PERFORMANCE FEEDBACK, GOVERNMENT GOAL-SETTING AND ASPIRATION LEVEL ADAPTATION: EVIDENCE FROM CHINESE PROVINCES

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Organizational goals shape performance feedback and have salient influences on strategic behaviours and outcomes. I develop a model of goal-setting by combining performance gap and bureaucratic control theories. I predict that governments set goal levels historically in line with their past goal levels and attainment discrepancies, horizontally targeting the comparable peers' goal levels and performance gaps, and vertically aligning with the upper-tier authorities' mandates. Using the data on annual economic growth of 31 Chinese provinces from 2000 to 2012, the within-between random-effects model substantially supports these hypotheses.

INTRODUCTION

Organizational goals and aspirations are 'desired performance levels in specific organizational outcomes' (Shinkle 2012, p. 416). Organizations as collective units set goals to motivate members, assess performance and seize legitimacy. 'It is the presence of such a goal and the consequent organization of effort so as to maximize the probability of attaining the goal which characterizes modern organizations' (Gross 1969, p. 277). Goals are usually elaborated by private sectors in financial measures such as profit growth and return on assets. Goals are also presented by public sectors in nonfinancial measures such as education coverage and poverty rate.

Organizational goals are crucial components of strategic management, having various direct behavioural consequences as well as profound indirect outcome consequences (Greve 2003). Goals can be elaborated in two ways, 'the dimensions of the goals (what things are viewed as important)' and 'the aspiration level on any particular goal dimension' (Cyert and March 1992, p. 162). The former refers to goal priority or preference, while the latter means goal level or aspirational level, namely 'standards for what level of performance is desired' (Greve 2003, p. 3). '[C]entral to strategic decision making' (Shinkle 2012, p. 415), organizational goal levels and their discrepancies with performance (or performance gaps) are found to influence strategic behaviours in search, risk-taking, innovation, change, learning, and prioritization (Greve 2003).

Organizations set substantially different goals on very different levels. Given the importance of goals in determining various strategic behaviours, it is crucial to examine the processes of goal-setting. Many studies have concentrated on individual-level goal-setting, with scant research on the organizational level (Lant 1992). Few studies have explored how and why organizations set goals (Shinkle 2012), and it was not until recently that scholars examined goal-setting in public organizations (Meier *et al.* 2015). Unlike their private counterparts with clear profit-maximization goals, governments are plagued by multiple and ambiguous goals imposed on them by various stakeholders. Most studies focus on goal ambiguity and its performance consequences (Chun and Rainey 2005), while we know little about the mechanisms of goal-setting.

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In this article, I examine the key factors shaping government goal-setting. Unlike prior studies focusing on goal prioritization (Nielsen 2014; Rutherford and Meier 2015), I focus directly on goal level in a government field. The prioritization of goals is important, but it is the goal level and its discrepancy with performance that matters more in strategic decision-making. This study contributes to the literature by developing an integrated framework to explain goal-setting in the historical, horizontal, and vertical dimensions. I present new evidence on goal-setting in public organizations by replicating and extending previous studies on the private sector (Mezias *et al.* 2002). I also extend existing studies by examining goal-setting in the context of China, which has seldom been investigated in the literature (Su *et al.* 2013). The ubiquitous use of the government target responsibility system (TRS) in China (Gao 2009) makes it an ideal context in which to test various goal-setting theories. Furthermore, the longitudinal dataset on provincial economic growth enables us to estimate the dynamic process of goal-setting.

The remainder of the article is structured as follows. I first introduce the context of this study and specify the key institutional features shaping government goal-setting on the local level in China. I then introduce the theories of organizational goal-setting and propose a battery of hypotheses to be tested in this study. After a brief survey of the data and methods, the key empirical findings are reported. Finally, I discuss the theoretical and policy implications of the results and conclude with consideration of the limitations and future research directions.

ECONOMIC GROWTH AND GOVERNMENT GOAL-SETTING IN CHINA

The target responsibility system and goal-setting in China

Since the founding of the People's Republic of China (PRC) in 1949, China has been governed by one ruling party, the Chinese Communist Party (CCP). The large unitary country with striking regional disparities requires a multi-layered administrative architecture to support its top-down mandate and local policy implementation. The government is composed of five administrative tiers, with the central government (State Council and its ministries) at the top and the four layers of local governments below it, which include provinces (municipalities and autonomous regions), prefectures (prefecture-level cities), counties (districts and county-level cities), and towns (townships and subdistricts). Headed by Party secretaries and chief executives, respectively, Party and government agencies are juxtaposed at each level, with the former superior to the latter.

China is characterized by the seemingly contradictory combination of political centralization and fiscal decentralization. Although China has gradually transformed itself from a centrally planned economic system to a market-based economy over the past three decades since the Reform and Opening up in 1978, its reliance on top-down planning and control has in fact been strengthened rather than weakened (Huang 2002). In China there is no clear political–administrative dichotomy as is commonly observed in Western countries, and the career prospects of all Party cadres and government employees are controlled by their superior Party committees. China's unique cadre management approach makes its administrative system very different from the Weberian model of bureaucracy, in which civil servants are nonpartisan and politically neutral (Rothstein 2015). In the absence of direct democracy and external equivalent job opportunities, government officials are enthusiastic in seeking upward promotion.

On the other hand, the delegation of fiscal autonomy from central to local governments further strengthens the control of the centre over its local agents. Since local governments

are not allowed to adjust their tax base and structure, they compete forcefully for central transfer and tax returns to deal with their fiscal deficits resulting from heavy fiscal expenditure burdens in public service delivery (Wang and Ma 2014). In a nutshell, the combination of personnel and fiscal power enables the central government to effectively motivate and control local governments.

To control and motivate local agents, the central government as the principal adopts an effective management and control system (e.g. TRS) to cascading fiscal and personnel incentives along the hierarchy to local governments (Edin 2003). TRS, or the cadre evaluation system, is pivotal in aligning the incentives of the superiors and their subordinates in China. Working on the basis of a performance contract, local governments are bound to a battery of performance targets jointly set by themselves and their superiors (Gao 2009). Governments at all levels and across all regions set performance goals in various policy arenas (e.g. family planning, economic growth, work safety regulation, and social stability maintenance) and devote their entire energy to achieving these goals. Leading cadres successfully attaining their performance goals are more likely to get promoted and earn more fiscal transfer from their superiors, while those failing to meet key targets are prone to dismissal and other punishments. Understanding the processes of goal-setting is thus essential to unmask the underlying mechanisms of public governance in China.

The high-powered incentive associated with TRS helps to establish a strong goal-oriented culture in the government (Rothstein 2015). Local governments do not just reactively accept tasks from the top, but rather proactively set even higher goal levels to impress their superiors. For instance, the central government sets its expected economic growth rate at between 7 and 8 per cent, but few provinces adopt this target and most provinces usually expect a double-digit increase. It resembles a political tournament, in which centrally appointed bureaucrats with strong career concerns work hard to signal their performance bottom-up to seize scarce promotion opportunities (Chen *et al.* 2005). Government officials mostly have a clear idea of what determines their political destiny, and they try their best to meet these criteria to get promoted. If, for instance, they believe that fast and consistent economic growth will bring them political promotion, then they will endeavour to deliver economic growth. Furthermore, the probability of survival in the tournament is largely shaped by their performance relative to that of comparable peers, e.g. cadres of the same rank or in the same policy domain. The relative performance evaluation inherent in TRS further intensifies competition among local governments, making goal-setting a key perspective from which we can unpack the operational logic of the bureaucracy in China.

The predominance of economic growth goals in the government agenda
Organizations pursue multiple goals. Given the competing attention and resources required to pursue each goal, there is a trade-off in priority allocation and sequential arrangement among multiple goals. Conditional on the performance feedback of different organizational goals, managers may pay attention to them sequentially (Greve 2003). One of the key facets differentiating public and private sectors is the ambiguity and multiplicity of organizational goals. Governments usually face multiple stakeholders and goals, which complicates their decision-making processes and implementation behaviours (Chun and Rainey 2005). Although the process of sole goal-setting is different from the multi-task and multi-goal situation, one key goal is clear and concise to model bureaucrats' incentives (Tirole 1994). Focusing on one specific goal may simplify the process of goal-setting, but it is reasonable to model its adaptation separately (Rutherford and Meier 2015). The model

can be easily generalized by taking into account the situations with multiple goals (Meier *et al.* 2015).

As a development-oriented country experiencing dramatic institutional transition, economic growth is without doubt one of the core tasks facing local governments in China. Economic growth is the dominant indicator in the system of government performance measurement, cadre appraisal and personnel decision-making, and various levels of local government in China target economic growth as one of their crucial policy priorities (Chen *et al.* 2005). Although it is debatable whether and how economic performance affects cadre promotion (Shih *et al.* 2012), there is no doubt that economic growth plays a predominant role in government decision-making. Otherwise, local governments would not risk gambling in reporting the growth rate of gross domestic product (GDP), a key indicator in TRS (Wallace 2014).

Given the decisive consequence of economic growth in TRS, many approaches have been introduced to reorient local governments' over-enthusiastic pursuit of GDP. For instance, many other policy goals (e.g. environmental protection and social development) have been introduced to the performance metrics to dilute GDP's overwhelming weight in TRS (Heilmann and Melton 2013). Budgetary performance, particularly the 'tribute' paid in the form of fiscal extraction to upper-tier authorities, is found to matter in the career advancement of county heads (Guo 2007). It is reported that energy efficiency and air pollution have been incorporated into mayors' promotion criteria, implying that central government presses local officials to divide their attention between economic growth and green development (Zheng *et al.* 2014). These steps put forward by the central government to depress the local governments' impulse for economic growth, however, simply reflect its central and unchallengeable role in shaping cadre incentives. Thus, it is reasonable to focus on the processes of economic growth goal-setting, particularly GDP growth rate.

HYPOTHESES

Organizations rarely accept given goals or natural aspiration levels (i.e. the status quo) (Greve 2003). Instead, organizations continuously adapt their aspiration levels. 'A behavioral theory of the firm', developed by Cyert and March (1992), is fundamental to our theorization of goal-setting. The theory argues that managers with bounded rationality use their prior expectations and experiences to make future decisions. An organization's current aspiration level is a function of three variables, namely 'the organization's previous aspiration level, the organization's previous performance, and the previous performance of other comparable organizations' (Cyert and March 1992, p. 162). Organizations learn from performance feedback, both from their own experience and that of other organizations. Put differently, an aspiration level is primarily formed by three sources: the organization's historical aspiration levels, social aspiration levels, and direct learning from others' aspiration levels (Greve 2003, p. 39).

As Rutherford and Meier (2015) succinctly elaborate, three theories could be used to explain the setting of organizational goals, namely performance gaps, bureaucratic control, and isomorphic rationality. Meier *et al.* (2015) give performance gaps a central place in a Bayesian theory of managerial decision-making, and argue that other theories (e.g. professional norms, isomorphic rationality, and resource dependence) can be incorporated into this parsimonious theory. While the arguments of performance gaps and isomorphic rationality are substantially consistent with that of the above behavioural theory of the

firm, the bureaucratic control proposition is more relevant to government organizations. I integrate the predictions of these theories into a framework to interpret the logic of government goal-setting. I expect governments to adapt their goals in line with historical, horizontal, and vertical dimensions. Goal-setting is a forward-looking act jointly shaped by organizations' reference to historical levels and records, comparable peers' aspirations and performance, and political principals' priorities.

Previous goal as an anchor

Organizations learn from their historical experiences, and a behavioural theory of the firm also suggests that organizations' past aspirations shape their future aspirations (Cyert and March 1992). It is natural and straightforward for managers to use their previous goal levels, which have been established and accepted by organizational members. Organizations are characterized by routine and inertia, and stable structures and routinized practices may help organizations buffer environmental turbulence. Managers as risk-averse actors usually do not risk setting goal levels deviating significantly from organizational routines, which would be regarded by others as bold and abnormal. To gain legitimacy and recognition from other organizational members, managers have a strong propensity to follow past organizational practices.

Organizations' past goal levels work as an anchor by which managers set their current goal levels. The positive correlation between organizations' previous and current aspiration levels has been empirically confirmed in both experimental simulations (Lant 1992) and field studies (Mezias *et al.* 2002). I add organizations' past goals into the framework to explain their future goal-setting, and expect that past goal levels will be positively associated with current ones.

> *Hypothesis 1*: Other things being equal, the government's current goal level is positively related to its past goal level.

Historical comparison and adaptation

The behavioural theory of the firm suggests that organizations' performance relative to their historical aspiration levels is positively related to their future aspiration levels (Mezias *et al.* 2002). When goals are tied to rewards and punishments, managers are keen to take risks (Greve 2003). Prospect theory also predicts that decision-makers will be more risk-taking when they face losses than when they face gains (Kahneman and Tversky 1979). 'Organizations frequently set higher goals for profit and growth, rather than being satisfied with having met previous targets, in order to motivate managers to achieve these goals' (Lant 1992, p. 638). A simulation experiment reveals that both past aspiration and attainment discrepancy are positively associated with future aspiration (Lant 1992).

Government officials may be hubristic in setting seemingly impossible goal levels, but they are also characterized by strong risk-aversion and have a propensity to meet the goal levels they set. The performance of local cadres is largely determined by their historical performance records, i.e. goal attainment or performance relative to predecessors. If organizations achieved goals last year, they will be confident in setting higher goal levels next year. If organizations fail to attain prior goals, in contrast, they may lower goal levels to meet performance expectations. Thus I propose the hypothesis on historical comparison and adaptation.

> *Hypothesis 2*: Other things being equal, the government's current goal level is positively related to its past goal attainment.

Horizontal comparison and peer isomorphism

Organizations not only consider prior goals and attainments themselves, but also take into account the environment and other actors in the community. Organizational goal is not a constant; rather, it is the result of organization–environment interaction (Thompson and McEwen 1958). Thus, organizations both learn from and compete with their peers with similar characteristics (e.g. in the same industry or area, or who hold a similar ideology or identity) (Nielsen 2014).

Organizations use their peers' performance as social aspiration levels in managerial decision-making (Greve 2003). If organizations lag behind their peers and perceive negative performance gaps, they will take risks to catch up (Lant 1992). If organizations perform much better than their peers, they feel much safer and are reluctant to raise their goal levels. There are two types of social comparison, namely competitive and striving. Competitive comparison drives organizations with poor relative performance to radical change while striving comparison induces organizations that are performing relatively well to scale new heights (Labianca *et al.* 2009). In the pyramid of bureaucracy, local governments compete with each other for fiscal transfer, preferential policies (tax deductions, free trade, and other policy autonomy and discretion that help attract investment and resources), and other benefits. It is their performance relative to their peers, rather than their absolute performance, that matters for their career prospects (Chen *et al.* 2005). It is thus predicted that the performance gap between the focal organization and its peers is negatively associated with goal-setting.

Hypothesis 3: Other things being equal, the government's current goal level is negatively related to the gap between its past performance and the average of its comparable peers' past performance.

Organizations may learn from other organizations and directly mimic their aspiration levels (Greve 2003). The theory of institutional isomorphism suggests that organizations follow their peers' strategies and approaches to obtain the legitimacy to survive. When governments expect their peers to increase their performance, they may also react with similar strategies (Meier *et al.* 2015). It is difficult to win in the fierce battle with their peers, and local officials have to impress their superiors quickly and strikingly. Individuals' commitment to difficult goals increases with their need for achievement, and local officials with the ambition to progress will endeavour to do what most benefits their office-seeking targets (i.e. setting relatively higher goals to amplify their relative advantage over competitors). It is expected that organizations will do so if their peers set higher goal levels. Based on the above arguments, I develop the hypothesis pertinent to peer learning effects.

Hypothesis 4: Other things being equal, the government's current goal level is positively related to the average of its comparable peers' current goal levels.

Vertical mandate

In a simple principal–agent model, bureaucracies in political hierarchies are inclined to adhere to the preferences of their political principals and administrative superiors. The theory of bureaucratic control predicts that organizations respond to their stakeholders, particularly their shareholders and political authorities, by aligning their managerial priorities with these external pressures (Rutherford and Meier 2015). Organizations are usually structured in a hierarchy, with managers' decision-making by and large constrained by their superiors' preferences (Meier *et al.* 2015). Managers may even go out of their way to please their superiors to obtain resources and establish prestige among co-workers. Organizations embedded in the hierarchy will largely incorporate their superiors' preferences

into goal-setting. The upper-tier authorities may also promulgate policy priorities to orientate their subordinates at lower levels to deliver their mission.

The impact of bureaucratic control on goal-setting can be applied to all types of organizations, but it is particularly prominent in the context of central–local relations in China. Local cadres vie fiercely for scarce promotion opportunities from the hands of their superiors. A top-down mandate drives local governments to follow up, since their prominence in resource allocation and personnel management are to a large extent decided by their superiors. The literature on central–local relations suggests that we should take central mandates into account (Huang 2002). When central government sets higher goal levels or sends out pertinent policy signals, local governments will keep in step with the mandates and raise their goal levels.

Hypothesis 5: Other things being equal, the government's current goal level is positively related to the upper-tier government's current goal level.

METHODS

Sample and data sources
Panel data from 31 Chinese provincial units between 2000 and 2012 were employed to test the hypotheses. As subnational governments one layer below the central government, the 31 provincial units, consisting of four municipalities (e.g. Beijing), 22 provinces (e.g. Guangdong), and five autonomous regions (e.g. Tibet) (excluding Hong Kong and Macao), are under the immediate command of the State Council.

The data are gleaned from multiple sources. Data on economic growth targets are from annual reports delivered by governors to the delegates of their provincial congress. Data on provincial attributes are derived from the *China Statistical Yearbook*. Data on the demographics of provincial leaders are collected from the *People's Daily* Online.

On 30 April 2015 I interviewed an employee working at the Guangdong Development and Reform Commission to learn about the process of economic growth targeting. Although China has transformed from a centrally planned economic system to a market economy, annual and five-year economic development planning is still central to government operation (Heilmann and Melton 2013). The interviewee has been involved in the formulation of the provincial economic development plan, and the qualitative materials derived from the interview partially support the research designs and hypotheses.

Dependent variable
The dependent variable is the expected economic growth rate set in annual reports. As prescribed by Article 110 of the PRC Constitution, '[l]ocal people's governments at various levels are responsible and report on their work to people's congresses at the corresponding levels'. Governors review government performance over the past year and outline the goals and development plans of the coming year in annual reports, which are usually addressed to provincial congress sessions in January or February. Although the congress is depicted as a 'rubber stamp' without authentic authority to scrutinize the government, its annual session is the de facto political business cycle in China (Nie *et al.* 2013).

The goals promulgated by governors are formal commitments subject to public accountability and political scrutiny. They become statutory missions following approval by the provincial congress, and governors failing to meet them have to give a serious explanation and apologize to the delegates. The goals are usually split into concrete tasks and allocated to subordinate governments, whose performance is gauged by the extent to which they

meet these goals (Gao 2009). These goals are not solely symbolic signals without checks and balances, and they can be considered to be formal government goals.

Independent variables

To test hypothesis 1, a one-year lagged dependent variable, or the dedicated growth goal in the previous year, is used in the analysis. To test hypothesis 2, the actual growth rate in the previous year is subtracted from the expected growth rate in the current year to generate the indicator of attainment discrepancy.

For the focal province, I use the gap between its actual economic growth rate and the mean rate of other provinces in its reference region to test hypothesis 3. It is not straight-forward to set the comparability of social groups, and organizations may choose their reference groups through various criteria (e.g. in the same industry or area, or holding a similar ideology or identity). I use two approaches (geographic proximity and economic approximation) to set provinces' reference groups.

Jurisdictions usually share similar geographic, socioeconomic, and political attributes with adjoining others. In policy diffusion studies, scholars use geographic proximity to group jurisdictions, and expect governments to adopt policies from adjacent jurisdictions. Neighbouring jurisdictions are more comparable than remote ones to the focal one, and are more likely to be included in its reference group. The first social comparison measure is developed by using all other adjoining provinces' mean performance as the anchor point of the focal province.

In terms of economic growth, provinces are inclined to compete with those with equivalent magnitudes of economic aggregate. The second approach narrows the reference group to provinces most similar to the focal province in economic affluence. As the interviewee mentioned, Guangdong does not consider Guangxi (its neighbour that lags behind) in goal-setting, but rather takes account of Jiangsu, Zhejiang, and Shandong who are equal to Guangdong in economic strength. The trichotomy of regions by provincial socioeconomic development is well established and is used by both central and provincial governments to identify and position regional gaps (Wu *et al.* 2013). The 11 provinces on the East Coast are commonly regarded as developed regions, whereas the 12 western inland provinces are relatively less developed. The remaining eight provinces are geographically and socioeconomically in the middle. This regional boundary is used to define each province's comparable peers. For instance, I use the mean GDP growth rate of all other provinces in the eastern region to calculate Guangdong's reference group. As the economic peer measure is more comparable with the focal province, I expect its effect on goal-setting to be larger than the geographic peer measure.

Similar to the construction of peer performance gaps, I also develop two versions of peer goal levels, using either adjoining provinces or those in the same region as the reference group. According to the interviewee, provincial economic growth goals are often publicly released and deliberated in the same season, and provinces can learn of each other's goals from government reports, media releases, or personal sources. Governors can simultaneously adjust their goals, rather than refer to their peers' past goals. Similarly, I expect that the economic peer goal level is more prominent than the geographic peer goal level in explaining goal-setting.

The Party Central Committee and the State Council usually convene the Central Economic Work Conference in December to review the current year's economic situation and project the next year's economic prospects. This closed-door high-profile Conference is attended by all members of the CCP's Politburo Standing Committee, the de facto most

powerful leaders in China. The goals set at this Conference are then incorporated into the Premier's annual report promulgated the following March. As the interviewee said, the Conference sets the tone for national economic development plans, and provincial governments must take concrete steps to carry through the tasks specified in the plans. All provincial governments are expected to follow the central mandates promulgated in the Conference, particularly the future economic prospect with regard to GDP growth and inflation control. The centrally mandated goal is derived from the expected economic growth rate sketched out at this Conference.

I include provincial GDP and population size and governors' and Party secretaries' tenures in office as controls. GDP and population size may influence provinces' future potential for economic growth, and they are one-year lagged and logged. Governors' tenure is calculated as the number of years from the year they were appointed to the year they set the goals. I include Party secretaries' tenure in the model as they may also have a voice. I also include dummies for municipalities and autonomous regions using province as the reference group.

Model specifications

The model is estimated by the following equation:

$$G_{i,t} = \beta_0 + \beta_1 G_{i,t-1} + \beta_2 \left(P_{i,t-1} - G_{i,t-1}\right) + \beta_3 \left(P_{i,t-1} - P_{j,t-1}\right) + \beta_4 G_{j,t} + \beta_5 C_{i,t} + \beta_6 O_{i,t} + \varepsilon_{i,t}$$

$G_{i,t}$ is the goal level of the ith province in the current year (t). $G_{i,t-1}$ is its goal level in the past year ($t-1$). Based on hypothesis 1, we expect β_1 to be positive.

I use the subtraction of $G_{i,t-1}$ from $P_{i,t-1}$, the actual performance of the ith province in the past year ($t-1$), as the measure of attainment discrepancy. Based on hypothesis 2, I expect β_2 to be positive.

I use the subtraction of $P_{j,t-1}$, the mean performance of other provinces (j) in the ith province's region at time $t-1$, from the focal province's past performance ($P_{i,t-1}$) to gauge peer performance gap. Based on hypothesis 3, social comparison, I expect β_3 to be negative.

$G_{j,t}$ is the mean goal level of other provinces (j) in the focal province's region at time t. Based on hypothesis 4, I expect β_4 to be positive.

$C_{i,t}$ refers to the goal level of the central government at time t, similar to the operationalization of $G_{i,t}$. Based on hypothesis 5, I expect β_5 to be positive.

$O_{i,t}$ represents a group of control variables. Lastly, $\varepsilon_{i,t}$ refers to the error terms.

Economic growth goal is a continuous nonzero variable in the study period. As it is a left-censored continuous dependent variable, Tobit model is much more appropriate than ordinal least square (OLS) in model estimation. The estimation results are substantially similar and I report OLS estimates for interpretation simplicity.

Panel data models are more suitable than pooled OLS regressions in estimating the province-year panel data. Both fixed- and random-effects models have pros and cons, but the trade-off between them is also obvious. The fixed-effects model generates relatively stable estimates and can address heterogeneity bias, but it is subject to high variance and time-invariant variables cannot be estimated. The random-effects model, in contrast, is relatively efficient but may involve estimate bias. The Hausman test may generate misleading conclusions in choosing either model. Recent studies suggest that fixed- and random-effects can be unified or mixed to produce both within- and between-cluster effects, which have often been confounded in either model.

Government goal-setting behaviours vary both across 31 provinces (between-cluster) and over 13 years (within-cluster) in this study, and I use the 'unified' approach (Bartels 2015) or the 'within-between' random-effects model (Bell and Jones 2015) to simultaneously estimate within- and between-cluster effects. The basic idea is to include between- and within-cluster transformed independent variables, the cluster-specific means and the deviations from them, respectively, in a random-effects model. For time-varying variables, both within- and between-cluster effects are estimated. For time-constant variables, only between-cluster effects are generated. For time-varying but cluster-constant variables, only within-cluster effects are produced. One advantage of this modelling strategy is that we can test whether cross-sectional (between-province) and longitudinal (within-province) effects of independent variables are statistically equivalent. I report robust standard errors clustered by province to address serial correlation concerns (Angrist and Pischke 2009).

RESULTS

Descriptive statistics

The histogram and normal distribution of provincial economic growth goals is demonstrated in figure 1. Provinces set goal levels by integers or halves (e.g. 8.5 per cent), which are simple enough to be understood and interpreted by the public. This simple goal-setting pattern substantially reduces its scope, helping provinces to discern each other's goal levels. In all, 30.26 per cent of provinces aimed to grow their economies by 10 per cent, followed by 23.16 and 11.58 per cent targeting 9 and 11 per cent, respectively.

Figure 2 illustrates the variation of goals over years, which suggests that provinces vary markedly in goal levels. Some provinces set the goal as high as 15 per cent (e.g. Inner Mongolia in 2006), while others targeted it as low as 7 per cent (e.g. Sichuan and Shanxi in 2000). The majority had a target higher than the national goal, which was relatively stable and only changed in 2005 and 2012. The goal levels set by each province changed elastically across years (e.g. Chongqing). The large within- and between-province variations suggest that it is an ideal context in which to test the hypotheses.

If we subtract past goal levels from current ones, we find that provinces seldom adjust goal levels (see figure 3). A positive value refers to the increment of current goal levels from previous ones, while a negative value means the reduction of goal levels. Provinces slightly adjusted goal levels to avoid unexpected discontinuities in economic operations. About 52.17 per cent of the provinces directly used past goal levels as current ones and did not change goal levels.

The variations in attainment discrepancy (actual growth rate minus expected one) are demonstrated in figure 4. Positive values mean successful achievement of goals, while negative values denote failures. The mean performance gap is positive, suggesting that governors can by and large achieve the goals they have committed to.

There are also interesting variations in the expected and actual economic growth rates for each province over time (see figure 5). The deviations of actual from expected growth rates are relatively small in most provinces and years, although some provinces (e.g. Shanxi and Shaanxi) have witnessed large deviations and failed to meet goals during the global economic recession (2008–10).

The descriptive statistics of and correlations among the key variables are reported in table 1. All but GDP, municipality dummy, and Party secretary's tenure are significantly correlated with the dependent variable at the level of 0.05.
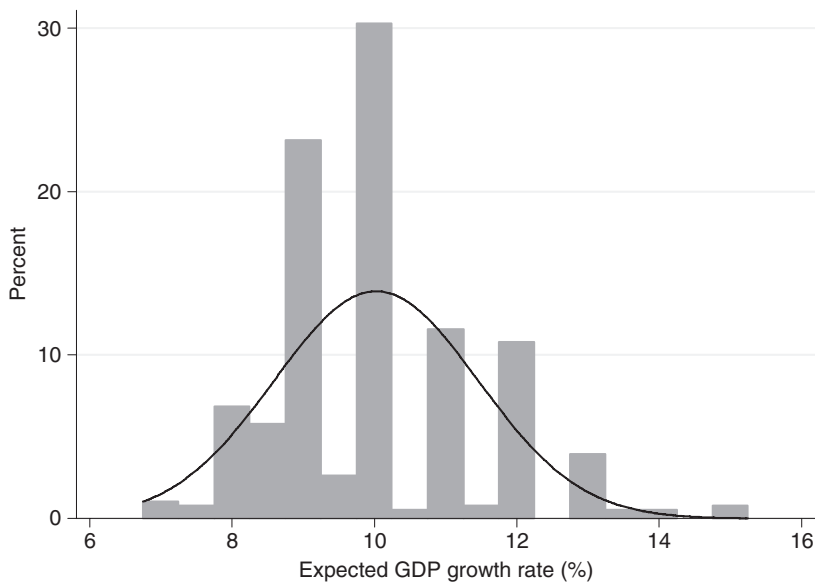
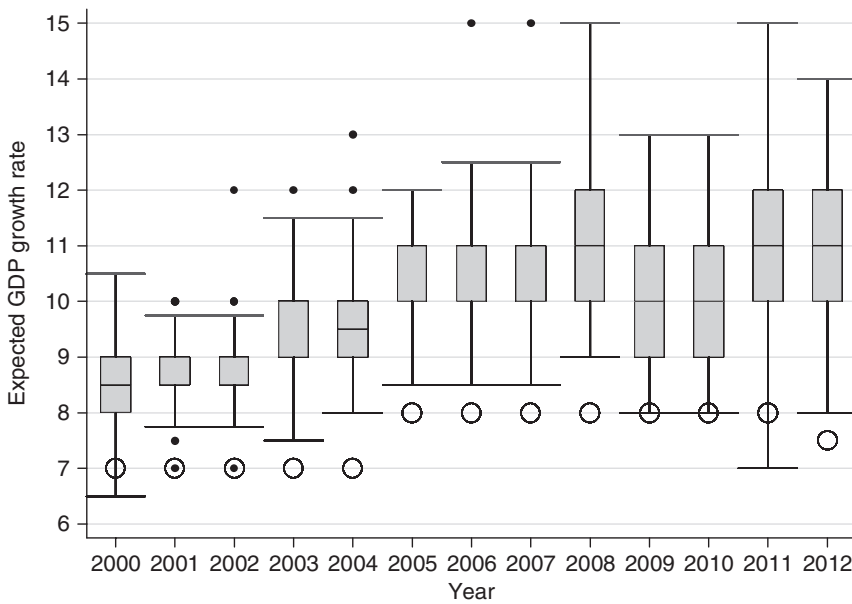FIGURE 1 *The histogram of economic growth goals with normal curve*

FIGURE 2 *The variation of provincial economic growth goals across years*
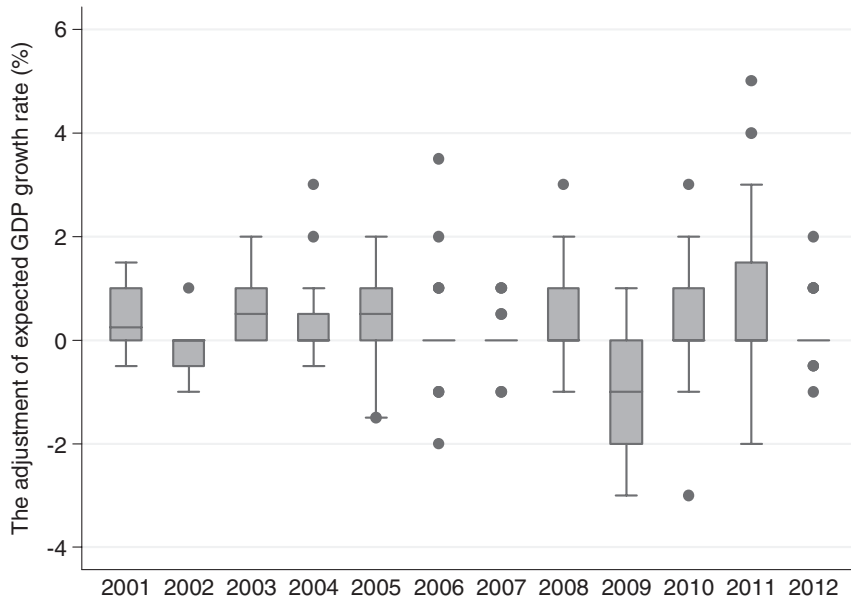*Note*: The central government's economic growth goal is denoted by hollow circle.

FIGURE 3 *The yearly adjustment of provincial economic growth goals*
Note: We calculate yearly adjustment of goals by subtracting previous goals from current goals. The data in 2000 are missing because we do not have the data on goals in 1999.
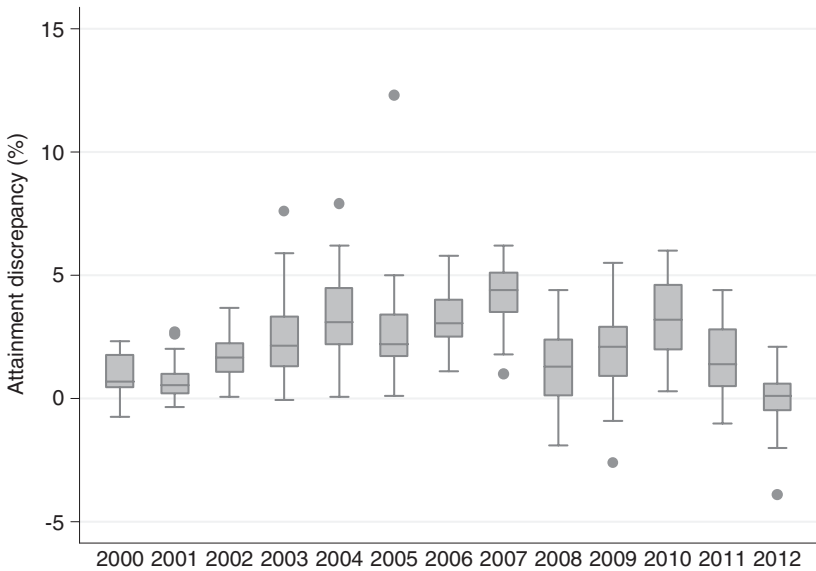

FIGURE 4 *The attainment discrepancy of provincial economic growth*
Note: Attainment discrepancy refers to the subtraction of expected growth rate from the actual growth rate in the same year.
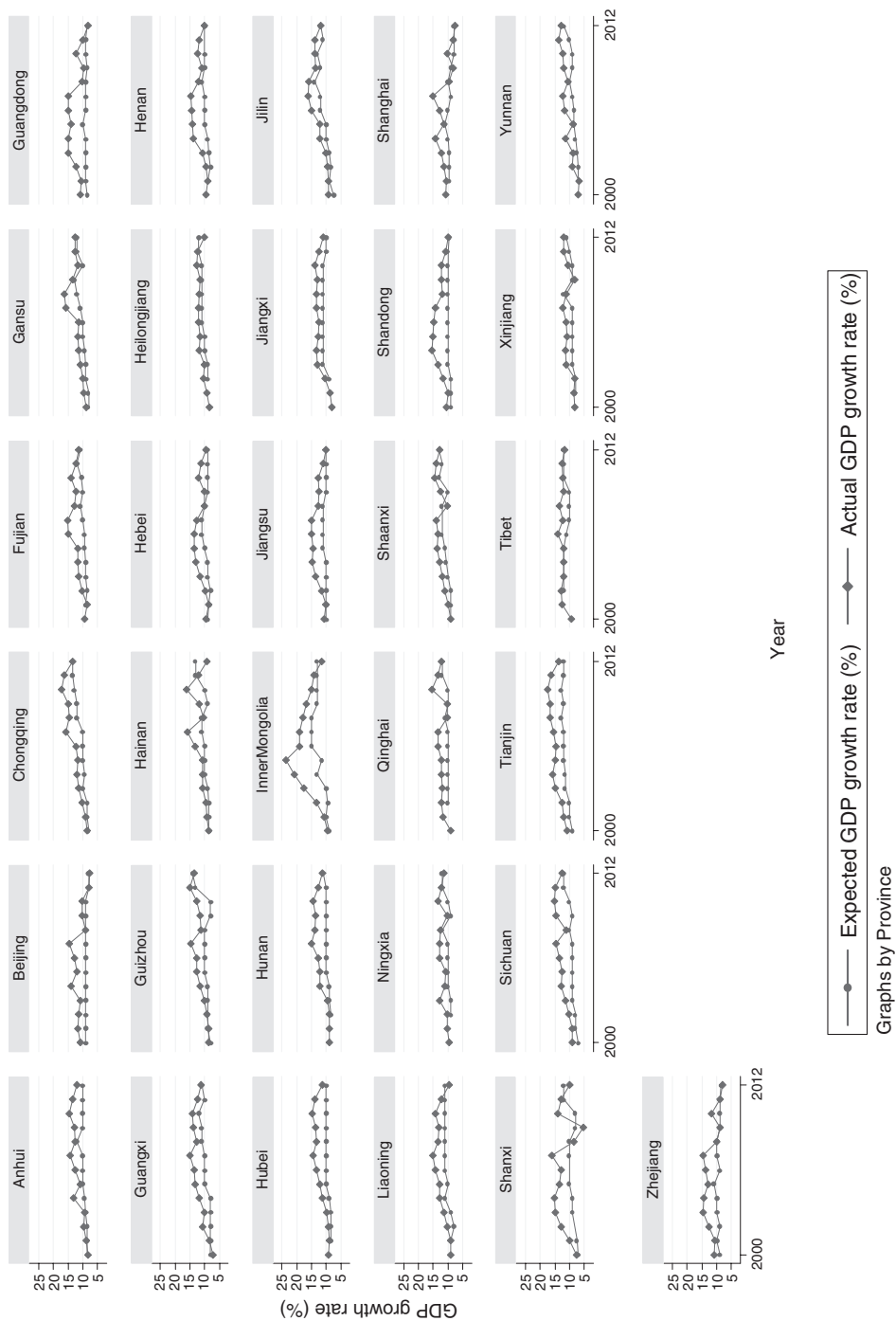
FIGURE 5 *The annual expected and actual GDP growth rates by province*

TABLE 1 *Descriptive statistics and correlation matrix of key variables*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Goal level	10.024	1.435	1												
2 Past goal level	9.931	1.382	0.77*	1											
3 Attainment discrepancy	2.339	1.772	0.38*	0.10	1										
4 Geographic comparison	1.840	2.209	0.61*	0.53*	0.76*	1									
5 Economic comparison	0.000	1.688	0.54*	0.50*	0.63*	0.80*	1								
6 Geographic goal level	10.006	1.189	0.45*	0.33*	0.20*	0.01	−0.06	1							
7 Economic goal level	9.940	0.968	0.63*	0.50*	0.33*	0.35*	0.00	0.76*	1						
8 Central goal level	7.577	0.475	0.42*	0.42*	0.32*	0.36*	0.00	0.57*	0.69*	1					
9 GDP	6073.431	5984.098	−0.04	0.01	0.15*	0.13*	0.02	0.17*	0.17*	0.28*	1				
10 Population size	4,197,811	2,672,613	−0.24*	−0.23*	0.15*	0	−0.02	−0.03	−0.04	0.02	0.68*	1			
11 Municipality	0.129	0.336	0.02	0.04	0.05	0.12*	0.08	−0.07	−0.02	0.00	−0.07	−0.33*	1		
12 Autonomous region	0.161	0.368	0.17*	0.17*	−0.02	0.06	0.09	0.02	0.09	0.00	−0.28*	−0.36*	−0.17*	1	
13 Governor's tenure	2.499	2.040	−0.12*	−0.11*	−0.05	−0.07	−0.04	−0.02	−0.05	0.03	0.09	0.04	0.06	0.15*	1
14 Secretary's tenure	2.521	2.380	−0.01	−0.01	−0.02	−0.01	−0.03	0.02	0.03	0.07	−0.13*	−0.18*	0.10*	0.27*	0.13*

*$p < 0.05$

Regression analyses

The two social comparison measures and two peer goal levels are highly interrelated, and I separately estimate geographic and economic peer effects to mitigate the threat of multicollinearity (see tables 2 and 3). The within- and between-province effects are simultaneously estimated but are reported separately in the first two columns in each model, and their differences are compared in the third column. The model well explains provincial variations in goal-setting, as revealed by Wald χ^2 and R^2.

I expect a province's past goal level to be positively related to its current one, and the results support the hypothesis (hypothesis 1). The coefficient for past goal level is significant in both columns, but the effect is stronger between provinces than within provinces. For instance in model 1, the within-effect is 0.879, while the corresponding between-effect is 1.100. The difference between them is 0.221 and is significant at the level of 0.01. The within-effect suggests that, all other things being equal, on average a one-point increment in a province's previous goal level will raise the current one by 0.879 percentage point. The between-effect reveals that, other things being equal, a province with a higher than average goal last year will have a higher than average goal this year.

The attainment discrepancy hypothesis (hypothesis 2) is also well supported by the evidence, as the gap between the past year's performance and goal level is positively and significantly associated with the current year's goal-setting. The positive effect of attainment discrepancy is primarily derived from the within-effect, which is significantly larger than the between-effect in all but model 3. The effect of attainment

TABLE 2 *Within-between random-effects model estimates (geographic peer)*

Variables	Model 1			Model 2		
	W-E	B-E	B-W	W-E	B-E	B-W
Past goal level (H1)	0.879***	1.100***	0.221***	0.547***	1.019***	0.472***
	(0.063)	(0.048)	(0.068)	(0.057)	(0.034)	(0.067)
Attainment discrepancy (H2)	0.585***	0.191***	−0.394***	0.254***	0.102***	−0.151***
	(0.072)	(0.062)	(0.060)	(0.025)	(0.034)	(0.039)
Geographic comparison (H3)	−0.332***	−0.062*	0.270***			
	(0.071)	(0.036)	(0.061)			
Geographic goal level (H4)				0.344***	0.015	−0.330***
				(0.072)	(0.036)	(0.066)
Central goal level (H5)	−0.260***			−0.282***		
	(0.099)			(0.098)		
GDP (log)	−0.021	−0.327***	−0.305	−0.027	−0.302***	−0.275
	(0.182)	(0.055)	(0.188)	(0.181)	(0.042)	(0.178)
Population (log)	0.563	0.280***	−0.284	0.600	0.265***	−0.335
	(0.884)	(0.079)	(0.904)	(0.882)	(0.068)	(0.892)
Municipality		0.054			0.089	
		(0.113)			(0.100)	
Autonomous region		−0.143			−0.140	
		(0.096)			(0.088)	
Governor's tenure	−0.020	−0.021	−0.001	−0.019	−0.015	0.004
	(0.022)	(0.027)	(0.033)	(0.022)	(0.022)	(0.030)
Secretary's tenure	−0.010	0.021	0.031	−0.009	0.019	0.028
	(0.019)	(0.025)	(0.033)	(0.019)	(0.020)	(0.030)
Constant	−0.582 (0.750)			−0.066 (0.734)		
Wald χ^2	11546***			10779***		
R^2	0.771			0.772		

Notes: Observations: Total: 345 (N = 31, T(avg.) = 11.1). The models are estimated by random-effects generalized least squares (GLS) regressions. The within-province effects (W-E) and between-province effects (B-E) are simultaneously produced, and B-W refers to their differences. Robust standard errors clustered at provincial level are in parentheses.
***p < 0.01, **p < 0.05, *p < 0.10.

discrepancy is much lower than that of previous goal level, which turns out to be a predominant anchor in government goal-setting. The coefficient for attainment discrepancy is stronger within the same province than between provinces, which is just the opposite of that of previous goal level. In sum, the two hypotheses pertaining to historical comparison and adaptation are well supported in the analyses. The 'within-between' model specification also generates nuanced differences between the two variables.

The two hypotheses about horizontal comparison and peer isomorphism also both receive good support. In line with hypothesis 3, a province will lower its goal level when it outperforms its peers' average performance. The results are confirmed by both geographic peer and economic peer approaches. The within-effect of the geographic peer measure is relatively stronger than that of the economic peer measure, and the possible reason is the threat of multicollinearity.

Hypothesis 4 predicts that provinces will mimic their peers' goal levels in goal-setting, and it is also supported by the evidence using both geographic peer and economic peer approaches. In line with this hypothesis, the economic peer measure is more prominent in predicting government goal-setting than the geographic peer measure. Interestingly,

TABLE 3 *Within-between random-effects model estimates (economic peer)*

Variables	Model 3			Model 4		
	W-E	B-E	B-W	W-E	B-E	B-W
Past goal level (H1)	0.687***	1.152***	0.465***	0.489***	1.029***	0.540***
	(0.060)	(0.175)	(0.162)	(0.058)	(0.037)	(0.073)
Attainment discrepancy (H2)	0.355***	0.213	−0.142	0.222***	0.076**	−0.146***
	(0.052)	(0.166)	(0.163)	(0.027)	(0.033)	(0.033)
Economic comparison (H3)	−0.098*	−0.135	−0.038			
	(0.059)	(0.176)	(0.178)			
Economic goal level (H4)				0.585***	0.269	−0.316
				(0.091)	(0.380)	(0.373)
Central goal level (H5)	−0.266**			−0.328***		
	(0.125)			(0.096)		
GDP (log)	0.103	−0.311***	−0.414*	−0.184	−0.195*	−0.011
	(0.211)	(0.054)	(0.213)	(0.149)	(0.108)	(0.195)
Population (log)	0.327	0.276***	−0.051	0.398	0.178	−0.220
	(1.108)	(0.080)	(1.093)	(0.797)	(0.114)	(0.796)
Municipality		0.066			0.042	
		(0.104)			(0.106)	
Autonomous region		−0.106			−0.198*	
		(0.095)			(0.110)	
Governor's tenure	−0.017	−0.020	−0.003	−0.009	−0.014	−0.004
	(0.021)	(0.023)	(0.031)	(0.021)	(0.022)	(0.031)
Secretary's tenure	−0.015	0.020	0.035	−0.003	0.026	0.029
	(0.018)	(0.025)	(0.033)	(0.016)	(0.020)	(0.027)
Constant	−1.448 (2.290)			−2.843 (3.928)		
Wald χ^2	7931***			8450***		
R^2	0.750			0.788		

Notes: See notes to table 2.

the within-province effects of both social comparison and peer goal level are significantly larger than their between-province effects in all but model 3.

The hypothesis on the vertical mandate (hypothesis 5) is not supported. Contrary to this hypothesis, the findings suggest that an increment in central government goal level is associated with a significant decrement of provincial targets. In other words, the central goal level is not accepted by provincial governments, particularly when central government wanted to control the overheated economy in the study period.

The results of the controls show that GDP is negatively associated with goal-setting, while the coefficient for population size turns out to be positive. The effects of tenures in office and provincial dummies are insignificant except in model 4.

DISCUSSION

In this article I argue that goal-setting is a function of historical goal level and attainment discrepancy, horizontal competition and peer isomorphism, and vertical mandate. I draw on panel data from Chinese provinces to empirically test these hypotheses, and the framework is by and large supported. In line with the hypotheses, I find that prior goal level (hypothesis 1), attainment discrepancy (hypothesis 2), and peers' goal level (hypothesis 4) are positively related to goal-setting, while performance gap with peers (hypothesis 3) is

negatively related to goal-setting. In contrast to the hypothesis (hypothesis 5), the central government's goal level is negatively associated with provincial goal-setting.

These findings replicate and extend the results of prior studies on similar topics but in different contexts, organizations, and policies. A survey of US university principals reveals that perceived governing boards' prioritization of goals is highly related to goal priorities, while performance gaps matter little (Rutherford and Meier 2015). A survey of Danish schools reveals that principals use their performance relative to historical and social aspirations to prioritize their goals (Nielsen 2014). Evidence from UK hospitals suggests that innovative search follows the behavioural model, in that public managers use performance feedback information to adjust organizational behaviours (Salge 2011). The present study joins this emerging stream of studies to model the process of goal-setting in the context of public organizations, and reconfirms the importance of various dimensions of performance gap and bureaucratic control in goal-setting.

The findings reveal that performance gaps with regard to historical and social aspirations indeed matter for goal-setting, which is in line with studies in other contexts (Mezias *et al.* 2002; Nielsen 2014). The results suggest that the performance gap is pivotal in shaping managerial priorities, and it helps to theorize public organizational decision-making behaviours (Meier *et al.* 2015). The insignificant effect of performance gaps in goal prioritization perceptions revealed in a recent study (Rutherford and Meier 2015) may be partially attributed to the fact that the performance measures used in the analysis are not exactly congruous with the goals perceived by university principals. Combined with other pertinent theories, the performance gap propositions can well explain the variations in organizational practices and managerial behaviours.

I expected that the superiors in the hierarchy would play a crucial role in compelling their subordinates to accept their preferences in goal-setting, but the results suggest otherwise. The slow-changing and uniform central mandate measure used in this study, together with economic turbulence during the global financial crisis in the study period, may be possible reasons, but the results may also be attributed to the dynamics of central–local relations in China. In the pyramid of bureaucracy, local governments are hypothesized to respond actively to central mandates. Strong provinces, however, can bargain with central government in policy making and implementation. The literature on central–local relations reveals that local governments' behaviours usually deviate from the central mandates. The one-size-fits-all goals advocated by the central government may not match many provinces' dedicated goals. Especially in the field of macroeconomic regulation and control, national inflation and investment policies are often at odds with local governments' impulse to pursue high-speed growth (Huang 2002).

Contributions and implications

Research on the performance gap and goal-setting in public organizations is still in its infancy, and this article adds to the literature by developing an integrated framework and reporting on an empirical study on government goal-setting in China. The theories on performance gap and bureaucratic control are integrated into a coherent framework to explain goal-setting (Meier *et al.* 2015; Rutherford and Meier 2015), which can be generalized to explain similar phenomena in other contexts. The integrated framework helps compare and synthesize research findings embedded in different contexts to generate a more inclusive theory to explain bureaucratic goal-setting.

To the best of my knowledge, this is one of the first studies to empirically model goal-setting in the public organization. The findings also enrich the literature by adding new empirical results from China. Public organizations, particularly governments at various levels (e.g. federal/central, state/province, and local agencies), often articulate missions and set goals in an implicit and vague manner, which may impede research into goal-setting. The explicit and precise goal-setting institutionalized and embedded in the top-down accountability regime in China, however, provides an ideal context in which to probe the logic and rationale of goal-setting. The rather different context also helps to test, modify, and enrich public organizational theories developed in Western democracies, as illuminated in a preliminary manner in this article.

Goal-setting is not arbitrary or irrational, and these results help to explain why local governments set very different goals. The model developed in this article can be used to interpret and predict government goal-setting, which is usually debated heatedly albeit misconceived by the public. Local governments can also use this model to project their own goals and those of their peers in strategic planning. The performance feedback on local governments in China, however, is not always good news. Local governments are keen to catch up with and outperform their peers. Although such momentum has been vital to the two-digit economic growth over the past three decades, it may also generate unintended consequences. For instance, local governments may sacrifice the ecological environment and human rights to boost short-term economic growth (Zheng *et al.* 2014).

Local governments are enthusiastic in responding to central mandates, but their eagerness may sometimes turn out to have tragic consequences. The cascading of performance goals in the five-tier system means that every level below may radically exceed their superiors' goals, which partially explains the origin of the disastrous famine in the Great Leap Forward (1959–61) (Kung and Chen 2011). The pervasive target regimes also elicit gaming (Bevan and Hood 2006), data manipulation (Wallace 2014), and other behavioural distortions (Li 2015). The findings of this study suggest that public managers should pay attention to overheating in goal-setting, which may be harmful to healthy and sustainable bureaucratic operation.

Limitations and future research avenues

Goal-setting is pivotal in organizational decision-making and strategic planning, and it is surprising that little attention has been devoted to its understanding and interpretation. This study adds to the budding literature on the performance gap and goal-setting, notwithstanding its limitations. First, this analysis of Chinese provinces may help to compare the findings with those from other countries, but its unique political and socioeconomic contexts also hinder the generalization of these findings to other contexts (Su *et al.* 2013). The lack of effective democratic instruments (e.g. competitive elections, a free media, and legislative scrutiny) in China, for instance, may depress the roles of other external stakeholders (e.g. the media, nonprofit organizations, and the general public) in government goal-setting, which should be included in research rooted in democracies. China is characterized by high capacity and excessive discretion, and its momentum for economic growth may be rather different from other countries with distinct capacity and autonomy, the two dimensions of the quality of governance (Fukuyama 2013). The unitary top-down regime requires lower-level governments to adhere firmly to their superiors' priorities, but the strong vertical mandate may not hold in other countries. Future studies can replicate and extend our study in other contexts, as well as in other organizations and policy domains.

Second, future studies could test these hypotheses at lower levels of government in China, in which economic performance may play a more profound role in cadre promotion. The promotion of provincial leaders is a rather complicated and politicized process, in which loyalty often matters more than competence (Shih *et al.* 2012). Due to much stronger economic competition among jurisdictions at lower levels, I expect that the effects of the hypothesized variables scrutinized in this study will be reconfirmed and even amplified. The variations in upper-level goals across prefectures and counties may also help to retest the hypothesis on the central mandate, which is sluggish and underestimated in this study. The larger sample size and wider variations at lower levels would help to test these hypotheses more rigorously.

Furthermore, the performance gap can be elaborated on in various forms (Meier *et al.* 2015), and I would encourage future research to model its impact in a more sophisticated manner. With the caveat that performance gaps may be simplified in this study, they can be easily generalized to take account of more complicated situations in future studies. I model peer effects using the two straightforward approaches documented in the literature, and the differentiated weighting methods may help more accurately simulate them in goal-setting (Greve 2003).

Lastly, it would be helpful to simultaneously model multiple goals in a single framework, which would deepen our understanding of goal-setting. Organizations pay attention to different goals, and they may independently, sequentially, or interactively affect managerial decision-making (Greve 2003). Goal-setting is a bargaining process among multiple players with competing interests and values in the hierarchy of bureaucracy with hidden information and actions (Miller 1992), which could be examined by using game theory in future studies. Apart from the configuration of goal levels, organizations also vary significantly in the choice of goals (e.g. a trade-off between different goals), goal prioritization (e.g. stressing some goals while overlooking others), the elaboration of goals (e.g. illustrated in a quantitative/precise or a qualitative/vague manner), and other goal-related behaviours (e.g. goal ambiguity, goal conflict, and goal replacement). Future research could probe these interesting questions to advance this flourishing field.

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