

Prudent Adventure: how does political status affect local government innovations?

YUHAO WANG *Harvard University*

What are the concerns and motivations behind policy innovations? Theories claim that local policymakers carry out policy innovations mainly because of economic reasons or other internal concerns but seldomly notice the political structure they face. This study constructs a unique dataset of Chinese local government innovations during 2001-2016 and categorizes them with Natural Language Processing (NLP) techniques. We then examine how economic factors affect policy innovations and how political status brings better explanations. In a centralized authoritarian state like China, local politicians concern political resources and risks more than economic development. We argue that local officials can take the adventure to make institutional rearrangements when enabled but ultimately have to be prudent when closely bonded with the center.

INTRODUCTION

Given the incremental nature of most actions by governments, those non-incremental governmental innovations deserve, and indeed draw, substantial attention from both public policy scholars and policy-makers. As Berry & Berry noted, "one cannot claim to understand policymaking unless one can explain the process through which governments adopt new programs" (Berry and Berry, 2018). Extensive studies in this field focus on either the internal determinants or the diffusion of the American state policy innovations ever since Walker's seminal study (Walker, 1969). This current coincided with the New Public Management (NPM) movement whose influence exceeded academia but impacted worldwide governments (Kamarck, 2003). Several national programs highlighting policy innovations emerged, including the Innovations in American

Yuhao Wang is a MA Candidate, Regional Studies East Asia, Harvard University, 02138 MA. (yuhaowang@fas.harvard.edu)

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Government Award led by Harvard Kennedy School and the Innovations and Excellence in Chinese Local Governance (IECLG) in China.

This research follows the previous scholarship on policy innovations, especially those concerning how the subnational political entities' political, economic, and social characteristics cause them to adopt new programs or policies. However, this study differentiates itself from previous ones in at least three ways. First, it focuses on Chinese provinces rather than U.S. states with building an original IECLG dataset. Second, this study understands innovations more like inventions. That is, it does care how original policy ideas are conceived, rather than the adoption of new programs that numerous other jurisdictions might establish many years ago. And finally, although this study inclines to adapt a determinants model (compared to diffusion models), the critical factor here is central-local government relations rather than internal characters. As will be articulated later, these different perspectives are necessary and make this study a complement to the extensive inquiry into policy innovations.

Studying policy innovations in China at the subnational level has greater implications for general government theories and policy innovations in political science and studies on Chinese politics. In the former sense, although literature in this field is abundant and vibrant, the vast majority of subnational level analysis seems to be conducted simply with data from U.S. states, while others are often international studies (Graham, Shipan, and Volden, 2013). The beginning of the twenty-first century saw many nation states' engagement in serious efforts to reform their governments and inject a culture of innovation into their government's bureaucracies, most of which are yet to be investigated by political scientists with state-of-the-art quantitative techniques. Studies on Chinese policy innovations are still sporadic and nonquantitative, especially in English literature (Zhu, 2013; Teets, 2015; Foster, 2016).

In addition, policy innovations of the local governments could be even more indispensable for understanding Chinese political reform. The top-down design of the central party-state, especially the paramount leaders such as Deng Xiaoping, plays a decisive role in the general progress of political reform in China. Nevertheless, since the beginning of Reform and Opening Up in 1978, local governments often act as initiators and testing grounds for reforms and innovations. Given the gradualist and experimental characters of Chinese Reforms, the local governments brought most

reforms and innovations before they became national policies. The Xiaogang Village case and the Special Economic Zones (SEZs) are typical instances of this process. This essential characteristic of Chinese reforms, quote Deng Xiaoping, is to "cross the river by feeling the stones."

Therefore, this study also intends to improve understanding of Chinese political reform in the 21st century by shedding light on how local governments' motivations and capacity to innovate or invent original policies are affected by their economic and political factors. Specifically, given the centralized and hierarchical structure of the party-state, this study emphasizes and measures the important but often underestimated impact of central-local government relations in China. It argues that as well be demonstrated later, the political status of local governments is more explicative than economic factors in predicting vibrancy of policy innovations. Moreover, political status is even more helpful in explaining the types of innovations. For specific Chinese provinces, being closer to the center is a double-edged sword. Usually, it is favorable to adapt more original programs, but sometimes they are limited to certain types. This perspective would have further implications in Xi Jinping's "new era" of the recentralization of political authority.

DATA AND METHODS

In 2000, the Central Compilation and Translation Bureau, the Central Party School, and Peking University jointly launched the Award Program for Innovations and Excellence in Chinese Local Governance (IECLG), initiated by Professor Yu Keping, one of the most prominent Chinese theorists on Chinese-style democracy. This biannual award program survived for 16 years until 2016 and is so far the most influential and credible source for monitoring Chinese local government reform.

This study draws on archives from more than 1,300 official documents on policy innovations of local governments submitted to the IECLG program during 2001 and 2016. Among them, about 20 programs are nominated or awarded every two years. Given that this collection is based on the self-report of multi-level local governments, it isn't easy to assess whether they are representative of the overall local policy innovations. However, it indeed captured the essential local policy innovations during this period (Yu, 2010). Some of these programs have received substantial attention among scholars and policy-makers, such as the "Wenling Model" of deliberative democracy (2003-2004)

and the super-ministry system reform in Guangdong (2011-2012). Moreover, for each program, the committee sent experts for field research and checked their self-report authenticity. Therefore, the validity and reliability of the database are ensured to a large extent.

Classification of Innovations

A significant challenge of building the IECLG data set, which forms the ground of this study, is to identify the types of policy innovations. The standard classification of the IECLG program contains 38 tags within four primary categories, as shown below in Table 1. When applying for the IECLG award program, each applicant (local authority) is requested to classify their programs with at least one tag. However, given the nature of self-reporting, local authority applicants may not always agree on the meaning of the tags or tag their programs accurately. For instance, when some applicants tagged their programs with a simple "A," others may saw their programs as related to more than ten tags. This original self-reported classification (Version 0) is messy. Thus, to make the data set more reliable, I employed several Natural Language Processing (NLP) and Machine Learning techniques to help me revise and check the classification of these programs.¹

TABLE 1. Classification of Programs

A: Political Reform	B: Administrative Reform	C: Public Service	D: Social Governance
A1 Inner-Party Democracy	B1 Transparency	C1 Public Welfare	D1 Service Institutions
A2 People's Democracy	B2 Accountability	C2 Social Security	D2 Community Services
A3 Legislative Reform	B3 Rule of Law	C3 Public Health	D3 Social Services
A4 Judicial Reform	B4 Anti-Corruption	C4 Environment	D4 Social Assistance
A5 Decision-Making	B5 E-Government	C5 Disadvantaged Groups	D5 Public Security
A6 Cadre Promotion	B6 Efficiency	C6 Employment	D6 Social Organizations
A7 Social Supervision	B7 Specialization	C7 Education	D7 Social Work
A8 Deliberative Democracy	B8 Deregulation	C8 Housing	D8 Internet Governance
A9 Others	B9 Promote Development	C9 Infrastructure Construction	D9 Others
	B10 Others	C10 Others	

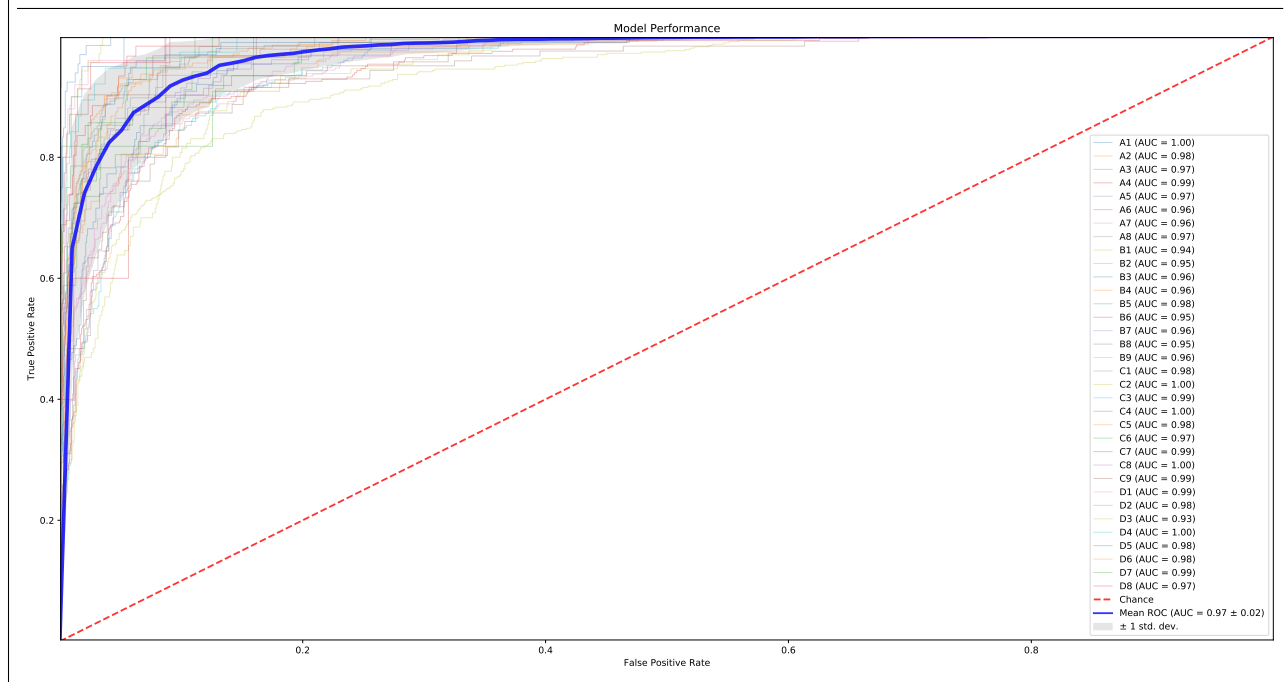
¹For later classification, I abolished tags for "Others" (A9, B10, C10, D9) since they are often abused. Mostly these programs can be well described with other tags.

Updating Classification with Natural Language Processing (NLP)

First, I revised the classification of around 200 winners and nominees of IECLG award programs manually. These programs usually made progress in certain ways that were easy to identify. Then, I collected the detailed description of each program from the documents and converted them into a matrix of term frequency-inverse document frequency (TF-IDF) features. With these features and the labeled programs, I built a classifier with Logistic Regression and Synthetic Minority Oversampling Technique (SMOTE) (Chawla et al., 2002). I used it to predict the tags of the rest programs year by year. For each prediction, I randomly checked around 10% of the results manually and revised if necessary. In this way, I got an updated classification (Version 1) that is relatively more reliable.

For the next stage, another independent coder compared the two versions of classification among half of the programs and revised manually where the categories were significantly different. These results are used as the train set for a second-round automatic classifier with a more sophisticated model. This time, I extracted the features of each program with an advanced language representation model called BERT, which stands for Bidirectional Encoder Representations from Transformers (Devlin et al., 2018). Compared to TF-IDF which in fact measures the distribution of terms, BERT can capture features based on the relationship of sentences, which have been proved to be more accurate. For the classifier, I employed Adaptive Boosting (AdaBoost) (Freund and Schapire, 1997) as a meta-algorithm to boost the performance of the Logistic Regression model, also combined with SMOTE. Performance of this new model proved to be satisfying: the average Area Under the Receiver Operating Characteristic Curve (ROC AUC) hits 0.97, and for roughly 2/3 of the tags, the F1-score is above 0.75 (1/3 above 0.8). (See Figure 1 & 2)

As a result, in the final version of the IECLG dataset (Version 2) used for this study, each of the 1310 programs is given 1 to 4 tags among a total of 34. It is coded in a hybrid way with original self-reports, two independent coders, and advanced Natural Language Processing models. Our random check and the high ROC AUC and F1-score offer me strong confidence in the validity of the final classification. With this dataset, further quantitative studies on the types of policy innovations are possible.

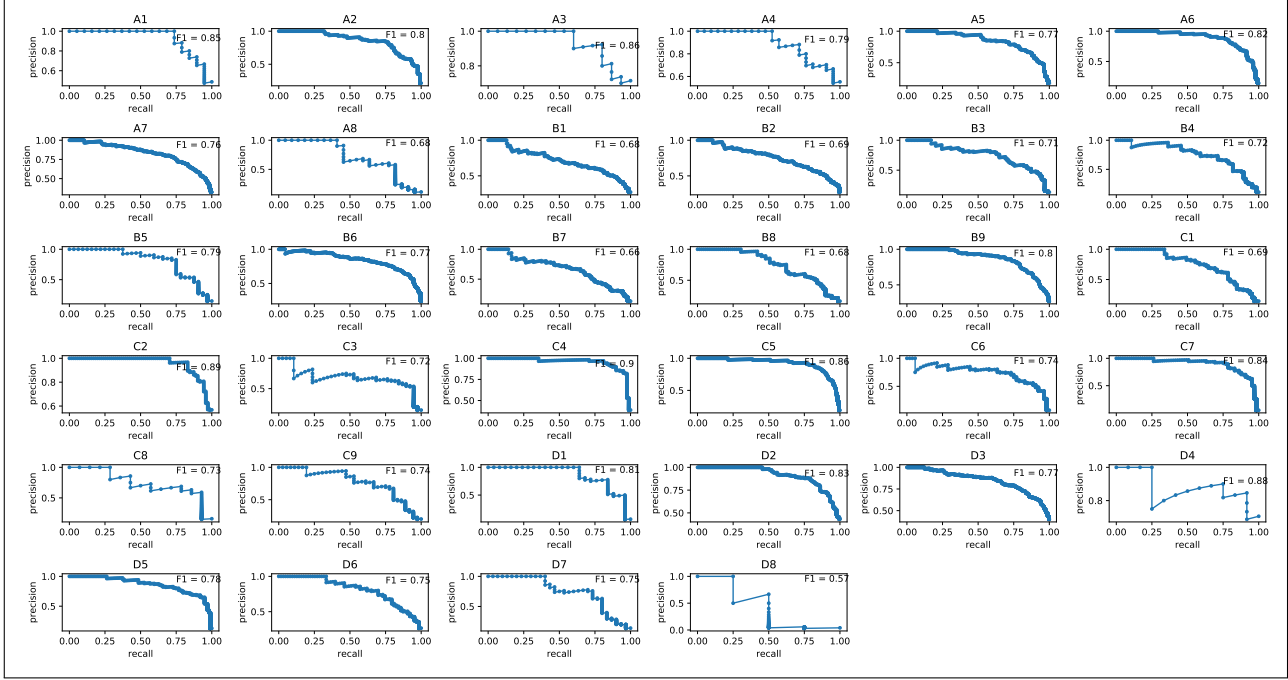
FIGURE 1. Receiver Operating Characteristic (ROC) Curve for the BERT-based Classifier

Aggregate tags into types

Study on the types of policy innovations is not virgin soil. (Walker, 2006; Boushey, 2010) However, almost all previous researchers in this field made them a categorical variable, and some try to be collectively exhaustive while others focus on specific types. This study, instead, measures the types of policy innovations majorly in a continuous way, although categorical measurement would still be used in initial statistical descriptions.

Among many potential measurements of the innovation attributes, the IECLG dataset mainly facilitates the analysis of institutional/service innovation tendency (ISIT) of the programs and the political entities. In a representative study of IECLG programs, Yang set up a dichotomy of Chinese local policy innovations: institutional innovations which reform or reinvent formal institutions and technical innovations which adopt new approaches or procedures for public services (Yang, 2008). The measurement used in this study, ISIT, refers to this pair of concepts while renaming the latter one as service innovations.

The division between institutional and service innovation also refers to different sources of legitimacy. Based on their studies of state-society relations in China, Yang and Zhao identify ideological, legal-

FIGURE 2. Precision-Recall Curve for the BERT-based Classifier

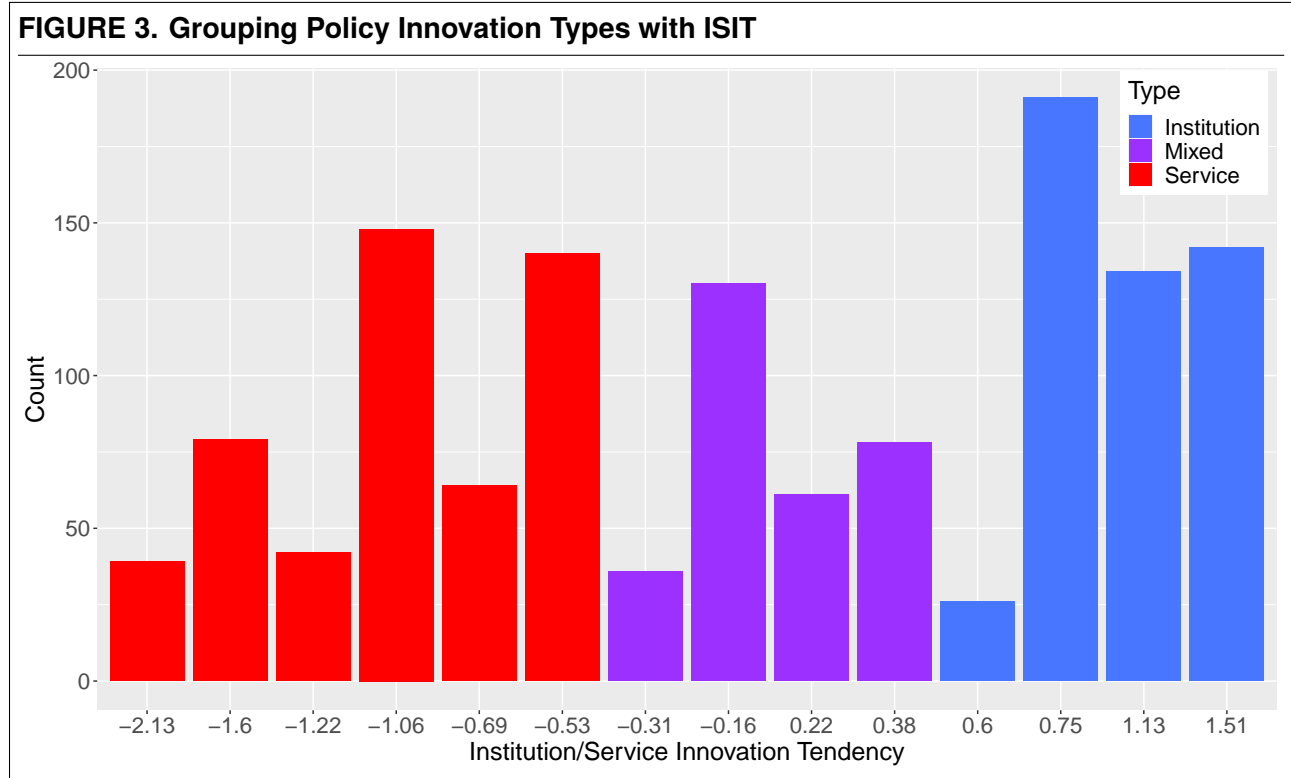
electoral, and performance as three bases of state legitimacy (Yang and Zhao, 2015). These represent three ways in which state power can be justified: by a promise to bring a better future, a commonly accepted leader selection procedure, and services that a state provides. Given that ideology is not shifted by local governments (at least explicitly), their efforts to innovate and enhance legitimacy remain in two fields: to formally change institutions or procedures for promotion, policymaking, or administration; otherwise, to provide better public services.

Of course, neither the bases of legitimacy nor the types of innovation are brought out separately. Some innovation programs can be a "mixed" innovation, that is, somewhere in between "ideal" institutional or service ones. For calculating the ISIT score, each original tag is reweighted and then scaled. Since each program got at least one but no more than four tags, they got an ISIT score based on formulas as follows, where a higher score means the program tends to innovate more on institutions rather than services.

$$X = (n(A)/N(A) + n(B)/N(B)) - (n(C)/N(C) + n(D)/N(D))$$

$$ISIT = (X - \text{mean}(X)) / \text{std}(X)$$

To further evaluate the validity of the ISIT score and understand its meaning, programs are almost evenly divided into three groups based on their ISIT score, as Figure 3 shows. If the ISIT score is higher than 0.5, the program is categorized as an institutional innovation. If the ISIT score is lower than -0.5, the program is classified as a service innovation. Otherwise, we see it as a mixed innovation.



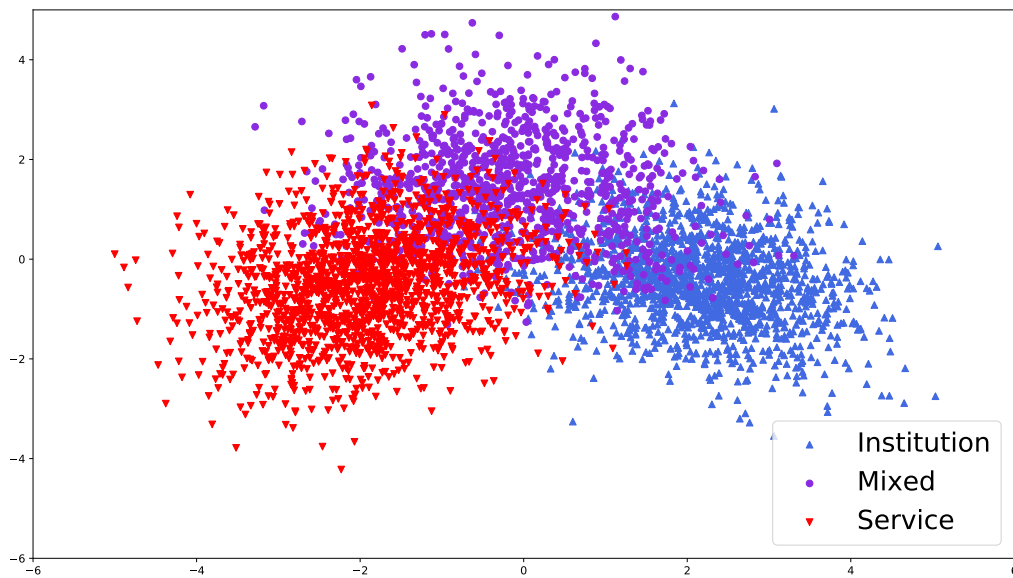
Word clouds in Figure 4 visualized the difference between institutional and service innovations. Among 493 institutional innovation programs, the top-3 keywords are "government" (17071), "masses" (15851), "administration" (11048), and "institution" (10488) follows marginally. Among 512 service innovation programs, however, the top-3 keywords are "social" (22978), "service" (18587), and "community" (17823). The different frequency distribution of words shows the various emphasis of institutional or service innovations as expected. Linear discriminant analysis (LDA) (Blei, Ng, and Jordan, 2003) based on features of original texts further shed light on the credibility of the ISIT score. As Figure 5 shows, the group of mixed innovations lies between the separated groups of institutional and service innovations, demonstrated ISIT as a solid continuous measurement.

With a grouping of types based on ISIT, we can take a glance at how the count and types of innovations vary chronologically and spatially. Figure 6 displays the counts of different types of

FIGURE 4. Frequent Words for Types of Innovations

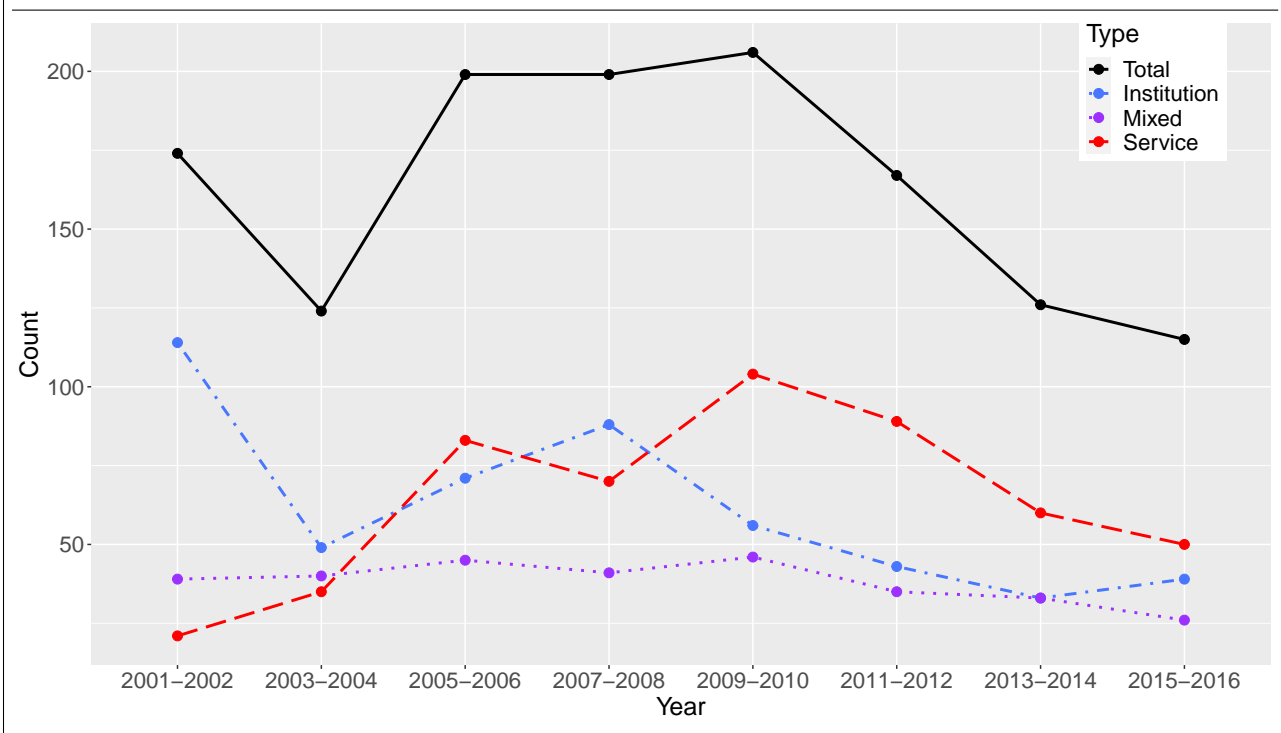
(a) service innovations

(b) institutional innovations

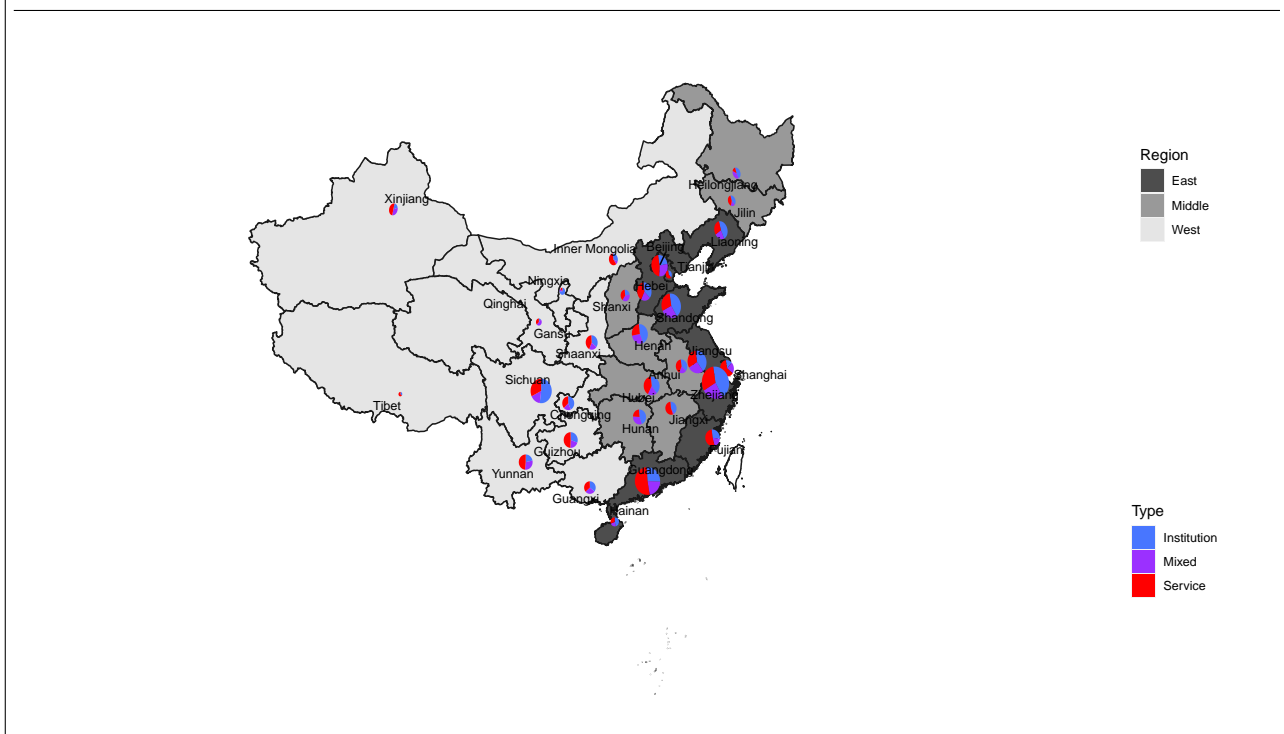
FIGURE 5. Linear Discriminant Analysis (LDA) for the BERT-based Classifier

innovations across time. As it shows, whereas the amount of mixed innovation is relatively stable from 2001 to 2016, the total number of innovations shakes dramatically, with significant drops in 2003-2004 and 2011-2012, coincident with the shift of paramount power from Jiang, Hu, and Xi. As some previous studies have noticed, this discontinuity implies a potential connection between central political power and local policy innovations (Li and Liu, 2019). Also, we see an overall increasing proportion of service innovations compared to institutional innovations, which shows a trend of shifting innovation categories from institutions to services.

FIGURE 6. Chronological Distribution of Policy Innovations (2001-2016)



However, later empirical studies on the count and types of innovations would focus on their spatial rather than chronological distribution. As Figure 7 shows, different types of innovations unevenly distribute among the 31 provinces, autonomous regions, and municipalities (Taiwan, Hong Kong, and Macau excluded), especially across regions. What factors lead to such an imbalanced distribution of innovations? Beyond typical economic factors, can we accurately measure the causal influence of political factors? The later analysis will examine the economic-political determinant models for the count of innovations and then investigate types of innovations as a dependent variable.

FIGURE 7. Spatial Distribution of Policy Innovations

DEPENDENT VARIABLE: COUNT OF POLICY INNOVATIONS

Many previous studies have tried to explain the variation in the count of innovations across regions. Among multiple potential factors, economic factors are usually viewed as the prominent ones. With statistical analysis, Zeng figures out that economic volume and economic structure are significant determinants of innovations' quantity (Zeng, 2016). Generally speaking, economically developed regions usually have more considerable revenue to launch policy innovation programs. While their motivation to do so may be limited if the state-owned enterprises (SOEs) rather than private firms are a more significant component of the local economy. SOEs, even after reconstruction, usually have strong political connections with local governments. Such connections usually mean an exchange of interests between local governments and SOEs, where the latter overpay taxes in exchange for preferential treatment such as more loans from state banks, higher management fees, and freedom to lay off more workers (Han, Li, and Oi, 2020). Therefore, it is reasonable to assume that SOEs would be less demanding for policy innovations compared with private firms.

Evidence from the IECLG dataset is in line with previous studies' prediction on the effect of

economic factors. Among the 1310 identified policy innovations, over a half (726) is initiated in provinces in the East region, which are significantly wealthier than the middle-west region. We can measure the effect of economic factors on policy innovation amount more clearly through linear regression models. Table 2 shows models 1 and 2 where the key independent variables are the provincial gross domestic product (GDP) and the ratio of SOEs in the local economy, which measures economic volume and economic structure. As the previous studies assumed, whereas local GDP is positively related to the count of policy innovations, a higher ratio of SOEs has a negative correlation. Both coefficients are statistically significant at the level of $p < 0.05$, whether or not population and urban rates are added as cofounded variables.

TABLE 2. Linear Regression of Policy Innovation Counts on Economic Factors

	<i>Dependent variable:</i>	
	Policy Innovation Count	
	(1)	(2)
GDP	13.058** (6.118)	46.497** (19.904)
SOE Ratio	−23.919*** (8.159)	−21.020** (8.481)
Population		−31.566 (18.566)
Urban Rate		−54.490* (26.705)
Constant	−113.208** (46.308)	−196.386*** (60.435)
Observations	31	31
R ²	0.665	0.711
<i>Note:</i>		* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$
<i>Note:</i> All the independent and controlled variables are log-scaled for comparison.		

Beyond empirical studies at the macro-level, micro-level analysis on the motivation of local officials also emphasizes economic development as their primary concern when inventing new policies (Teets, 2015; Li and Liu, 2019). However, given the nature of policy innovations as a governmental behavior, it is unreasonable to exclude political factors from the framework. Much previous research on policy innovations in the United States has emphasized the importance of local political features, such as political ideology, party competition, malapportionment, coalition, and so on (Walker, 1969; Boushey, 2010; Berry and Berry, 2018). Nonetheless, due to the vast difference in the regime between the United States and China, almost none of these measurements are applicable in the studies of Chinese policy innovations.

Nevertheless, scholars did notice the need to include political parameters. A noticeable indication in the statistics is that although economically more underdeveloped, the West region produced more policy innovations than the middle region (323 vs. 261), see Table 3. Zeng attributes this phenomenon to the unique political status of the West region, so-called China's "go-west," which probably means those provinces and districts may have richer political resources and supports in carrying out new policies (Zeng, 2016).

TABLE 3. Cross Table for Policy Innovations among Regions

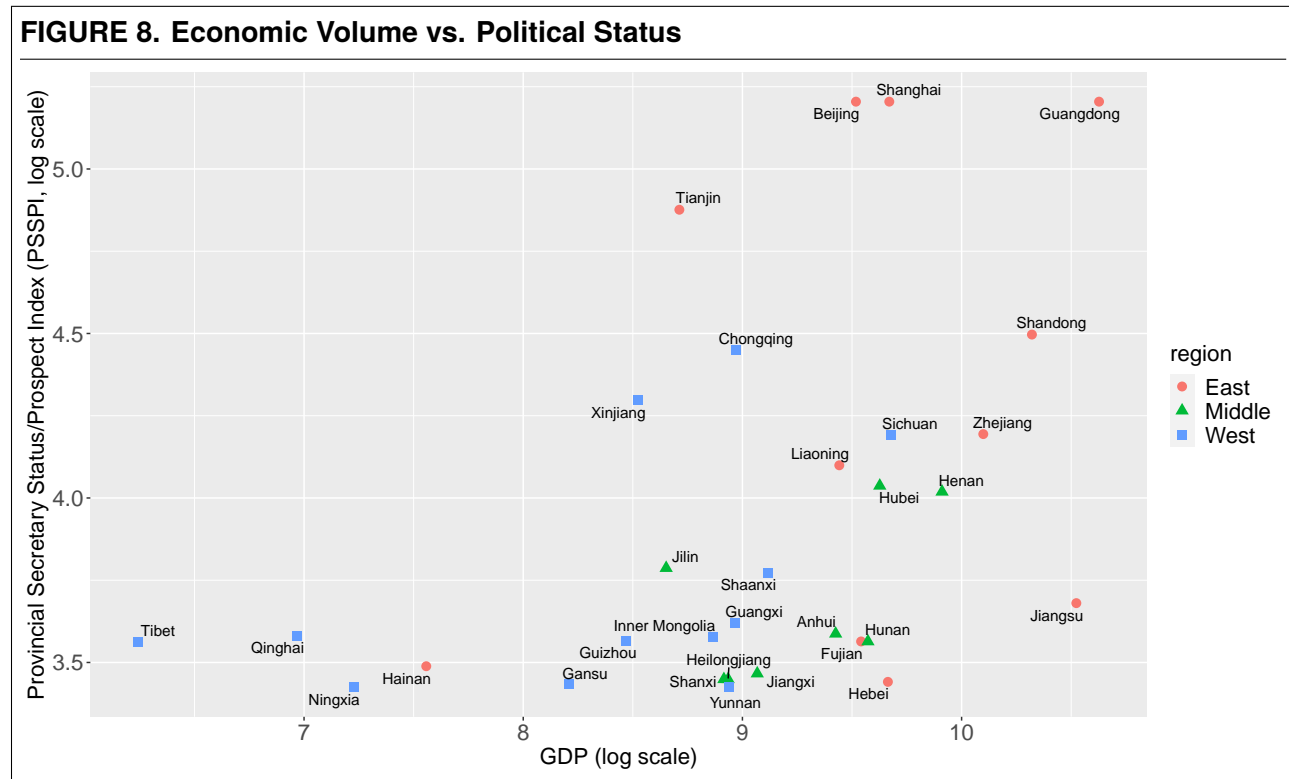
Types	Regions				Σ
		East	Middle	West	
	Governance	290	90	132	512
	Mixed	174	63	68	305
	Institution	262	108	123	493
	Σ	726	261	323	1310

This observation has a vital hint for measuring political factors in China. Different subnational authorities enjoy different political statuses in the nation, even if such a difference is implicit. Especially, given China's political regime as a centralized and unified party-state, the relative political status of local authorities, or in other words, central-local relations, can be determinant to local authorities beyond those internal local political features.

Although the central-local relations can be a concept too broad to measure, fortunately, for this research, we can measure the implicit relative political status of subnational authorities through the records of cadre promotions. The cadre promotion system is an indispensable component of China's party-state, in which scholars have noticed institutionalized and stable ranks of political status beyond the nominal formal nomenclature. For instance, an "open secret" in Chinese bureaucracy is that provincial party secretaries, rather than provincial chief executives, are the most prominent political leaders at the provincial level (Li and Zhou, 2005). For this research, we refer to the Provincial Secretary Status/Prospect Index (PSSPI) to distinguish such implicit rankings at the provincial level. PSSPI is measured through the concurrent party position and the conditional probability of promotion

for each provincial party secretary, with records of cadre promotion from 1998 to 2012 that proved to be internally consistent (Geng, Zhong, and Pang, 2014). As Xiang argued, such a ranking reflects not only the political status of officials but also the political status of regions and provinces in the nation (Xiang, 2019). Since the Reform and Opening Up, promising politicians often rotate from one province to another, seemingly at the same level but actually promoted in the ranking, before they finally get into the central.

Figure 8 displays each province-level administrative division's economic volume and political status, measured by log-scaled GDP and PSSPI and grouped by regions. To be noticed, the political status of a province doesn't always match its economic volume, although they are correlated. For instance, although Xinjiang is economically underdeveloped, it is politically more important than many wealthier provinces. Instead, although Hebei has a fairly high GDP in total amount, it has been long deemed as much subordinate to its neighbors Beijing and Tianjin, and therefore not very important to the central. These features indicated by data also match people's common feelings, which make sense of including political status as a separate parameter other than economic development.



What if political status, rather than economic indicators such as GDP and the ratio of SOEs, is

the key independent variable for interpreting the number of policy innovations? As we assumed, regression models in Table 4 show that political status is positively correlated with innovation counts at the level of $p < 0.01$. Even with all the previous economic factors and cofounding variables controlled, the coefficient for political status keeps its direction and statistical significance. With other factors controlled, the most politically prominent provinces such as Guangdong could initiate 80 more policy innovation programs than the less important ones such as Ningxia, which doubles the average number of policy innovations for each province.

Notably, comparing model 3 in Table 2 and model 2 in Table 4, with political status added into the regression model, the coefficient for GDP becomes statistically insignificant, and the adjusted R^2 rises from 0.67 to 0.71 (not reported in the tables). As a result, although provinces with either higher GDP or more crucial political status – and usually both – tend to carry out more policy innovation programs, it is actually political status rather than the economic volume that is more substantial for such behavior. Economic resources are influential for local governments' capacities to innovate, but political resources, especially political status in the centralized system, seem to be more decisive in the context of China.

TABLE 4. Linear Regression of Policy Innovation Counts on Political and Economic Factors

	<i>Dependent variable:</i>		
	Policy Innovation Count		
	(1)	(2)	(3)
Political Status	29.600*** (10.365)	27.509** (10.915)	22.755** (10.132)
GDP			17.550 (22.561)
SOE Ratio			−27.206*** (8.357)
Population		23.811*** (5.314)	−6.578 (20.545)
Urban Rate		−5.714 (21.572)	−52.430** (24.860)
Constant	−73.953* (41.101)	−262.349*** (67.946)	−234.318*** (58.703)
Observations	31	31	31
R^2	0.220	0.553	0.760
<i>Note:</i>			* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$
<i>Note:</i> All the independent and controlled variables are log-scaled for comparison.			

DEPENDENT VARIABLE: TYPES OF POLICY INNOVATIONS

Other than economic volume, political status and resources enable local governments to carry out more policy innovation programs, whereas a larger ratio of SOEs diminishes

their motivation to do so. That is so far just half of the picture, however. To better understand how the dynamic central-local relations affect innovations in local governance, we should go further to bring the types or tendencies of policy innovations into our vision. In section 2, we have already introduced how policy innovation programs are categorized and the measurement of institutional/service innovation tendency (ISIT). This section will inquire about the relations between political status, measured by PSSPI, and the types of policy innovations, measured by ISIT.

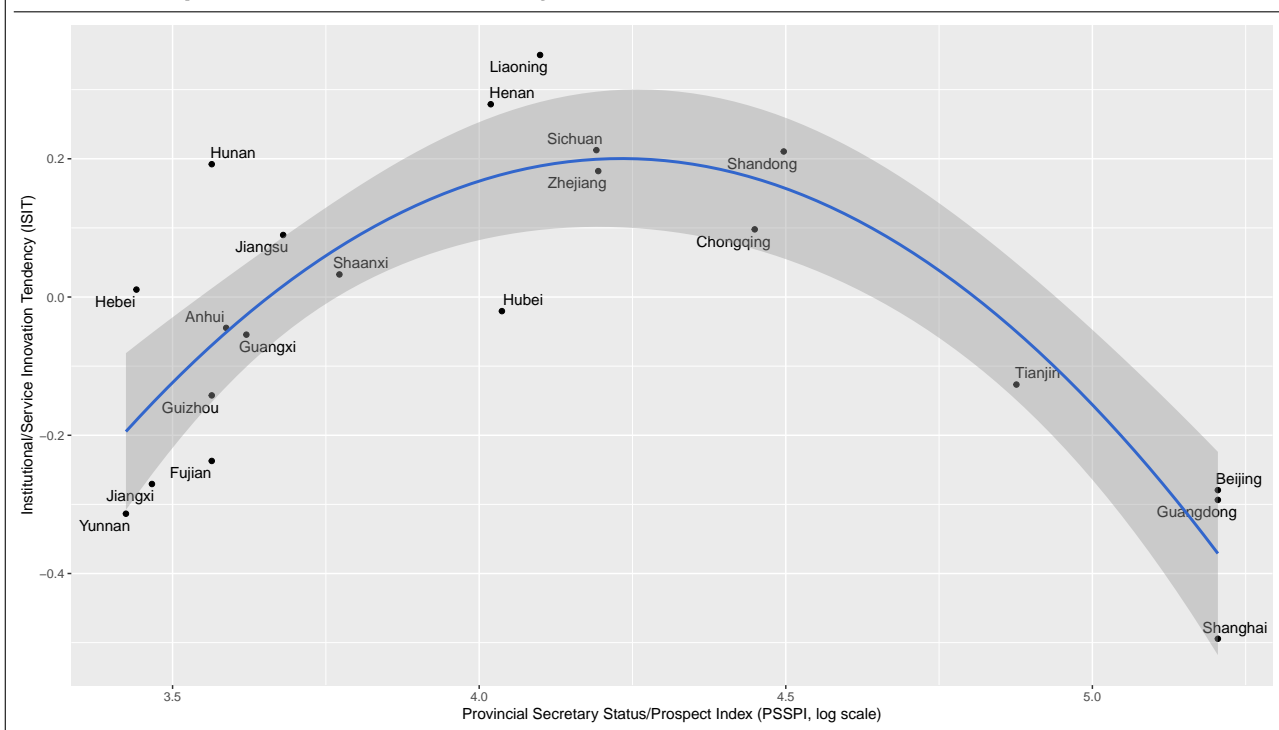
Such an inquiry is initially inspired by considering the difference between economic factors and political ones. How economic factors, such as development and structure, drive or hinder the capacity and motivation of local governments to innovate seems to be crystal clear, as discussed in section 3. At the same time, more nuances are left for understanding for central-local relations. Just as certain economic factors can enhance local government's capacity to innovate, while certain others can hinder their motivation, so do central-local relations. On the one hand, as a local domain becomes politically more important, the political leaders, especially the party standing committee members, should have more connections with senior central officials or even be in the center at the same time. Such a connection with the center can be seen as a sort of resource which, like economic resources, enhances local government capacity and enable enterprising local officials to carry out more courageous policy innovations (Jaros, 2016). On the other hand, ever since the centralization at the end of the 1990s, provincial governments have been more like the brokers of the central governments rather than independent agencies (Jaros and Tan, 2020). Therefore, it is reasonable to expect a limited motivation to make risky policy innovations, especially when carefully stared at by the central. For provincial leaders who are just one step from their superiors at the central, it could be more reasonable for them to wait for their decisions rather than risk their own political life.

For these reasons, we can predict variance in the types of policy innovations regarding the different status of provinces. As mentioned above in section 2, all these policy innovations are to a certain degree an "institutional" innovation or a "service" innovation, or somewhere in between. The ISIT score captures how much they are targeting the government itself or the society that it governs. For instance, the "Democratic Consultation (*Minzhu Kentan*)" carried out in Wenling, Zhejiang and awarded in 2004 is an ambitious experiment to bring deliberative democracy into rural governance. Whereas

the "Points-based Migration System (*Liudong Renyuan Jifenzhi Guanli*)" carried out in Zhongshan, Guangdong and awarded in 2014, although inevitably involves shifting regulations formally, aims primarily to introduce a new way for social governance. Both programs are regarded as reputed and were widely studied, whereas the former is a typical institutional innovation, the latter is a standard service one. Intuitionally, compared to service innovations, institutional innovations can usually be more complicated and courageous, for which both capacity and motivation are indispensable. The raising of political status, or a closer tie between the central and local, as discussed above, could nonetheless bring opposite impacts on them.

Which hypothetical effects would dominant the relationship between political status and the inclination towards institutional innovations? Evidence shows that they may co-exist and lead to a parabola relation, as Figure 9 shows. Provinces without political importance are generally more inclined to carry out service innovations rather than institutional ones. Then, as the political status rising, provinces gradually initiate a more significant proportion of institutional innovations. Finally, for several areas (mostly multiplicities) that are prominently important, the tendency straightly swings back.

FIGURE 9. Spatial Distribution of Policy Innovations



Further linear and panel regression models reaffirm such evidence: as the results show in Table 5, models 1 and 2 are linear regressions based on 21 provinces that carried out at least three innovation programs on average biannually, while model 3 is a two-way controlled fixed-effect model with all 31 provinces across 2001-2016. In all the models, coefficients of political status and its quadratic term stay in the same direction, indicating an open downward parabola, and are all statistically significant at a $p < 0.01$ level. Figure 9 also displays the prediction with a 95% confidence interval.

TABLE 5. Regression Results of Institutional/Service Innovation Tendency

	<i>Dependent variable:</i>		
	Institutional/Service Innovation Tendency		
	<i>OLS</i>		<i>panel linear</i>
	(1)	(2)	(3)
Political Status	5.115*** (0.805)	5.062*** (0.773)	123.813*** (39.186)
Political Status Square	-0.604*** (0.093)	-0.607*** (0.092)	-15.625*** (4.964)
GDP		-0.057 (0.205)	-1.109* (0.577)
SOE Ratio		0.106 (0.071)	0.164 (0.175)
Population		0.308 (0.228)	-1.546 (1.013)
Urban Rate		0.560 (0.396)	-0.832 (0.944)
Constant	-10.624*** (1.704)	-11.836*** (1.766)	
Observations	21	21	248
R ²	0.718	0.821	0.216
<i>Note:</i>			* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$
<i>Note:</i> All the independent and controlled variables are log-scaled for comparison.			

Such strong evidence demonstrates our previous assumption that the relations between political status and types of policy innovations are more complicated. Provinces incline to a smaller proportion of institutional innovations when they are either politically non-important or politically critical. We assume that the former is due to a lack of capacities, whereas the latter is because of motivation.

CONCLUSION

In the context of prolonged and expanding interests of political scientists in policy innovations, this research, with constructing an original, unique, and comprehensive dataset of Chinese local government innovations, assessed the important character of central-local relations. The bottom line here is that even though the economic volume and structure can be great predictors of policy innovations at the province level, the political status performs even better. It outperforms economic

factors on predicting the amount of policy innovations and sheds light on the concerns behind certain types of policy innovations, namely institutional versus service innovations.

For local governments, becoming more important in the invisible hierarchy will empower them to make a courageous step initially but then constrains their motivation to do so. This conclusion will have further implications during the Xi era of recentralization and contribute to the scholarship of policy innovations and central-local relations, noticing the power of structure in shaping governments' behaviors.

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