaving their hometowns. Third, to enhance poor people's skills and improve their capacity for self-development, priority should always be given to education, including formal education in schools and vocational training. Fourth, officials at all levels should help the poor get rid of indolence by increasing their intellectual rigor. Fifth, a sound social welfare system is needed to prevent households from being driven back into poverty because of costly diseases, natural disasters, and other accidental reasons. To sum up, local officials are encouraged to use both development-based and subsidy-based strategies to fight poverty.

3. Data and variables

In this section, I present data and discuss the construction of the key variables used in this paper. The summary statistics of all variables are reported in Table 1.

3.1. The CFPS datasets

The data on household income are obtained from the China Family Panel Studies (CFPS) surveys. These surveys, launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University, include a series of longitudinal surveys designed to collect

individual-, family-, and community-level data in China.[8] The ISSS has so far conducted five waves of CFPS surveys, in 2010, 2012, 2014, 2016, and 2018, respectively. In each wave of the surveys, the ISSS investigated respondents' living conditions in the previous year, i.e., 2009, 2011, 2013, 2015, and 2017. In the CFPS datasets, each family is given a unique identification number. The initial datasets cover around 13,000 families per year. To ensure that the effect of local political leaders on household income is not confounded by migration factors, I remove families whose cities of residence changed during the sample period.[9] The final CFPS sample consists of 47,825 family-year observations, including 9565 families per year. These families are located in 154 Chinese counties, distributed in 120 cities across 25 provinces.

In this paper, I identify poor families in China using the international poverty line proposed by the World Bank in 2015. I do not use the poverty line set by the central government of China, which is lower than the World Bank poverty line, for two reasons. First, despite that local politicians pursuing promotions care more about the poverty line set by the central government, the World Bank poverty line is more likely to reflect the costs of basic necessities. Second, the large gap between the two poverty lines helps investigate the channels through which the early-life experiences of local politicians affect poverty reduction outcomes. In the CFPS surveys, a family is classified as poor if its average disposable income during 2009–2017 is lower than RMB4,941 per person per year in the 2011 PPP, the threshold of the World Bank poverty line for lower-middle-income countries. In this way, a given family in the CFPS datasets is classified as either poor or non-poor (but not both) during the whole sample period, which is convenient for balanced panel data analysis. Thus, due to income fluctuation, a poor family may earn more than RMB4,941 per person in some years during the sample period. Among the 9565 families in the CFPS sample, 1488 families are classified as poor, accounting for about 15.6% of the whole. This proportion is close to China's poverty headcount ratio measured by the World Bank (15.2%), which suggests that the CFPS surveys cover a highly representative sample of the poor.[10]

I construct five household-level variables using information from the CFPS surveys, and their summary statistics are reported in Table 1. *Income per person* is the yearly disposable income per person (measured in RMB in the 2011 PPP) of a given family[11]; *Family Size* is the number of family members; *Children Proportion* is the proportion of family members aged under 14 years; *Elderly Proportion* is the proportion of family members aged over 65 years; and *Average Education* is the mean value of the education index[12] of the adults in a given family. Around 97% of families in the CFPS sample report their yearly disposable income. In the full sample, the mean and standard deviation of *Income per person* are RMB15,454 and RMB41,021, respectively; and in the subsample consisting of only the poor families, the mean and standard deviation of *Income per person* are RMB3,494 and RMB2,563, respectively. The minimum value of *Income per person* is 0, which is an extreme case: 28 families did not earn any income in a given year between 2009 and 2017. On average, poor families are larger in size and have higher proportions of children and the elderly; in addition, the adults in poor families have fewer years of schooling.

3.2. The measures of poverty imprint

I hand collect the information on city secretaries and mayors by searching for their names on the website of Baidu Encyclopedia (https://baike.baidu.com). The hand-collected dataset covers city secretaries and mayors that took office between 2009 and 2017, and I focus on those serving in the 120 cities covered in the five waves of CFPS surveys. If there is more than one city secretary (mayor) in a given city-year, I collect the information of the first city secretary (mayor) in that year. Besides, the city secretaries and mayors whose birthplace information is missing are removed from the sample because the birthplace information is a key input used to construct the measures of poverty imprint. Finally, I obtain a sample of city secretaries consisting of 549 city-year observations and a sample of mayors consisting of 508 city-year observations.

The main challenge in measuring the poverty imprints of local political leaders is the lack of concrete information about local political leaders' personal experiences. The personal profiles documenting the information on the class labels of politicians and their parents (e.g., landlords, rich peasants, middle peasants, poor peasants, and hired labor) are highly classified and only circulated to a very limited group of people in China. To cope with this data issue, I infer their early-life poverty experiences based on the GDP information from their cities of birth. Specifically, the lower the GDP per capita of one's city of birth, the stronger the poverty imprint formed in childhood.

The justification of this inference depends on two stylized facts in China. First, the city secretaries and mayors that took office during 2009–2017 were born between 1949 and 1970, when China was in its era of planned economy. Because of material scarcity and socialist ideology, egalitarianism prevailed in the era of planned economy. During that period, people hardly received extra rewards for their marginal output, and private property was weakly protected (Kung, 1994). In fact, Chinese people were extremely afraid of

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[8] See http://www.isss.pku.edu.cn/cfps/en/index.htm for more information about the CFPS surveys.

[9] As a robustness check, I keep the migrant families in the sample, finding that the empirical results in this paper qualitatively unchanged.

[10] Data source: https://data.worldbank.org/indicator/SI.POV.LMIC?locations=CN&view=chart. According to the World Bank, the poverty headcount ratio (defined as the share of the population living below the poverty line of US$3.2 per person per day) in China dropped from 31.7% in 2009 to 4.6% in 2017, and its mean value during 2009–2017 is 15.2%.

[11] Household incomes in different years are adjusted by the inflation rate reported by the National Bureau of Statistics of China.

[12] The index indicating an adult's education level is set to 1 if he or she did not receive formal education at school, 2 if his or her formal education stopped after primary school, 3 if his or her formal education stopped after junior middle school, 4 if his or her formal education stopped after senior middle school, 5 if his or her formal education stopped after junior college, 6 if he or she has a bachelor's degree, 7 if he or she has a master's degree, and 8 if he or she has a doctorate.

Table 2

City Secretaries' Poverty Experiences and the Incomes of Poor Families.

	log (Income per person)			
	(1)	(2)	(3)	(4)
S_Poverty	0.079**	0.079**	0.087**	0.096**
	(0.040)	(0.039)	(0.036)	(0.039)
Family Size		0.028	0.030	0.030*
		(0.018)	(0.018)	(0.018)
Children Proportion		−0.503***	−0.515***	−0.509***
		(0.129)	(0.129)	(0.130)
Elderly Proportion		−0.159**	−0.159**	−0.145**
		(0.069)	(0.069)	(0.070)
Average Education		0.192***	0.191***	0.188***
		(0.044)	(0.044)	(0.044)
S_Gender			0.240*	0.237*
			(0.124)	(0.120)
S_Age			0.002	0.002
			(0.007)	(0.007)
S_College			0.109**	0.111**
			(0.044)	(0.044)
S_Term			0.003	0.003
			(0.015)	(0.015)
log (City GDPPC)				0.231
				(0.184)
log (City Population)				−0.088
				(0.453)
Family fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	6787	6787	6787	6787
Adj. R-squared	0.082	0.091	0.094	0.095

Notes: This table examines the effect of city secretaries' early-life poverty experiences on the incomes of poor families in their jurisdictions. In all columns, the sample includes the poor families living below the World Bank poverty line in the CFPS surveys. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

being considered rich due to the radical class struggle between 1949 and 1978, especially during the Cultural Revolution period (1966–1976). As a further defense, even if someone born in a poor city was raised in a relatively rich family, he or she would still be exposed to poverty due to the interactions with local people. The second fact is related to the household registration (*Hukou* in Chinese) system, which greatly limited population mobility across cities. Before 1978, migrations had to be approved by authorities on a case-by-case basis, and migrations based on individual willingness were prohibited (Liang & White, 1996). Thus, most Chinese people born in the era of planned economy grew up in their cities of birth. Due to both the low level of within-city inequality and the low frequency of cross-city migrations, a person's early-life poverty experience should be highly correlated with the GDP per capita in his or her city of birth.

Psychological studies point out that pre-school years are a critical stage of life for the formation of enduring preferences and attitudes. Such research can be traced back to Erikson (1950), and receives growing attention in recent years, especially in the interdisciplinary field focusing on both economics and psychological science (e.g., Bauer, Chytilová, & Pertold-Gebicka, 2014; Bauer, Fiala, & Levely, 2018; Conzo & Salustri, 2019; Currie & Vogl, 2013; Fehr, Bernhard, & Rockenbach, 2008; Leon, 2012; Voigtländer & Voth, 2015). Following this strand of literature, I associate one's early-life exposure to poverty with the GDP per capita in his or her city of birth when he or she was at the age of 5. The poverty imprints of city secretaries and mayors are measured as follows:

$$S\_Poverty = 10 - log \text{ (GDP per capita in secretary's city of birth at age 5)}, \qquad (1)$$

and

$$M\_Poverty = 10 - log \text{ (GDP per capita in mayor's city of birth at age 5)}. \qquad (2)$$

As specified in Eqs. (1) and (2), the value of *S_Poverty* (*M_Poverty*) is reversely collinear with the natural logarithm of the GDP per capita in the secretary's (mayor's) city of birth when he or she was at the age of 5. A constant term equal to 10 is added into the equations so that the values of *S_Poverty* and *M_Poverty* are kept positive rather than negative. Econometrically, adding this constant term does not affect the regression results in empirical analyses. Table 1 presents the summary statistics of *S_Poverty* and *M_Poverty*. The mean and standard deviation of *S_Poverty* are 4.754 and 0.615, respectively; and the mean and standard deviation of *M_Poverty* are 4.696 and 0.522, respectively.

It is noteworthy that the two measures of poverty imprint specified in Eqs. (1) and (2) are subject to measurement error because city-level GDP data before 1990 are unavailable from the National Bureau of Statistics. Before 1985, the Chinese government did not use GDP to record the outcomes of production activities but rather used the material product system (MPS) derived from the former Union of Soviet Socialist Republics (USSR). The MPS attached great importance to the quantity of major industrial and agricultural

products but little importance to their prices. During the transition from a planned economy to a market-oriented one, China gradually abandoned the MPS and changed to the system of national accounting (SNA) recommended by the United Nations. The Chinese government began to compute GDP based on the SNA in 1985, but the accounting procedures were not fully standardized until 1993. By analyzing historical data, the government estimated the comparable prices of different products before 1993 and computed GDP for each province between 1952 and 1993. However, city-level GDP data are only available from 1990. To cope with the data availability problem, I assume that in each year before 1990, the growth rate of GDP per capita in a given city is equal to that in the province to which the city belongs. Using this seemingly strong assumption, I impute the GDP per capita before 1990 (measured in RMB in the 1978 PPP) for all cities.

To justify the method used to impute the city-level GDP per capita before 1990, I conduct a comparative test using post-1990 data. Similarly, I assume that in each year after 1990, the growth rate of GDP per capita in a given city is equal to that in the province to which the city belongs, and impute the GDP per capita after 1990 for all cities. Then, I compare the imputed GDP per capita and the true GDP per capita after 1990, finding a strong and positive correlation between them. For example, the correlation coefficient between the imputed GDP per capita and the true GDP per capita at the city level is 0.77 in 2015, which means that a majority of the cross-city variation of GDP per capita in 2015 can be explained by that in 1990.[13] Note that this strong correlation exists even during a period characterized by rapid but unbalanced economic growth (Piketty, Yang, & Zucman, 2019), which supports the validity of the method used to impute the city-level GDP per capita before 1990. The endogeneity issue caused by the measurement error of the imprint measures will be further discussed in Section 4.2 later.

3.3. Other control variables

I construct several control variables on the attributes of local political leaders. *S_Gender* (*M_Gender*) is a dummy variable taking the value of 1 if the secretary (mayor) is male and the value of 0 otherwise; *S_Age* (*M_Age*) is the age of the secretary (mayor) in office; *S_College* (*M_College*) is a dummy variable taking the value of 1 if the secretary (mayor) graduated from an elite college and the value of 0 otherwise, used as an intellectual proxy[14]; and *S_Term* (*M_Term*) is the number of years that the secretary (mayor) has served in the city. The data used to construct these control variables on the characteristics of city secretaries and mayors are also hand collected. Table 1 presents their summary statistics.

When studying the effect of local political leaders on the incomes of poor families in their jurisdictions, I also introduce two city-level control variables: log (*City GDPPC*) is defined as the natural logarithm of the GDP per capita in the jurisdiction, measuring the overall level of economic development in the family's city of residence; and *log* (*City Population*) is defined as the natural logarithm of total population in the jurisdiction, measuring the size of the family's city of residence. The data used to construct these city-level control variables are from the Wind Database. Their summary statistics are shown in Table 1 as well.

4. The imprint effect of local leaders' early-life poverty experiences

In this section, I examine the relationship between the poverty imprints of local political leaders and the incomes of poor families in their jurisdictions. In Sections 4.1 to 4.5, I focus on the role of city secretaries, the highest-ranked politicians at the city level, in poverty reduction. In Section 4.6, I study the role played by mayors. In Section 4.7, I examine the effect of city secretaries' poverty experiences on people's trust in local governments.

4.1. OLS regressions

I estimate the effect of city secretaries' poverty imprints on household income using the following model:

$$log\ (Income\ per\ person)_{ijt} = \alpha + \beta \bullet S\_Poverty_{it} + Controls + \delta_{ij} + \delta_t + \varepsilon_{ijt}. \tag{3}$$

In Model (3), the subscripts *i*, *j*, and *t* represent city *i*, family *j*, and year *t*, respectively. The dependent variable is the natural logarithm of the disposable income per person of family *j* located in city *i* in year *t*. The key explanatory variable is *S_Poverty*, measuring the extent to which the party secretary serving in city *i* in year *t* was exposed to poverty during his or her childhood. Although the value of *S_Poverty* is fixed for a given party secretary, the value of *S_Poverty* in a given city varies over time due to the mobility of party

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[13] The correlation coefficients between the imputed GDP per capita and the true GDP per capita in 1995, 2000, 2005, and 2010 are 0.87, 0.91, 0.88, and 0.82, respectively.

[14] "Elite colleges" refers to the following 39 first-tier universities in the "985 Project" sponsored by the Chinese government: Peking University, Tsinghua University, Fudan University, Shanghai Jiaotong University, Renmin University of China, Zhejiang University, Nankai University, Tianjin University, Beijing University of Aeronautics and Astronautics, Beijing University of Technology, Beijing Normal University, Harbin Institute of Technology, Jilin University, Dalian University of Technology, Northeast University, Shandong University, Ocean University of China, University of Science and Technology of China, Nanjing University, Southeast University, Tongji University, Huazhong University of Science and Technology, Wuhan University, Xiamen University, Central South University, Hunan University, South China University of Technology, Sun Yat-sen University, Chongqing University, University of Electronic Science and Technology, Sichuan University, Xi'an Jiaotong University, Northwest University of Technology, Lanzhou University, China Agricultural University, East China Normal University, National University of Defense Science and Technology, Central University for Nationalities, and Northwest University of Agriculture and Forestry Science and Technology.

secretaries. The family-level control variables include *Family Size*, *Children Proportion*, *Elderly Proportion*, and *Average Education*; the secretary-level control variables include *S_Gender*, *S_Age*, *S_College*, and *S_Term*; and the city-level control variables include *log* (*City GDPPC*) and *log* (*City Population*). Both family fixed effects (δ_{ij}) and year fixed effects (δ_t) are added into the model. Since families whose cities of residence changed between 2009 and 2017 are not included in the regression sample, family fixed effects have absorbed city fixed effects. In addition, α is a constant term and β is the key coefficient to be estimated; and ε is the zero-mean residual term. When estimating Model (3), I cluster the standard errors of coefficients at the city level.

I begin by performing OLS regressions on Model (3) using the sample consisting of the poor families living below the World Bank poverty line in the CFPS surveys, and the discussion on the poverty line set by the Chinese government is deferred to Section 5.3 later. The initial sample of poor families consists of 7188 family-year observations with available information on disposal income. After the CFPS datasets are merged with the datasets on city secretaries, 373 observations are dropped because the birthplace information of city secretaries is missing. In addition, since the dependent variable is coded in a logarithmic transformation, 28 observations with *Income per person* equal to 0 are excluded from the regression sample.[15] The final sample consists of 6787 effective family-year observations.

The OLS regression results are reported in Table 2. In column (1), the only explanatory variable is *S_Poverty*, and in columns (2) to (4), I add different control variables. Family fixed effects and year fixed effects are included in all columns. As shown in Table 2, the estimated coefficients on *S_Poverty* are positive and statistically significant in all columns, which suggests that the poverty imprints of city secretaries increase the incomes of poor families in their jurisdictions. The economic magnitude of the imprint effect is significant, too. I take the result in column (4) of Table 2 as the baseline result in this paper, in which the coefficient on *S_Poverty* is estimated to be 0.096. This magnitude implies that when the strength of city secretaries' poverty imprints increases by one standard deviation (0.615), the incomes of poor families in their jurisdictions would increase by 5.9% every two years, which is equivalent to an annual growth rate of 2.95%, net of family fixed effects and year fixed effects. For comparison, the annual growth rate of disposal income per person in China during the same period is about 8.5%, according to China's National Bureau of Statistics.

4.2. Endogeneity

The OLS estimation of Model (3) may be subject to some sources of endogeneity. First, *S_Poverty* is likely to be measured with error, and as a result, the OLS regression would yield biased estimates. However, the endogeneity caused by the measurement error of *S_Poverty* should not be a severe threat to the conclusion drawn from Table 2. Since city secretaries do not serve in their hometowns, the measurement error concerning the GDP per capita in secretaries' cities of birth is unlikely to be correlated with the incomes of households in secretaries' jurisdictions. Thus, the measurement error of *S_Poverty*, which is uncorrelated with the outcome variable in Model (3), would result in an attenuation bias, in which case the true effect of city secretaries' poverty imprints on the incomes of poor families is underestimated.[16] Thus, the implication that the poverty imprints of city secretaries increase the incomes of poor families in their jurisdictions should still qualitatively hold.

Another source of endogeneity rests on the appointments of local political leaders. The selection bias arises if the central government of China intentionally appoints local politicians with early-life poverty experiences to the cities where the supporting policies for the poor have been already enforced. To test for this possibility, I examine whether local politicians with early-life poverty experiences are more likely to be appointed to the cities that contain the impoverished counties designated by the central government. If the imprinted party secretaries increasing the income of the poor is a political arrangement by the central government, the imprint measures of local political leaders should exhibit systematic differences between the cities that contain impoverished counties and the cities that do not.

The tests on the selection issue are presented in Table 3. In Panel A, *Appointment Dummy* is a dummy variable taking the value of 1 if the city of appointment contains at least one impoverished county. Among the 120 cities in the CFPS surveys, 59 cities contain at least one impoverished county. Using Probit models, I regress *Appointment Dummy* against *S_Poverty* and *M_Poverty* at the city level, respectively, and find that the coefficients on both *S_Poverty* and *M_Poverty* are insignificant. In Panel B of Table 3, I conduct *t*-tests to compare the mean values of the imprint measures between the cities that contain impoverished counties and the other cities, and also find no significant differences between groups. The results in Table 3 suggest that local political leaders with early-life poverty experiences do not have a higher probability of being appointed to poor cities. Thus, the positive correlation between the poverty imprints of city secretaries and the incomes of poor families in their jurisdictions, which is shown in Table 2, is highly likely to be interpreted as causal.

One may be also concerned that an individual who has reached a leadership post from a poor background may have some unusually impressive personal characteristics so that he or she can overcome this early disadvantage to become a policymaker. I alleviate this concern by examining whether the poverty experiences of city secretaries improve their political capability. I measure the political capability of a city secretary by the age when he or she took the post of city secretary for the first time. A person who becomes a city

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[15] Throughout this paper, I do not include the observations with *Income per person* equal to 0 into the regression sample by using *log* (1 + *Income per person*) as the dependent variable. Although *log* (1 + *Income per person*) is also a monotonic transformation of *Income per person*, the choice of the baseline level (e.g., 1, 0.1, or 0.01) will significantly affect the distribution of the outcome variable on its left side. In an unreported analysis, nevertheless, I use *log* (1 + *Income per person*), *log* (0.1 + *Income per person*), and *log* (0.01 + *Income per person*) as alternative dependent variables so that the 28 observations with *Income per person* equal to 0 can be included into the regression sample. These robustness checks suggest similar implications with those presented in the main analysis.

[16] See Chapter 9-4b "Measurement Error in an Explanatory Variable" in Wooldridge (2015) for the theoretical foundations of attenuation bias.

Table 3

The Appointments of Local Political Leaders.

Panel A: Probit Regressions

	Appointment Dummy			
	(1)	(2)	(3)	(4)
S_Poverty	0.027	0.013		
	(0.138)	(0.141)		
M_Poverty			−0.043	0.011
			(0.160)	(0.163)
S_Gender		0.086		
		(0.400)		
S_Age		−0.011		
		(0.023)		
S_College		−0.131		
		(0.176)		
S_Term		−0.044		
		(0.036)		
M_Gender				−0.430
				(0.348)
M_Age				−0.014
				(0.024)
M_College				−0.526***
				(0.168)
M_Term				0.013
				(0.042)
Year fixed effects	Yes	Yes	Yes	Yes
Observations	549	549	508	508
Pseudo R-squared	0.0004	0.0049	0.0014	0.0287

Panel B: T-tests between Groups

	Appointment Dummy = 1		Appointment Dummy = 0		T-test	
	Obs.	Mean	Obs.	Mean	Diff.	P-value
S_Poverty	274	4.761	275	4.747	0.014	0.785
M_Poverty	245	4.685	263	4.707	−0.022	0.630

Notes: This table examines whether local politicians (e.g., city secretaries and mayors) with early-life poverty experiences are more likely to be appointed to the cities that contain the impoverished counties designated by the central government of China. *Appointment Dummy* is a dummy variable taking the value of 1 if the city of appointment contains at least one impoverished county. Panel A presents the estimation results of Probit models in which *Appointment Dummy* is regressed against the imprint measures, while Panel B presents the results of t-tests which compare the mean values of the imprint measures between the cities that contain impoverished counties and the cities that do not. In Panel A, robust standard errors clustered at the city level are reported in parentheses under estimated coefficients; ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

secretary at a younger age is assumed to have stronger political capability. Panel A of Fig. 1 shows the correlation between the early-life poverty experiences of city secretaries and their political capability. In this figure, there are 549 dots, each of which represents a city secretary in the CFPS sample. I find an insignificant correlation between the age of becoming a city secretary and the strength of poverty imprint, which suggests that people's poverty experiences do not play a significant role in improving their political capability.

In addition, since older city secretaries are more likely to be exposed to a higher level of material scarcity in their childhood, the endogeneity issue related to omitted variables arises. One concern is that the results shown in Table 2 may be driven by the city secretaries born earlier, rather than those born in poverty. To control for the age effect, I have included *S_Age* (the age of the city secretary in office) as a control variable in the regression model. I also examine the correlation between *S_Age* and *S_Poverty* in Panel B of Fig. 1, finding that they are not significantly correlated. It is suggested that the variation of *S_Poverty* is not driven by city secretaries' ages but their cities of birth, which further mitigates the concern about the endogeneity problem caused by omitted variables.

4.3. Falsification tests on non-poor families

Imprinting theory predicts that city secretaries with early-life poverty experiences show more sympathy toward the poor since individuals with similar backgrounds tend to be more concerned about each other's wellbeing. To further confirm this causality, I conduct several falsification tests, examining whether city secretaries with early-life poverty experiences also have significant effects on the incomes of non-poor families in their jurisdictions. If it is true, the imprint story may not hold any longer.

To classify families at different income levels, I calculate the average disposable income (in the 2011 PPP) during 2009–2017 for each family in the CFPS surveys. Then, the families are divided into four groups: (1) poor families that constitute the regression sample in Table 2 are those with disposal income per person per year below RMB4,941, the threshold of the World Bank poverty line; (2) lower-middle-income families are defined as those with disposal income per person per year between RMB4,941 and RMB9,994 (the median of *Income per person* among the CFPS families); (3) upper-middle-income families are defined as those with disposal income per
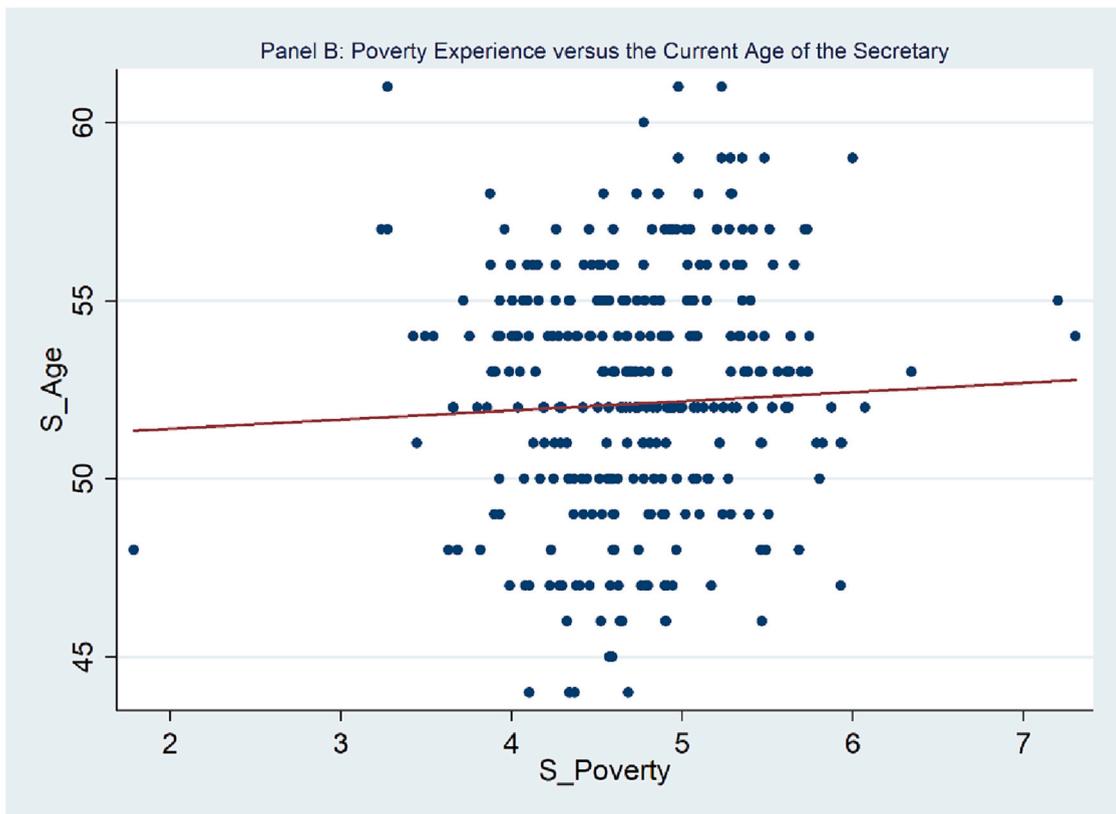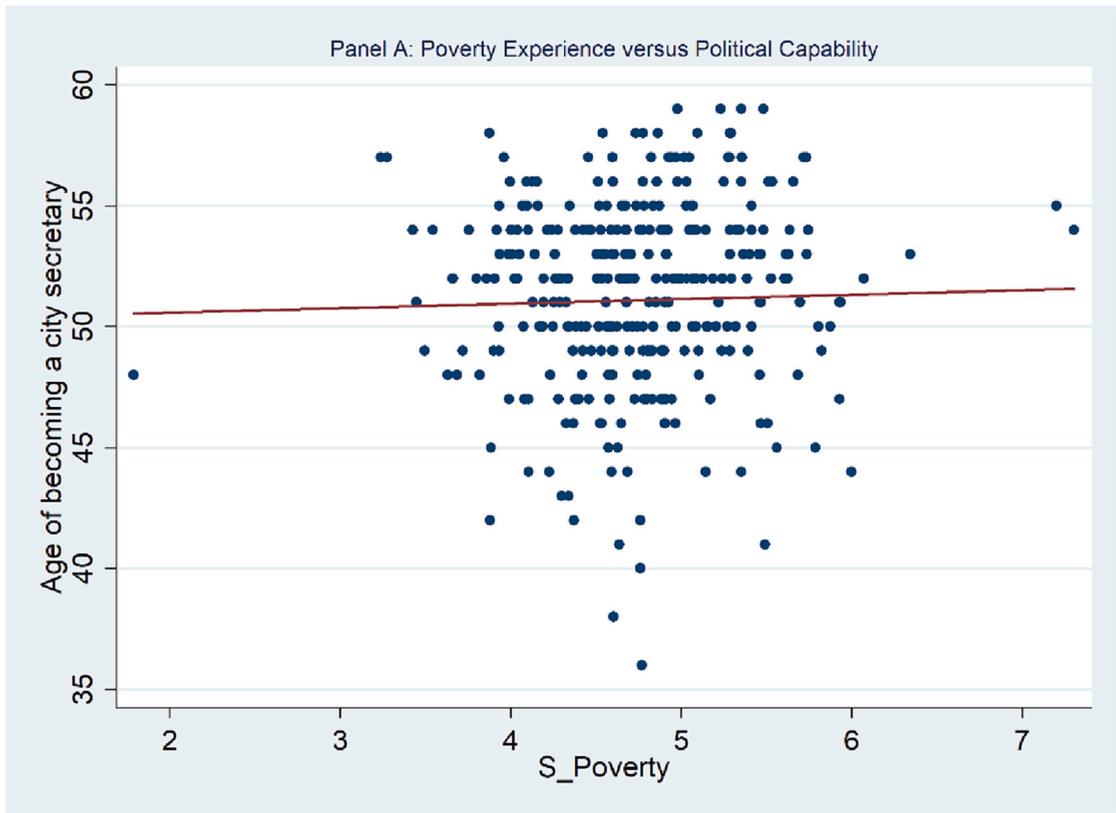
(caption on next page)

person per year between RMB9,994 and RMB16,253 (the 75th percentile of *Income per person* among the CFPS families); and (4) high-income families are defined as those with disposal income per person per year above RMB16,253.

The falsification tests on non-poor families are presented in Table 4. I repeat the estimation on Model (3) by using the sample consisting of the non-poor families in the CFPS surveys. In columns (1) to (3), I run regressions using the samples of lower-middle-income families, upper-middle-income families, and high-income families, respectively. In column (4), the regression sample includes all the non-poor families living above the World Bank poverty line in the CFPS surveys. As shown in Table 4, the estimated coefficients on *S_Poverty* are negative but all of them are statistically and economically insignificant. The results in Table 4 suggest that early-life poverty experiences of city secretaries do not have significant effects on the incomes of non-poor families in their jurisdictions, which supports the imprint story.

4.4. Further evidence supporting the imprint channel

As pointed out by psychological studies, imprinting usually occurs through people's early-life memories. If the effect of city secretaries' experiences on household income is driven through the imprint channel, the incomes of poor families should be more sensitive to city secretaries' early-life poverty experiences than their adulthood experiences. I thus compare the effects of city secretaries' experiences at different ages on the incomes of poor families. The results are reported in Table 5. In this table, I regress the natural logarithm of *Income per person* against *S_Poverty* formed at different ages, using the sample consisting of the poor families living below the World Bank poverty line in the CFPS surveys. In column (1), *S_Poverty at age 5* is defined as 10 minus the natural logarithm of the GDP per capita in the secretary's city of birth when he or she was at the age of 5 (see Eq. (1)), and accordingly, *S_Poverty* at other ages are constructed in columns (2) to (6). Note that the result in column (1) of Table 5 is exactly the same as that shown in column (4) of Table 2. As found in Table 5, the memories formed in city secretaries' early life play a more significant role than those formed in their adulthood, which supports the imprint channel through which city secretaries' experiences affect the poverty reduction outcomes in their jurisdictions.

Table 4
City Secretaries' Poverty Experiences and the Incomes of Non-Poor Families.

	log (Income per person)			
	Lower-middle-income families	Upper-middle-income families	High-income families	All non-poor families living above the World Bank line
	(1)	(2)	(3)	(4)
S_Poverty	−0.018	−0.002	−0.006	−0.006
	(0.028)	(0.022)	(0.024)	(0.018)
Family Size	−0.012	−0.073***	−0.139***	−0.067***
	(0.010)	(0.009)	(0.012)	(0.007)
Children Proportion	−0.405***	−0.386***	−0.129	−0.293***
	(0.097)	(0.079)	(0.118)	(0.063)
Elderly Proportion	−0.349***	−0.389***	−0.270***	−0.325***
	(0.078)	(0.086)	(0.069)	(0.047)
Average Education	0.171***	0.222***	0.193***	0.208***
	(0.033)	(0.027)	(0.021)	(0.017)
S_Gender	0.144**	0.092	0.030	0.104*
	(0.059)	(0.081)	(0.094)	(0.054)
S_Age	0.001	−0.007**	−0.001	−0.002
	(0.005)	(0.004)	(0.003)	(0.003)
S_College	0.045	−0.003	−0.022	0.010
	(0.032)	(0.026)	(0.033)	(0.022)
S_Term	−0.000	0.007	0.011	0.003
	(0.009)	(0.007)	(0.006)	(0.006)
log (City GDPPC)	0.054	0.179*	0.118	0.082
	(0.122)	(0.101)	(0.091)	(0.079)
log (City Population)	0.012	−0.322	0.292	0.151
	(0.385)	(0.299)	(0.296)	(0.193)
Family fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	13,571	10,189	10,153	33,913
Adj. R-squared	0.119	0.207	0.264	0.179

Notes: This table examines the effect of city secretaries' early-life poverty experiences on the incomes of non-poor families in their jurisdictions. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Table 5
Early Experience versus Adulthood Experience.

	log (Income per person)					
	Early experience			Adulthood experience		
	(1)	(2)	(3)	(4)	(5)	(6)
S_Poverty at age 5	0.096** (0.039)					
S_Poverty at age 10		0.095** (0.045)				
S_Poverty at age 15			0.079* (0.044)			
S_Poverty at age 25				0.079* (0.047)		
S_Poverty at age 35					0.027 (0.030)	
S_Poverty at age 45						0.034 (0.037)
Family controls	Yes	Yes	Yes	Yes	Yes	Yes
Secretary controls	Yes	Yes	Yes	Yes	Yes	Yes
Residence city controls	Yes	Yes	Yes	Yes	Yes	Yes
Family fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6787	6787	6787	6787	6787	6787
Adj. R-squared	0.095	0.094	0.094	0.094	0.093	0.093

Notes: This table examines the effects of city secretaries' experiences at different ages on the incomes of poor families in their jurisdictions. In all columns, the sample includes the poor families living below the World Bank poverty line in the CFPS surveys. The unreported control variables include *Family Size, Children Proportion, Elderly Proportion, Average Education, S_Gender, S_Age, S_College, S_Term*, log (*City GDPPC*), and *log* (*City Population*). Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

4.5. The confounding effect of China's great famine during 1959–1961

Apart from poverty experience, early-life disaster experience may also exert long-lasting effects on people's beliefs and values (e.g., Bentzen, 2019; Bernile et al., 2017; Hanaoka, Shigeoka, & Watanabe, 2018; Kim & Lee, 2014; O'Sullivan et al., 2021). As the city secretaries that took office during the sample period in this paper were born between 1949 and 1970, one may be concerned that the effect of city secretaries' poverty imprints on the incomes of poor families is confounded by China's Great Famine during 1959–1961. This famine was a major catastrophe since the founding of the People's Republic of China in 1949, causing about 23–30 million deaths. It resulted not only from bad weather conditions but also from a series of man-made mistakes during the Great Leap Forward campaign (Chen & Zhou, 2007; Lin & Yang, 2000; Meng, Qian, & Yared, 2015).[17] Although such misconduct was nationwide pervasive, it was more severe in certain regions than the others. I hence study the effect of city secretaries' famine experience on the incomes of poor families in their jurisdictions.

To quantify the shock of the Great Famine, I follow Chen and Zhou (2007) and define *Famine* in a certain province as its average death rate during 1959–1961 minus its average death rate during 1956–1958. Data on death rates are obtained from Lin and Yang (2000). The value of *Famine*, measured at the province level, ranges from 0.070% to 2.757%, which suggests a large cross-sectional variation. The mean and standard deviation of *Famine* are 0.610% and 0.668%, respectively. To examine whether city secretaries who experienced the Great Famine are more likely to increase the incomes of poor families in their jurisdictions, I run regressions based on a difference-in-difference approach. The model specification is shown as follows:

$$log\ (Income\ per\ person)_{ijt} = \alpha + \beta_1 \bullet Famine_{it} + \beta_2 \bullet Famine_{it} \times S\_Pre1956_{it}$$

$$+ \beta_3 \bullet S\_Pre1956_{it} + Controls + \delta_{ij} + \delta_t + \varepsilon_{ijt}. \tag{4}$$

In Model (4), *Famine* represents the excess death rate during the Great Famine in the secretary's province of birth. I choose 1956 as the cutoff in constructing the dummy variable that indicates whether a party secretary has the early-life memory about famine (i.e., at the age of 5 when the famine ended). *S_Pre1956* is defined as a dummy variable taking the value of 1 if the secretary was born before 1956. About 20% of city secretaries were born before 1956. If the famine experience of city secretaries has a positive effect on the incomes of poor families, the coefficient on the interactive term (β_2) should be significantly positive.

The regressions on Model (4) are presented in Table 6. The sample consists of the poor families living below the World Bank poverty line in the CFPS surveys. In column (1), I regress the natural logarithm of *Income per person* against *Famine*, and in column (2),

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[17] During that time, some, if not all, local officials misreported agricultural output, which distorted the balance of supply and demand in the planned economy and caused a widespread food shortage. Notably, Meng et al. (2015), who focus on the institutional causes of this great famine, even find a positive correlation between the famine mortality rate and food production per capita at the regional level.

Table 6
City Secretaries' Famine Experience and the Incomes of Poor Families.

	log (Income per person)					
	(1)	(2)	(3)	(4)	(5)	(6)
Famine	0.002	0.005	0.004	0.004	0.002	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Famine × S_Pre1956		−0.010				
		(0.009)				
S_Pre1956		−0.074				
		(0.086)				
Famine × S_Pre1955		−0.011				
			(0.010)			
S_Pre1955			−0.045			
			(0.100)			
Famine × S_Pre1954				−0.012		
				(0.013)		
S_Pre1954				0.017		
				(0.137)		
Famine × S_Pre1953					−0.011	
					(0.026)	
S_Pre1953					0.029	
					(0.253)	
Famine × S_Pre1952						−0.018
						(0.025)
S_Pre1952						0.258
						(0.403)
Family controls	Yes	Yes	Yes	Yes	Yes	Yes
Secretary controls	Yes	Yes	Yes	Yes	Yes	Yes
Residence city controls	Yes	Yes	Yes	Yes	Yes	Yes
Family fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6787	6787	6787	6787	6787	6787
Adj. R-squared	0.093	0.094	0.094	0.093	0.093	0.093

Notes: This table examines the effect of city secretaries' famine experience on the incomes of poor families in their jurisdictions. In all columns, the sample includes the poor families living below the World Bank poverty line in the CFPS surveys. The unreported control variables include *Family Size*, *Children Proportion*, *Elderly Proportion*, *Average Education*, *S_Gender*, *S_Age*, *S_College*, *S_Term*, log (*City GDPPC*), and log (*City Population*). Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

S_Pre1956 and its interaction with *Famine* are added as explanatory variables. For robustness, I also use 1955, 1954, 1953, and 1952 as alternative cutoffs to distinguish between city secretaries with early-life memory of the Great Famine and those without, and the results are reported in columns (3) to (6), respectively. As shown in Table 6, all coefficients on *Famine* and its interactive terms with dummies are insignificant, which suggests that city secretaries' famine experience does not significantly affect the income of the poor. These results greatly alleviate the concern that the effect of city secretaries' poverty imprints on the incomes of poor families is confounded by China's Great Famine during 1959–1961.

4.6. The role of mayors

So far, the empirical analyses focus on the role of city secretaries in poverty reduction. In this subsection, I examine whether the incomes of poor families are affected by the early-life poverty experiences of mayors, who are also responsible for economic activities. Table 7 presents the tests on the imprint effect of mayors. In column (1), I regress the natural logarithm of *Income per person* against *M_Poverty*, using the sample consisting of the poor families living below the World Bank poverty line in the CFPS surveys. However, the coefficient on *M_Poverty* is statistically insignificant, and in terms of economic magnitude, the coefficient is also much smaller than that on *S_Poverty* shown in Table 2. Hence, I do not find significant evidence that the early-life poverty experiences of mayors can increase the incomes of poor families in their jurisdictions.

Since the mayor typically serves as the No. 2 political figure behind the party secretary in a given city, I further conjecture that the imprint effect of mayors on the incomes of poor families is more pronounced in the cities served by party secretaries with weak poverty imprints. To test for this hypothesis, I interact *M_Poverty* with *S_Poverty* and add the interactive term into the regression model. In column (2) of Table 7, I find the coefficient on the interactive term significantly negative, which suggests that the imprint effect of mayors on the income of the poor is significant (only) when the collaborating party secretaries were less exposed to poverty during their childhood. Taken together, it is implied that the poverty experiences of city secretaries and mayors are substitutes in the anti-poverty campaign, while the role of city secretaries is dominating.

Table 7
Mayors' Poverty Experiences and the Incomes of Poor Families.

	log (Income per person)	
	(1)	(2)
M_Poverty	0.022	0.632*
	(0.056)	(0.322)
M_Poverty × S_Poverty		−0.118*
		(0.065)
S_Poverty		0.642**
		(0.315)
Family Size	0.036*	0.036*
	(0.019)	(0.019)
Children Proportion	−0.589***	−0.594***
	(0.120)	(0.122)
Elderly Proportion	−0.103	−0.120
	(0.075)	(0.073)
Average Education	0.198***	0.199***
	(0.046)	(0.046)
M_Gender	0.067	−0.014
	(0.089)	(0.108)
M_Age	−0.005	−0.005
	(0.007)	(0.007)
M_College	−0.022	−0.007
	(0.061)	(0.060)
M_Term	0.002	0.004
	(0.018)	(0.018)
log (City GDPPC)	0.153	0.203
	(0.187)	(0.219)
log (City Population)	0.335	0.481
	(0.400)	(0.438)
Family fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	5938	5848
Adj. R-squared	0.085	0.087

Notes: This table examines the effect of mayors' early-life poverty experiences on the incomes of poor families in their jurisdictions. In both columns, the sample includes the poor families living below the World Bank poverty line in the CFPS surveys. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

4.7. Effects on attitudes toward local governments

Since city secretaries' actions targeted at the poor are not observed in the datasets, one may wonder whether poverty reduction outcomes should be attributed to the personal efforts of the poor or the policy enforcement by local governments. To further confirm the role of local leaders, I use the information about people's changing attitudes toward local governments to measure their contributions in poverty reduction. If city secretaries with early-life poverty experiences really serve with a helping hand during the anti-poverty campaign, they should make more favorable impressions on the residents in their jurisdictions, especially on those who benefit from the policy enforcement by local governments.

I hence examine the effect of city secretaries' poverty experiences on people's trust in local governments. The measures of trust are also drawn from the CFPS datasets. I focus on the answers to two questions: (1) "To what extent do you trust the local government"; and (2) "To what extent do you trust strangers". For each question, the answer is coded as a score with its value ranging from 0 to 10, and a higher score indicates a higher level of trust. The respondents include adults only, and the sample period is between 2011 and 2017. Considering that people may have different standards in answering the subjective trust questions, I measure people's trust in local governments by the difference between the two trust scores. Specifically, for each adult, I define *Trust Government* as the score of trust in the local government minus the score of trust in strangers. Further, I define *Trust Government Mean* (*Trust Government Median*) as the mean (median) value of *Trust Government* among the adults in a given family.

Table 8 presents the tests on people' trust in local governments. In columns (1) and (3), I regress *Trust Government Mean* and *Trust Government Median* against *S_Poverty*, respectively, using the poor families living below the World Bank poverty line in the CFPS surveys as the sample. In columns (2) and (4), I repeat the regressions using the sample consisting of the non-poor families. The coefficients on *S_Poverty* are significantly positive in columns (1) and (3) but insignificant in columns (2) and (4), which suggests that poor people exhibit a higher level of trust in local governments when they are led by party secretaries with early-life poverty experiences. The results in Table 8 imply that poor people do gain certain benefits from the imprinted city secretaries, which further supports the positive role of imprinted city secretaries in poverty reduction.

Table 8
City Secretaries' Poverty Imprints and People's Trust in Local Governments.

	Trust Government Mean		Trust Government Median	
	Poor families	Non-poor families	Poor families	Non-poor families
	(1)	(2)	(3)	(4)
S_Poverty	0.134*	−0.036	0.148*	−0.037
	(0.080)	(0.058)	(0.078)	(0.061)
Family Size	−0.074*	−0.022	−0.078**	−0.033**
	(0.040)	(0.013)	(0.039)	(0.015)
Children Proportion	0.599	−0.546***	0.543	−0.567***
	(0.377)	(0.159)	(0.391)	(0.172)
Elderly Proportion	0.075	0.512***	0.039	0.515***
	(0.281)	(0.128)	(0.292)	(0.138)
Average Education	−0.005	−0.276***	−0.037	−0.285***
	(0.164)	(0.046)	(0.168)	(0.049)
S_Gender	0.055	0.033	0.014	−0.014
	(0.254)	(0.113)	(0.270)	(0.112)
S_Age	−0.033	−0.018*	−0.029	−0.019*
	(0.021)	(0.009)	(0.020)	(0.010)
S_College	0.179*	0.022	0.185*	0.000
	(0.097)	(0.055)	(0.097)	(0.059)
S_Term	0.000	0.014	−0.017	0.018
	(0.032)	(0.013)	(0.033)	(0.015)
log (City GDPPC)	0.541	0.137	0.585	0.184
	(0.444)	(0.231)	(0.469)	(0.251)
log (City Population)	1.394	0.875	1.448	0.709
	(1.746)	(0.965)	(1.757)	(1.002)
Family fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	5557	5557	27,586	27,586
Adj. R-squared	0.010	0.010	0.011	0.011

Notes: This table examines the effect of city secretaries' early-life poverty experiences on people's trust in local government. In columns (1) and (3), the sample includes the poor families living below the World Bank poverty line in the CFPS surveys, while in columns (2) and (4), the sample includes the non-poor families living above the World Bank poverty line. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

5. Mechanisms

In this section, I investigate the mechanisms through which city secretaries with early-life poverty experiences increase the incomes of poor families in their jurisdictions.

5.1. Development-based versus subsidy-based strategies

It is essential to understand which economic decisions made by city secretaries account for the growth in the income of the poor. As well documented in previous literature, poverty can be alleviated through investment in infrastructure (such as road networks), improvement in the quality of education, reformation in the social welfare system, and many other means. To fight poverty, the CCP advocates development in accordance with local conditions. Thus, city secretaries are expected to use heterogenous strategies to develop local economy, and the huge variation in the anti-poverty strategies across regions makes it difficult to identify which specific behaviors of city secretaries related to their early-life poverty experiences contribute to the poverty reduction outcomes in their jurisdictions. As an alternative way, I study the effect of city secretaries' poverty imprints on the income structure of poor families, which examines whether city secretaries mainly adopt development-based or subsidy-based strategies to help the poor.

Disposable income can be divided into four categories according to the source of income: salary income, net business income, net property income, and net transfer income. If city secretaries adopt development-based strategies to help the poor, the growth in salary income and net business income should be observed in poor families. If city secretaries adopt subsidy-based strategies to help the poor, the growth in net transfer income should be observed in poor families. Due to the small share of property income in the disposable incomes of poor families, policies intended to increase the property income of the poor are rarely mentioned by the Chinese government and media. Among the 1488 families identified as poor in the CFPS surveys, salary income, net business income, net property income, and net transfer income account for 33.3%, 27.4%, 1.4%, and 18.4% of disposable income, respectively; and the remaining 19.5%, which cannot be confidently placed into one of the above four categories, is classified as "other income". For comparison, the proportions of salary income, net business income, net property income, net transfer income, and other income in the total disposable income of non-poor families are 55.9%, 16.5%, 1.8%, 14.4%, and 11.4%, respectively.

I examine the imprint effects of city secretaries' early-life poverty experiences on different sources of income in poor families, and report the results in Table 9. In columns (1) to (4), *Salary*, *Business*, *Property*, and *Transfer* are defined as salary income per person, net business income per person, net property income per person, and net transfer income per person at the family level, respectively. Using

Table 9
The Imprint Effects of City Secretaries on Different Sources of Income.

	log (Salary)	log (Business)	log (Property)	log (Transfer)
	(1)	(2)	(3)	(4)
S_Poverty	0.103**	0.187*	0.120	0.058
	(0.046)	(0.112)	(0.116)	(0.051)
Family Size	−0.025	−0.192***	−0.268***	−0.166***
	(0.019)	(0.049)	(0.072)	(0.024)
Children Proportion	−0.056	−0.637	−0.228	0.016
	(0.175)	(0.461)	(0.948)	(0.216)
Elderly Proportion	−0.356**	−0.161	0.333	0.440***
	(0.173)	(0.255)	(0.465)	(0.110)
Average Education	0.164**	−0.296**	0.176	−0.062
	(0.072)	(0.132)	(0.197)	(0.071)
S_Gender	0.078	−0.190	−0.450	0.205*
	(0.105)	(0.201)	(0.561)	(0.108)
S_Age	0.000	−0.016	0.021	0.010
	(0.006)	(0.015)	(0.029)	(0.007)
S_College	0.111*	0.012	−0.095	0.138**
	(0.058)	(0.104)	(0.168)	(0.064)
S_Term	0.007	0.009	−0.017	−0.038**
	(0.015)	(0.032)	(0.040)	(0.015)
log (City GDPPC)	0.270	1.170*	0.201	0.022
	(0.182)	(0.686)	(0.488)	(0.191)
log (City Population)	0.123	1.225	4.175**	0.015
	(0.566)	(1.012)	(1.957)	(0.846)
Family fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	3531	5827	484	4690
Adj. R-squared	0.076	0.029	0.241	0.202

Notes: This table examines the effect of city secretaries' early-life poverty experiences on different sources of income. *Salary*, *Business*, *Property*, and *Transfer* represent salary income per person, net business income per person, net property income per person, and net transfer income per person, respectively. In all columns, the sample includes the poor families living below the World Bank poverty line in the CFPS surveys. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

the sample consisting of the poor families living below the World Bank poverty line in the CFPS surveys, I regress the natural logarithms of *Salary*, *Business*, *Property*, and *Transfer* against *S_Poverty*. I find the coefficients on *S_Poverty* significantly positive in columns (1) and (2) but insignificant in columns (3) and (4).[18] The results in Table 9 suggest that city secretaries with early-life poverty experiences tend to use development-based strategies, rather than subsidy-based strategies, to increase the incomes of poor families in their jurisdictions. However, it is not surprising that city secretaries do not exhibit significant variations in using subsidy-based strategies to help the poor, because the nationwide social welfare system is less likely to be reformed by local political leaders in the short term.

5.2. Evidence from the finance sector

So far, I have documented the impacts of local leaders on the outcome of poverty reduction. In this subsection, I further study the role of local leaders' poverty experiences in their policy preferences. If imprinting theory holds, city secretaries born in poverty may help the poor by adopting policies that favor the agricultural sector, as most poor people live in rural areas. Using data from the finance sector, I investigate the effect of city secretaries' early-life poverty experiences on the financial support obtained by the agricultural sector.

I obtain a city-level dataset on credit supply from the China Banking Regulatory Commission (CBRC), which covers about 300 Chinese cities during 2006–2011. In this dataset, banking institutions are divided into 13 types, among which seven types are established to support the agricultural sector, i.e., Agricultural Development Bank of China, rural credit cooperatives, rural cooperative banks, rural commercial banks, village and township banks, rural mutual financial cooperatives, and new-type rural institutions. The other six types of banking institutions include state-owned commercial banks (i.e., Industrial and Commercial Bank of China, Agricultural Bank of China, Bank of China, China Construction Bank, and Bank of Communications, collectively known as the "Big Five"), Postal Savings Bank of China, policy banks, joint-stock banks, city commercial banks, and lending companies. The CBRC dataset

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[18] For comparison, I also regress the natural logarithms of *Salary*, *Business*, *Property*, and *Transfer* against *S_Poverty* using the sample consisting of the non-poor families living above the World Bank poverty line in the CFPS surveys, and the coefficients on *S_Poverty* are estimated to be −0.007, −0.141, −0.042, and 0.014, respectively. However, all of the coefficients on *S_Poverty* are statistically insignificant, which echoes the empirical results in Section 4.3.

Table 10
The Effect of City Secretaries' Poverty Experiences on the Finance Sector.

	Agri_Loan	
	Cities with GDP per capita below the median	Cities with GDP per capita above the median
	(1)	(2)
S_Poverty	0.017**	−0.002
	(0.007)	(0.004)
S_Gender	−0.004	0.004
	(0.028)	(0.012)
S_Age	−0.001	−0.001
	(0.001)	(0.001)
S_College	0.019*	−0.005
	(0.011)	(0.006)
S_Term	0.002	0.000
	(0.002)	(0.001)
log (City GDPPC)	−0.146***	0.023
	(0.053)	(0.021)
log (City Population)	−0.083	0.035
	(0.106)	(0.038)
Family fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	824	945
Adj. R-squared	0.101	0.029

Notes: This table examines the effect of city secretaries' early-life poverty experiences on the financial support to the agricultural sector. The dependent variable is the proportion of loans allocated to the agricultural sector. The sample in column (1) consists of the cities with GDP per capita below the median, while the sample in column (2) consists of the cities with GDP per capita above the median. The sample period is between 2006 and 2011. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

reports on the outstanding value of loans provided by each type of banking institutions in each city. I define *Agri_Loan* as the ratio of the loans provided by the seven types of rural banking institutions to the loans provided by all banking institutions in a given city, which measures the financial support obtained by the agricultural sector. Between 2006 and 2011, the mean and standard deviation of *Agri_Loan* are 0.301 and 0.151, respectively.

I regress the proportion of loans allocated to the agricultural sector against the poverty imprints of city secretaries, and report the regression results in Table 10. In column (1), the regression sample includes the relatively poor cities (defined as those with GDP per capita below the median), and the sample in column (2) consists of the relatively rich cities (defined as those with GDP per capita above the median). I find that the estimated coefficient on *S_Poverty* is significantly positive in column (1) but insignificant in column (2). These results suggest that city secretaries born in poverty tend to adopt financial policies favoring the agricultural sector in less developed jurisdictions, but such a tendency disappears in more economically developed cities. Given this, I am inclined to conclude that city secretaries born in poverty do not have a stronger preference for agricultural development but show higher enthusiasm for poverty reduction. The results in Table 10 further support the hypothesis that local political leaders instill their personal preferences into their economic decisions.

5.3. Willingness versus ability

The poverty experiences of city secretaries may affect poverty reduction outcomes through two potential channels. First, city secretaries with early-life poverty experiences have more sympathy toward the poor, so they have stronger willingness to adopt policies favoring the poor in their jurisdictions. Second, the poverty experiences of city secretaries increase their knowledge about poverty and make them more capable of improving the incomes of poor families rather than non-poor families. In the latter case, city secretaries with early-life poverty experiences may strategically prioritize the goal of poverty reduction in their agenda, exploiting the comparative advantage for political promotion.

In Section 4.2, I present an insignificant correlation between city secretaries' early-life poverty experiences and their political capability (as shown in Panel A of Fig. 1). To further distinguish between the willingness channel and the ability channel, I examine the heterogenous effects of city secretaries' poverty experiences across counties. To eradicate absolute poverty, the central government of China designated 832 counties as impoverished counties and made a number of supporting policies specific for these counties. Meanwhile, the progress in poverty reduction in the impoverished counties received great attention from the central government. If the early-life poverty experiences of city secretaries increase the income of the poor through the ability channel, this leader effect should be more pronounced in the impoverished counties, because the support from the central government should further enhance their capability of poverty reduction. If the willingness channel holds, the effect of city secretaries' poverty experiences on the income of the poor should be less significant in the impoverished counties, where the political pressure of poverty reduction imposed by the central government offsets the role of local leaders' personal preferences in policy enforcement. The rationale is that in counties that are designated as impoverished by the central government, city secretaries who do not make progress in poverty reduction are supposed to

Table 11
Heterogenous Imprint Effects across Counties.

	log (Income per person)		
	Poor families living in impoverished counties	Poor families not living in impoverished counties	All poor families
	(1)	(2)	(3)
S_Poverty	0.016	0.169***	0.170***
	(0.055)	(0.060)	(0.059)
S_Poverty × Impoverished County			−0.154**
			(0.078)
Family Size	0.021	0.042**	0.031*
	(0.028)	(0.021)	(0.018)
Children Proportion	−0.417**	−0.641***	−0.509***
	(0.187)	(0.178)	(0.129)
Elderly Proportion	−0.284**	−0.092	−0.149**
	(0.109)	(0.089)	(0.070)
Average Education	0.170***	0.204***	0.188***
	(0.057)	(0.066)	(0.045)
S_Gender	0.331	0.182	0.205
	(0.468)	(0.137)	(0.124)
S_Age	0.001	0.003	0.002
	(0.009)	(0.008)	(0.006)
S_College	0.075	0.167**	0.108**
	(0.061)	(0.066)	(0.045)
S_Term	0.010	−0.001	0.004
	(0.025)	(0.019)	(0.015)
log (City GDPPC)	0.251	0.208	0.237
	(0.236)	(0.259)	(0.176)
log (City Population)	−0.798	0.456	0.004
	(0.701)	(0.603)	(0.447)
Family fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	3259	3528	6787
Adj. R-squared	0.112	0.089	0.096

Notes: This table examines the heterogenous effects of city secretaries' early-life poverty experiences on the incomes of poor families across counties. In column (1), the sample includes the poor families living in the impoverished counties designated by the central government; in column (2), the sample includes the poor families that do not live in the impoverished counties; and in column (3), the sample includes all poor families living below the World Bank poverty line in the CFPS surveys. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

be punished, so city secretaries in these counties, no matter what they experienced in their childhood, should make full efforts to reduce the poverty rate. Therefore, the ability hypothesis and the willingness hypothesis predict the heterogeneity of the leader effect in different directions.

Table 11 presents the heterogeneity of the effect of city secretaries' poverty experiences on household income across counties. In this table, *Impoverished County* is defined as a dummy variable taking the value of 1 if the household resides in an impoverished county. About half of the poor families in the CFPS surveys reside in the impoverished counties. In column (1), I regress the natural logarithm of *Income per person* against *S_Poverty*, using the poor families living in the impoverished counties as the sample. In column (2), I repeat the regression by using the sample consisting of the poor families not living in the impoverished counties. As shown in these two columns, the coefficient on *S_Poverty* in column (2) is more significant, both statistically and economically, than that in column (1). In column (3), using the sample consisting of all the families living below the World Bank poverty line in the CFPS surveys, I interact *S_Poverty* with *Impoverished County* and add this interactive term into the regression model.[19] The coefficient on the interactive term in column (3) is significantly negative. The results in Table 11 show that the early-life poverty experiences of city secretaries exert less significant impacts on poor families living in the impoverished counties than those not living in the impoverished counties. It is suggested that the early-life poverty experiences of city secretaries do not develop their ability in improving the income of the poor but make them more sympathetic toward the poor, supporting the willingness channel through which city secretaries' experiences affect poverty reduction outcomes.

In addition, I investigate the heterogenous effects of city secretaries' early-life poverty experiences by exploiting the gap between the poverty line set by the World Bank and that set by the Chinese government. In this paper, I identify poor families in China using the international poverty line proposed by the World Bank (RMB4,941 per person per year in the 2011 PPP), which is higher than the poverty line set by the Chinese government (RMB1,196 in 2009 and RMB2,300 following 2011). Although the World Bank poverty line is more likely to reflect the costs of basic necessities, local politicians pursuing promotions should care more about the official standard

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[19] We do not need to add *Impoverished County* as an independent variable in column (3) of Table 11, since it is a time-invariant dummy variable and its effect on household income has been absorbed by family fixed effects.

Table 12
The Role of the Poverty Line Set by the Chinese Government.

	log (Income per person)	
	(1)	(2)
S_Poverty	0.052**	0.046**
	(0.021)	(0.022)
S_Poverty × Poverty Line CN1	−0.095**	
	(0.043)	
Poverty Line CN1	−1.106***	
	(0.223)	
S_Poverty × Poverty Line CN2		−0.077*
		(0.044)
Poverty Line CN2		−1.128***
		(0.228)
Family Size	0.002	−0.003
	(0.010)	(0.011)
Children Proportion	−0.184**	−0.052
	(0.075)	(0.077)
Elderly Proportion	−0.050	−0.038
	(0.045)	(0.041)
Average Education	0.091***	0.058*
	(0.026)	(0.031)
S_Gender	0.044	0.046
	(0.087)	(0.101)
S_Age	0.002	0.002
	(0.004)	(0.004)
S_College	0.044	0.017
	(0.029)	(0.027)
S_Term	−0.000	−0.002
	(0.008)	(0.008)
log (City GDPPC)	0.071	0.061
	(0.102)	(0.100)
log (City Population)	−0.190	−0.001
	(0.269)	(0.282)
Family fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	6787	6787
Adj. R-squared	0.593	0.586

Notes: This table examines the heterogenous effects of city secretaries' early-life poverty experiences on the incomes of poor families. *Poverty Line CN1* and *Poverty Line CN2* are two dummy variables indicating whether a family is living below the poverty line set by the Chinese government. In both columns, the sample includes the poor families living below the World Bank poverty line in the CFPS surveys. Robust standard errors clustered at the city level are reported in parentheses under estimated coefficients. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

set by the central government. Thus, the large gap between the two poverty lines provides a unique opportunity to further study the role of city secretaries in poverty reduction. Since city secretaries who do not make progress in lowering the official poverty rate are supposed to be punished, I conjecture that the effect of city secretaries' poverty imprints on household income diminishes among the families living below Chinese poverty line. In such extremely poor families, the role of city secretaries' willingness to fight poverty should be offset by the mandatory and definite target of poverty reduction imposed by the central government. In other words, the imprint effect of city secretaries should be most pronounced among the families living above Chinese poverty line but below the World Bank poverty line, in which interval the willingness of local leaders plays a key role in poverty reduction.

Table 12 presents the tests on the poverty line set by the Chinese government. In this table, *Poverty Line CN1* is a dummy variable taking the value of 1 if the disposal income per person in a given family is lower than RMB1,196 in 2009 or RMB2,300 following 2011; and *Poverty Line CN2* is a dummy variable taking the value of 1 if the disposal income per person in a given family is lower than RMB2,300 during 2009–2017. *Poverty Line CN1* and *Poverty Line CN2* are two time-variant dummy variables: their values would change from 1 to 0 if the disposal income increases to surpass the threshold of the national poverty line. In Table 12, I interact *S_Poverty* with *Poverty Line CN1* in column (1) and with *Poverty Line CN2* in column (2). Using the sample consisting of the poor families living below the World Bank poverty line in the CFPS surveys, I regress the natural logarithm of *Income per person* against the interactive terms, respectively. In both columns of Table 12, I find that the coefficients on the interactive terms are significantly negative. The insignificant imprint effect among the poor families living below Chinese poverty line further supports that the early-life poverty experiences of party secretaries affect poverty reduction outcomes via their policy preferences. It is because using the decrease in official poverty rate as a part of political assessment does not enhance local leaders' capability of poverty reduction but increase their willingness to participate in the anti-poverty campaign.

6. Conclusion

Combining rich datasets from China, this paper studies the role of local political leaders in poverty reduction. Using the international poverty line proposed by the World Bank to identify poor families in China, I find a significant leader effect on the income of the poor. Specifically, I find that city secretaries (the highest-ranked politicians at the city level) with early-life poverty experiences are more likely to increase the incomes of poor families in their jurisdictions. Further analysis shows that the effect of city secretaries' poverty experiences diminishes in the counties that are officially categorized as impoverished by the Chinese government, where the role of local leaders' willingness to fight poverty is offset by the political pressure of poverty reduction imposed by the central government. I also find that the effect of city secretaries' poverty experiences is most pronounced among the families living above the poverty line set by the Chinese government but below the international poverty line proposed by the World Bank. Taken together, I conclude that local political leaders affect poverty reduction outcomes by instilling their personal preferences, which can be shaped by their early experiences, into their economic decisions. From the policy viewpoint, setting mandatory and definite target of poverty reduction is useful when local political leaders do not have sufficient internal incentives to participate in the anti-poverty campaign.

While a large body of literature documents the individual effect of national political leaders, little is known about the heterogenous policy preferences of local leaders. This paper corroborates imprinting theory in a political–economic framework, associating the early-life poverty experiences of local political leaders with their willingness to adopt policies favoring the poor. Due to the incompleteness of the political contracts between the central and local governments, it is not always appropriate to take local leaders as homogenous political agents who act in an opportunistic manner out of the identical motive of promotion. In this sense, the elections of not only national leaders but also local leaders can impact the development paths in a society.

Finally, I point out two main caveats of this paper. First, the panel data on household income from surveys cover a relatively short period of time, during which an average city experiences only around 3 turnovers of party secretaries. If a longer panel dataset could be available, the conclusion drawn in this paper would be more convincing. Second, the quality of poverty reduction is not observed in this study. Local leaders in China are required to lower the official poverty rate to 0 in their last terms approaching 2020, the deadline for poverty eradication set by the CCP. However, local leaders leaving office after 2020 are not held accountable for households driven back into poverty. Thus, the short-term increase in the incomes of poor families may not guarantee the permanent change in their living standards, and this issue needs to be explored in the future.

Data availability

The authors do not have permission to share data.

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