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Political Research Quarterly published online 30 April 2013

DOI: 10.1177/1065912913486196

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Political Research Quarterly
XX(X) 1–10
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DOI: 10.1177/1065912913486196
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Abstract

The notion of a Chinese popularity function may seem surprising, given its authoritarian nature. However, exploring the possibility of indirect popularity functions in nondemocratic systems, we articulate a model of national government support in China. The model argues that sociodemographics, political attitudes, and performance issues mold central government satisfaction. Drawing on a countrywide 2008 public opinion survey, we conclude that regional differences, national trust, and local policy success are of special importance in shaping national government support. The findings, which exhibit theoretical and statistical appeal, lay the groundwork for further investigation of popularity functions in China.

Keywords

China, public opinion, popularity functions, government support

The concept of the “vote-popularity function” (VP-function) was fully developed by Nannestad and Paldam (1994) in a seminal, much-cited paper. (Currently, a special issue of *Public Choice* featuring this work is underway.) As they argued, “The VP-function explains support for the government as a function of economic and political outcomes” (Nannestad and Paldam 1994, 213). In their review, they counted some two hundred relevant studies, from democracies around the world. Since that time, the number of such studies has grown to at least five hundred, according to a contemporary survey (Lewis-Beck and Stegmaier, forthcoming).

Thus, this field of research has greatly increased. But all these studies, with vote or popularity as the dependent variable, are on democratic systems of some form. It must seem strange, then, to propose a Chinese popularity function, because that system lacks the democratic fundamentals. However, the theoretical insight for this idea was planted, in fact, by Nannestad and Paldam themselves, in their “note on dictators and regime shifts—the concept of an indirect VP-function” (1994, 236). They observe that such countries seldom publish government popularity data but “If one can find a systematic government reaction . . . one can estimate an indirect VP-function” (Nannestad and Paldam 1994, 236). Fortunately, we do have available such systematic popularity data on China, as elaborated below.

Chinese citizens, as we know, do not vote in national elections. But that does not mean they are without other collective modes of national political expression. A leading manifestation of their voice comes from public

opinion, expressed frequently in informal ways. Several studies show how opinions expressed online, in petitions, through village elections, and in protests and demonstrations affect government decision making (O’Brien 2008; Shirk 2011; Tang and Iyengar 2012). More importantly for our purposes, the public is also being systematically followed in formal sample surveys. Chinese public opinion via sample survey has come under increasing scrutiny, in a growing number of mass-based studies (see the following outstanding examples: Chen 2004; Dalton and Shin 2007; Jennings and Chen 2008; Shi 1997; Tang 2005). The article at hand continues in this tradition, through exploration of a major and recent national probability survey of the Chinese adult population. However, it departs from these other studies, in that it aims to develop a popularity function. It tries to answer the question—What drives the Chinese citizenry to increase (or decrease) their support for the national government?

To begin, we consider VP-function theory, and evaluate its applicability (or inapplicability) to the Chinese case. Then, we describe the data set, focusing especially on the univariate characteristics of the popularity

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variable. Next, we offer a model of Chinese government support. The organization of the model, as a VP-function, emphasizes gross political and economic forces. Furthermore, because the data are cross-sectional, sociological forces are also included. The estimation strategy, a block-recursive one, takes inspiration from a Michigan-style funnel of causality, building out from more exogenous to less exogenous independent variables. As shall be seen, an empirically and theoretically sound model of national government support in China appears within reach.

The VP-Function: A Theory of Government Support

The VP-function, as developed by Nannestad and Paldam (1994, 213), holds government support (as measured by popularity or vote) to be determined by basic political and economic attitudes and performance. Here, in words, it is expressed in the function

$$\text{Popularity} = f(\text{Society, Politics, Economics}). \quad (1)$$

Because the Chinese observations on popularity are cross-sectional, we also add to the function basic sociodemographic conditions, which vary considerably in a cross-section, unlike their essentially constant state in the typical aggregate time-series popularity function. (On this final point, see Lewis-Beck and Stegmaier 2000.) Thus, the function can be more fully expressed as

$$\text{Popularity} = f(\text{Society, Politics, Economics}). \quad (2)$$

With respect to the forces of society, we draw on the unique cross-sectional study of presidential popularity in Russia, by Hesli and Bashkirova (2001), emphasizing the role of sociodemographic variables.

Considering the political and economic forces, we rely on different literatures in arriving at a final specification. With respect to political forces, we separate them into long-term and short-term forces. For the former, we include membership in the ruling communist party, on the notion that it will foster more support for the central government generally. Theoretically, of course, this is close to the Western idea of the role of party identification in political behavior studies (Campbell et al. 1960). As well, we include as a long-term political force the concept of trust, expecting that citizens who feel more trusting of their rulers will generally be more satisfied with the national government. A theoretical underpinning here comes from the larger Eastonian notion of diffuse support, whereby the citizens give an overall sense of legitimacy to the system (Easton 1965). This distinction, regarding diffuse (or

“system”) support has already been applied to authoritarian China, in other contexts (Chen 2004; Shi 2009; Wang 2006).

With respect to short-term political forces, we refer to two types of issues, those where Chinese citizens show considerable agreement, for example, the importance of defense, and those where Chinese citizens show considerable disagreement, for example, the private ownership of property. Theoretically, the former example can be labeled a valence issue, while the latter can be labeled a positional issue (Stokes 1963). Whether all these political forces, long-term and short-term, affect the Chinese citizen in ways comparable with Western citizens remains to be tested. But, we would expect them, along with the social forces, to generally have some impact (although perhaps in an unanticipated direction).

The economic voting tradition has been especially strong in popularity function studies, where governments are held accountable for performance. The economy stands as a valence issue, with virtually everyone wanting a prosperous economy. As the economy falters, then, the citizens punish the government by withdrawal of their support. Thus, these models usually contain macro- or micro-measures of economic performance—on macro-measures, see Paldam (2004), and on micro-measures, see Lewis-Beck and Stegmaier (2007). Unfortunately, in the cross-sectional survey at hand, we lack the standard battery of economic voting items, in particular sociotropic retrospective evaluations (Fiorina 1981; Kinder and Kiewiet 1981).

Still, the attention to economic performance fits, more broadly, with the view that citizens evaluate government competence on a host of issues; see the instructive current comparative example by Bellucci (2012). We call this collective issue assessment the “performance bundle,” to distinguish it from the specific political issues of defense and liberalism earlier discussed. We would hypothesize that, even in a nondemocratic system like China, citizens form opinions about government performance as an issue bundle, and express their overall satisfaction or dissatisfaction accordingly.

Fortunately, we are able to measure the quality of government actions at the local level, thereby enabling us to test this hypothesis. China aspires to a unified, hierarchical command system of ruling from the top down. When implementing its national policies in the counties and communities across the nation, these mandates derive from the central government. Thus, what goes on in the villages politically is largely a result of national directive, even recognizing that China is a large country with diverse regional patterns and exceptions. How well does the government score on this local “performance bundle?” We measure this with questions on the performance of county and community governments.

The Data and the Dependent Variable: Description

Our data come from the 2008 China Survey, conducted by Texas A&M University and the Research Center for Contemporary China at Beijing University. The survey composes a multistage stratified random national sample, $N = 3,989$. The extended questionnaire, administered face-to-face, covers a broad range of topics. While China is now routinely surveyed, it should be noted that the scientific design characteristics of this instrument score high, rendering it a true national probability sample. (For details on the survey, see the online appendix at <http://prq.sagepub.com/supplemental/>.)

From country to country, government popularity is measured in different, but related, ways in surveys. Usually, the item asks respondents whether they are “satisfied with” (or “approve of”) the government (“leader” or “performance”). (See the recent study by Bellucci and Lewis-Beck 2011, which compares the measurement of government popularity in six countries.) In the 2008 China Survey, the following popularity item was posed about national government:

Please tell us how satisfied or dissatisfied you are with the central government. (A card is shown with a self-placement scale, scored from 0—“not satisfied at all” to 10—“completely satisfied.”)

The distribution of responses is informative. Fully, 35.3 percent report they are “completely satisfied,” while 64.7 percent report at least some degree of dissatisfaction (i.e., they are scattered along the remainder of the scale range, $SD = 2.27$; for summary statistics on all the study variables, see the online appendix). In sum, while the modal Chinese citizen appears fully satisfied with national government performance, there still exists a substantial group that expresses dissatisfaction with that performance. It is this variation across the satisfaction continuum that we seek to explain in our popularity function.

A Model of Government Support

The foregoing discussion of theory and variables suggests the following, more empirical, summary specification of a Chinese popularity function:

$$\text{Popularity} = f(\text{Sociodemographics, Political Attitudes, and Issues}). \quad (3)$$

The independent variables are measured as follows, by conceptual group:

Sociodemographics: age = age of the respondent in years; education = 5-point scale from low to high; gender = 1 for female and 0 for male; ethnicity = 1 when the respondent identifies as Han, 0 otherwise; religion = 1 when the respondent identifies as religious, 0 otherwise¹; subjective class = an 11-point scale from low to high²; occupation is categorical with two dummies (1, 0) for farmer and for blue collar (reference = other); region is categorical dummies (1, 0) for Northeast, North, East, Central, Northwest, Southwest, Municipal (reference = South).³

Political attitudes: Chinese Communist Party (CCP) membership = 1 if the respondent is a member of the CCP, 0 otherwise; trust in central government is a 4-point measure of trust, where higher values indicate greater trust.

Performance issues: economic liberalism = individual beliefs about private versus public business ownership measured categorically where support for greater private ownership = 1 (0 otherwise), support for the current public/private ownership mix = 1 (0 otherwise), and support for greater public ownership is the reference category; political liberalism = an index of five different questions (alpha score of .70) regarding political freedom and association, its values ranging from 0 to 1 (with .05 cut points), where higher values indicate a more liberal political orientation⁴; the defense issue is an 11-point measure, where higher values indicate defense to be a more serious problem; local government satisfaction is an additive index of village and county satisfaction (alpha score of .79) ranging from 0 to 1 (with .05 cut points), where higher values indicate more local satisfaction.

What are our hypotheses? Consider first the sociodemographic variables: gender, age, education, class, farming, blue-collar occupation, ethnicity, religion, and region. We expect men, the elderly, farmers, and the upper classes to be more supportive of the national government. In China’s market reforms since the 1980s, gender-based affirmative action policy has been gradually lifted. Gender discrimination is often openly practiced in the increasingly competitive labor market. Men are more likely to be the winners than women, particularly when women are less educated (Tatlow 2010); thus, men are expected to show more support of the current government. The older age cohorts completed their political socialization during the socialist years (1949-1978) and should have a stronger bond with the regime (Jennings and Zhang 2005). Although the gap between rural and urban living standards still remains, several policies

initiated by the central government since the 1980s may have benefited farmers and promoted their political support, such as rural health care insurance, increased freedom in rural migration, and more importantly, the central government's decision to abolish the agricultural tax (Whyte 2010).

In the state-dominant economic environment, the upper classes directly benefit from their ties with the government. Because their future rests on maintaining the exiting political order, the upper classes are likely to show more political support than the lower classes (Chen and Dickson 2008, 2010). Blue-collar workers, however, are expected to show less political support for the central government. This group is likely to have experienced a decline in social status from its previously privileged position under economic planning (Tang and Parish 2000). The effect of education is more difficult to predict. Education can increase one's awareness of political rights and make people more critical of the authoritarian political system in China (Inglehart 2007). At the same time, it can also promote regime support if it serves the function of political indoctrination and political socialization (Jennings 2007).

With respect to the categorical variables, the expectations are less easily stated. Concerning ethnicity, there are two contrasting views: Some observers see the Chinese government's language policy as a systematic cleansing of ethnic minority cultures, leaving a negative impact on political support among the non-Han minorities (Dwyer 2005; Teague 2009). Others emphasize the state-sponsored affirmative action policies and their positive impact on promoting ethnic equality (Gladney 1998; Mackerras 2004) and political loyalty among non-Han minorities (Tang and He 2010). With regard to religion, we imagine its main impact will be negative, coming from those who are more devout and less in favor of the state regulation of religious institutions and their activities (Vala and O'Brien 2008; Osnos 2008). Finally, with respect to region, we anticipate that citizens from the less developed areas of the country will be more supportive of government, because they hold lower expectations and experience less liberal "self-emancipation" than those from more affluent regions (Inglehart 2007).

Considering the second set of variables, on political attitudes, that is, party attachment and government trust, the dominant hypotheses seem more clearly unidirectional. We expect that party membership in the communist party will enhance satisfaction with the central government, as will a feeling of trust in that government (Zheng 2010). Finally, consider the third set of variables, on performance issues. We expect liberalism (economic and political) to be negatively related to government satisfaction (Chen and Dickson 2010). Similarly, those favoring a strong defense may sense the government's

limited ability to deal with perceived foreign threat; thus, they are made more critical of the government (Shirk 2011). In contrast, those who believe local issues have been well taken care of should be more positively disposed to the central government (O'Brien and Li 2006).

Model Estimation

How should such a model (Equation 3) be estimated? The funnel of causality for political behavior, first suggested by Campbell et al. (1960, chapter. 2), provides an organizing device. Some of these causal variables occur more prior in time, and are more exogenous. These variables, such as social class, appear "first" in the causal system (for an update on the funnel of causality as an ordering principle, see Lewis-Beck et al. 2008, chapter 2). Less temporally prior, and rather more malleable, are the political attitude variables, such as party attachment. Finally, existing very close causally to the expression of political support itself, there are the issue evaluations—including private ownership, national defense, and local services.

Applying such causal sequencing implies that the model should be estimated in stages, with sociodemographics entered first, then political attitudes, and finally performance issues. Such a block-recursive format gives proper deference to the underlying causal order, at the same time highlighting—and ultimately constraining—the influences on popularity flowing from the different independent variable sets (on block-recursive equation systems, see the lucid discussion in Kmenta 1997, 660).

In Table 1 are linear regressions (ordinary least squares), estimating the model in three blocks. In the first block (column 1), the sociodemographic variables are considered. In the second block (column 2), the political attitude variables are added. Finally, in the third block (column 3), the performance issue variables are included. Below, we discuss the results in stages, beginning with Model 1 (block 1).

Model 1: Sociodemographics

With this sociodemographic model, estimated in Table 1 (column 1), we observe a number of things. First, the goodness-of-fit statistics, while showing that the model has relevance, attain modest values, for example, the adjusted $R^2 = .08$. Interestingly, this degree of statistical fit is about the same as for sociodemographic models of vote intention in a sample of Western European nations (Franklin, Mackie, and Valen 1992). While our popularity measure obviously does not stand as a vote measure, this similarity of model fit remains intriguing nonetheless. Also, nine of the variables achieve statistical significance at conventional levels. These non-null results are statistically reassuring, for the significance tests are based on

Table 1. Models of Government Support.

	1	2	3
Age	0.021*** (0.004)	0.010*** (0.004)	0.004 (0.005)
Education	-0.031 (0.056)	-0.094 (0.061)	-0.049 (0.089)
Female	-0.231* (0.120)	-0.178 (0.135)	-0.187 (0.166)
Han	0.066 (0.205)	0.120 (0.215)	-0.012 (0.197)
Religious	-0.231 (0.159)	-0.192 (0.159)	-0.134 (0.237)
Class	0.106*** (0.028)	0.060** (0.030)	0.003 (0.029)
Farmer	0.242*** (0.118)	0.100 (0.133)	0.164 (0.145)
Blue collar	-0.070 (0.139)	-0.078 (0.158)	-0.022 (0.212)
Region—Northeast	1.362*** (0.362)	1.091*** (0.396)	0.783** (0.362)
Region—North	0.917*** (0.289)	0.669* (0.347)	0.394 (0.241)
Region—East	0.448 (0.312)	0.355 (0.349)	0.352 (0.257)
Region—Central	0.915*** (0.319)	0.623 (0.379)	0.826*** (0.258)
Region—Northwest	1.528*** (0.327)	1.041*** (0.386)	0.884*** (0.305)
Region—Southwest	1.015*** (0.349)	0.550 (0.401)	0.089 (0.285)
Region—Municipality	-0.480 (0.775)	-0.501 (0.777)	-1.220 (0.805)
CCP member		0.114 (0.222)	0.047 (0.306)
Trust in central government		0.890*** (0.082)	0.682*** (0.077)
Economic liberalism			
Current ownership mix is best			-0.160 (0.186)
More private ownership			-0.396** (0.198)
Political liberalism			-0.605 (0.468)
Issue—defense			-0.051** (0.023)
Local government satisfaction			3.221*** (0.364)
Constant	5.832*** (0.430)	4.911*** (0.538)	4.632*** (0.598)
R-squared	0.083	0.164	0.326
Adjusted R ²	0.079	0.159	0.314
Root MSE	2.182	2.1	1.89
Observations	3,352	2,713	1,260

CCP = Chinese Communist Party; MSE = mean squared error. Robust standard errors in parentheses. Errors clustered by county. Data are weighted.

* $p < .10$. ** $p < .05$. *** $p < .01$.

robust standard errors, with an adjustment for the clustering on seventy-three primary sampling units of the survey. (A correction for clustering is necessary, because respondents in one cluster tend to be more alike, compared with respondents in another cluster. Without a correction, the significance tests would tend to be inflated; Raudenbush and Bryk 2002.)

The individual coefficients speak directly to the hypotheses posed above. Women appear significantly less satisfied with the government than do men, perhaps a reflection of greater stress in playing the dual role of income earners and home makers (Tang and Parish 2000). Also, the elderly are significantly more supportive of government, mirroring a greater impact of socialist political socialization prior to the market reforms in the 1980s (Jennings and Zhang 2005). Furthermore, the higher class gives significantly more backing to the central government, compared with the lower class (Chen and Dickson 2010). As well, the specific occupational group of

“farmer” expresses significant satisfaction with regard to the government. This finding confirms similar results about farmers in other studies (Whyte 2010). Such satisfaction with the government among farmers is perhaps a consequence of the central government’s decision to reduce their tax burden, particularly, as mentioned earlier, the decision to abolish the agricultural tax in 2006.

Together, these above results are as hypothesized. Education, however, fails to be statistically significant, and even carries the wrong sign, suggesting a possible emergence of liberal values under modernization (Inglehart 2007). With respect to ethnicity, the Hans do appear to lean a bit toward the central government, but that coefficient fails to achieve significance, indicating perhaps the impact of affirmative action policies in reducing the Han and non-Han social gap, and in promoting political loyalty among the minorities (Gladney 1998; Mackerras 2004). In similar fashion, the coefficient of the religion variable fails to achieve statistical significance

and to meet expectations predicted by other observers (Osnos 2008). Further studies should separate different institutional religions and examine their respective effects on political support.

The last categorical variable, region, shows an interesting pattern of statistical significance. Of the seven regional categories, the most satisfied come from the economically less developed Northeast and Northwest regions (while North, Central, and Southwest are also significantly positive). Respondents in the economically more advanced East coast and South (the reference group), and in the megacities, seem to be less forgiving of the central government, suggesting the modernization effect described by Inglehart (2007).

Model 2: Sociodemographics, Political Attitudes

In Model 2 (Table 1, column 2), the political attitude variables of party attachment and trust in government are added to the specification. First, they make a noteworthy difference, as the adjusted R^2 doubles in magnitude (from .08 in Model 1 to .16 in Model 2). However, the influence of politics does not run through the traditional channel of party membership, for that variable falls short of statistical significance. That is to say, simple communist party membership (“yes” vs. “no”) implies nothing about satisfaction with the central government. Unfortunately, we have no direct social-psychological party identification measure, which might yield a different result. However, we do have the social-psychological measure of trust in government, a political attitude that matters a good deal.

What really counts for government support, in the political psychology of the Chinese citizen, is general belief in the political system. Those who believe in the central government, saying that they “trust it very much,” are much more likely to express satisfaction with it (e.g., the simple percentage difference in expressing satisfaction, between those who say “don’t trust at all” and those who say “very much,” is over 25 points). Furthermore, this result does not stem from the methodological problem of endogeneity, with trust influencing support and vice versa. When the trust variable is properly exogenized, in a two-stage instrumental variables estimation, its strong effect remains.⁵ In other words, it seems that Chinese national government support depends, to a considerable extent, on a generalized mass belief in the legitimacy of the system, or “diffuse system support,” as Easton (1965) would have it. (Interestingly, the relationship between diffuse support and specific support in China appears to differ from that in Western democracies, where the two types of political support do not necessarily reinforce each other; Dalton 1999; Norris 2011.)

Model 3: Sociodemographics, Political Attitudes, Performance Issues

With this equation, we estimate the impact of performance issues, while controlling on the forces previously discussed. We observe that these additional variables substantially enhance the predictive power of the new model, almost doubling the model fit (i.e., from Model 2 to Model 3, the adjusted R^2 jumps from .16 to .31). What counts here? Political liberalism, as measured by support for freedom of speech and association, does not. But, economic liberalism does count.

Put another way, those expressing a greater commitment to private ownership of business are more dissatisfied with the communist government. They seem to want still more economic reform, away from the state-run system. This finding does not contradict other studies that find certain private entrepreneurs to be government supporters (Chen and Dickson 2008, 2010). The relatively small number of private entrepreneurs, because they are the winners in China’s economic growth race, can be happy with the government. But for the general public, the economic domination of the state sector leaves little room for ordinary citizens to start private businesses on their own. Similarly, those who see the current defense posture of the country as a problem are more dissatisfied with what the government is doing. This is consistent with other studies showing the strong impact of nationalism on Chinese public opinion, often pushing the government to take more assertive foreign policy stands (Gries 2004a, 2004b; Shirk 2011; Tang and Darr 2012).

These key specific issues, then, one positional (economic liberalism) and one valence (defense), make a difference for the shape of mass opinion on government conduct of its job. But what about other issues, the many other issues, which the national government must act on? Unfortunately, as noted, we do not have separate measures on the multiple different policy interventions carried out by the central government, when implementing its national policies in the counties and communities across China. However, we can measure this, in a global way, in a local “issue bundle,” as explained. In the survey, respondents were asked how satisfied they were with county government (on a 0-10 scale) and how satisfied they were with village government (on a 0-10 scale). Observe, first, that these scales are not simply proxy measures of the national government satisfaction scale. (They do correlate with it, but not highly; $r = .51$, $r = .29$, respectively). Furthermore, they have very different means. The mean national government score = 7.95, while the means for county and village governments are much less: 6.41 and 5.67, respectively.

Clearly, the Chinese are able to separate their opinions about these different levels of government. For our purposes, the clearly harsher judgment at the lower levels becomes especially relevant. It suggests that citizens capable of criticizing actual government practice locally, quite apart from any ideal of how they should be satisfied by national dictates. Indeed, to the extent they report dissatisfaction with these local political practices, we can expect to see growing dissatisfaction with the national government at large, and we do (see Table 1, column 3). The local government issues bundle is built from the satisfaction scales on county and village government. The coefficient of this index shows a strong impact of local issues evaluation on central government satisfaction. The statistical significance is high ($p > .001$), as is the substantive significance (with a change in X —from minimum to maximum satisfaction—yielding a 3.22 unit change in Y). Thus, what national government officials do locally makes a large difference for how citizens assess their performance globally. Even if sometimes local governments become the scapegoats of the central government, the latter does not get more credit if its local branches are under public criticism.

Discussion

With the data from this pivotal national probability survey, we have been able to test a theoretically plausible Chinese popularity function. That testing took place in three stages, in block-recursive fashion. Because of the large number of independent variables (22), the modeling effort experienced an inevitable data attrition. Fortunately, even with the fully specified model, the N remains large, at 1,260. Moreover, various data imputation techniques support the soundness of the final model results in column 3, Table 1.⁶ The inference, then, is that the lost cases effectively are missing at random. With these assurances, we return to interpretation of the model results.

According to that model, national government popularity in China fluctuates in response to sociodemographics, political attitudes, and issues performance. As the final estimates (of Table 1, column 3) indicate, the influence of social cleavages emerges as mostly indirect, operating largely via the attitudinal and issues variables (for instance, when the trust and local issues variables are held to be a function of sociodemographics, excluding region, the F -values are 6.61 and 10.5, respectively, $p < .001$). However, the direct impact of regionalism persists, despite these later model controls. Clearly, geographical location makes a difference for how citizens evaluate national government performance. Inland and less developed regions show a less critical attitude toward the central government than the coastal and metropolitan areas. For example, comparing the Northwest with the South,

citizens from the former exhibit a government satisfaction increase of 0.39 of a standard deviation—that is, $(8.37 - 7.49)/2.28 = 0.39$.⁷

With respect to political attitudes, the trust variable dominates. To the extent Chinese citizens believe in the government's legitimacy, they are much more likely to be satisfied with its performance. For example, comparing someone who is "not at all" trusting with someone "very" trusting, government satisfaction increases 0.90 of a standard deviation—that is, $(8.04 - 5.99)/2.28 = 0.90$. Finally, how the government handles issues importantly shapes its popularity. When it does well on the national issues relating to the economy and defense, it benefits. Even more valuable are its successful policy incursions into the issues of local communities. To the extent their overall program implementation works well in the villages, it can expect popularity gains. Indeed, here we also observe high effects. For example, when a citizen's local satisfaction score moves from one standard deviation below the mean to one standard deviation above the mean, the expected standard deviation change in the national satisfaction score = 0.71—that is, $(8.29 - 6.68)/2.28 = 0.71$.

Summary and Conclusion

VP-functions, even if "indirect," appear possible for non-democratic nations such as China. We have established that Chinese government popularity can be expressed as a function of sociodemographics, political attitudes, and performance issues. The model as a whole accounts for about a third of the variation in government satisfaction, measured on a 0 to 10 scale. Furthermore, the average prediction error registers under two points. Thus, goodness of fit, as measured by the adjusted R^2 and the root mean squared error, suggests a solid statistical explanation, especially given that the data come from an individual-level survey.

Theoretically, however, the model departs somewhat from a classic VP-function specification for three reasons—one substantive and two methodological. Substantively, because China is still an authoritarian state, certain of its heavy explanatory variables would be less heavy in other nations. Due to the centralization of the state, especially as manifest in Beijing, region plays an unusually strong role in government evaluation. Similarly, with a one-party state, government and party tend to blur together rather than compete, making for the decisive role of trust as a source of satisfaction. Finally, the successful delivery of local policy, from the national command posts to the villages, emerges as a key factor for maintaining the "specific support" so necessary for a hierarchical system such as that of China.

Beside this substantive reason for differences from other VP-functions, two methodological reasons loom

large. First, the Chinese function comes from cross-sectional data, whereas previous VP-functions almost always come from time-series data. (The outstanding exception here is the Russian presidential popularity survey study by Hesli and Bashkirova 2001.) Second, while it contains a number of political variables, it contains relatively few economic variables. Nannestad and Paldam (1994, 214) refer to the former as the “p-part” and the latter as the “e-part,” commenting that the key problem with VP-functions stems from poor measurement of the political variables relative to the economic variables. Here, we have a reverse problem, with poor measurement of the “e-part” relative to the “p-part.” These two methodological difficulties point the way to future research on the Chinese popularity function. First, a time series on national government popularity should be assembled. Second, in national surveys, more measures assessing the economy should be included. Such measures would go a long way toward further development of the emerging Chinese popularity function.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. “Religion” is defined by the survey question, “Do you have religious beliefs?” Respondents could answer yes (coded 1) or no (coded 0). In the Chinese context, this question strongly implicates the five institutional religions including Protestantism, Catholicism, Islamism, Buddhism, and Daosim. Folk religious beliefs and practices, which are not only more widely spread but also more diffused, are unlikely to be captured by this question.
2. “From the scale of 0 to 10 (0 = *lowest* and 10 = *highest*), how would you assess your social status?” Although not explicitly defined in the survey question, the concept of social status in Chinese (*shehui diwei*) usually means a combined self-assessment of one’s occupation, family background, social connections, education, income, housing, and other measures of living standards. This social status scale is positively correlated with the interviewer’s assessment of the interviewee’s living conditions ($r = .23$) and with the interviewee’s household income ($r = .53$).
3. “Municipal” includes the two provincial level cities of Shanghai and Chongqing and their surrounding counties in the 2008 China Survey. Note that “municipal” is not the same as urban, because the subsamples from these two cities contain urban and rural residents. As a test, a separate urban–rural variable was included, but it did not noticeably change the results.
4. The political liberalism index is made up of five items based on the question, “Do you agree or disagree with the following statements?” (1) “Public demonstrations can easily turn into social disturbances and impact social stability,” (2) “A system with just one main party is currently the most stable institution in China,” (3) “Public demonstrations should be forbidden,” (4) “If everybody does not share the same thinking, society can be chaotic,” (5) “If a country has multiple parties, it can lead to political chaos.” For each item, respondents were given a 5-point scale from “strongly agree” to “strongly disagree.” Alpha score of the five items is .70.
5. Trust in government (T) might lead to more satisfaction with government performance (S). However, more satisfaction with government performance might lead also to more trust. In this case, reciprocal causation exists, and an ordinary least squares estimate from regressing S on T will yield a biased estimate of the effect of T. To solve this bias problem, an instrumental variables strategy can be followed, which involves transforming endogenous trust (T) into an exogenous trust measure (T-hat). Instrumental variables estimation proceeds in stages. (For a good discussion of the technique, see Woolridge, 2006.) At the first stage, endogenous trust (T) is regressed on available exogenous variables, with the predicted trust variable serving as T-hat. At the second stage, T-hat is substituted for T in the original equation, and estimation carried forward with least squares. The resulting coefficient for T-hat now has the desirable estimator property of consistency. Applying this methodology to instrumentation of T, we selected the following exogenous variables: rural status, marital status, Chinese pride, desire to help others, agree–disagree scale on China in the world, life satisfaction, trust family, trust friends. These variables, when regressed on T, yield T-hat, the instrumental variable to be used for the second stage. What do these second-stage results show? First, the results show about the same model fit ($R^2 = .30$) and the same pattern of statistical significance. Furthermore, the estimate for the new trust variable, T-hat, is easily significant ($t = 2.71$) and has an estimated value of .76, suggesting that, if anything, the impact of trust on support is slightly underestimated in column 3, Table 1. The coefficient of T-hat remains of about the same magnitude and significance, under different testing conditions, that is, using ordered logit in the first stage, or the STATA force command for two-stage least squares (2SLS). We conclude that trust in government does, indeed, exert an independent, and rather strong, impact on satisfaction with government performance.
6. Because of the number of missing observations, it is worth considering their consequences for estimation. To explore this question, we compared three multiple-imputation (MI) models to our final model (in column 3, Table 1). Fortunately, the three give nearly identical results with each other, and with our final (nonimputed model), in terms of statistical fit, pattern of significance, and magnitude of coefficients. Therefore, we are reassured that the estimates offered for Model 3 (Table 1, column 3) reflect real population parameter values. Below, we detail our procedures.

As a general point, values were imputed for all variables in the final model that registered fewer than 3,500 actual observations, namely, economic liberalism, the issue of defense, trust in government, and political liberalism (its five components). The variables used to create the imputation are all the variables specified in the original Model 3. The first MI model uses STATA 12's MVN imputation (a joint modeling approach based on a multivariate normal distribution). The second MI model also uses MVN, but also adds the county dummies (our cluster variable) and the sample weights to the other variables in the imputation model. The third MI models uses STATA 12's chained imputation (a sequential approach), again with the county dummies and the sample weights. This third MI model, perhaps the most rigorous test, yields, as an example, the following statistics—adjusted $R^2 = .28$; statistically significant coefficients for all the statistically significant coefficients in column 3, Table 1; these substantive coefficients for leading variables: Central region = 0.80, trust in government = 0.59, support more private ownership = $-.35$, local satisfaction = 3.18, all values very close to the values in column 3, Table 1.

7. The standard deviation of the dependent variable of the sample in Model 3 ($N = 1,260$) is only slightly different from that of the overall sample (i.e., 2.28 instead of 2.27).

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