Inequality and Political Trust in China: The Social Volcano Thesis Re-examined

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Abstract

The social volcano thesis states that the rising inequality in China threatens regime stability. This idea, although widely held in the media and in academia, is backed by little positive evidence but by much negative evidence. Two primary pieces of negative evidence are that the Chinese people trust the central government and that they are highly tolerant of inequality. This paper discusses the shortcomings of the negative evidence and re-examines the thesis in a rigorous and direct way. Our multilevel analysis shows that provincial inequality has negative effects on individuals' trust in the local government but not in the central government, and this negative effect holds for both the rich and the poor. Because distrust in the local government implies distrust in the central government, we conclude that a social volcano exists.

Keywords: inequality; Gini coefficient; political trust; China; multilevel analysis

In a TV interview, Chinese billionaire Wang Jianlin 王健林 expressed his uneasiness about the younger generation's aspiration to attain a fortune without any planning. "It is best," advises Wang, "that you begin with a small goal that you can reach, say, to earn 100 million yuan [US$15 million] first."[1]

Wang's career advice is perhaps less useful, and certainly less palatable, than that offered by fortune cookies. An ordinary person may hit ten jackpots and still find him or herself a long way off from Wang's "modest" start. However, the advice sends a strong reminder of the growing inequality in China. In 1980, the Gini coefficient of household income was 0.230, one of the world's lowest, but it climbed to 0.412 in 2000 and 0.491 in 2008.[2] In 2008, China was one of the most unequal countries in the world, ranking alongside South Africa, Columbia and India.[3] Today, it is difficult to call China a socialist country without sounding sarcastic.

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1 Wang 2016.
2 State Council Information Office 2013.
3 Solt 2016.

This inequality causes concern. Analysts issue warnings about the repercussions of inequality such as high crime rates and high infant mortality rates.[4] But China observers have an additional concern – one that if ignored, could have catastrophic consequences. In a democracy, the resentment over inequality can be periodically vented by elections; in China, without this venting mechanism, the survival of the authoritarian regime is at stake. Scholars have sounded the alarm that China has long crossed the warning line of 0.40 Gini and that the country is at the mercy of a social volcano that threatens to cremate the regime and bury the people.[5]

This social volcano thesis has intuitive appeal and theoretical grounds. In China, housing and education are becoming unaffordable, yet both are curiously in high demand. Doctors and civil servants appear to enjoy lifestyles that their official salaries cannot support. The internet is awash with expressed sentiments of relative deprivation stemming from the gap between what people receive and what they think they deserve, sentiments which have been found to fuel rebellions.[6]

But the biggest problem with the social volcano thesis is that it contradicts an established finding about China, that is, that the Chinese people have tremendous trust in their authoritarian regime, even in times of increasing inequality.[7] If people trust the regime despite the inequality, where is the social volcano?

The short answer according to scholars such as Xiaogang Wu and Martin Whyte is that there is no volcano.[8] Wu compares people's acceptance of existing inequality in 28 societies and finds that China ranks remarkably high, only behind the Philippines and Hong Kong. Martin Whyte calls the volcano a myth, because although the Chinese people are aware of the huge income gap, they willingly accept it in the belief that income is distributed fairly and based on individual merits.[9] The impression of public anger about inequality, according to Wu and Whyte, is simply unrepresentative.

Wu and Whyte certainly shed new light on understanding the political consequences of inequality in China, yet they fail to provide a sufficient basis for rejecting the social volcano thesis. To begin with, the social volcano thesis proposes a relationship between a dependent variable (regime stability) and an independent variable (inequality), but neither study directly examines this relationship. And instead of directly measuring inequality as a reality independent of people's perceptions, they focus on a different concept: the sense of equity – people's normative judgement on inequality – possibly on the assumption that

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4   Merton 1938; Shaw and McKay 1942; Becker 1968; Kelly 2000; Pamuk 1988; Wennemo 1993; Mayer and Sarin 2005; Hosseinpoor et al. 2006.
5   Ma 2005; Kahn 2006; Hu and Hu 2007; Shirk 2008, 30–31.
6   Gurr 1970.
7   Shi 2000; 2001; Chen, Jie 2004; Kennedy 2009; Tang 2016; Zhou and Ou-Yang 2017.
8   Wu 2009; Whyte 2010; Whyte 2016; Whyte and Im 2014.
9   Whyte's (2014; 2016) findings about income inequality are consistent with his findings in Whyte 2010. Yet, in the 2014 and 2016 studies, he changed the phrase *no* volcano to *dormant* volcano.

inequality affects regime stability only when people think it unjust. But, this assumption may be false. First, inequality may cause one to lose trust in the government even though no inequity is detected in the survey. This could happen, for example, when people blame the government not for inequality, but for the side effects of inequality such as high crime rates. In addition, the key findings of both studies are aggregate-level statistics that reveal majority opinions. But the majority's acceptance of inequality is no guarantee of regime stability, as has been long recognized by the social movement literature. Evidence shows that when more than 10,000 people rebel, state repression is often handicapped, and when 5 per cent of the population rebels, few regimes survive.[10] Therefore, if people do lose trust in the government because of inequality, the volcano may still exist.

In this paper, we undertake a direct and rigorous test of the social volcano hypothesis. We acknowledge that the Chinese people are more tolerant of inequality than people in other societies, but we take seriously the theoretical instinct of the social volcano thesis. We argue that the Chinese people do lose trust in the government because the populist authoritarian culture so inclines them and because they are aware of the level of inequality in China.[11] We further argue that the Chinese people lose trust only in local government, not in the central government, because the central government makes popular social policies while the local government is tasked with implementing them. When inequality rises, people hold the local government responsible as it is the implementer. This attribution of responsibility explains the puzzling coexistence of high trust in the central government and high inequality. Our arguments receive substantial support from our multilevel analysis. Because distrust of the local government could eventually erode trust in the central government, we conclude that a social volcano does exist in China.[12]

The Social Volcano Thesis and Its Challenges

The social volcano thesis states that economic inequality corrodes regime stability to a breaking point. This view is widely shared in the media and academia. A 2005 report by the Chinese Academy of Social Sciences states that the "rich–poor disparity has led to the intensification of social disputes, mass protests, and criminal cases."[13] A *New York Times* article remarks that "Because many people believe that wealth flows from access to power more than it does from talent or risk-taking, the wealth gap has incited outrage and is viewed as at least partly responsible for tens of thousands of mass protests around the country in recent years."[14] Internet users minced no words chastising Wang Jianlin for his outrageous definition of small targets: "Damn! You know where your money

10 Gamson 1975; Lichbach 1998.
11 Tang 2016.
12 Li 2016.
13 Ma 2005.
14 Kahn 2006.

is from!" "Pretentious, the day when your original sin is exposed, you'll cry and beg for your life." In academia, scholars have noted that the Gini coefficient of China has long exceeded 0.40, the internationally recognized warning line.[15]

However, empirical support for the social volcano thesis is surprisingly scant. Although studies frequently cite mass protests and social disputes, they stop short of showing that inequality is the culprit. To our knowledge, no published research has empirically linked inequality to any indicator of regime stability. The widespread narrative of the 0.40 warning line is dubious. What makes 0.40 the magic number? Does the probability of social unrest drastically increase once the Gini coefficient reaches 0.40? The literature is silent on these questions. A simple Google search of "0.40, Gini, warning line" returned results exclusively about China, casting serious doubt on the warning line narrative.

The social volcano thesis also faces jarring challenges from negative evidence. The thesis flies in the face of a well-known finding about China: the Chinese people have great trust in the central government. In 2008, inequality hit a record high, but China's remained one of the most trusted governments in the world, with 89 per cent of the people saying that they trusted the national government. To compare, the figures were 38 per cent in Germany, 32 per cent in Taiwan and 20 per cent in the United States.[16] Although sceptics often challenge the data on China on the basis that people's views are affected by fear, serious investigations suggest otherwise.[17] Considering that the citizenry trusts the regime despite severe inequality, the notion of a social volcano seems far-fetched.

Four public opinion studies indeed think so. In his 2009 study, Xiaogang Wu compares people's tolerance of inequality in 28 societies.[18] In each of the societies, respondents were asked to estimate the actual incomes of a list of occupations, including both blue-collar and white-collar jobs (do-earn incomes). Respondents were also asked how much they thought each occupation should earn (should-earn incomes). Wu compares the inequality among do-earn incomes, which indicates the inequality in reality, with the inequality among should-earn incomes, which reflects the inequality believed to be appropriate. In all of the 28 societies, people thought that inequality was higher than it should be, but this feeling was less intense in China than in 25 societies, including Russia, France, Japan, Canada and the United States. Only in the Philippines and Hong Kong were people more accepting of the existing inequality. This means that, in perspective, people in China have "very high normative support for income inequality."[19] Thus, it is a misperception to see a social volcano in China but not elsewhere.

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15 Ma 2005; Kahn 2006; Hu and Hu 2007; Shirk 2008, 30–31.
16 Figures for people who fully or somewhat trust the national government are: 89% in China (2008 China Survey); 38% in Germany (Eurobarometer 2010); 32% in Taiwan (ABSIII); 24% in Britain (Eurobarometer 2010); 20% in the United States (EGSS 2010); 13% in France (Eurobarometer 2010); and 12% in Japan (ABSIII).
17 Chen, Xueyi, and Shi 2001; Shi 2001; Chen, Jie 2004; Tsai 2007; Tang 2016.
18 Wu 2009.
19 Ibid., 1047.

In his influential book, Martin Whyte deals a heavy blow to the social volcano thesis. Using data from a 2004 national survey, Whyte makes several observations.[20] First, there is no massive dissatisfaction with income distribution in China. Most people believe that an individual is poor because of a lack of ability, education and effort, not because of unequal opportunity or discrimination, and they are optimistic about their opportunities to get ahead.[21] Second, echoing Wu's finding, Whyte shows that citizens' acceptance of inequality in China is greater than that in East European countries and Western democracies.[22] Third, the radical egalitarianism under Mao has had no lasting imprint on the following generations. Data show no widespread nostalgia for the Maoist era. As a matter of fact, Mao's making-all-poor approach was unpopular, and more important, it failed to achieve its goal, as salaries and benefits in Maoist China were highly unequal across workplaces and occupations.[23] It is the individualist elements of Confucianism that have profoundly shaped China's distributive culture.[24] Whyte updates his findings in two subsequent studies and the conclusion remains: the social volcano is a myth.[25]

Challenges Examined

The current literature makes it tempting to dismiss the social volcano thesis as false; however, this may be too hasty. First, the social volcano thesis has not been tested directly. The thesis proposes a causal relationship between two variables. It states that regime stability (the dependent variable) decreases as a result of rising inequality (the independent variable). To reject the thesis, one must show that there is no relationship or no positive relationship; this has yet to be accomplished. True, the studies show that people in China are more tolerant of inequality than people in other countries.[26] But this at best shows that there is no imminent volcanic eruption– – not that there is no volcano. We think even this no-eruption interpretation could be over-simplistic. Researchers of social movements have long realized that when it comes to rebellion, what matters most is not the majority but the minority. The majority of the people may be loyal and happy, but a disgruntled minority, if mobilized, can shatter the regime. William Gamson notes that when 10,000 people rebel, state repression is often crippled.[27] Mark Lichbach finds that when 5 per cent of the population rebels, few regimes can survive.[28] The 1989 Tiananmen protests presented the biggest challenge to the CCP regime to date, but how many protesters participated?

20 Whyte 2010.
21 Ibid., 48.
22 Wu 2009.
23 Whyte 2010.
24 Ibid.
25 Whyte and Im 2014; Whyte 2016.
26 Wu 2009; Whyte 2010.
27 Gamson 1975.
28 Lichbach 1998.

The biggest crowd on the Tiananmen Square was probably less than 0.1 per cent of the population.[29] So, even if most people in China have positive feelings about the current inequality, there could still be a volcano if inequality negatively affects regime stability.

The existing studies do not directly measure inequality and so do not prove that a social volcano does not exist. Inequality refers to how evenly resources are distributed within a group, and it should be a mind-independent property of a group, not the subjective perception of an individual. Individuals within a group may have completely different perceptions of how things are distributed, while the group-level distribution remains unchanged. That is to say, inequality does not vary from individual to individual, but perception of inequality does. Hence, objective measures of inequality such as the Gini coefficient and the ratio of high incomes to low incomes should be preferable to subjective measures such as how much inequality individuals perceive. Sometimes survey questions are phrased so that they tap into respondents' normative judgement on income distribution. Take, for example, the question "do you think the gap between the rich and the poor is too large?" In reality, such survey instruments measure not inequality but a sense of inequity, which is a different concept. Because people's normative judgement depends on culture, values and expectations, a sense of inequity is an individual property that is inherently subjective.

Although the term inequality appears in the titles of both Wu's and Whyte's works, their empirical analyses instead focus on the sense of inequity, probably for two reasons.[30] First, some argue that inequality alone is meaningless. A Gini coefficient of 0.43 tells us nothing, but 80 per cent of the population reporting excessive inequality indicates a regime's frailty. Our response is that this is a problem only when inequality is examined alone. When inequality is examined in relation to regime stability, the problem vanishes. Second, some may argue that inequality affects regime stability only by creating a sense of inequity, so it is unnecessary to measure inequality directly. However, there are many reasons why this is not a universal rule. Inequality may corrupt political systems, erode governance and cultivate a culture of distrust, all of which may trigger distrust in the government even if no overt resentment is expressed. Imagine a poor person living in a segregated city who only associates with similar people. This person may feel little inequity because of his or her homogeneous social contact but may still distrust the government because, in the segregated context, that person has learned since childhood not to trust anyone, including the government. In addition, the idea that a sense of inequity is the only path from inequality to political distrust contradicts what we know about survey methods. There are many ways in which people may lose trust in the government as a result of inequality, even if they express no sense of inequity in the survey. They may believe that the government is responsible for excessive inequality, but what if right before they

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29 Zhang 2002.
30 Wu 2009; Whyte 2010; Whyte and Im 2014.

take the survey, they read an article that convinces them that inequality has been in steady decline? In this case, they may report whatever is top in their mind: inequality is not too high.[31] In short, the existing studies leave open the possibility that a social volcano exists.

The Social Volcano Thesis Reconsidered

We argue that a social volcano does exist in China, not in the form of pervasive public indignation but in the form of a negative relationship between inequality and individual trust in the government. We argue that people, regardless of their incomes, distrust the government because they are aware of the high inequality, dislike it, and blame the government for failing to contain it. People dislike inequality through many possible mechanisms: they may dislike it for no articulate reasons; dislike it for its side effects such as high crime rates; or dislike it because it is unjust. We therefore do not specify all those intermediate variables, just as economic voting scholars seldom specify the intermediate variables between a bad national economy and people's dislike.[32] People blame the government for failing to contain inequality because China's political culture inclines them to do so. Owing to the gap between the promised benefits of the central redistributive policies and poor local implementation, when inequality increases, people only lose trust in the local government. Finally, the rich react to inequality in similar ways to the poor. This is because rich people's political trust is not determined by the relative superiority they may gain from inequality. Certain points in our theory demand further elaboration.

Influence of political culture

Inequality causes the Chinese people to distrust the government because of a political culture that holds the government responsible for excessive inequality. The studies by Wu and Whyte unveil an individualistic facet of China's redistributive culture.[33] Nonetheless, this individualism should not lead us to overlook Chinese people's general acceptance of government intervention in the economy. In one of the most recited verses of the *Analects*, Confucius preaches that political leaders should fear inequality more than they fear poverty.[34] In a sophisticated treatise on contemporary political culture in China, Wenfang Tang finds that people have high expectations about what the government can and should do to address their needs.[35] For example, labour disputes are frequently brought before the government for resolution rather than taken to the courts or labour unions. There have even been occasions when Wen Jiabao 温家宝 has supported

31 Converse 1964; Zaller 1992.
32 Lewis-Beck and Stegmaier 2007.
33 Wu 2009; Whyte 2010.
34 See Confucian Analects, Book XVI: Ke She, Ch. 1
35 Tang 2016.

campaigns on behalf of unpaid migrant workers.[36] Another glimpse of people's reliance on government intervention may be gained from the online forums of municipal government websites, where internet users frequently demand governmental action on trifles such as a hospital's parking charges and street vendor noise. The Chinese people's need for government intervention is also manifest in their peculiar understanding of democracy. Only a quarter of Chinese people think that elections or freedom of speech are essential to democracy, while 42 per cent think democracy essentially means that there is a narrow income gap or the provision of basic necessities like food, clothes and shelter for everyone.[37]

Citizens are aware of high inequality

Even though the Chinese people have a cultural tendency to hold the government responsible for inequality, they will not do so unless they are aware of high inequality in China. So, are they aware? There are many indications that they are. The domestic media are obsessed with exposing the luxurious lives of the rich, as exemplified by the viral video of Wang Jianlin's small-target remark about wealth. Xi Jinping's 习近平 anticorruption campaign, which mobilized the public to condemn the corrupt lifestyles of toppled leaders, has galvanized this obsession. If these examples are too anecdotal, let us turn to national surveys. The gist of Wu's and Whyte's studies is that the people find China's income distribution acceptable.[38] But when we zoom in on their findings, we clearly see complaints about inequality, and louder complaints when governmental responsibility is implied. According to Whyte, 72 per cent of people in China think that the national income gap is too wide or somewhat large; 60 per cent agree with the statement that the rich are getting richer and the poor poorer; 51 per cent agree with the statement "The reason why social inequalities persist is because they benefit the rich and the powerful;" and 83 per cent think an unfair economic system exerts some influence, a big influence, or a very big influence on people's poverty.[39] Wu reports that when asked to what extent six occupations (farmer, peasant worker, urban factory worker, professor, senior government official, and CEO in a large company) in China are overpaid, respondents singled out senior government officials as the most overpaid – and overpaid by 35 per cent.[40]

Citizens' attribution of responsibility

If the social volcano thesis is to be sound, it must be reconciled with the enviable level of trust enjoyed by the Chinese central government. The reconciliation, we argue, lies in the trust gap between the central government and local government.

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36 Liu 2011.
37 Zhou 2016.
38 Wu 2009; Whyte 2010.
39 Whyte 2010, 44, 45, 48.
40 Wu 2009, 1043.

Because of a self-reinforcing cycle of institutional overtasking, credit-taking and blame-shifting, the negative influence of inequality on political trust is mostly absorbed by local government. This trust gap spares the central government and provides it with an invincible facade.

Scholars have long noticed that in China, political trust declines as the government in question moves down the hierarchy. Lianjiang Li compares the percentages of people who report very high or relatively high trust in different levels of Party committees.[41] For the Party committees at the central, provincial, county, and township levels, the figures are 91 per cent, 72 per cent, 53 per cent and 38 per cent, respectively. Numerous authors find that the public is mostly dissatisfied with the corruption at the local, rather than the central, level.[42] The root cause of this trust gap is that the central government makes policies that mean well and promise much, or at least appear to; however, the local government, when tasked with implementing these policies with limited resources and in complicated circumstances, is often unable or unwilling to deliver. This is largely how the redistributive policy functions in China. Take, for example, the Minimum Living Security (*dibao* 低保), the assistance programme for the extremely poor. The State Council decreed the programme in a two-page document.[43] The document contains little detail. It does state that local government is solely responsible for financing the programme, but it is otherwise so vague that it is virtually useless as a guideline. The quality of local implementation is, unsurprisingly, patchy.[44] In one extreme yet telling case, the local authorities unjustifiably cancelled one poor family's *dibao*, which led the mother to kill her four children and then herself. The tragedy ended with the father's suicide eight days later.[45] In similar cases, aggrieved people would seek help from the centre that sets the high expectations, and the centre often intervenes on a case-by-case basis.[46] Fuelled by state propaganda, this interaction between the aggrieved and the centre constructs a narrative of rogue local officials defying a benevolent centre.[47] When local implementation is successful, the centre still gets most of the credit. In his case study of the abolition of school fees in 2004, Xiaobo Lü finds that despite local government's contribution, people credited only the central government with more trust.[48]

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41 Li 2004.
42 Pei 2002; Manion 2004; O'Brien and Li 2006; Tang 2016. The "centre" (*zhongyang*) is how the Chinese refer to the central government. Here, we use the centre and the central government interchangeably.
43 "Guowuyuan guanyu zai quanguo jianli chengshi jumin zuidi shenghuobaozhang zhidu de tongzhi" (State Council's notice about establishing the institution of urban minimum living standards), 2016, http://www.gov.cn/zhengce/content/2016-10/19/content_5121479.htm. Accessed 7 September 2018.
44 Whyte 2016, 35.
45 Hernandez 2016.
46 O'Brien and Li 2006; Tang 2016.
47 Li 2004; Kennedy 2009; Lü 2014; O'Brien and Li 2006; Tang 2016; Cui et al. 2015.
48 Lü 2014.

The conditioning effect of income

Before we hypothesize any relationship between inequality and political trust, we must consider the conditioning effect of income. Do the rich and poor react to inequality in similar or different ways? It may be argued that inequality causes the rich to trust the government more and the poor to trust the government less because higher levels of inequality mean that the rich become better off and the poor worse off, in a relative sense. Economists tell us that people are self-interested and gain more happiness from being richer than their neighbours than from being rich in absolute terms.[49] Also, when being rational, the rich and the poor have different redistributive preferences.[50] Therefore, inequality may increase the rich's political trust because it affords a sense of relative superiority.

However, we believe this view is too simplified. Rational thinking may dominate people's economic decisions, but one's trust in the government is more than an economic decision. We have to consider other determinants of human behaviour such as emotions and values. Research has documented a general human tendency to ensure a minimal living standard for everybody.[51] For the rich, this tendency may outweigh their sense of relative superiority supplied by inequality. Even if we concede that rational thinking looms large in the formation of political trust, it is still plausible that the rich distrust the government owing to inequality because their interests are at stake. Inequality increases crime rates, infant mortality rates, general mortality rates, and it may cause civil conflicts.[52] Any of the above could dwarf the rich's sense of relative superiority gained from the existence of inequality. Just imagine a well-to-do family deciding to emigrate. What would they consider when choosing their destination? How likely is it that they would choose a highly unequal country in order to feel richer?

Based on the foregoing theoretical arguments, we propose our hypothesis:

Inequality makes an individual lose trust in the local government but not in the central government, and this effect holds for both the rich and the poor.

Empirical Analysis

Data and measures

To test our hypothesis, we need data for both inequality and individuals. The individual-level data come from the Chinese General Social Survey (CGSS) 2010. The CGSS uses multistage stratified random sampling to draw a representative sample of the Chinese adult population. The survey includes a total of

49 Easterlin 1974.
50 Meltzer and Richard 1981.
51 Bowles and Gintis 2000; Dion and Birchfield 2010.
52 Merton 1938; Shaw and McKay 1942; Becker 1968; Kelly 2000; Pamuk 1988; Wennemo 1993; Mayer and Sarin 2005; Hosseinpoor et al. 2006; Wilkinson 1986; 1990; Kawachi et al. 1997; Russett 1964; Gurr 1970.

11,783 completed interviews, with a response rate of 73.15 per cent. The data on inequality are based on the provincial Gini coefficient of household income calculated by Weimin Tian.[53] We also use other provincial economic statistics. Gross provincial product per capita comes from the 2009 *Statistical Yearbook*. Data on the degree of marketization in 2009 are compiled by Fan Gang, Wang Xiaolu and and Zhu Hengpeng.[54]

Dependent variable: trust in the central and local governments

The CGSS 2010 asks respondents to rate their trust in the central and local governments on a 5-point scale (1 "no trust at all"; 2 "little trust"; 3 "neither trust nor distrust"; 4 "some trust"; and 5 "total trust").[55] Nationwide, 52 per cent of respondents trust the central government completely, while only 24 per cent trust the local government completely. At the other end of the scale, 3 per cent have little or no trust in the central government, while 16 per cent report similar distrust in the local government.

As Figures 1 and 2 show, levels of political trust vary across provinces. The two figures show the percentages of respondents who have total trust – darker colours mean higher percentages. Two patterns emerge. First, provinces with a high degree of trust in the central government tend to have high local trust. Second, in each province, trust in the centre is significantly higher than trust in the local government. For instance, people in both Gansu province and Zhejiang province trust the central government more than they do the local governments, but both central and local trust are considerably higher in Gansu (88 per cent and 35 per cent) than in Zhejiang (33 per cent and 18 per cent). The variance across the provinces calls for a provincial-level explanation.

## Independent variables: economic inequality and socio-economic status

Economic inequality is measured by the provincial Gini coefficient. Some may question whether provincial inequality has real impact on political trust, because the inequality people experience daily is likely to concern smaller communities like counties or neighbourhoods. Ideally, we could examine and compare provincial inequality and community-level inequality, yet such national data do not exist. Nonetheless, since cross-national studies frequently use national inequality to explain political behaviour, we are confident that provincial-level inequality has political significance.[56]

53 Tian 2012.
54 Fan, Wang and Zhu 2011.
55 The survey question is vague about which level of local government is being asked about in urban areas. For the urban respondents, it only asks about the "local government," but for the rural respondents, it asks about the township government. Without knowing whether and how the interviewers specified the level of urban government, we can only interpret the urban data as trust in local government in general.
56 Solt 2008; 2010; Rosset, Giger and Bernauer 2013; Dion and Birchfield 2010; Andersen and Fetner 2008.

Figure 1: **Complete Trust in the Central Government across Provinces**
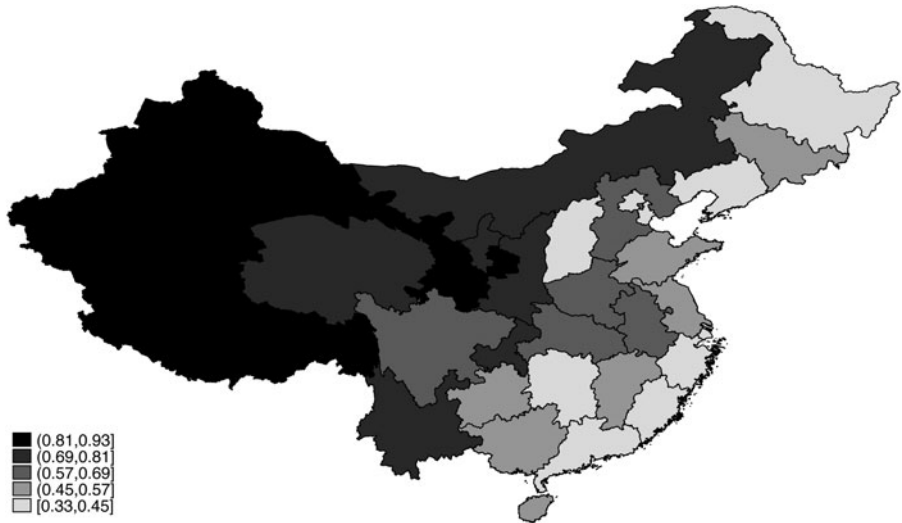
The provincial Gini coefficients are calculated by Tian based on the annual disposable income of urban households and net income of rural households, both gathered from the yearbooks of each province.[57] The 2009 provincial Gini coefficient ranges from 0.28 in the city of Beijing to 0.48 in Guizhou (see Figure 3, Gini index multiplied by 10 for easier interpretation). We centre the Gini coefficient by subtracting the mean so that zero means the average inequality.

To test whether the rich and the poor both lose trust owing to inequality, we need a variable on individual income. We constructed a composite index of socioeconomic status (SES). We chose SES instead of an income variable because the latter does not fully capture people's real incomes. For many people working in the public sector, a significant portion of their real incomes has ambiguous legality and is unlikely to be reported on opinion surveys. But the SES index, which we constructed based on income, educational attainment and self-assessed social status, can reflect people's financial statuses more effectively without the need to ask sensitive questions. The income variables are personal and household annual income in 2009. Self-assessed social strata include both current status and status from ten years ago. Educational attainment is an ordinal variable corresponding to the educational system in China. We combine these variables into a standardized SES index with high values indicating higher statuses. The index has a reliability scale of 0.753, assuring high reliability.

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57 Tian 2012. Hunan, Hainan, Jilin, Shandong, Tianjin, Yunnan and Tibet are excluded from the analysis because Gini coefficients for these provinces are unavailable.

Figure 2: **Complete Trust in Local Government across Provinces**
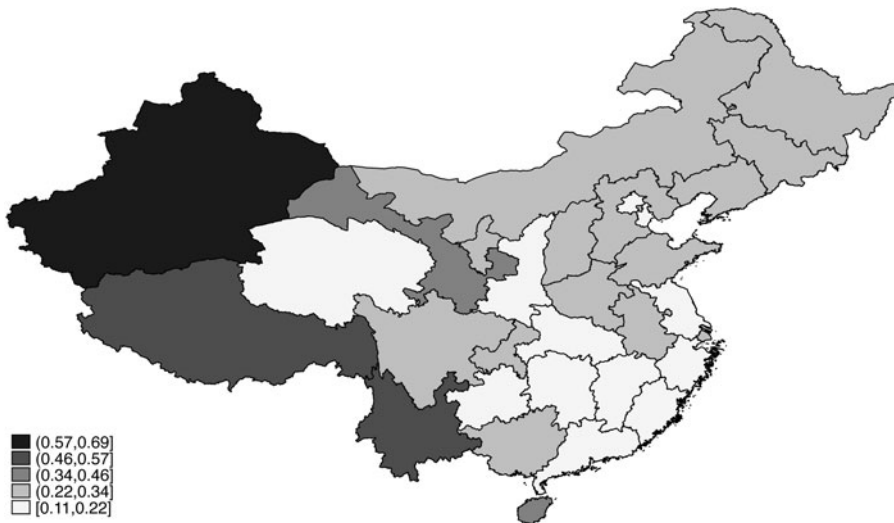
Control variables

We control for some individual-level covariates that may influence political trust. The first group of control variables measures the sense of inequity. We include these controls to demonstrate that inequality may influence political trust independently from inequity, a point we made earlier. These control variables are: how fair is society (1 – not at all; 5 – totally fair); how fair is your own income (1 – not at all; 5 – totally fair); how severe is the conflict between the rich and the poor (1 – not at all; 5 – very severe); inequality is caused by the manipulations of the people with power (1 – strongly disagree; 5 – strongly agree). We expect the first two variables to have a positive influence on political trust and the last two variables to have a negative influence. The correlations between Gini coefficients and these four measures of inequity are low (see Table A2 in the Appendix), reinforcing the case that inequity cannot substitute for inequality in the evaluation of the social volcano thesis.

We also control for media use or primary sources of political information. Newspapers, magazines, radio and TV are classified as traditional media, and the internet and mobile phones as new media. The government has more control over the traditional media than it does over the new media, so we expect the use of new media to decrease political trust.[58] We also control for whether respondents have experienced protests. Because exposure to protests gives people first-hand experiences of the real conflicts and injustice in society, we expect this variable to have a negative influence on political trust. Other individual-level control variables are employment status, age, gender, marital status CCP membership, and household registration status (*hukou* 户口).

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58 Kennedy 2009; Tang 2016.

Figure 3: **Inequality across Provinces**
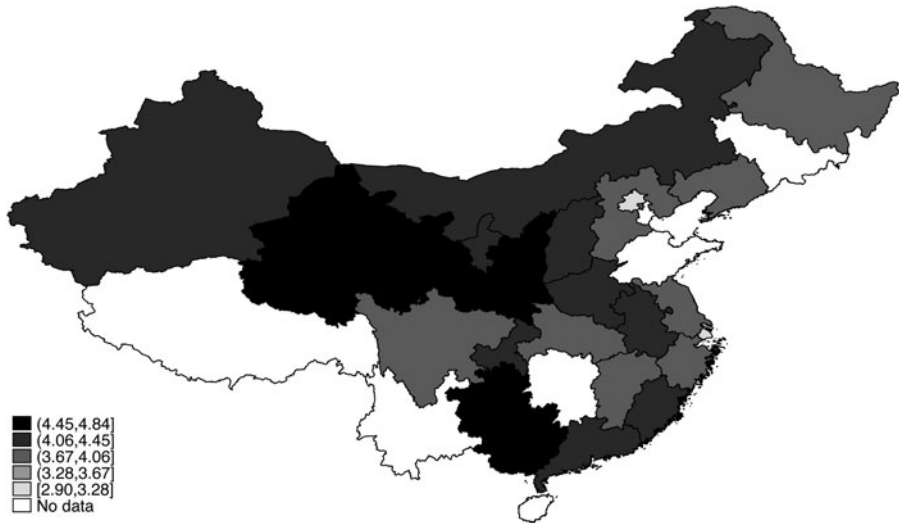
Source:
  Tian 2012.
Notes:
  Gini index in 10-point scale. Provinces not covered: Tianjin, Jilin, Shandong, Hunan, Hainan, Yunnan and Tibet.

Provincial-level control variables include gross provincial products per capita in 2009, the level of marketization in each province in 2009, and provincial spending on culture and media, public security, education, healthcare and environment protection in 2009 (percentage of total provincial expenditure). The marketization index captures the maturity of a province's private market since 1978.[59] The marketization index in 2009 ranges from 0.38 for Tibet to 11.8 for Zhejiang, the latter province being more developed. We expect the first two provincial control variables to have a positive influence on political trust. The provincial spending variables can indicate the provision of social services, but they can also indicate a deficiency and a need for more spending. Therefore, we do not expect a specific direction for the effect of provincial expenditures on political trust.

The multilevel models are specified as follows:[60]

$$Trust_{ij} = \gamma_0 + \gamma_1 Socioeconomi\ status_{ij} + \gamma_k Ind.\ Control_{ijk} + \varepsilon_{ij}$$
$$\gamma_0 = \gamma_{00} + \gamma_{01} Gini_j + \gamma_{0k} Pro.Control_{jk} + \mu_j$$
$$\gamma_1 = \gamma_{10} + \gamma_{11} Gini_j$$

The dependent variables are trust in the central government and trust in local government. We employ multilevel analysis to control for provincial-level factors

59 See Fan, Wang and Zhu 2011 for how the index is calculated.
60 The models include individual-level sampling weights. They are also adjusted for the complex survey design. The results are robust to these adjustments.

not already mentioned, such as population, geography, religion, ethnicity. In the equations, these factors are captured by μ_j.[61] We chose the multilevel linear model for its simplicity and ease of interpretation.

Results

Table 1 presents the results of four hierarchical linear models. The dependent variable of models 1 and 2 is trust in the central government, and the dependent variable of models 3 and 4 is trust in the local government. Models 1 and 3 are the baseline models, and models 2 and 4 have cross-level interactions between SES and provincial inequality. In model 1, neither SES nor the Gini coefficient is statistically significant, which suggests that inequality does not affect the general population's trust in the central government. Because our hypothesis has predictions for both the rich and poor, we still need to examine the interaction between SES and the Gini coefficient.

In model 2, both SES and the interaction term are significant. Because the Gini coefficient is rescaled so that zero represents the average level of inequality, the negative effect of SES means that in a province with an average level of inequality, people with a high SES are less trusting of the central government than people with a low SES. Because SES also has a mean of zero, the insignificant coefficient of the Gini coefficient means that for a person with an average SES, living in a more unequal province does not affect trust in the central government. However, we cannot directly interpret the effect of inequality when SES takes on other values, so it is wrong to interpret the significant interaction as "rich people trust the central government more if the objective inequality is severe."[62] Correct interpretation of interaction terms requires calculating the marginal

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61 Our results are robust to the coding of the dependent variables (binary, ordinal or linear) and the corresponding models (multilevel logistic model, multilevel ordered logistic model or multilevel linear model). We did not choose the logistic models because sampling weights cannot be applied and interpretation based on predicated probabilities is needlessly convoluted.

62 Model 2 is:

$$Trust\ in\ Central\ Gov. = \hat{\beta}_0 + \hat{\beta}_1 SESindex + \hat{\beta}_2 Gini + \hat{\beta}_3 SES\ X\ Gini$$

$$+ \sum \hat{\beta}_i Control_i = \hat{\beta}_0 + \hat{\beta}_1 SESindex$$

$$+ (\hat{\beta}_2 + \hat{\beta}_3 SES)Gini + \sum \hat{\beta}_i Control_i$$

We interpret the effect of change in Gini on the level of trust: $(\hat{\beta}_2 + \hat{\beta}_3 SES)$, and this effect varies across SES levels, as does the statistical significance of this effect. The standard error of $(\hat{\beta}_2 + \hat{\beta}_3 SES)$ changes with the value of SES:

$$se(\hat{\beta}_2 + \hat{\beta}_3 SES) = \sqrt{var(\hat{\beta}_2 + \hat{\beta}_3 SES)}$$

$$= \sqrt{var(\hat{\beta}_2) + SES^2 var(\hat{\beta}_3) + 2SEScov(\hat{\beta}_2,\ \hat{\beta}_3)}$$

We visualize the size of this effect with its corresponding 95% confidence intervals at 7 points of SES in Figure 4.

Brambor, Clark and Golder (2006) articulate that focusing on the statistical significance of the interaction term could only be misleading; its significance does not necessarily imply any effect of the combined term.

Table 1: **Determinants of Trust in the Central and Local Governments**

	Central government		Local government	
	Model 1	**Model 2**	**Model 3**	**Model 4**
SES index	−0.039*	−0.028**	−0.052***	−0.046**
	(0.024)	(0.014)	(0.015)	(0.021)
Gini coefficient	−0.037	−0.038	−0.552***	−0.552***
	(0.150)	(0.151)	(0.167)	(0.167)
SES x Gini		0.047**		0.022
		(0.021)		(0.028)
Society is fair	0.097***	0.097***	0.225***	0.225***
	(0.014)	(0.014)	(0.019)	(0.019)
Own income is fair	0.041***	0.040***	0.061***	0.061***
	(0.006)	(0.006)	(0.008)	(0.008)
Conflict bet. rich and poor	−0.028**	−0.028**	−0.045***	−0.044***
	(0.012)	(0.012)	(0.015)	(0.015)
Attribute inequality to gov.	−0.020*	−0.020*	−0.120***	−0.120***
	(0.011)	(0.011)	(0.011)	(0.011)
Experience of protest	−0.074**	−0.076**	−0.311***	−0.312***
	(0.034)	(0.034)	(0.065)	(0.065)
Media type	−0.258***	−0.258***	−0.156***	−0.156***
	(0.043)	(0.043)	(0.039)	(0.039)
Employed	−0.029*	−0.029*	−0.001	−0.001
	(0.017)	(0.017)	(0.017)	(0.017)
Age	0.002	0.002	0.001	0.001
	(0.002)	(0.002)	(0.001)	(0.001)
Female	−0.042	−0.042	0.039	0.039
	(0.026)	(0.026)	(0.025)	(0.025)
Married	0.036	0.036	−0.041	−0.040
	(0.028)	(0.027)	(0.028)	(0.027)
CCP member	0.084**	0.081**	0.103**	0.102**
	(0.035)	(0.034)	(0.046)	(0.045)

Table 1: **Continued**

	Central government		Local government	
	Model 1	**Model 2**	**Model 3**	**Model 4**
Culture and media spending %	0.170*	0.164*	0.239***	0.235***
	(0.090)	(0.089)	(0.086)	(0.086)
Public security spending %	−0.079**	−0.082**	0.021	0.020
	(0.031)	(0.032)	(0.039)	(0.039)
Education spending %	0.016	0.017	0.033	0.034
	(0.025)	(0.025)	(0.024)	(0.024)
Healthcare spending %	−0.075	−0.076	−0.192***	−0.192***
	(0.074)	(0.074)	(0.063)	(0.063)
Environment protection spending %	0.034	0.031	−0.157***	−0.159***
	(0.036)	(0.036)	(0.038)	(0.037)
Urban	−0.099***	−0.103***	0.030	0.028
	(0.018)	(0.018)	(0.052)	(0.052)
GDP in thousands	−0.010**	−0.010*	−0.018***	−0.017***
	(0.005)	(0.005)	(0.005)	(0.005)
Marketization index	0.002	0.001	−0.092***	−0.092***
	(0.028)	(0.028)	(0.026)	(0.026)
Constant	4.761***	4.788***	5.263***	5.274***
	(0.537)	(0.539)	(0.332)	(0.332)
Log sigma(constant)	−2.482***	−2.468***	−2.015***	−2.012***
	(0.161)	(0.156)	(0.169)	(0.169)
Log sigma(residual)	−0.336***	−0.336***	−0.005	−0.005
	(0.036)	(0.036)	(0.026)	(0.026)
Observations	8,563	8,563	8,557	8,557
Number of groups	24	24	24	24
Log-likelihood	−9294	−9291	−12124	−12124
Wald-Chi2	2585	4396	21337	18453
Prob > Chi2	0	0	0	0

Notes:
   Robust standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Observations per group: minimum: 84, maximum: 590, average: 356.8.

effects of one variable conditional on each value of the other variable, as well as the confidence intervals of these marginal effects.[63] We employ simulations to calculate the marginal effects of inequality on trust in the central government across socio-economic status. The results are presented in Figure 4. Because the 95 per cent confidence intervals all cross zero, the figure shows that economic inequality has no influence on trust in the central government for either the rich or the poor, supporting our hypothesis. To determine whether inequality decreases trust in the local governments, as the hypothesis predicts, we turn to models 3 and 4.

In model 3, the Gini coefficient is negative and statistically significant. This means that for the general population, living in an unequal province decreases trust in the local government. But does it hold across all SES groups? The inter-action term in model 4 indicates that it does. Figure 5 presents the marginal effects of inequality at each level of SES. It shows that the negative effect of inequality does not change with different levels of SES. In other words, inequality decreases the trust in local governments of both the rich and the poor. At this point, our hypothesis receives full support.

Yet we still want to probe how much of an influence inequality exerts. Because the mean of SES is zero, the -0.6 coefficient of Gini means that for a person with an average SES, a 0.1 increase of Gini coefficient decreases local trust by 0.6 on a 5-point scale. As mentioned, in 2009, Guizhou was the most unequal (0.48 Gini) and Beijing was the least unequal (0.28 Gini). There is a 0.2 difference in their Gini coefficients, which according to our simulations, may result in a 1.2 decrease of local trust on a 5-point scale. That is to say, from a "total trust" to "some trust," from "some trust" to "neither trust nor distrust," and so forth.

Some other results merit comments. Socio-economic status has no influence on central trust (model 1, significant at a 90 per cent level) but it has a negative influence on local government (model 3). This is contrary to the economic voting spirit that sees people reward the government for good personal circumstances, and it casts doubts on the effectiveness of the CCP enhancing regime legitimacy through economic development.[64] But why do people with a higher SES have less trust in local government? Maybe people with a higher SES tend to have higher expectations of government performance. Or, maybe these people are more informed of government performance. Variables of inequity behave as expected across the models: the sense of inequity decreases both central trust and local trust. The fact that inequality exerts influence independent of inequity highlights the risk of confounding the two concepts in inequality

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63 As Brambor, Clark and Golder 2006 shows, even if none of the base variables and the interaction term are statistically significant, the marginal effects of one variable may still be statistically significant conditional on certain values of the other variable.

64 Downs 1957; Lewis-Beck 1985; Sigelman, Sigelman and Bullock 1991.

Figure 4: **Effects of Increasing Gini Coefficient by 0.1 on the Level of Trust in the Central Government across Socio-economic Status**
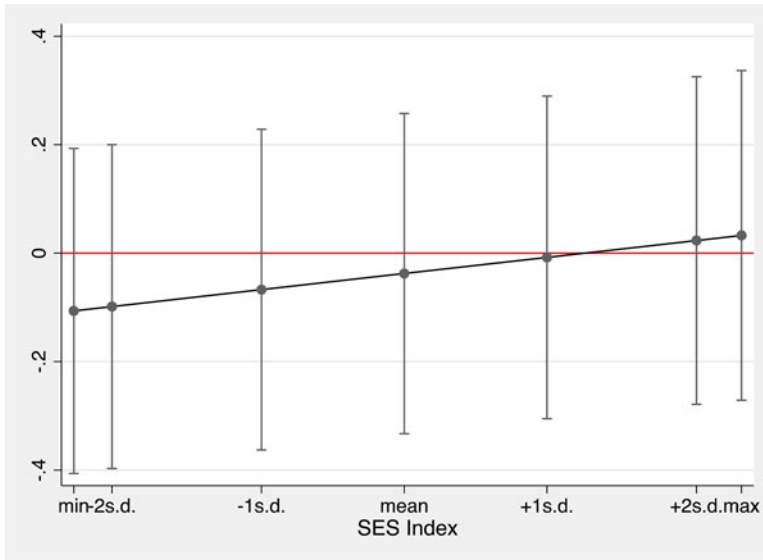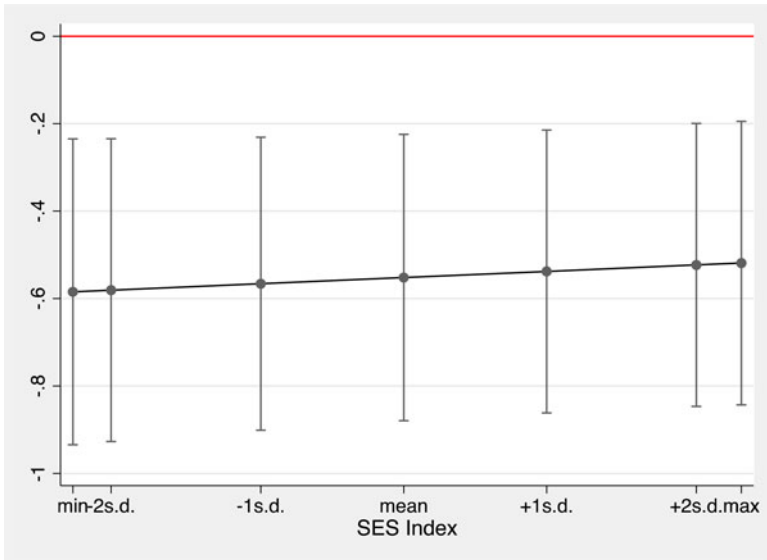

Note:
    Whiskers are 95% confidence intervals.

research. Exposure to protests has the expected negative effects on both central and local trust. Use of new media reduces both central and local trust. As for the provincial-level variables, gross provincial product per capita has a negative effect on both local trust and central trust, again raising doubts about the effectiveness of economic development for strengthening regime legitimacy. Provincial marketization has no effect on central trust but a negative effect on local trust – another instance of the higher the level of development, the lower the trust in local government. The positive effect of cultural and media spending on both central and local trust demonstrates that propaganda works, which is consistent with the result of the media type variable. That public security (*gonggong anquan* 公共安全 / *weiwen* 维稳) spending has a negative impact on central trust but not on local trust is an intriguing result that demands further research. The negative influence of healthcare and environmental spending on local trust looks odd at first glance; however, correlations between provincial Gini and provincial spending provide a clue to this result. Table A7 in the Appendix shows that expenditures on education, healthcare and the environment are all positively correlated with Gini coefficient – the more unequal a province, the more it spends on education, healthcare and the environment. Since it is highly improbable that social spending makes a province more unequal, it must be that more unequal provinces feel the pressure to increase spending to remedy past inequalities. This interpretation is consistent with our theory that people hold local government responsible for inequality.

Figure 5: **Effects of Increasing Gini Coefficient by 0.1 on the Level of Trust in Local Government across Socio-economic Status**

Note:
Whiskers are 95% confidence intervals.

Conclusion

Our theoretical arguments and empirical results have made a positive case for the social volcano thesis, which has been all but buried by previous findings that the Chinese are good at enduring inequality. We show that inequality reduces people's trust in the local government but not in the central government. Our finding fits the big picture of Chinese politics painted by decades of studies: the central government enjoys unswerving trust while distrust is deflected to the local government. But, if inequality only affects the trust in local government, how dangerous is it? Is it worthy of the name social volcano?

We believe it is. First, inequality may indirectly threaten the regime by spurring local unrest. It has been repeatedly shown that local dissatisfaction is responsible for the vast majority of protests.[65] Although protests seldom challenge the central government, they often morph and spread. They are especially dangerous when the centre is expected to provide the final solution but fails to do so. The central government's hyper responsiveness to citizens' demands attests to the volatile nature of protests in China.[66]

65 Pei 2002; Manion 2004; O'Brien and Li 2006; Tang 2016.
66 Tang 2016.

Second, distrust in the local government reflects latent distrust in the central government. Lianjiang Li compares the attitudes of those who have high levels of trust in both the central and local governments with those who have more trust in the central government than in local government (Li calls this latter group "holders of hierarchical trust").[67] The comparison shows that although both groups of people report high levels of trust in the central government, holders of hierarchical trust have more negative assessments of the central government in other issues, such as China's democratic performance. Li further suggests that underneath the hierarchical trust is a belief that the central government is well meaning but totally incompetent, and this belief can be a source of instability.[68] In short, inequality may be continually eroding people's faith in the regime even though the central trust remains strong on the survey.

Inequality is politically dangerous also because it causes not only the poor but also the rich to lose trust in the government. Poor people's loss of trust is not compensated for with an increase in trust held by rich people. The negative effect is uniform across SES groups. Deng Xiaoping 邓小平 famously justified rising inequality by declaring that "it is appropriate to let some people get rich first" (*rang yibufen ren xian fu qilai* 让一部分人先富起来), but today the mantra seems to have lost its appeal to even the supposed beneficiaries of inequality.

Our study has taken a small step towards a fuller understanding of the political consequences of inequality in China. Owing to data constraints, we have only considered the provincial Gini coefficient. Future studies may examine the Gini coefficients below the provincial level and also look at indicators of regime stability other than political trust. But, now we conclude our study by affirming that a social volcano does indeed exist.

Biographical notes
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67 Li 2016.
68 Ibid., 116.

摘要: "社会火山论" 认为中国严重的收入不平等会威胁政权稳定。此说虽然在媒体和学术届颇具影响，却尚未得到有力的证据支持。相反，反对此说的证据却越来越多。本文梳理了这些反面证据，指出了其中的问题，并对 "社会火山论" 进行了直接并严格的检验。我们的多层分析显示，省级的收入不平等确实降低了民众（包括穷人和富人）对地方政府的信任度，但不平等对民众对中央政府的信任度没有影响。由于民众对地方政府的不信任隐含了他们对中央政府的不信任，所以本文认为 "社会火山" 是存在的。

关键词: 不平等; 基尼系数; 政治信任; 中国; 多层模型分析

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Appendix

Table A1: **Summary Statistics of All Variables**

Variable	Obs.	Mean	Std. Dev.	Min	Max
Trust central gov.	8,563	4.384	0.788	1	5
Trust local gov.	8,553	3.673	1.091	1	5
Socio-economic index	8,563	0.024	0.682	−1.339	27.968
2009 Gini index	8,563	3.950	0.479	2.896	4.836
2009 Gini index centred	8,563	−0.005	0.479	−1.059	0.881
Society is fair	8,563	2.973	1.084	1	5
Own income is fair	8,563	2.844	1.223	1	5
Conflict between rich and poor is severe	8,563	3.507	1.119	1	5
Attribute inequality to government	8,563	3.428	1.078	1	5
Experiences of protest	8,563	0.124	0.329	0	1
New media as the main source	8,563	0.148	0.355	0	1
Employed	8,563	1.081	0.866	0	2
Age	8,563	47.391	26.154	17	2013
Female	8,563	0.509	0.500	0	1
Married	8,563	0.813	0.390	0	1
CCP member	8,563	0.128	0.334	0	1
Urban	8,563	0.637	0.481	0	1
2009 GDP in thoughts	8,563	30.448	16.606	10.971	69.164
2009 marketization index	8,563	8.176	2.058	3.25	11.8

Table A2: **Correlations between Variables**

	SES index	Gini	Society is fair	Income is fair	Rich/poor conflict	Gov. responsible	Protest experience	Media type
SES index	1.000							
Gini	−0.108	1.000						
Society is fair	0.013	0.060	1.000					
Income is fair	0.144	0.063	0.342	1.000				
Rich/poor conflict	−0.026	−0.055	−0.210	−0.193	1.000			
Gov. responsible	−0.017	0.003	−0.174	−0.156	0.142	1.000		
Protest experience	0.069	0.056	−0.109	−0.065	0.057	0.088	1.000	
Media type	0.321	−0.141	−0.067	0.029	0.043	0.011	0.105	1.000

Table A3: **Correlations between Local Trust, Central Trust and Trust in the Judicial System**

	Trust in central gov.	Trust in local gov.
Trust in central gov.	1.000	
Trust in local gov.	0.436	1.000
Trust in judicial system	0.522	0.577

Table A4: **Cross-tabulation between Trust in the Judicial System and Trust in the Central Government**

Central Trust Judicial Trust	No trust	Little trust	Neutral	Some trust	Complete trust	Total	Marginal
No trust	21	9	11	19	41	100	3
Little trust	1	21	12	29	37	100	8
Neutral	0	2	33	34	30	100	16
Some trust	0	1	2	66	31	100	41
Complete trust	0	0	0	3	96	100	32
Total	1	3	8	36	53	100	100

Notes:
   Pearson chi2(16) = 9.6e + 03 Pr = 0.000.

Table A5: **Cross-tabulation between Trust in the Central Government and Trust in the Local Government**

	No trust	Little trust	Neutral	Some trust	Complete trust	Total	Marginal
No trust (local)	15	8	7	17	52	100	4
Little trust	1	17	9	30	44	100	12
Neutral	0	1	30	39	30	100	19
Some trust	0	0	1	60	39	100	41
Complete trust	0	0	0	1	98	100	24
Total	1	3	8	36	53	100	100

Notes:
   Pearson chi2(16) = 8.0e + 03 Pr = 0.000.

Table A6: **Determinants of Trust in the Central Government**

	Trust in central government
Trust in local government	0.149***
	(0.028)
Trust in judicial system	0.280***
	(0.024)
SES index	−0.025
	(0.024)
Gini coefficient	0.162
	(0.162)
Society is fair	0.016
	(0.010)
Own income is fair	0.014**
	(0.006)
Conflict bet. rich and poor	−0.013
	(0.010)
Attribute inequality to gov.	0.019*
	(0.010)
Experience of protest	0.044
	(0.031)
Media type	−0.178***
	(0.037)
Employed	−0.028**
	(0.013)
Age	0.002
	(0.001)
Female	−0.050***
	(0.019)
Married	0.062***
	(0.021)
CCP member	0.089***
	(0.027)
Culture & media spending	0.065
	(0.102)
Public security spending	−0.064*
	(0.035)
Education spending	−0.001
	(0.026)
Healthcare spending	−0.004
	(0.076)
Environment protection spending	0.084**
	(0.040)
Urban	−0.039**
	(0.018)
GDP in thousands	−0.002
	(0.006)
Marketization index	0.016
	(0.030)
Constant	2.568***
	(0.616)
Log sigma(constant)	−2.343***
	(0.174)
Log sigma(residual)	−0.480***

Table A6: **Continued**

	Trust in central government
	(0.030)
Observations	8,538
Number of groups	24
Log-likelihood	−8039
Wald-Chi2	712030
Prob > Chi2	0

Notes:
Robust standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A7: **Summary Statistics of Province Fiscal Expenditure Variables**

	Obs.	Mean	Std. Dev.	Min	Province	Max	Province
Gini	24	0.407	0.055	0.289	Beijing	0.484	Guizhou
Total expenditure in 100 mil.	31	1,969.165	997.378	432.360	Ningxia	4334.370	Guangdong
Culture media	31	0.020	0.005	0.013	Sichuan	0.032	Beijing
Public safety	31	0.062	0.011	0.046	Gansu	0.100	Guangdong
Education	31	0.160	0.023	0.116	Shanghai	0.197	Fujian
Healthcare	31	0.065	0.010	0.044	Shanghai	0.077	Yunnan
Environment	31	0.033	0.011	0.011	Shanghai	0.060	Qinghai