

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Social Science Research

journal homepage: www.elsevier.com/locate/ssresearch

Does social insurance enrollment improve citizen assessment of local government performance? Evidence from China

Xian Huang^{a,*}, Qin Gao^b^a Department of Political Science, Rutgers University, 89 George Street, New Brunswick, NJ 08901, USA^b School of Social Work, Columbia University, 1255 Amsterdam Avenue, New York, NY 10027, USA

ARTICLE INFO

Keywords:

China
 Social insurance
 Social policies
 Assessment of government performance
 Propensity score matching

ABSTRACT

Although many studies claim that social policies are “carrots” that authoritarian leaders use to garner public support, the assumption that social benefits can boost public support of government has been rarely tested empirically, especially at the local levels. This article investigates the effects of social insurance enrollment on citizens' assessment of local government performance using data from the 2010 China Family Panel Study. We use propensity score matching to reduce selection bias and ordered probit regressions with fixed effects to examine these possible effects. We find that social insurance enrollment had a significant positive effect on rural citizens' assessment of government performance, but this effect did not exist for their urban and migrant peers. This discrepancy could be largely due to the groups' different expectations for government redistribution and their distinct experiences of China's social welfare reform. We conclude that the Chinese authoritarian government has achieved partial success in its attempt to use social policies to maintain popular support.

1. Introduction

Political support is a desirable commodity that all political systems wish to acquire. It is obvious under democracy because without public support political leaders will be removed from office by elections. Even though authoritarian regimes are often associated with using force, they also feel more secure and legitimate if their citizens show support. In order to garner public support, authoritarian leaders use some combination of “carrots” (i.e., measures that build public support through the distribution of rents and patronage, programmatic redistribution and broad-based economic growth) and “sticks” (i.e., coercive or repressive measures) (Gallagher and Hanson, 2009). While existing literature emphasizes the role of formal institutions such as legislatures, political parties and state forces in maintaining regime legitimacy and support (Magaloni, 2008; Gandhi and Przeworski, 2006; Levitsky and Way, 2010), in this article we consider another important means that authoritarian leaders utilize: social policies.

Political economy theory posits that autocratic leaders design social policies and mandate public goods provision for regime legitimacy and support (Wintrobe, 1998; Mesquita et al., 2003). Empirical studies in Latin America, Africa, and the Middle East and North Africa have found that political leaders often expand social spending or social services to garner political support (Haggard and Kaufman, 2008; Manacorda et al., 2011; Harris, 2013). A key assumption underlying this string of literature is that social policies can really change people's political attitudes and bolster regime support. In this paper, we will explicitly test this assumption in the context of China—one of the largest and most enduring authoritarian regimes in the world.

It is widely believed that the legitimacy of the Chinese authoritarian regime derived from the revolution has gradually

* Corresponding author.

E-mail addresses: xian.huang@rutgers.edu (X. Huang), qin.gao@columbia.edu (Q. Gao).

diminished, and that support for the party is now based on its performance to bring about improvements in the well-being of the people (Zhao, 2009; Zhu, 2011).¹ With the regime's pledge of better governance to improve people's livelihoods, social insurance programs, including pensions, health insurance, unemployment insurance and the housing provident fund, have expanded notably since the late 1990s. In 2007, more than two hundred million Chinese were enrolled in pension and social health insurance programs, and the numbers have continued to soar since. The regime seeks to elicit popular support for its continued rule by providing more and better social welfare benefits to various social groups (Frazier, 2010; Hurst, 2011; Huang, 2014).

Many scholars have noted that the Chinese support for the central government is significantly higher than for local governments (Li, 2004; Tang, 2005), a pattern also confirmed in studies based on recent national surveys (Lü, 2014; Dickson, 2016). Dissatisfaction with local governments are found correlated with higher level of radical political actions such as protesting and petition (Tang, 2016), which constitutes a challenge to social stability. Although the causes that generated the public's dissatisfaction with local governments are different (to name a few, illegal taxation or fees, corruption, and insufficient social provisions), the central government, which has greater interest in protecting the regime's legitimacy and stability, tries to mediate the conflicts between citizens and the local government by policy adjustment and initiation such as abolishing illegal taxation and expanding public goods provision in rural areas (Bernstein and Lü, 2003; Li and O'Brien, 1996).

However, social policies' effects in boosting public support for the *local* government are theoretically debatable. On the one hand, the central government often takes advantage of state media and propaganda to claim credit for new social policies and to increase public awareness of and expectations for policy implementation (Lü, 2014). Many of the central government's policy initiatives are introduced without local government consent yet require substantial financial and staffing input from the local government. With a shortage of fiscal resources and experience, some local officials fail to live up to the expectations of the public, and a possible consequence is dissatisfaction with their work. On the other hand, although the central government often initiates or promotes social welfare expansion, it is the local governments that produce and deliver the promised benefits to the people. Given the proximity between local governments and the beneficiaries of social policies, people are likely to recognize and reward local governments that successfully implement social policies with higher satisfaction and positive assessments.

The empirical evidence concerning social policies' effect on public support for Chinese local governments is mixed at best. Michelson (2012), comparing two waves of individual-level survey data collected in rural China in 2002 and 2010, shows that rural stimulus programs—including agricultural subsidies, the expansion of rural healthcare provisions, and a family allowance program—have improved rural residents' perceptions that the local government cares about their wellbeing. Similarly, Saich (2008) found a dramatic increase in satisfaction with township and village governments between 2003 and 2005. In contrast, Lü (2014), using a difference-in-differences analysis and data from a national survey conducted in 2004 and 2009, finds that a change in education policy (abolition of the school fee for compulsory education) has enhanced citizens' trust in China's central government but has not improved their trust of the local government, due primarily to state media bias in reporting on the policy. The different findings in those studies might be attributed to the different specific policies under study. Dickson (2016), based on results from a nationwide survey of urban areas in 2010, examines the effects of various public goods on public support for government. The study finds that local government gets a bigger boost in popular support from citizens' satisfaction with the provision of public goods such as health care, environmental protection and transportation; in contrast, the central government gets a bigger boost in popular support than local government does only in education policy.

Some key questions regarding social policies' effects on government support are unclear in existing studies and we attempt to address them in this article. First, can social policies really enhance popular support for local governments? Existing studies examine different social policies (e.g. education, government subsidies, healthcare, etc.) and come to distinct and sometimes contradictory conclusions. Our study focuses on the effects of social insurance enrollment (including pensions, health insurance, unemployment insurance and the housing provident fund) on citizens' assessment of local government performance. People enrolled into the government-administered social insurance programs are more likely to consider the government's performance favorably than people without such coverage. However, it could be the factors that make some people more likely to be enrolled into the programs that cause the favorable assessment of government performance among those people. Known as selection bias, this problem is commonly found in empirical studies that rely on observational data. In this article, we use a propensity score matching (PSM) method to address part of the selection bias² and offer an estimation of the effects social insurance enrollment has on citizens' assessment of local government performance.

Second, does social insurance enrollment have the same effect on different social groups' assessment of government performance? Few extant studies have evaluated the heterogeneity of social policies' effects in China. Since social insurance programs have different targeted beneficiaries who may hold different expectations for the benefits, comparing the effect of a specific social insurance program with another program and comparing the effects of the same program on different segments of population allows us to differentiate social insurance policies' effects on assessment of government performance by different programs and groups. This is crucial because heterogeneity of the attitudinal effect of social insurance enrollment has important implications for social stability in China as the regime continues to utilize social welfare, in addition to repression and coercion, to maintain social stability.

¹ There is a great debate in the Chinese politics literature about sources of the regime's legitimacy. Besides economic development and government performance, scholars have pointed out other sources of regime legitimacy in China including nationalism (Harding, 1987), culture (Tong, 2011) and institutionalization (Nathan, 2003).

² PSM can only address the selection bias derived from observable factors. Like any other matching methods, PSM can only take into consideration observable characteristics available in the dataset, which are never exhaustive and cannot account for all the possible factors associated with the effect of social insurance enrollment.

Third, how can the heterogenous effects of social insurance enrollment be explained in the context of China's political economy? We offer a theoretical framework that takes into account the supply side (provisions) and the demand side (expectations) of China's social insurance system to understand the heterogenous effects. We argue that the coverage of social insurance program and the expectations of social groups for social benefits shape the effects of social insurance enrollment on citizens' assessments of government performance. For urban citizens, enrollment into social insurance programs will not have a positive impact on their assessment of government performance because the provisions fall short of their high expectations. In contrast, social insurance enrollment will consistently improve rural citizens' assessment of government performance because the provisions that dramatically expanded in rural areas in the past decade exceed rural citizens' meager expectations for social benefits. Social insurance enrollment may have no effect on the rural-to-urban migrants' assessment of government performance because migrants' expectations of government-provided benefits are elevated by their urban experiences and legal consciousness as the government attempts to extend some social insurance benefits to migrants in recent years.

This article evaluates the effect of social insurance enrollment on citizens' assessment of local government performance in China using a national survey—the 2010 China Family Panel Study (CFPS). Differentiating China's major social insurance programs into inclusive benefits (pensions and health insurance) and selective benefits (unemployment insurance and the housing provident fund) by coverage, we examine and compare how enrollment into these programs affect citizens' assessment of local government performance. We find that among the four major social insurance programs in China, only pensions can significantly enhance citizens' assessment of government performance. We further divide the CFPS sample into three subsamples—urban, rural and migrant—to explore the heterogeneity of the attitudinal effects of social insurance enrollment. We find that the Chinese Communist Party (henceforth, CCP)'s strategy of expanding social insurance in exchange for public support works only in the rural population. The cross-sample differences suggest that the positive effect of social insurance enrollment on citizens' assessment of government performance is confined to the population with low expectations for government redistribution and to the inclusive programs.

The article contributes to the literature on public opinion in China, social policy effects and distributive politics. First, although numerous studies using Chinese public opinion surveys have examined the relationship between social policies and regime support (measured by trust in or satisfaction with the national government), few have specifically studied social policies' effects at the local level—the locus of social provisions in China. Since most collective actions target the local governments, citizens' views of local governments are a crucial indicator of social stability and state-society tension under the Chinese authoritarian regime. In this article, we examine whether expansion of social insurance enrollment, initiated by the central government but implemented at the local level, has affected citizens' assessment of the local governments' performance. Our study suggests that expanded social insurance enrollment can increase rural citizens' favorable views of Chinese local governments. It adds to the understanding of public opinion and the resilience of the authoritarian regime in China.

Second, in the analysis of the social policy effects, we use PSM to reduce selection bias due to observable factors. As a widely adopted strategy to address the problem of selection bias in survey data, PSM enables identification of the effects of social insurance enrollment on citizen assessment of government performance after accounting for observable pre-existing differences in individual characteristics that might drive differences in views about the government.³ Although the estimates using PSM are not strictly causal and need to be interpreted with caution, they provide a more accurate evaluation of the effects than without matching. Moreover, we demonstrate the heterogenous effects of social policies by comparing different subsamples and social insurance programs in the analysis.

Third, the theoretical framework we provide to explain the heterogenous effects of social policies on population bring together two perspectives commonly found in the empirical research on distributive politics in the developing world. One is a supply-side perspective which holds that politicians choose distributive strategies for electoral purpose so their social policies target different groups with distinct demographic and sociopolitical characteristics (Dixit and Londregan, 1996). For example, to cope with voter defection from 1995 to 1997, then Mexican ruling party, Institutional Revolutionary Party (PRI), replaced particularistic private transfers in social welfare provisions with a means-tested social assistance or conditional cash transfer (CCT) program, which has clear and fixed criteria for eligibility. Scholars of Latin American politics have found that CCT programs (e.g. *Progres*a in Mexico; *Bolsa Escola* in Brazil) increased pro-incumbent voting in presidential elections (Diaz-Cayeros et al., 2016; De La O, 2013; Zucco, 2013). The other perspective in distributive politics research emphasizes the demand-side: social groups hold different preferences for redistribution so they react to politicians' distributive strategy differently. It is found that some groups (e.g. older or urban citizens) have stronger expectations for government-provided welfare (Dickson, 2016; Pop-Eleches and Tucker, 2014, 2017) and some groups are more susceptible to pork-barrel goods than others are (Stokes, 2005; Calvo and Murillo, 2004). Studies of the American welfare state also suggest that people with different experiences or usage of welfare programs have different broader views about the government (Soss, 1999; Mettler, 2011). Combining these two perspectives in our theoretical framework, we provide a comprehensive explanation why the Chinese regime's expanded social insurance enrollment has achieved a mixed success in bolstering public support for government. This theoretical framework may have explanatory power beyond the Chinese case.

The rest of this article unfolds as follow. The next section introduces China's social insurance system and its key features that suggest an association between social insurance enrollment and citizens' assessment of local government performance. Section 3 outlines the theoretical framework and our hypotheses regarding the heterogenous effects of social insurance enrollment in China.

³ A series of recent studies in social science showed that PSM consistently yielded results that are very close to those based on experimental designs, manifesting its rigor in approximating causal effects (e.g., Diaz and Handa, 2006; Dehejia and Wahba, 2002).

Section 4 presents the research design and data to test the theory. Section 5 reports and discusses the analytical results. Section 6 concludes with a discussion of the implications of this study.

2. Background: China's social insurance system

The decades since the late 1990s has witnessed rapid establishment and development of a social welfare system in China (Frazier, 2010; Duckett and Hussain, 2008; Gao et al., 2013). The new system is mostly a social insurance regime consisting of various social insurance programs such as health insurance, pensions, unemployment insurance, and the housing provident fund, supplemented by social assistance for the poor and disadvantaged. Although these social insurance programs were not created at the same time, they share some features in institutional design. First, as opposed to private or commercial insurance, they are supervised and administered by the government with specific bureaus designated to manage each one. Second, the social insurance programs are contribution-based: enrollment is contingent on premium payments by individuals (and employers in the case of unemployment insurance, housing provident fund, and employment-based pensions and health insurance). Unlike the particularistic or clientelistic transfers that are prevalent in many other developing countries, Chinese social insurance programs have fixed criteria for determining eligibility. The difference in enrollment between the Chinese social insurance programs is that unemployment insurance and housing provident fund are employment-based entitlements mainly targeting urban formal employees, while pensions and health insurance are inclusive benefits that dependents, peasants and migrant workers have access to.⁴

Throughout the history of China, provision of social benefits has been considered a major responsibility of the state rather than the private or social sectors. For decades, maintaining social stability has been one of the nationwide priority targets with veto power in the CCP's official evaluation (Edin, 2003; Whiting, 2004).⁵ Recently, provisions of social welfare and public goods have become an increasingly important consideration in official evaluations and promotions (Zuo, 2015). Government officials and agents are heavily involved in regulating, managing and financing social welfare provisions. Hence, it is natural for Chinese citizens to relate social benefits to their assessment of government performance.

During the past decades, China's state structure has undergone decentralization along regional lines, adding both increased authority and incentives for local governments (Liberthal and Oksenberg, 1988). Decentralization is also a crucial feature of China's social welfare provision (Huang, 2015). Most importantly, decentralization assigned many social spending responsibilities to local governments. It is estimated that nearly 70% of total public expenditures in China take place at the sub-national level, as compared to 32% in OECD countries (World Bank, 2002). Within the central government's given framework, local governments must fund the operations of local social welfare agencies (e.g. bureaus of social security, bureaus of public health, and hospitals) with budgeting, staff, office space and other resources. Given the two key features of China's social welfare provision—state dominance and decentralization, we expect that enrollment into the social insurance programs will influence citizens' assessment of local government performance.

3. Theoretical framework

Our theory further predicts that social insurance enrollment will have heterogeneous effects on citizens' views of local governments, driven by provisions (or the supply side) and expectations (or the demand side) of social insurance benefits. On the supply side, the four main social insurance programs in China can be distinguished by coverage: inclusive benefits (pensions, health insurance) that are broad in enrollment; and selective benefits (unemployment benefits and housing funds) that usually require long-term formal employment and thus exclude considerable segments of population (e.g., migrant workers, peasants). On the demand side, we can divide the population into three subgroups based on residency: urban citizens, rural-to-urban migrants, and rural citizens. In terms of expectations for government to provide social benefits, urban citizens have the highest expectations while rural citizens have the lowest with migrants in between. The demand-side and the supply-side differences will jointly shape the predicted effects of social insurance enrollment on citizens' assessment of local government performance.

On the demand side, expectations are a key factor that affects the direction and magnitude of the effects of social insurance enrollment on citizens' assessment of local government performance. As the rational choice perspective in the literature on political support suggests, citizens are in a quasi-exchange relationship with the government: their assessment of government is a function of the benefits that the government provides to them (Riker, 1990). If the provision of benefits falls short of citizens' expectations, their support of government (e.g., satisfaction, support, or trust in government) will drop. As citizens have different expectations or preferences for the quality and quantity of government-provided benefits, given the same benefits, citizens with low expectations will make a higher assessment of government performance than those with high expectations.

Existing empirical studies of redistribution preferences have shown that urban citizens have higher expectations for government redistribution than their rural counterparts (Haggard et al., 2013; Pop-Eleches and Tucker, 2014, 2017). Accordingly, the threshold at which government-provided benefits can change citizens' assessment of government performance is higher for urban citizens than for the rural ones. It implies that the Chinese rural citizens, who not too long ago had minimal welfare coverage but have seen rapid

⁴ From individuals' perspectives, there are not many comparable alternatives of pension, health insurance, unemployment insurance and housing provident funds outside the social insurance system. The social insurance participation is mandatory de facto. In the empirical analysis, we will use individual-level covariates to control for moral hazard problems in the participation.

⁵ "Veto point" here means that the local officials who fail in securing social order in their jurisdictions are likely to fail in promotion no matter how well they perform in other policy areas.

expansions of the inclusive benefits that surpassed their expectations, should report higher assessments of government performance despite still receiving fewer benefits than their urban counterparts.

As for the rural-to-urban migrants, their expectations for government-provided benefits are changing in a less predictable way. On the one hand, urbanization and living in cities alongside their urban peers might raise migrants' expectations for good governance and better social insurance benefits. Moreover, both the 2008 Labor Contract Law and the 2010 Social Insurance Law have been found to increase the migrant workers' consciousness of labor and social rights (Cheng et al., 2015; Gao et al., 2012; Gallagher, 2017). On the other hand, discrimination and welfare policy differences that migrants often experience in social welfare provision due to the anachronous requirement of local *hukou*⁶ for social entitlements under China's current social insurance system might suppress their expectations that the government would provide benefits to them.

On the supply side, China's provisions of social benefits are notably divided between urban and rural areas despite of dramatical expansion in the past decades. In urban areas, the previous socialist work-unit (*danwei*) system, in which social benefits (pensions, health care and housing) were fully provided along with guaranteed employment and free for urbanites, has been replaced by contributory social insurance programs. Under the social insurance system, level of social benefits that urban citizens receive is comparable if not better than before, but individuals must pay in now in order to draw benefits in the future. The difference in provisions between the old and the new social welfare systems might make urban citizens less appreciative of the benefits provided by the social insurance system because they perceive a loss of benefits via the required premium contributions. In rural areas, in contrast, the social insurance system for the inclusive benefits (pensions and health insurance) was established almost from scratch. The recent expansion of the provisions in rural areas is unprecedented in China's contemporary history (Gao et al., 2013). Rural citizens have become eligible for welfare benefits such as pensions that most of them could not imagine before. More importantly, local governments began to subsidize rural citizens' premiums for pension and health insurance in the 2000s, which constitutes a stark contrast to the state's ignorance of social welfare provision in rural areas before.

The rural-to-urban migrant workers remain disadvantaged as a result of the urban-rural divide in China's social insurance system. As migrants with rural *hukou* are still restricted from freely converting to urban *hukou*, they are discriminated against in urban employment and welfare provisions (Lu and Wang, 2013; Gao et al., 2012). Despite holding a rural *hukou*, migrants usually cannot fully enjoy rural welfare benefits either, because the benefits are not completely portable across regions (Shi, 2012). Trapped in the urban-rural divided social insurance system, the gap between what migrants expect to receive from social insurance and what they actually receive might have grown. However, it is also noted that, in urban areas where labor shortage is looming, the local governments have extended various social insurance coverage to migrants (Rickne, 2013; Gallagher et al., 2014).

With supply and demand sides put together, we predict that social insurance enrollment will have a significant and positive impact on rural citizens' assessment of local government performance as the provisions that expanded in rural areas in recent years exceed rural citizens' meager expectations. For urban citizens, enrollment into the social insurance programs might have a negative impact on their assessment of local government performance because the provisions fall short of their high expectations. For rural-to-urban migrants, enrollment into the urban social insurance programs may not have a significant impact on their assessment of government performance because both expectations and provisions of social benefits for migrants might have grown in recent years. Table 1 summarizes the predictions about social insurance enrollment's effects on Chinese citizens' views of local governments according to our theory. The next section describes the design and data for testing these predicted effects of social insurance enrollment.

4. Research design and data

4.1. Analytical model

We use the regression model specified below to estimate the effect of social insurance enrollment on citizens' assessment of government performance.

$$\Pr(Y_{ic} = k) = \Phi \left(\alpha_c + \beta T_i + \sum_1^j \varphi_j Z_i + \varepsilon_i \right)$$

The subscript i indexes each respondent and c indexes the county where respondent i resides. Y_{ic} represents respondent i 's assessment of the local government's performance. Our coefficient of interest is β , which captures the effect of social insurance enrollment on citizen assessment of local government performance; T_i is a binary indicator, $T_i = 1$ means that respondent i is enrolled into a specific social insurance program (i.e., health insurance, pensions, unemployment insurance, or the housing provident fund), otherwise $T_i = 0$. $\sum_1^j Z_i$ refers to a vector of covariates measuring personal characteristics of the respondent, including age, gender, education, marital status, ethnicity, CCP membership, income, social status, household registration (*hukou*), employment status and sector, social dispositions (e.g. optimism and life satisfaction) and use of modern communication and information technologies (e.g.

⁶ A *hukou* is a record in the system of household registration required by law in China. The household registration system was officially promulgated by the Chinese Communist Party in 1958 to control the movement of people between urban and rural areas. Individuals held either agricultural (rural) or non-agricultural (urban) *hukou* based on their hometown and parents' status so people were broadly categorized as a "rural" or "urban" and "local" or "non-local" persons. Nowadays this anachronistic system of household registration has been resulted in tremendous discriminations in public services and welfare provision against rural and non-local *hukou* holders.

Table 1
Summary of theoretical predictions.

	Inclusive Benefits (pension, health insurance)	Selective Benefits (unemployment insurance and housing provident fund)
Urban Residents	Negative effect (-)	Negative effect (-)
Rural-to-Urban Migrants	No effect (null)	No effect (null)
Rural Residents	Positive effect (+)	N/A

Note: the predicted signs of the treatment coefficients are in parentheses.

mobile phone, internet)⁷; φ_j is the coefficient of the j th covariate; α_c is a vector of county dummy variables that capture unobserved county fixed effects; ε_i is the error term.

4.2. Data

This study uses the 2010 China Family Panel Studies (CFPS) data collected by Peking University's Institute of Social Science Survey from nearly 15,000 families and over 40,000 individuals (including children and adults) within these families. The 2010 CFPS data cover 162 counties in 25 provinces and are representative of about 95% of the national population. We use only the adult sample (about 33,600 adults aged 16 or above) for this study, with the individual as the unit of analysis. To better explore the heterogeneous effects of social insurance enrollment, we divide the national sample into three subsamples—urban, rural and migrant—based on respondents' *hukou* and residence area. Specifically, respondents who hold a non-agricultural *hukou* and live in urban areas are included in the urban sample; respondents who hold an agricultural *hukou* and live in rural areas are included in the rural sample; respondents who hold an agricultural *hukou* but live in urban areas are placed in the (rural-to-urban) migrant sample.

We use responses to the following question about respondent's assessment of local government performance as the dependent variable, *assesgov* ($k = 1, 2, 3, 4, \text{ or } 5$). Since the dependent variable, *assesgov*, is an ordered categorical variable, we employ ordered probit regression to estimate the above model.⁸

What's your general evaluation of local (city/county) government performance in the past year?

- 1 Worse than before
- 2 No achievement
- 3 Few achievements
- 4 Some achievements
- 5 Many achievements

Descriptive statistics of the dependent variable indicate that many respondents held an affirmative assessment of local government: 55% thought that their local government had made some achievements in the past year and 12% believed that the local government had made many achievements in the past year; only 11% of respondents expressed that the local government had made no achievement or had been worse in the previous year than in years before.

CFPS 2010 survey lists 17 specific social insurance or welfare programs and asks adult respondents whether they are enrolled into each of them. We grouped various social health insurance programs, including government medical insurance, urban employee health insurance, urban resident health insurance and the new rural corporative medical insurance, into an aggregated treatment category "health insurance"; likewise, we grouped the different pension programs, including urban basic pension and rural pension, into an aggregated treatment category "pensions". For the treatment categories "unemployment insurance" and "housing provident fund", we used the exact programs in the survey question.

Among the four treatment categories, health insurance and pensions were the most popular ones in terms of population coverage. Table 2 shows the population coverage of the four programs in the three subsamples. The coverage of health insurance was quite high in all three samples: rural sample (87.21%), migrant sample (78.93%) and urban sample (74.1%). In contrast, the coverage of pensions was much higher in urban sample (46.29%) than in migrant sample (17.82%) and rural sample (8.46%). Among migrants who are enrolled into pension and health insurance, they are more likely to be enrolled into the rural programs (10.3% of total migrants enrolled into rural pension and 68.23% of total migrants into rural health insurance) than into urban ones (7.52% of total

⁷ Variables *age* and *education* are continuous variables, 1 unit indicates one year (of age or education); *male*, *minority* and *married* are dummy variables, "1" means "being male," "being ethnic minority" and "married" respectively; *party member* refers to the Chinese Communist Party (CCP) membership, "1" means "being a CCP member" and "0" means otherwise; *income* and *social status* are ordered categorical variables indicating subjective self-evaluation of individual income and social status; the range of these variables is from 1 to 5 with 1 being the lowest and 5 being highest; *employed*, *self-employed*, and *retired* are all dummy variables and they do not distinguish in which sectors respondents are or were employed; *state sector* is a dummy variable indicating if the respondent is employed by the state sector; *use new technology* is a dummy variable, indicating if the respondent often uses the Internet or a mobile phone to obtain information; *optimism* and *life satisfaction* are ordered categorical variables with a range from 1 to 5, 1 is lowest and 5 is highest.

⁸ A key assumption of the ordered probit regression is that the effects of explanatory variables are the same across the different thresholds categorizing the dependent variable (Parallel Regression Assumption). Brant test indicates that in 11 of 14 regressions run for this study, the parallel regression assumption holds. The Brant test is pessimistic with large samples (Allison, 1999). In our case, the three regressions that fail the Brant test have the largest sample size (health insurance and pension for national sample: $N = 30,367$ & $26,412$, health insurance for rural sample: $N = 15,580$).

Table 2
Population coverage of social insurance programs by subsample (%).

	Health	Pension	Unemployment Insurance	Housing Provident Fund	N
Urban	74.10	46.29	19.88	20.22	7572
Rural	87.21	8.46	0.47	0.35	13,555
Migrant	78.93	17.82	2.70	2.01	5672
N	22,648	6039	1831	1807	

Notes: Coverage is calculated as the percentage of people who were enrolled into the program in the total population of the specific sample. For example, 74.10% of the urban sample were enrolled into social health insurance.

migrants enrolled into urban pension and 10.7% of total migrants into urban health insurance), indicating the discrimination against migrants in China's urban social insurance. In the data analysis we excluded the migrants who are enrolled into rural insurance programs because the benefits were likely to come from the local government in their hometowns (rural areas) rather than the local government (in the urban areas where they work and live) considered in the dependent variables. In addition, unemployment insurance and the housing provident fund were mainly urban phenomena as few rural people were eligible for or actually enrolled into them (rural coverage < 1%). Due to their small sample sizes, in the data analysis, we do not examine the effects of unemployment insurance or the housing provident fund enrollment in the rural sample.

4.3. Strategy to reduce selection bias: propensity score matching

Who are the typical participants of social insurance in China? We depict their personal characteristics in three aspects: demographic attributes (age, gender, ethnicity, marital status, and region of residency), socioeconomic status (CCP membership, income, family registration status or *hukou*, education, social status, employment status, and information access) and opinions (optimism and life satisfaction). Appendix Table A1 presents the personal characteristics of beneficiaries of the four social insurance programs in each of the subsamples.

In China social insurance program is not randomly assigned to citizens. Individuals who are enrolled into the social insurance programs are often more privileged than those who do not have access to such programs and thus may have higher satisfaction with the local government to begin with. To reduce this selection bias and take advantage of the rich information collected in the CFPS data, we use PSM to identify respondents who are enrolled and who not enrolled into social insurance programs and then conduct parametric statistical analysis in the matched sample. The goal of matching is to construct a plausible counterfactual group who match the treated group (people enrolled into social insurance) on a number of observable personal characteristics that affect their likelihood of being enrolled into social insurance programs. After matching, the regression results are much less sensitive to the modeling choices made at the post-matching analysis stage (Ho et al., 2011).

To create a more comparable control group, we employ the PSM approach, which is considered especially useful when the dimensionality of the observable characteristics is high. The propensity score captures the likelihood of receiving a treatment, estimated by a logistic regression based on a rich set of covariates including age, gender, ethnicity, education, CCP membership, income, social status, employment status and sector, and use of modern communication or information technologies (cell phone and Internet). By including county dummy variables in the regression for calculating the propensity scores, we also take into account the fact that individuals living in different counties might have different chances to be enrolled into social insurance programs due to regional differences in social insurance eligibility and implementation. After matching on the estimated propensity scores, the distribution of covariates should be approximately equal across treated and control groups (Rosenbaum, 1995).

To implement the PSM, we employed the most common and easiest-to-understand method: nearest neighbor matching that chooses the control individuals closest to the treated individuals on propensity score. In its simplest form, 1:1 nearest neighbor matching selects for each treated individual i the control individual with the smallest distance from individual i . According to the 2010 CFPS data, the treated and control groups are quite different in size: for the inclusive programs such as health insurance and pensions, the control group is smaller or not much larger than the treatment group; for the selective programs such as unemployment insurance and housing provident fund, the control group is much larger than the treatment group (see Table 2). In the former case, matching with replacement (that is, each treated individual can be matched to the nearest control individual even if a control individual is matched more than once) is suggested as finding a satisfactory matched control by matching without replacement could be difficult (Dehejia and Wehba, 2002). In the latter case, k :1 nearest neighbor matching without replacement is recommended for its simplicity and good performance (Stuart, 2010). Hence, we use 1:1 nearest matching with replacement for the inclusive-program treatments and 3:1 nearest matching without replacement for the other treatments in order to reduce the number of control individuals to be discarded.⁹

Before implementing the PSM, we conducted multiple imputation of the data to address the potential bias resulting from missing values on the variables.¹⁰ The matching results for each treatment are summarized in Table 3.¹¹ The mean differences between the

⁹ In the migrant sample, the control group (migrants not enrolled into the urban social insurance) is much larger than the treatment group (migrants enrolled into the urban social insurance) for both inclusive and exclusive programs. We thus used 3:1 matching rule for all social insurance programs in the migrant sample.

¹⁰ The imputation was carried out by the *Amelia II*, embedded in the R statistical software package developed by Honaker et al. (2011).

¹¹ The matching is done using the "MatchIt" package (<http://gking.harvard.edu/matchit>) in R.

Table 4
Regression coefficients of social insurance enrollments for national sample after propensity score matching (PSM).

	Health Insurance		Pension		Unemployment Insurance		Housing Provident Fund	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Treatment	0.016 (0.018)	0.003 (0.057)	0.141*** (0.015)	0.111* (0.054)	-0.042 (0.029)	0.103 (0.106)	-0.045 (0.028)	0.001 (0.106)
Age		0.009*** (0.001)		0.006*** (0.001)		0.011*** (0.001)		0.010*** (0.001)
Male		-0.017 (0.013)		0.042*** (0.014)		0.091*** (0.027)		0.056* (0.026)
Married		0.046*** (0.017)		0.014 (0.018)		-0.086** (0.035)		-0.078* (0.035)
Minority		0.249*** (0.022)		0.150*** (0.027)		0.155* (0.066)		0.001 (0.060)
Education		0.006** (0.002)		-0.000 (0.002)		-0.004 (0.004)		-0.004 (0.004)
Party member		0.175*** (0.016)		0.089*** (0.017)		0.068* (0.028)		0.084** (0.026)
Urban hukou		0.003 (0.019)		-0.004 (0.019)		-0.009 (0.033)		-0.025 (0.034)
Living in the city		0.016 (0.015)		0.022 (0.016)		0.057 (0.036)		-0.002 (0.037)
Income		0.045*** (0.007)		-0.005 (0.007)		-0.010 (0.015)		-0.009 (0.015)
Employed		-0.054* (0.021)		-0.002 (0.021)		0.007 (0.037)		0.052 (0.039)
Self-employed		-0.034 (0.027)		0.049 (0.029)		0.116 (0.063)		0.182* (0.073)
Retired		-0.003 (0.028)		-0.031 (0.028)		0.180** (0.068)		0.105* (0.051)
Employed in state sector		0.141*** (0.029)		-0.004 (0.028)		0.026 (0.032)		0.005 (0.033)
Use new technologies		-0.049 (0.028)		-0.092** (0.029)		-0.113** (0.039)		-0.109** (0.051)
Optimism		0.074*** (0.006)		0.071*** (0.007)		0.129*** (0.014)		0.130*** (0.014)
Life satisfaction		0.197*** (0.015)		0.083*** (0.008)		0.096*** (0.016)		0.082*** (0.016)
Treatment * Life Satisfy		0.178** (0.016)		0.007 (0.015)		0.037 (0.030)		0.001 (0.029)
N of Treated	26063	26063	6603	6603	1871	1871	1962	1962
N of Control	4304	4304	19809	19809	5619	5619	5886	5886
Total N	30367	30367	26412	26412	7490	7490	7848	7848
AIC	76252.78	75359.41	65585.87	64845.22	17659.39	17342.22	18529.00	18,163.45

***p < 0.001, **p < 0.01, *p < 0.05.

treated and control individuals show that after matching, these two groups are quite similar across a number of personal characteristics. The percent reduction in the difference in means (or % balance improvement) indicates that the matching has dramatically improved the balance of control and treated individuals on the observed covariates.

5. Results and discussion

Using the matched data, we ran ordered probit regressions for each of the four social insurance programs in the national sample and the relevant subsamples respectively. Table 4 reports the regression coefficients of social insurance programs and individual covariates in the national sample and Table 5 presents the regression coefficients of social insurance programs in the three subsamples. For each combination of social insurance program and sample, we presented results from two model specifications: Model (1) includes the treatment variable only; Model (2) additionally includes the control variables (including demographic and socio-economic characteristics, employment status, information access, and opinions). To make inferences about the size of the treatment effects, we calculate the average treatment effect on the treated (ATT) by simulating the change in the expected value of the outcome variable for the treated individuals when changing the treatment variable from 0 (i.e. not enrolled) to 1 (i.e. being enrolled), while holding constant the control variables.

5.1. Effects of social insurance enrollment by program

According to the coefficients of treatment variables estimated in the national sample (see Table 4), not every social insurance

Table 5

Regression coefficients of social insurance enrollment on citizens' assessment of local government performance for different subsamples after propensity score matching (PSM).

	Health Insurance		Pension		Unemployment Insurance		Housing Provident Fund	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Urban	0.029 (0.033)	0.112 (0.108)	0.032 (0.032)	0.044 (0.110)	-0.111*** (0.032)	-0.021 (0.115)	-0.074* (0.031)	-0.029 (0.114)
N	7289	7289	5373	5373	6152	6152	6516	6516
Rural	0.089** (0.028)	0.198* (0.090)	0.135*** (0.015)	0.278*** (0.047)				
N	15,580	15,580	5440	5440				
Migrant	-0.069 (0.051)	-0.229 (0.181)	0.016 (0.059)	0.069 (0.072)	-0.023 (0.100)	0.291 (0.395)	0.139 (0.114)	-0.233 (0.462)
N	2396	2396	1468	1468	620	620	496	496

***p < 0.001, **p < 0.01, *p < 0.05.

enrollment had a significant impact on citizens' assessment of local government performance. Among the four programs under study, only enrollment into pensions has improved citizens' assessment of local government. This effect was statistically significant with or without controlling for personal characteristics. Based on the ATT results simulated based on Model (2) in Table 4 for the national sample, we find that enrollment into pensions can increase the probability of citizens making the most favorable assessment of local government (“the local government made many achievements last year”) by 13.6% and the probability of making the second favorable assessment (“the local government made some achievements last year”) by 53.4%. Enrollment into the other inclusive program—health insurance—seems to have a positive effect on citizens' assessment of local government performance as well, but this effect didn't reach statistical significance in the national sample. In contrast, the coefficients of enrollment into the selective programs (unemployment insurance and housing provident fund) were insignificant. Overall, results from the national sample suggest an inter-program variation of the social insurance enrollment effect: inclusive programs with broad population coverage, such as pensions, are more likely than the selective programs to have a significant and positive effect on citizens' assessment of local government.

5.2. Effects of social insurance enrollment by social group

We are not only interested in whether social insurance enrollment affected citizens' assessment of local government performance but also interested in how such an effect varied by social groups. Comparing the coefficients of the treatment variables across the three subsamples (see Table 5) we found that social insurance enrollment had significant and positive effects on citizens' assessment of government, but only for the rural population. Enrollment into the inclusive programs such as health insurance and pensions appeared to have a positive effect on urban citizens' assessment of local government performance, while enrollment into the selective programs such as unemployment insurance and housing provident fund appeared to have negative effects on them. However, these effects are not statistically significant when personal characteristics are controlled for. In contrast, enrollment into health insurance and pensions had significant and positive effects on rural citizens' assessment of local government performance. The ATT results simulated based on Model (2) in Table 5 for rural sample show that enrollment into health insurance and pensions can significantly increase the likelihood that rural citizens make the most favorable assessment of local government (“local government made many achievements last year”) by 14.3% and 15.2%, respectively; meanwhile, they significantly increased the likelihood that rural citizens held the second favorable assessment of local government performance (“local government has made some achievements last year”) by 50.6% and 52.3%, respectively. The regression results on migrants pertain to urban social insurance programs only. We found that none of the urban social insurance enrollments had a significant effect on migrants' views of the local government in their living areas.

5.3. Results of personal characteristics

We have found support from the regression results that the effect of social insurance enrollment on citizens' assessment of government performance differs across social groups with distinct *hukou* or residency. In the context of contemporary China, several other social cleavages exist besides the urban-rural divide, such as the public versus private sector divide, and the divide between formal and informal workers are embedded and persistent in social welfare provisions (Zhou, 2004; Huang, 2014; Guo and Ting, 2015). However, in this study we find no evidence that labor market status (e.g., employment status and sectors) had consistently significant effects on people's views of local governments (see Table 4). Instead, certain sociopolitical and demographic characteristics of individuals predominantly influence their views of local governments. Across the social insurance programs under study, we constantly find that elders and CCP members are significantly more likely to hold favorable views of local government, while people with frequent use of Internet and cell-phones are significantly less likely to have favorable views of local governments. Although the matching before regression analysis has taken in part of their effects, these demographic and sociopolitical characteristics of individuals exert considerable impacts on the individuals' assessment of government.

It is also worth noting that people with higher life satisfaction and optimism are more likely to hold a positive view of local

government. Moreover, coefficient of the interaction term between life satisfaction and social insurance enrollment turns out to be positive. If we consider life satisfaction as an indicator of people's expectation or demand for government-provided benefits, an implication consistent with our prediction can be drawn that given the same welfare treatment, people with lower expectation (indicated by higher life satisfaction) would have more favorable assessment of government.

In summary, using the 2010 CFPS national survey data and a PSM method, we demonstrate that social insurance enrollment had heterogeneous effects on citizens' assessment of local government performance in China. Enrollment into health insurance and pensions had positive effects on rural citizens' assessment of local government performance: they significantly increased rural people's favorable assessment of local government. In contrast, enrollment into these inclusive programs or the selective programs (unemployment insurance and housing provident fund) has no positive effects on urban citizens' and migrants' assessment of local government. These findings are consistent with our theoretical prediction that social insurance enrollment will improve citizen assessment of local government, but only for people with low expectation for government.

5.4. Robustness and limitation of the findings

We take several measures to test the robustness of the results reported above. First, we tried different matching rules, such as full matching, in preprocessing the data for regressions. Unlike the nearest-neighbor-matching rule that selects control individuals with the smallest distance and discards the other control individuals, full matching forms groups of individuals who are similar as defined by the propensity score distribution and minimizes the average of the distances between treated and control individuals within each group. Thus, full matching is better in reducing the number of control individuals to discard. These regression results are summarized in Appendix Table A2. Despite the differences in number of observations, the regression results with full matching show patterns very similar to those presented in Table 4.

Second, we used an alternative method to PSM—Coarsened Exact Matching (CEM)—to address the problem of selection bias. CEM conducts exact matching by temporarily coarsening each covariate into substantively meaningful strata and then pruning unmatched observations within any stratum (Iacus et al., 2009). We pre-process the data with CEM and then repeat all ordered probit regression analyses using the data. The regression results from the CEM data, presented in Appendix Table A3, are similar with the main results presented in Table 5, except that the negative effects of unemployment insurance enrollment on citizen assessment of government become significant at the 95% confidence level in the national and urban samples according to the CEM results. Overall, our finding that social insurance enrollment can significantly improve only rural citizens' assessment of local government performance holds with different matching methods.

Third, one might suspect that the aggregation of health insurance programs (or pension programs) might conceal the significant effect of an individual program. To address this concern, we conducted an additional test of the effect of social health insurance, the most complicated and compound social insurance in China, on citizens' assessment of government using individual health insurance programs as the treatment variables: FGMC (free government medical care), UEBMI (urban employee basic medical insurance), URBMI (urban resident basic medical insurance) and NRCMI (new rural cooperative medical insurance). The results are summarized in Appendix Table A4. As with social health insurance as an aggregated category, the effect of specific social health insurance programs on citizens' assessment of government exists for rural population but not for their urban and migrant peers. Specifically, NRCMI has a significant and positive effect on rural citizens' assessment of local government. Migrants, as rural-*hukou* holders working or living in urban areas, may receive health care benefits from urban health insurance programs (e.g. UEBMI and URBMI). But neither of these urban programs has significantly improved migrants' assessments of local government.

In sum, our findings are robust across methods of matching and constructing the treatment variables. Of course, our study has some limitations. First, because information about the localities (e.g. names of counties or cities) where CFPS respondents were enrolled into the social insurance programs are unavailable, we are unable to fully control for local variation such as differences in socioeconomic conditions and social welfare provision that might influence individuals' assessment of local government performance. We use the county-fixed effect in the current analysis to address this issue, but more and better measures could have been taken (e.g. including county-level control variables in the analysis, disaggregating the national sample by level of county economic development or social spending) if the county identities were available. Second, with the CFPS data we have only one measure of public support for government: citizens' satisfaction with government performance and we don't have direct measures of social groups' expectations for government-provided welfare benefits. This limitation disables us to test the findings with different dependent variables and moderating variables. But extant public opinion studies have found that Chinese citizens' trust in government, another commonly used measure of government support in public opinion studies, are highly correlated to satisfaction with government performance (Tang, 2016; Zhong, 2014) and that individuals' life satisfaction is correlated with their preferences for government redistribution (Alesina and Giuliano, 2011; Alesina and La Ferrara, 2005). Third, we do not yet have sufficient panel data to analyze temporal aspects of the effects of social insurance participation on citizen assessment of government. Although we should be cautious when inferring implications from the results using the limited data and measures, our study does provide robust and important findings on which future research can build.

6. Conclusion

Although many studies claim that social welfare benefits are “carrots” that political leaders use to garner public support and maintain social stability, the exact link between social welfare benefits and public support of the government in the non-democratic setting deserves more research, especially at the local level. This article uses the 2010 China Family Panel Study data to investigate

the effects of social insurance enrollment on citizens' assessment of local government performance, an indicator of popular support of the Chinese authoritarian regime. We find that the effects of social insurance enrollment on citizens' assessment of local government performance in China were heterogeneous across programs and social groups. Specifically, enrollment into the inclusive programs such as pensions is more likely than the selective programs such as unemployment insurance to have significant effects on citizens' assessment of government. Moreover, enrollment into the inclusive programs including health insurance and pensions significantly improved citizens' assessment of local government performance among the rural population, but not among the urban population and the rural-to-urban migrants.

The broader implications of this study concern the political legitimacy of the CCP and the prospect of social stability in China. Good governance or government performance is critical for the survival of the CCP because of lacunae of legitimacy within the Chinese political system. To some extent, the public's support of government can be considered an important indicator of state-society relation or the prospect of social stability in China in the same way that public opinion is an indicator of the likelihood of winning an election in democracies. Findings from our study suggest that the Chinese authoritarian regime has achieved mixed success in its attempt to use expansive social insurance policies to maintain popular support. On the one hand, we find evidence that the social insurance enrollment had no effect on urbanites' views of local governments. On the other hand, social insurance enrollment evidently improved rural citizens' views of local governments. Our theoretical framework of demand and supply sides of social welfare helps us conceptualize and understand these mixed results. Future research can further test the mechanism with more data and with greater sophistication.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.ssresearch.2017.11.001>.

References

- Alesina, A., Giuliano, P., 2011. Preferences for redistribution. In: Benhabib, J., Bisin, A., Jackson, M. (Eds.), *The Handbook of Social Economics*. Elsevier Press.
- Alesina, A., La Ferrara, E., 2005. "Preferences for redistribution in the land of opportunities. *J. Public Econ.* 89 (5–6), 897–931.
- Allison, Paul, 1999. Comparing logit and probit coefficients across groups. *Sociol. Methods Res.* 28 (2), 186–208.
- Bernstein, Tomas, Lü, Xiaobo, 2003. *Taxation without Representation in Contemporary Rural China*. Cambridge University Press, New York.
- Calvo, Ernesto, Murillo, Maria Victoria, 2004. Who Delivers? Partisan clients in the Argentine electoral market. *Am. J. Political Sci.* 48 (4), 742–757.
- Cheng, Zhiming, Smyth, Russell, Guo, Fei, 2015. The impact of China's new labor Contract law on socioeconomic outcomes for migrant and urban workers. *Hum. Relat.* 68 (3), 329–352.
- De La, O., Ana, L., 2013. Do conditional cash transfer affect electoral behavior? Evidence from a randomized experiment in Mexico. *Am. J. Political Sci.* 57 (1), 1–14.
- Dehejia, R.H., Wehba, S., 2002. Propensity score matching methods for non-experimental causal studies. *Rev. Econ. Statistics* 84 (1), 151–161.
- Diaz, Juan Jose, Handa, Sudhanshu, 2006. An assessment of propensity score matching as a nonexperimental impact estimator: evidence from Mexico's progressa program. *J. Hum. Resour.* 41 (2), 319–345.
- Diaz-Cayeros, Alberto, Estevez, Federico, Magaloni, Beatriz, 2016. *The Political Logic of Poverty Relief: Electoral Strategies and Social Policy in Mexico*. Cambridge University Press, New York.
- Dickson, Bruce, 2016. *The Dictator's Dilemma: the Chinese Communist Party's Strategy for Survival*. Oxford University Press, New York.
- Dixit, Avinash, Londregan, John, 1996. The determinants of success of special interests in redistributive politics. November. *J. Polit.* 58, 1132–1155.
- Duckett, Jane, Hussain, A., 2008. Tackling unemployment in China: state capacity and governance issues. *Pac. Rev.* 21 (2), 211–229.
- Edin, Maria, 2003. State capacity and local agent control in China: ccp cadre management from a township perspective. *China Q.* 173, 35–52.
- Frazier, Mark, 2010. *Socialist Insecurity: Pensions and the Politics of Uneven Development in China*. Cornell University Press, Ithaca and London.
- Gallagher, Mary, 2017. *Authoritarian Legality in China: Law, Workers, and the State*. Cambridge University Press, New York.
- Gallagher, Mary, Hanson, Jonathan K., 2009. Coalitions, carrots, and sticks: economic inequality and authoritarian states. *PS Political Sci. Polit.* 42 (4), 667–672.
- Gallagher, M. G John, Park, Albert, Wang, Meiyang, 2014. China's 2008 labor Contract law: implementation and implications for China's workers. *Hum. Relat.* 68 (2), 197–235.
- Gandhi, Jennifer, Przeworski, Adam, 2006. Cooperation, cooptation, and rebellion under dictatorships. *Econ. Polit.* 18 (1), 1–26.
- Gao, Qin, Yang, Sui, Li, Shi, 2012. Labor contracts and social insurance participation among migrant workers in China. *China Econ. Rev.* 23 (4), 1195–1205.
- Gao, Qin, Yang, Sui, Li, Shi, 2013. The Chinese welfare state in transition: 1988–2007. *J. Soc. Policy* 42 (4), 743–762.
- Guo, Hua, Ting, Kwok-fai, 2015. Policy feedback in transitional China: the sectoral divide and electoral participation. *Soc. Sci. Res.* 54, 223–245.
- Haggard, Stephan, Kaufman, Robert, 2008. *Development, Democracy, and Welfare States: Latin America, East Asia, and Eastern Europe*. Princeton University Press.
- Haggard, Stephan, Kaufman, Robert, Long, James D., 2013. Income, occupation, and preferences for redistribution in the developing world. *Stud. Comp. Int. Dev.* 48 (2), 113–140.
- Harding, Harry, 1987. *China's Second Revolution: Reform after Mao*. Allen & Unwin, Sydney.
- Harris, Kevan, 2013. A martyrs' welfare state and its contradictions: regime resilience and limits through the lens of social policy in Iran. In: S.Leenders Heydemann, R. (Ed.), *Middle East Authoritarianisms: Governance, Contestation, and Regime Resilience in Syria and Iran*. Stanford University Press, Stanford, CA, pp. 61–80.
- Ho, Daniel E., Imai, Kosuke, King, Gary, Stuart, Elizabeth A., 2011. Matchit: Nonparametric Preprocessing for Parametric Causal Inference.
- Honaker, James, King, Gary, Blackwell, Matthew, 2011. Amelia ii: a program for missing data. *J. Stat. Softw.* 45 (7).
- Huang, Xian, 2014. Expansion of Chinese social health insurance: who gets what, how and when? *J. Contemp. China* 23 (89), 923–951.
- Huang, Xian, 2015. Four worlds of welfare: understanding subnational variation in Chinese social health insurance. *China Q.* 222, 449–474.
- Hurst, William, 2011. Rebuilding the urban Chinese welfare state. *China Perspect.* Number 2011 (2), 35–42.
- Iacus, Stefano, King, Gary, Porro, Giuseppe, 2009. Cem: software for coarsened exact matching. *J. Stat. Softw.* 30 (9), 1–27.
- Levitsky, Steven, Way, Lucan A., 2010. *Competitive Authoritarianism: Hybrid Regimes after the Cold War*. Cambridge University Press, New York.
- Li, Lianjiang, 2004. Political trust in rural China. *Mod. China* 30 (2), 228–258.
- Li, Lianjiang, O'Brien, Kevin, 1996. Villagers and popular resistance in contemporary China. *Mod. China* 22 (1), 28–61.
- Liberthal, Kenneth, Oksenberg, Michel, 1988. *Policy Making in China: Leaders, Structures, and Processes*. Princeton University Press, Princeton.
- Lü, Xiaobo, 2014. Social policy and regime legitimacy: the effects of education reform in China. *Am. Political Sci. Rev.* 108 (2), 423–437.
- Lu, Yao, Wang, Feng, 2013. From general discrimination to segmented inequality: migration and inequality in urban China. *Soc. Sci. Res.* 42 (6), 1443–1456.
- Magaloni, Beatriz, 2008. Credible power-sharing and the longevity of authoritarian rule. *Comp. Polit. Stud.* 41 (4–5), 715–741.
- Manacorda, Marco, Miguel, Edward, Vigorito, Andrea, 2011. Government transfers and political support. *Am. Econ. J. Appl. Econ.* 3 (3), 1–28.
- Mesquita, Bruce, Bueno de, Smith, Alastair, Siverson, Randolph M., Morrow, James D., 2003. *The Logic of Political Survival*. MIT Press, Cambridge, MA.
- Mettler, Suzanne, 2011. *The Submerged State: How Invisible Government Policies Undermine American Democracy*. The University of Chicago, Chicago.

- Michelson, Ethan, 2012. Public goods and state-society relations: an impact study of China's rural stimulus. In: *The Global Recession and China's Political Economy*. Palgrave Macmillan, New York, pp. 131–157.
- Nathan, Andrew J., 2003. Authoritarian resilience. *J. Democr.* 14 (1), 6–17.
- Pop-Eleches, Grigore, Tucker, Joshua A., 2014. Communist socialization and post-communist economic and political attitudes. *Elect. Stud.* 33, 77–89.
- Pop-Eleches, Grigore, Tucker, Joshua A., 2017. *Communism's Shadow: Historical Legacies and Contemporary Political Attitudes*. Princeton University Press, Princeton.
- Rickne, J., 2013. Labor market conditions and social insurance in China. *China Econ. Rev.* 27, 52–68.
- Riker, William H., 1990. Political science and rational choice. *Perspect. Posit. political Econ.* 163–181.
- Rosenbaum, Paul, 1995. *Observational Studies*, Springer Series in Statistics. Springer Verlag, New York, NY.
- Saich, Tony, 2008. *Providing Public Goods in Transitional China*. Palgrave Macmillan, New York.
- Shi, Shih-Jiunn, 2012. Towards inclusive social citizenship? Rethinking China's social security in the trend towards urban-rural harmonisation. *J. Soc. Policy* 41 (4), 789–810.
- Soss, Joe, 1999. Lessons of welfare: policy design, political learning, and political action. *Am. Political Sci. Rev.* 93 (2), 363–380.
- Stokes, Susan C., 2005. Perverse accountability: a formal model of machine politics with evidence from Argentina. *August. Am. Political Sci. Rev.* 99, 315–325.
- Stuart, Elizabeth A., 2010. Matching methods for causal inference: a review and a look forward. *Stat. Sci.* 25 (1), 1–21.
- Tang, 2005. *Wenfang. Public Opinion and Political Change in China*. Stanford University Press, Stanford, CA.
- Tang, 2016. *Wenfang Populist Authoritarianism: Chinese Political Culture and Regime Sustainability*. Oxford University Press, New York.
- Tong, Yanqi, 2011. Morality, benevolence, and responsibility: regime legitimacy in China from past to the present. *J. Chin. Political Sci.* 16, 141–159.
- Whiting, Susan H., 2004. *Power and Wealth in Rural China: the Political Economy of Institutional Change*. Cambridge University Press.
- Wintrobe, Ronald, 1998. *The Political Economy of Dictatorship*. Cambridge University Press, Cambridge, UK.
- World Bank, 2002. *China National Development and Sub-national Finance: a Review of Provincial Expenditures*. The World Bank, Washington, DC.
- Zhao, Dingxin, 2009. The mandate of heaven and performance legitimation in historical and contemporary China. *Am. Behav. Sci.* 53 (3), 416–433.
- Zhong, Yang, 2014. Do Chinese people trust their local government, and why? An empirical study of political trust in urban China. *Problems Post-Communism* 61 (3), 31–44.
- Zhou, Xueguang, 2004. *The State and Life Chances in Urban China: Redistribution and Stratification, 1949–1994*. Cambridge University Press.
- Zhu, Yuchao, 2011. Performance legitimacy and China's political adaptation strategy. *J. Chin. Political Sci.* 16 (2), 123–140.
- Zucco Jr., Cesar, 2013. When payouts pay off: conditional cash transfers and voting behavior in Brazil 2002–10. *Am. J. Political Sci.* 57 (4), 810–822.
- Zuo, Cai, 2015. Promoting city leaders: the structure of political incentives in China. *China Q.* 224, 955–984.