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Abstract

Trust is easier to destroy than to create. While psychology literature has empirically supported this asymmetry principle, public administrators have largely assumed that the causal mechanisms of citizen trust in government with bad performance are symmetrical to those with good performance. The asymmetry principle implies that low trust is more likely to appear as a result of bad performance. To examine this bad performance-low trust link, this study conducts a quasi-experiment that contrasts a Japanese town in fiscal crisis to a control village not in fiscal crisis. Using a difference-in-differences analysis with a retrospective pretest, it finds that satisfaction with overall service quality was unaffected by tax increases and service cuts during the fiscal crisis, while the perceived appropriateness of process significantly declined. It also finds the positive associations of trust with civic engagement. The study first sheds light on distinctive features of the bad performance-low trust link.

Trust is easier to destroy than to create. While the literature on psychology and risk analysis has empirically supported this asymmetry principle (Taylor 1991, Slovic 1993), both professionals and scholars in public administration have largely assumed that the response mechanisms of citizen trust toward bad performance are symmetrical to those toward good performance. Specifically, growing concerns with low levels of citizen trust in government have urged governments around the world to measure and improve their performance. The implicit hypothesis behind this performance movement is that *bad performance leads to less trust in government. Similarly, good performance leads to more trust in government.* The extant literature has identified this performance-trust link as often invalid since citizens combine various performance perceptions into their judgement of trust in government (Radin 2006, Van de Walle and Bouckaert 2003, Yang and Holzer 2006). These studies, however, did not pay much attention to the distinction between the negatively directed “bad performance-low trust link” and positively directed “good performance-high trust link.” Drawing on the asymmetry principle, this study raises the concern that low trust is more likely to appear as a consequence of bad performance. Low trust can be problematic especially in democratic governance that relies on citizens’ voluntary compliance to the authorities’ rules (Lenard 2008). Therefore, it aims to theoretically elaborate the bad performance-low trust link, empirically examine it using an actual case of municipal management failure, and seek possible ways of recovering declined trust through management reform.

To test the bad performance-low trust link, this study uses a Japanese case of municipal management failure that led to a fiscal crisis involving tax increases, service cuts, and political conflicts. It conducts a quasi-experiment that contrasts a treatment town in fiscal crisis to a control town not in fiscal crisis. Given the absence of pretest data, the identification of the causal link rests on a difference-in-differences design with a retrospective pretest. Fourteen qualitative interviews

were also used to design the survey questionnaire and interpret the experimental results. Data were collected from 600 randomly sampled citizens of Ohwani and Inakadate with a response rate of 45%. This study finds that satisfaction with overall public service quality was unaffected by the fiscal crisis, while perceived appropriateness of the government process significantly decreased. It also finds no effects of the fiscal crisis on trust in the mayor, council, and administrative officials. In addition, it shows the positive associations of these trust measures with civic engagement. This study provides initial evidence for the bad performance-low trust link using the actual case.

The rest of this article proceeds as follows. The next section constructs the theoretical framework for the bad performance-low trust link with the existing literature and identifies the relevant hypotheses. The subsequent section describes the method to test the hypotheses. Lastly, the study presents its results and discusses their theoretical implications.

Theoretical Framework: The Bad Performance-Low Trust Link

Various management reforms around the globe, such as New Public Management, have been driven by concerns with the bad performance-low trust link since bad performance leads to less trust in government. While these management reforms use different rationale and policy instruments, they share an inherent assumption of the good performance-high trust link, namely, that better performance can restore lowered citizen trust in government. A number of studies have reviewed this performance movement and argued that its underlying assumption is often invalid due to other factors such as erroneous performance measures, various expectations of government performance, and negative perceptions of government (e.g., Radin 2006, Van de Walle and Bouckaert 2003, Yang and Holzer 2006). Recent empirical studies have revealed the process that citizens use to combine various performance expectations or perceptions into their judgement of overall satisfaction and trust of government (James 2011, Marvel 2016, Van Ryzin 2006, Vigoda-

Gadot 2007). These studies, however, did not consider the distinction of bad or good performance in the performance-trust link and largely assumed that the bad performance-low trust link is similar to the good performance-high trust link.

On the one hand, the literature of psychology and risk analysis has empirically examined the idea of trust being asymmetrical. Slovic (1993) named the psychological mechanism that trust is easier to destroy than to create as the “asymmetry principle” (see also Taylor 1991). He showed that negative events generally have a greater impact on self-reported trust in the management of a large nuclear power plant than positive events. Several experimental studies have demonstrated an underlying mechanism behind the asymmetry principle, namely, that people attach more value to negative information than to positive information when they report their trust in an institution, regulation, or research studying hazardous technologies (Cvetkovich et al. 2002, Poortinga and Pidgeon 2004, Siegrist and Cvetkovich 2001). These empirical results seem sufficient to suppose that the asymmetry principle of trust is applicable not only to risk management but also to various management situations.

While extant public administration studies have generally identified the performance-trust link as unitary mechanisms, the asymmetry principle offers two core implications: (i) the bad performance-low trust link is generally stronger than the good performance-high trust link, and (ii) the bad performance-low trust link embraces different mechanisms from the good performance-high trust link. Although both practitioners and scholars in public administration wish to generate the good performance-high trust link, modern governments worldwide face increasingly complex issues in the era of fiscal retrenchment, rapidly changing technologies, and aging populations. Given such higher risks of public management failure, deeper understanding of the bad performance-low trust link is required to overcome the time of shortage or crisis along with citizens.

Bad Performance Indicators for Local Governments

This study examines the bad performance of local governments that are at the forefront of delivering public services. Since the deterioration of frontline service and management could be more direct and deleterious to citizens than that of national-level service and management, it is suitable to rigorously test the causal link between bad government performance and citizen trust.

Both practical and scholarly indicators of local government performance have generally relied on two models: the “economy-efficiency-effectiveness” (3Es) model and the “inputs-outputs-outcomes” (IOO) model (Boyne 2002, Walker, Boyne, and Brewer 2010). These two models are closely intertwined. The term “economy” in the 3Es model refers to the cost of procuring “inputs” in the IOO model, technical “efficiency” refers to the ratio of “outputs” to “inputs,” and “effectiveness” most commonly refers to the achievement of the formal goals in local government management, which can be part of performance “outcomes.” The goals of local government management could encompass not only objective outcomes (e.g., job creation, crime rate reduction) but also perceived outcomes (e.g., happiness, trust) (Van Ryzin 2007).

One of the limitations of the IOO model is that the model does not consider the *process* of decision making. The 3Es model also does not offer indicators of assessing fairness and responsiveness in government processes. Van Ryzin (2011) points out that the contemporary performance movement has underscored policy or service outcomes as key factors in restoring public trust and has narrowly referred to process as red tape or unnecessary rules. Hibbing and Theiss-Morse (2002) further argue that the political process of making policies is more influential on Americans’ attitudes toward the government than policy outputs or outcomes. Using the Gallup survey and focus group interviews, they show that Americans are particularly frustrated with the strong power of special interests and self-serving politicians in the government process of decision

making. Since the IOO model focuses on the role of local governments as service providers (Boyne 2002), the addition of process indicators is necessary to shed light on their role as democratic institutions in a performance appraisal.

Considering input, output, and process indicators, this study identifies a Japanese case of municipal management under fiscal stress that involved tax increases, service cuts, and political conflicts as “bad” performance that is uneconomic, inefficient, and politically fragmented. It further examines whether this bad government performance is ineffective, that is, whether it leads to less trust in government. The following method section will describe more details of the case.

Multiple Aspects of Trust in Local Government

Trust in government is a multifaceted and complex concept. Van de Walle and Bouckaert (2003) point out that the term “trust” is in an inflation of the use in political discourse, but trust, confidence, and the perception of government have been interchangeably used as catch-all terms. This study addresses not “trust” in a restricted meaning of philosophy or psychology, but uses the meaning that is close to general attitudes toward government, perceptions of government, and the like. The term “government” also has multiple dimensions. Even in a single unit of local government, it involves the civil service, street-level bureaucrats, the local council, and mayor. Although the roles of these multiple factors in government cannot be clearly distinguished as the traditional politics-administration dichotomy, public administrators have sought the proper role for each (Demir and Nyhan 2008, Svava 2001). In this vein, the key aspects of trust in government are institutional and personal (Christensen and Lægreid 2005, Hardin 2003).

The institutional aspect refers to trust in a local government system. It can be further classified into trust in administrative and political systems. Institutional trust in street-level bureaucracy can be largely represented by confidence or satisfaction with the entire public service

system, including taxation and service delivery. In citizens' trust in a democratic institution, as discussed above, their perceptions on the process of decision making are essential. The personal aspect refers to trust in individual actors such as mayors, council members, and administrative officials (Christensen and Lægreid 2005, Hardin 2003).

In sum, this study identifies a Japanese case of local fiscal crisis as bad performance, and examines its causal link with two different forms of variation in the concept of citizen trust in local government: (i) institutional and personal trust, and (ii) administration and politics. For this purpose, the study tests the following five hypotheses:

During the fiscal crisis and entailed fiscal reform that involve tax increases, service cuts, and political conflicts, citizens lower their institutional trust in the public services (H₁) and decision-making processes (H₂) of the local government and personal trust in the mayor (H₃), council (H₄), and administrative officials (H₅).

Social Capital and Trust in Local Government

Social capital has been recognized as a key determinant of trust in local government (Brehm and Rahn 1997, Keele 2007, Putnam 1993, 1995, 2000). Social capital refers to the social connections, networks, and norms of reciprocity and trustworthiness that arise from individual citizens (Coleman 1988, Putnam 1993, 1995, 2000). In the relationship with trust in local government, it has two relevant dimensions: (i) the level of civic engagement in a local community, and (ii) interpersonal trust (Brehm and Rahn 1997, Keele 2007).

In particular, when citizens engage in civic activities, they meet more people and learn interpersonal trust from interacting with them. Civic activities often involve local governments. For instance, governments host school events or local festivals, subsidize civic organizations, and

implement community programs for youth development or crime prevention. On these occasions, citizens are likely to interact with local politicians and administrators and build trust with these officials. Some of those citizens might further participate in political activities including elections, public meetings, and collective petitions (Putnam 2000). Since they are part of the local government process, they might show more generous attitudes toward the process of recovering finances with tax increases and service cuts. On the other hand, citizens who are not engaged in civic activities interact with fewer people, and thus hold low levels of interpersonal trust. They tend to lack knowledge on government activities and feel powerless with regard to them, which fuels their cynicism and low trust toward the political and administrative leaders and government systems. Accordingly, this study hypothesizes:

H₆: Levels of civic engagement are positively associated with trust in local government.

Method

Empirically, this study aims to examine the impact of fiscal crisis and entailed fiscal reform on citizens' trust in local government. The estimation approach is based on a difference-in-differences design (DID: treatment town vs. control town, before vs. after fiscal crisis). A simple comparison between treatment and control towns could result in severely biased estimates of the impact of a fiscal crisis due to the latent differences. DID removes these separable time-invariant biases by comparing the changes of mean outcomes overtime between the treatment and control towns. However, this quasi-experimental design poses two methodological challenges to test the bad performance-low trust link in the real world.

First, it is unknown whether citizens actually recognize the treatment, namely, fiscal crisis and reform. To explore the existence and characteristics of the treatment, this study conducts qualitative interviews with citizens. Mahoney (2009) and Dunning (2012) suggest that this type of

qualitative exploration, which they call “causal process observations,” is crucial for the persuasive use of experiments. Second, the emergence of a fiscal crisis in a municipality is almost unpredictable, and thus poses the considerable difficulty of conducting a baseline survey before it happens. Given the lack of pre-test data, this study uses a retrospective pretest in which both pretest and posttest data are collected simultaneously; respondents are asked to recall their pre-treatment status at the posttest time (see Hill and Betz (2005)).

Experimental Design

This study uses a case of local fiscal crisis in Japan that involves tax increases, service cuts, and political conflicts. The methodological rationale for this case selection is Japanese central legislation, which sets criteria for fiscal soundness and mandates local governments falling short of the criteria to design and implement fiscal reform plans under the supervision of a central agency. This Japanese legal system allows for the identification of a starting point of a fiscal crisis without any control by the researcher. The legal mandate for fiscal reform is highly exogenous; thus, Japanese cases offer a suitable experimental setting to measure the effects of fiscal crisis and reform on citizen trust in local government.

Background. Given the increased levels of local debt in the 2000s, the Japanese central government enacted the Act on the Assurance of the Sound Financial Status of Local Governments (ASFS) in 2007 and fully implemented the Act in 2009. The ASFS sets national criteria for fiscal soundness and was comprised of four measures: (i) real deficit ratio, (ii) consolidated real deficit ratio, (iii) real debt ratio, and (iv) future burden ratio. For instance, the “future burden ratio” is estimated by the formula: *Expected redemption for total local bonds/Fiscal size of a local government*. Local governments that exceed the set value, 350% of the future burden rate, are required to implement fiscal reforms under the supervision of the Ministry of Internal Affairs and

Communication (MIC), even if they meet the other three ASFS criteria. This new legislation compelled 21 municipalities to design fiscal reform plans in the 2009 fiscal year.¹

Site Selection. Among the 21 municipalities in fiscal crisis, this study selected the town of Ohwani in the Aomori Prefecture as the treatment town. Geographically, the town is located on the southern border of Aomori Prefecture on the northern tip of Honshu, the largest of Japan's four main islands. The primary reason for this site selection is the availability of a comparable control village not under fiscal crisis, Inakadate. The experimental design requires the treatment and control groups be identical regarding the factors that affect measured outcomes in order to isolate the treatment effects. The areas of Ohwani and Inakadate have been administered as the same county for at least 700 years and hence share similar cultural backgrounds. Furthermore, Ohwani and Inakadate have similar access to Hirosaki, which is the central city of the Tsugaru area and has approximately 200,000 residents (see figure 1). These geographic conditions characterize both municipalities as suburban areas. The two municipalities also have similar population sizes, per-capita income, and industrial structure, as shown in table 1.

The two main industries in both Ohwani and Inakadate are agriculture and tourism, though there are some industrial differences. The main agricultural product of Ohwani is apples and that of Inakadate is rice. One of the country's oldest paddy fields was found in Inakadate in the 1980s, and the central government designated this field as a national historic site in 2000. Since then, the Inakadate government has developed tourism facilities and services around the site. In particular, rice paddy art has gained popularity as a nationally recognized tourism spot.

Table 1: Socio-economic Attributes of Ohwani and Inakadate

	Ohwani	Inakadate
Population	10,978	8,153
Income per capita*	\$18,113	\$17,765
Real Debt Ratio	15.4%	22.0%
Future Burden Ratio**	323.1%	113.3%
Top 3 Industry: (% of Workforce)	Agriculture: 22% Wholesale: 16% Medical/Welfare: 13%	Agriculture: 23% Manufacture: 15% Wholesale: 14%

Note: *The exchange rate applied to income per capita: 1 USD = 115 JPY

**These are closing figures from the account statement of fiscal year 2010. Due to the reform efforts during 2010, the future burden rate of Ohwani was reduced from 392.6% to 323.1%.

Source: Japanese Census, 2010; Aomori-Prefecture, *Statistical Data Land*

While Inakadate's tourism is relatively new, that of Ohwani has a long history. Ohwani has volcanoes and has been well-known for its hot springs for more than 800 years. Furthermore, one of Japan's first ski resorts was constructed at Ohwani in 1922 and became hugely popular, especially in the 1970s and 1980s. During this time, the Ohwani Development Authority, which was fully funded by the Ohwani government, ran the ski resort. Following the fad of New Public Management in 1989, the Ohwani government co-founded a new regional development company with private resort developers that aimed to expand ski and hot spring facilities and establish a large resort complex. However, new and larger ski facilities were constructed nearby in the 1990s, and the Ohwani resort complex lost its popularity. The private developers withdrew from this business in 1997, and the Ohwani government became solely responsible for the finances of the regional development company. Despite its managerial efforts, the regional development company

could not bring visitors back to the resort complex and accumulated debt throughout the 2000s. This led the Ohwani government to post a 392.6% future burden rate in 2009, exceeding the ASFS criteria of fiscal soundness.



Figure 1: Map of Tsugaru Area in Aomori-Prefecture

Ohwani and Inakadate offer an advantageous geographical setting for the DID estimation. While they belong to the same county, they are not geographically adjacent, as shown in figure 1. This geographical disconnection is necessary to meet the Stable Unit Treatment Value Assumption (SUTVA) of DID that the treatments are completely represented and that there are no relevant interactions between the treatment and control groups (Lechner 2011).

Furthermore, DID makes the Common Trend Assumption (CT): if the treatment group were not subjected to the treatment, it would experience the same time trends as the control group. The evidence supporting CT is presented in figure 2. The per-capita income trends in Inakadate parallel those in Ohwani before and after the fiscal crisis and reform. These trends further justify the assumption that there were few impacts of economic conditions on citizen trust in either the Ohwani or Inakadate governments during the period of interest.

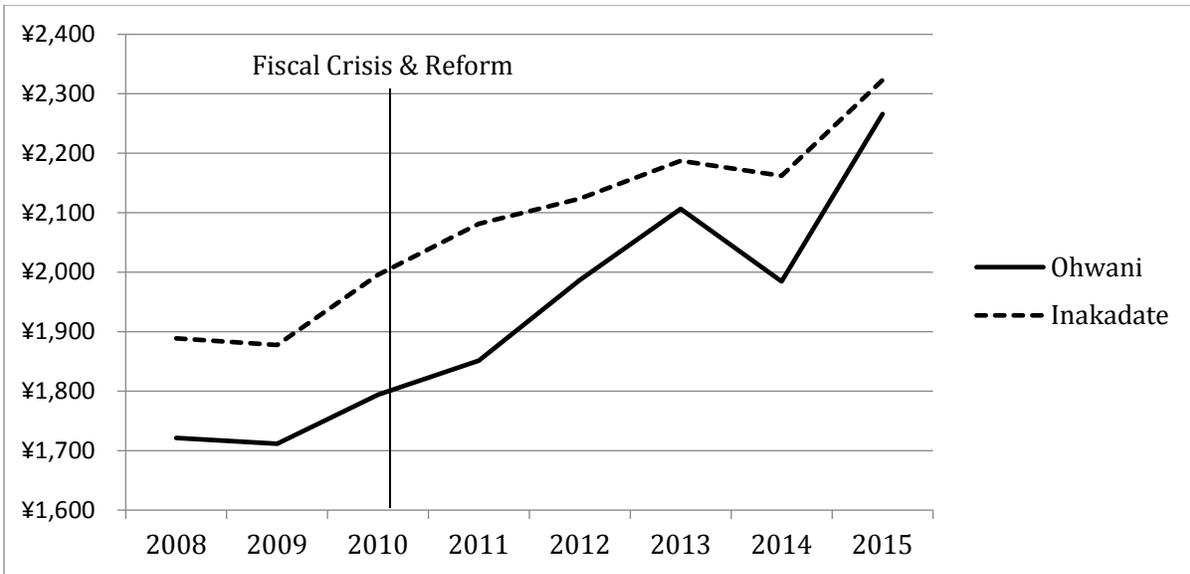


Figure 2: Trends of income per capita in Ohwani and Inakadate from 2008-15

Source: Aomori-Prefecture, *Statistical Data Land*

Treatment: Fiscal Crisis and Legally Mandated Fiscal Reform. Under the supervision of Aomori Prefecture and the MIC, the Ohwani government implemented its fiscal reform to solve the fiscal crisis. The reform involved increasing the property tax from 1.4% to 1.6%, transitioning from free to paid garbage collection, a buy-out of three childcare facilities and town-managed public housing, subsidy cuts for civic organizations, and reducing town-managed bus routes. The property tax increase was implemented from 2011, and the other reform efforts were introduced from 2010. In contrast, Inakadate, the control village, took the initiative to implement spending cuts, such as subsidy cuts for civic organizations, to reduce its relatively high debt level (see table 1) from 2004 to 2007. Since Inakadate's own relatively small spending cuts affect only the pre-treatment status of citizen trust in Inakadate, this would not be a serious issue in the DID estimation.

As discussed in the theoretical framework, political processes could affect citizen trust in government. In particular, Ohwani's mayoral election was conditionally scheduled in June 2010 after the announcement of the fiscal reform plan in March 2010. The election race was held

between the incumbent mayor who had designed the fiscal reform plan and a younger candidate who proposed a more austere fiscal policy. This tight race resulted in the same number of votes (3,524) between the two candidates. According to the election law, they drew lotteries, and the new candidate won the election. The new administration reviewed the fiscal reform plan and proposed to extend the fiscal reform from four to 13 years. However, the content of the reform plan, including tax increases and service cuts, underwent no substantial changes. The mayor subsequently won reelection in 2014 to retain the incumbency.

Mayoral elections for Inakadate were held in 2008 and 2012, and both ended with the victory of the current mayor. Given that incumbent mayors ran in the elections in both Ohwani and Inakadate, the elections were shared opportunities for both treatment and control groups to assess the past administration and select either the incumbent mayor or a new candidate. Unlike the mayoral elections, Ohwani and Inakadate share similar results in their council elections after the fiscal crisis: three seats out of twelve were replaced in Ohwani while two seats out of the ten were replaced in Inakadate. Thus, this study identifies the turnover of the Ohwani mayor, which divided its citizens, as part of the treatment.

Causal Process Observations. Fourteen semi-structured interviews were conducted to explore whether Ohwani residents are conscious of the treatment, namely, fiscal crisis and reform.² The interviewer asked the interviewees to identify critical issues with the municipal management without mentioning Ohwani's fiscal status. All the interviewees identified the fiscal crisis and ongoing fiscal reform as one of the critical issues in different manners. These results largely verify the existence of the treatment.

The interviews further investigated interviewees' perceptions of the Ohwani government under the fiscal reform. Although all 14 interviewees noted the fiscal reform implementation, the

levels of their knowledge of or interest in the reform varied greatly. Half of the interviewees mentioned the tax increases, but only two knew specifically which taxes had been increased. Their interests in the service cuts were closely related to their living circumstances. For instance, the interviewees who used the town-managed bus knew its route reduction. Most interviewees showed more interest in assessing the political process of fiscal reform than talking about the quality of municipal services. To describe the ongoing reform, they used words such as “messy” or “chaotic.” The interviewees’ perceptions of both elected and non-elected officials varied depending on their personal experiences. While some participants consistently expressed negative perspectives toward the officials, others found positive changes after the fiscal crisis especially among the administrative officials. The heterogeneous nature of the treatment effects will be considered in developing survey tools and interpreting experimental results.

Sampling and Data Collection

This study adopted a stratified random sampling with the voter registration lists of Ohwani and Inakadate. Each list contains the full name, gender, birth date and year, and address of voters. Six hundred subjects from Ohwani and Inakadate (300 each) were randomly selected using the random function of Excel, consistent with the gender and age composition of each residential district. Participants were between 30 and 75 years of age and had to fulfill a residence criterion for the period of interest, namely, before and after the fiscal crisis and reform of Ohwani (2009–2015). These criteria ensured that the subjects could have observed past municipal management before the fiscal crisis of 2010. Residents who moved in or out of either municipality between 2009 and 2015 were also excluded from the sample.

Data collection was conducted in September 2015 in Ohwani and in October 2015 in Inakadate. All residents of Ohwani and Inakadate received a notice about two weeks before the

survey was administered. The notice was delivered via the public notice circulation system in Ohwani, while it was published in the monthly public relations magazine in Inakadate. The survey questionnaires were first mailed to participants and collected during door-to-door visits two weeks after delivery.

Survey Instrument Design

The survey instrument was developed to address the difficulties of retrospective measurement on citizens' trust in government before the fiscal crisis. Two specific techniques were implemented to improve recall: a two-step process and memory elicitor. Psychology literature suggests using a two-step process to evoke respondents' memory in a survey (e.g., Pearson, Rosss, and Dawes 1992; Ross and Conway 1986). Specifically, individuals note their present status regarding the subject in question. The present serves as a benchmark because it is generally more salient and available than a person's earlier standing on a subject. Accordingly, the survey questionnaire was designed to inquire about respondents' trust, first in the current local government and then in the past.

Another survey technique called the memory elicitor was used to improve recall during the two-step process. Vicente (2010) developed this psychological technique for a DID analysis, and this study modified it to measure citizen trust in government. At the beginning of each section, the questionnaire asks whether respondents voted in the most recent or previous mayoral election. The survey then elicits their memories regarding the perceptions of municipal management quality before and after the fiscal crisis. As incumbent mayors ran in the elections in both Ohwani and Inakadate, the elections offered a shared opportunity for all participants to assess the past administration and select either the same or a different candidate.

Description of Survey Data

Response Rates. Door-to-door visits during data collection enabled screening for respondents' eligibility to participate in this survey. For instance, some citizens are registered as voters while they do not actually live in the municipality. These cases were excluded. The overall eligibility rate of this survey was 91.17% (547 out of 600 in total; 266 in Ohwani and 281 in Inakadate). Response Rate 2 (RR2) of this survey was calculated according to the standard definition of the American Association for Public Opinion Research. RR2 counts the complete responses and partial responses that filled in more than 80% of the survey questions. RR2 was 44.79% overall (245/547), 43.98% in Ohwani (117/266) and 45.55% in Inakadate (128/281). In addition, appendix 1 summarizes the sample representation by gender and age.

Measures and Descriptive Statistics. The five dimensions of trust in local government, presented in the theoretical framework, were measured as the outcome variables (see table 2). All the survey questions were asked at the two time points: 2008–2009 and 2013–2014.

Table 2: Five Measures of Trust in Local government

Trust in Local Gov.	Survey Items (7-scale)
Institutional Trust:	
Public Service	How much are [were] you satisfied with the overall quality of public services provided by [name of local government]? (1 = very dissatisfied; 7 = very satisfied)
Decision-making Process	How appropriate do you feel in the way that [name of local government] processes community issues within the limited financial resources? (1 = not appropriate at all; 7 = very appropriate)
Personal Trust:	
Mayor	How much do [did] you trust the mayor, council, or administrative officials of [name of local government] to do the right thing about community issues? (1 = do [did] not trust at all; 7 = strongly trust[ed])
Council	
Administrators	

In asking the question for overall service quality, a list of municipal taxes and services was presented to respondents since the qualitative interviews revealed varying degrees of knowledge about the taxes and services among citizens. Further, this study used citizens' perceived appropriateness of process to measure institutional trust in government process. Although government process can be measured by multiple items such as fairness and responsiveness (Van Ryzin 2011), the interviews revealed that few citizens recognize such specific dimensions. Thus, this survey item used the general term “appropriate” to deduce citizens' preferences of government process. Additionally, while Inakadate was not in a fiscal crisis, its relatively high debt level (see table 1) permitted asking this question for both the treatment and control groups by including the words “within the limited financial resources.” The survey item for personal trust was developed based on Cook and Gronke (2005). Table 3 presents descriptive statistics of the outcome variables.

Table 3: Descriptive Statistics of Outcome Variables

Variable	Time	Ohwani			Inakadate		
		Mean	(S.E.)	Obs.	Mean	(S.E.)	Obs.
Institutional Trust:							
Public Service	before	4.00	(0.12)	115	4.12	(0.14)	124
	after	3.92	(0.13)		4.14	(0.14)	
Decision-making Process	before	4.78	(0.13)	115	4.46	(0.12)	123
	after	4.18	(0.14)		4.38	(0.10)	
Personal Trust:							
Mayor	before	4.70	(0.13)	115	4.63	(0.12)	124
	after	4.31	(0.13)		4.31	(0.12)	
Council	before	4.16	(0.13)	115	4.21	(0.11)	124
	after	4.03	(0.11)		4.11	(0.13)	
Administrative Officials	before	4.43	(0.12)	115	4.57	(0.13)	124
	after	4.23	(0.12)		4.38	(0.12)	

The covariates in this study were designed to test the associations between civic engagement and trust in government (H₆) and to control socio-demographic factors. The level of civic engagement was measured by five items: voting, personal contact with officials, participation in public meetings, lobbying and petition, and membership in civic organizations. This study uses the sum of the five survey items as the covariate “civic engagement index.” Additionally, this study considers four socio-demographic factors as covariates: gender, age, education, and income (for detailed measures, see appendix 2). Table 4 summarizes the descriptive statistics of covariates (for gender and age, see appendix 1).

Table 4: Descriptive Statistics of Covariates

Variable	Ohwani				Inakadate			
	Mean	(S.E.)	Range	Obs.	Mean	(S.E.)	Range	Obs.
Civic Engagement Index:	3.50	(2.12)	0~10	113	3.10	(1.90)	0~10	120
Voting to mayor & council	1.85	(0.50)	0~2	118	1.75	(0.62)	0~2	122
Personal contact with officials	0.22	(0.60)	0~3	115	0.28	(0.64)	0~3	124
Participation in meetings	0.28	(0.64)	0~3	115	0.18	(0.56)	0~3	124
Lobbying & petition	0.12	(0.48)	0~3	113	0.07	(0.34)	0~3	123
Membership of civic org.	1.00	(1.15)	0~5	118	0.93	(1.02)	0~4	131
Education	2.31	(0.11)	1~6	118	2.61	(0.10)	1~6	126
Household Income	3.68	(0.15)	1~8	118	4.08	(0.15)	1~8	126

Recall Bias

Any retrospective measures are subject to recall bias even though these measures are carefully designed to elicit memories. Recall bias implies that survey participants remember their former status as better or worse than it actually was and therefore provide different responses. The magnitude and direction of recall bias might vary according to participants’ perceptions of the treatment (Blome and Augustin 2015, Hill and Betz 2005). According to the theoretical framework,

this study assumes that more Ohwani citizens would view the fiscal crisis as negative rather than positive. This implies that the main concern with recall in this study is an overestimation of the treatment effects. On the other hand, it can be argued that recall is as real as ongoing attitudes (Pearson, Rosss, and Dawes 1992). To seek the keys to recovering declined trust due to bad performance, it is crucial to investigate how citizens view their former status before bad performance and whether their views of the past affect their current trust status under management reform for performance improvement.

Results

This study tests the six hypotheses on the bad performance-low trust link. During a fiscal crisis and reform, citizens lower their institutional trust in the public services (H₁) and decision-making process (H₂) of the local government and personal trust in the mayor (H₃), council (H₄), and/or administrative officials (H₅). Table 5 presents the results of the DID estimates from the five ordinary least squares (OLS) regressions without covariates. Furthermore, the study tests whether levels of civic engagement are positively associated with citizen trust in government as the covariate (H₆). Table 6 shows the DID estimates with covariates.³ In each model, the variable of interest is the interaction term “After Fiscal Crisis×Ohwani.” Additionally, figure 3 visualizes the two-way interaction of the outcomes: Ohwani (treatment) vs. Inakadate (control), before vs. after fiscal crisis and reform.

Table 5: Difference-in-Differences Estimates without Covariates

		Institutional Trust		Personal Trust		
		Service	Process	Mayor	Council	Admin.
After Fiscal Crisis	Coef.	-0.01	-0.07	-0.31	-0.10	-0.19
	St. err.	(0.16)	(0.17)	(0.17)	(0.17)	(0.17)
Ohwani	Coef.	-0.17	0.33*	0.08	-0.06	-0.15
	St. err.	(0.17)	(0.17)	(0.18)	(0.17)	(0.17)
After*Ohwani	Coef.	0.04	-0.53**	-0.08	-0.02	-0.01
	St. err.	(0.23)	(0.24)	(0.25)	(0.24)	(0.25)
N		478	476	478	478	478
R2		0.004	0.03	0.02	0.003	0.01

Note: Standard errors are in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

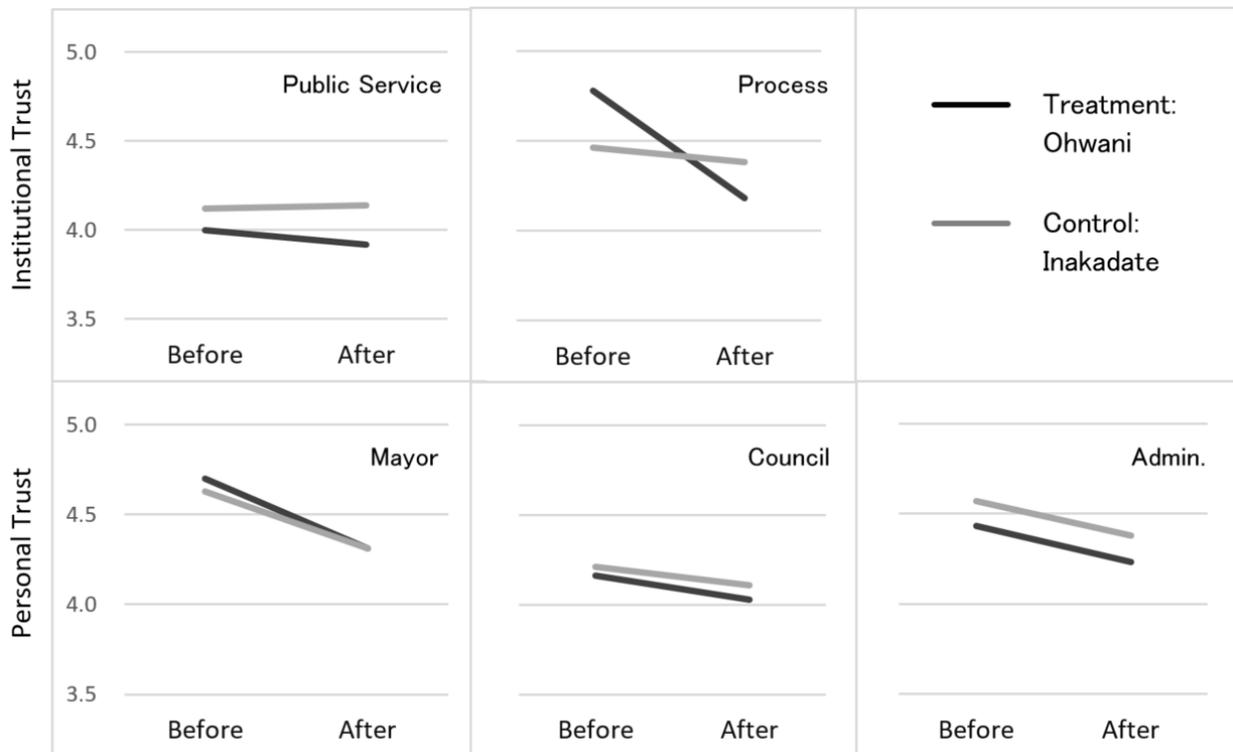


Figure 3: Interaction analysis – Mean ratings of the five trust measures before and after fiscal crisis.

The DID estimates show no significant changes on institutional trust in public services. Despite its tax increases and service cuts during the fiscal reform, citizens in the treatment town Ohwani did not rate the service quality lower than citizens in the control village Inakadate. Thus, H₁ is not supported. In contrast, the estimates indicate the negative and significant interaction terms for institutional trust in the decision-making process ($p < .05$), which is measured as the perceived appropriateness of process. Ohwani's mayoral election held after the fiscal crisis resulted in the same number of votes between then and current mayors. The current mayor won the election by lottery and extended the duration of fiscal reform implementation. Under such a fragmented political situation, more Ohwani citizens came to perceive the government process on community issues as inappropriate than Inakadate citizens who did not experience those political conflicts. Thus, H₂ is supported.

The DID estimates show no treatment effects on personal trust in the mayor (H₃), council (H₄), and administrative officials (H₅). Given the tight race in the mayoral election and turnover, the null result on H₃ might be led by the diffused support of Ohwani citizens toward then and incumbent mayors. Unlike the mayoral elections, both Ohwani and Inakadate citizens experienced relatively stable transitions in their councils. Ohwani citizens under the fiscal crisis did not rate their trust in the council without much replacement lower than Inakadate citizens. The null result on H₅ implicates that, while most non-elected officials stay in the town hall before and after the fiscal crisis, Ohwani citizens did not judge their trust in those administrative officials lower than Inakadate citizens. As the qualitative interviews reveal, some Ohwani citizens observed that the attitude and services of the administrative officials became better after the fiscal crisis, while others showed consistently negative perspectives toward the officials. Such heterogeneous treatment

effects might have led to this null result. In sum, this study finds no causal link of personal trust with the fiscal crisis and reform.

Table 6: Difference-in-Differences Estimates with Covariates

		Institutional Trust		Personal Trust		
		Service	Process	Mayor	Council	Admin.
After Fiscal Crisis	Coef.	0.02	-0.04	-0.29*	-0.06	-0.18
	St. err.	(0.16)	(0.17)	(0.17)	(0.17)	(0.17)
Ohwani	Coef.	-0.18	0.24	-0.02	-0.16	-0.26
	St. err.	(0.17)	(0.17)	(0.16)	(0.17)	(0.17)
After*Ohwani	Coef.	0.01	-0.55**	-0.09	-0.04	0.002
	St. err.	(0.23)	(0.24)	(0.25)	(0.24)	(0.24)
Covariates:						
Civic Engagement Index	Coef.	0.01	0.08***	0.12***	0.09***	0.07**
	St. err.	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Gender (Female)	Coef.	-0.10	-0.05	0.07	0.01	-0.04
	St. err.	(0.12)	(0.13)	(0.13)	(0.13)	(0.13)
Age	Coef.	0.14***	0.14***	0.14***	0.15***	0.15***
	St. err.	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Education	Coef.	0.004	-0.05	-0.10*	-0.12**	-0.12**
	St. err.	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Household Income	Coef.	0.07*	0.04	0.05	0.002	0.01
	St. err.	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)
N		468	468	468	468	468
Adjusted R2		0.01	0.06	0.07	0.04	0.07

Note: Standard errors are in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

To seek the keys to gaining trust during the fiscal reform, this study examines the positive associations of citizen trust with their levels of civic engagement (H_6). Table 6 indicates positive and significant associations between the four outcome measures (trust in process, mayor, council, and administrative officials) and the civic engagement index. When citizens interact with local

politicians and administrators through elections, public meetings, lobbying, and voluntary activities, they are more likely to trust these officials. Since these citizens are part of the government process for tackling community issues, they tend to show positive attitudes toward the process. On the other hand, the only association between citizen satisfaction with overall municipal services and civic engagement was not statistically significant. Even if citizens engage in civic activities and interact with local officials, these activities might not be linked to taxation and service delivery, and thus citizens might feel as if they are set apart from them. It is worth noting that the same results are also only found in the separate OLS regressions for the treatment group (these regressions are not shown in this article). This implicates that levels of civic engagement are positively associated with the four trust measures even under the fiscal crisis and reform. Overall, H₆ is largely supported.

Discussion

Drawing on the asymmetry principle in psychology and risk analysis, this study posits that the negative and positive directions in the performance-trust link would embrace different mechanisms. It further raises the concern that low trust is more likely to appear as a result of bad performance. However, the results of this study indicate the partial link of bad performance with institutional trust and no link with personal trust.

The study shows no effects from the fiscal crisis on institutional trust in public services, which was measured as the satisfaction with overall service quality. The expectancy-disconfirmation theory provides a possible path to explain this null result (Van Ryzin 2004, 2006). Specifically, Ohwani citizens are likely to expect deterioration in service quality under fiscal stress. The gap between their expectations and perceived quality would be small, and thus their judgement of the overall service quality would not be changed much even during the fiscal reform involving

tax increases and service cuts. Additionally, since this study sampled the citizens who remained in Ohwani after the fiscal crisis, some of them might be inclined to perceive the austere fiscal policy as necessary or positive for their future, while highly dissatisfied citizens moved out (Shinohara 2018).

The study presents negative and significant effects of the fiscal crisis on institutional trust in the decision-making process, which was measured as perceived appropriateness of process. This result, combined with the above null result, implicates that process might be more important than policy or service outputs in the bad performance-low trust link. This can be explained by the rational theory of trust in which citizens trust governments to serve their interests (Hardin 2003). In the case of Ohwani, given the tax increases and service cuts that are against most citizens' interests, their trust rating would rest more on the process of how the government improves their performance than the current declined quality. The qualitative interviews support this finding by showing Ohwani citizens' higher attention to the process of fiscal reform than to the current service quality. In contrast, when most citizens recognize direct benefits from taxation and service delivery, they might not pay much attention to the decision-making process. To address this potential difference, cases of the good performance-high trust link need to be examined and compared with those of the bad performance-low trust link.

The study further shows no effects from the fiscal crisis on personal trust in mayors, councils, and administrative officials. The null result on trust in mayors is likely to reflect Ohwani's election result where then and current mayors shared the same number of votes. Moreover, in Ohwani town whose population is about 10,000, citizens have accessible opportunities to directly interact with both elected and non-elected officials. Such first-hand interactions might alleviate the negative effects of the fiscal crisis on citizen trust. This is supported

by the results that personal trust in mayors, councils, and administrative officials is positively and significantly associated with civic engagement including personal contact with these officials, participation in elections and public meetings, and membership of civic organizations. The association was also found between institutional trust in process and civic engagement. The core implication of these results is that the positive association of trust in government with civic engagement could function even under fiscal crisis and reform. In other words, citizen participation could undermine the bad performance-low trust link during the reform of improving performance. It should be noted, however, that effective participation requires street-level bureaucrats to design participatory mechanisms considering not only efficacy of performance improvement, but also social equity and community characteristics (Aoki 2018, Clark 2018, Siddiki, Kim, and Leach 2017).

Conclusion

This study sheds light on distinctive features of the bad performance-low trust link, assuming that it would embrace different mechanisms from the good performance-high trust link. Treating a Japanese case of fiscal crisis as bad performance, the results of this study suggest that citizen trust in local government would rely more on the process of improving the bad performance than the declined quality of service performance. The results further show no link of personal trust in political and administrative officials with the bad performance. Given the positive associations of trust in government with civic engagement, the study argues that the bad performance-low trust link could be alleviated by direct interactions with these officials in the relatively small town. This implicates that citizen participation can be an essential part of the management reform that aims to improve bad performance along with citizens.

These results, however, should be interpreted with limitations. Given the lack of a baseline survey before the fiscal crisis, this study used a retrospective pretest for the DID estimation. The main methodological concern is that the negative treatment effects on institutional trust in process found in this study could be overestimated by recall bias in which respondents view the previous government performance as better than it actually was. With this recall bias, the null result on institutional trust in public services ensures no negative effects from tax increases and service cuts during the fiscal reform. As argued in the method section, recall bias can be seen as part of an ongoing attitude toward government. In other words, the study reveals how citizens' views on the previous bad government performance affect their views on the current reform efforts to improve it. Additionally, it used qualitative interviews to compensate for the quasi-experiment. The interview results support the experimental finding by showing citizens' higher attention to the process of fiscal reform than to service quality.

Finally, without a comparative case of the good performance-high trust link, this study cannot present whether the findings are actually distinctive in the bad performance-low trust link. It also treats a Japanese case of fiscal crisis as bad performance. Bad government performance takes various forms, such as corruption or unrepresentative policymaking under different political and administrative systems. While this study presents the partial link of bad performance and institutional trust, other cases of bad performance in different countries might show diverse patterns of the link. On the other hand, the study first noted asymmetric mechanisms between the bad performance-low trust and good performance-high trust links in the context of public administration, and further addressed the concern that low trust is more likely to appear as a result of bad performance. Beyond the limitations, this study is expected to serve as a catalyst for future

studies to pay more attention to the distinction between the negative and positive directions of the performance-trust link.

Notes

¹ The fiscal year in Japan starts on April 1 and ends on March 31.

² These interviews were conducted at participants' homes. The first two interviewees were recruited through Ohwani town officials who were then asked to introduce the author to someone different who could fill the missing age cohort of the interview pool. In total, eight men and six women ranging in age from their 20s to 70s participated in the qualitative interviews.

³ All the correlations between the covariates were less than .26. The variance inflation factor values for all the estimates were less than 1.24. Thus, multicollinearity is not a serious issue in examining the associations between the outcomes and covariates.

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APPENDIX 1: Summary of Sample Representation

		Ohwani				Inakadate			
		Sample		Population		Sample		Population	
		Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Gender:	Female	68	58.12	3,901	52.79	76	59.38	2,773	51.63
	Male	49	41.88	3,488	47.21	52	40.62	2,598	48.37
Age:	30s	11	9.40	953	12.90	25	19.53	915	17.04
	40s	18	15.38	1,268	17.16	21	16.41	915	17.04
	50s	26	22.22	1,531	20.72	35	27.34	1,133	21.09
	60s	37	31.62	1,931	26.13	28	21.88	1,371	25.53
	70s	25	21.37	1,706	23.09	19	14.84	1,037	19.31
Total		117	100.00	7,389	100.00	128	100.00	5,371	100.00

APPENDIX 2: Measures of Covariates

Covariate	Survey Items
Gender & Age	Please tell us your gender and age. (Male/Female; 30s/40s/50s/60s/70s)
Civic Engagement Index	
Voting	Did you vote in the recent [mayor or council] election? (Yes/No)
Personal contact with officials	In the recent 2 years, have you personally telephoned, written, e-mailed, or met the mayor, council members, or officials of [name of local government] regarding the public service quality or community issues? (1 = None; 2 = Once; 3 = A few times; 4 = More than three times)
Participation in public meetings	In the recent 2 years, have you attended meetings called to discuss issues with your neighborhood or local community? (1 = None; 2 = Once; 3 = A few times; 4 = More than three times)
Membership of civic organizations	In the recent 2 years, which of the following organizations in local community do you belong to? Please mark all that applies. 1 Neighborhood Association 9 Community Renovation Group 2 Young Citizens Association 10 Care & Welfare Volunteer Group 3 Elderly Citizens Association 11 Volunteer Group for Local Environment 4 Women’s Association 12 Circle of Sports, Arts, or Other Hobbies 5 PTA 13 Temple, Shrine, and/or Church 6 Volunteer Fire Company 14 Local Political Group 7 Safety Volunteer Group 15 Others () 8 Commerce Association
Lobbying & Petition	In the recent 2 years, as a member of the organizations listed in Q7 [“Membership of civic organizations”] or private companies, have you lobbied or pushed [name of local government] to solve issues with your neighborhood or local community? (1 = None; 2 = Once; 3 = A few times; 4 = More than three times)
Education	What is the highest level of education you have enrolled? (1 = Elementary or Middle School; 6 = Graduate School)
Household Income	In which of the following ranges, does your household income fall? The household income is the combined money income of all those earners in a household received from all sources and <u>before tax</u> . (1 = Zero; 8 = More than 15 million yen per year)