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Effects of groups and government size on information disclosure

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Abstract. This paper uses data from Japan to ascertain the determinants of government information disclosures by considering the role of special interest groups and government size. A IV-Tobit model is employed to control for endogeneity bias of government size. The major findings are as follows: (1) special interest groups have a detrimental effect on information disclosure; (2) special interest groups and an aging population increase government size; and (3) information disclosure ordinances are more likely to be enacted with a large government size.

Keywords: Special interest group, Government size, Information-disclosure ordinance.
JEL classification: G38; P48

1. Introduction

One of the central tenets of public choice theory is that associations have a tendency to act as special interest groups, which lobby for preferential policy at the expense of the rest of society. A special interest group represents a narrow segment of society and is unlikely to have an incentive to make any significant sacrifices for the interests of society as a whole. "The organizations are … therefore overwhelmingly oriented to struggle over the distribution of income and wealth rather than to the production of additional output" (Olson 1982, p. 44). Such groups engage in rent-seeking activities and are considered to act as distributional coalitions. Various organizations and associations can be considered special interest groups, and can lead to government failure.

It is widely accepted that imperfect information, such as information asymmetry between seller and buyers, is a key element of market failure. Information asymmetry is considered to have a detrimental effect not only on the market but also on political processes, and when it exists between citizens and government it enables politicians, bureaucrats, and special interest groups to seek their own benefits at the expense of other citizens. When citizens wish to access information regarding government activity the cost is high. In other words, it is difficult for citizens to acquire sufficient government information relating to, for instance, the provision of public services or subsidies. Hence, rational citizens become ignorant. This may be the reason why citizens are not able to criticize the corrupt behavior of politicians and bureaucrats. To put it differently, "the government's power to pursue its own objectives is greatly aided by the "rational ignorance" of voters of their true tax bills, the full impact of debt, and money creation" (Mueller 2003, p. 382). The pressure on government from citizens declines, which decreases the incentive of government to maximize social welfare.

Public policies are thought to play a critical role in reducing information asymmetry. It seems plausible that policies that reduce information asymmetry also increase the net benefits of society as a whole rather than just the members of special groups. However, results from empirical works have produced conflicting views. Opinions are divergent on the effect of information disclosure. The seminal work of Islam (2006) used the existence of freedom of information acts and the length of time they were in existence to measure government transparency. Islam's (2006) study used cross-country data from 199 countries to provide evidence that countries with greater transparency achieve better governance.[1] Then, Benito and Bastida (2009) followed and argued that

[1] Various indexes are used to measure the degree of governance: "governance

"the more information the budget discloses, the less the politicians can use fiscal deficit to achieve opportunistic goals." In India, the Right to Information Act came into effect in 2005, and citizens can now access information under the control of public authorities. Bhattacharyya and Jha (2009) showed that the Right to Information Act and economic growth reduced corruption in India. In contrast, Escaleras et al. (2010) used panel data from 128 countries during the period 1984–2003 to suggest that the enactment of freedom of information acts caused the level of corruption to reduce in developing countries. There is a possibility of reverse causality, whereby economic conditions affect government transparency. There are also studies that explore the reasons behind government transparency. For instance, Alt et al. (2006) attempted to ascertain the determinants of fiscal transparency in the United States. Based on panel data, they presented evidence that political competition and power sharing produced fiscal transparency. In addition, past fiscal conditions were also shown to affect the level of transparency (Alt et al. 2006).

To advance the member interests of a special interest group, the group aims to influence the approval process of public policy. The political power of these groups is thought to be inevitably related to the direction of the public policy adopted. Hence, members of special interest groups are thought to engage in collective action to hinder information disclosure because information disclosure would be detrimental to the vested interests of its members. Furthermore, government size is also considered to affect information disclosure policies. Government size appears to have the opposite effect on information disclosure. The larger a government becomes, the greater the benefits of public works. This results in a delay of information disclosure legislation. However, the larger the government becomes, the greater the tax burdens on the country's citizens. This provides an incentive for those citizens who do not enjoy the benefits of public works to criticize the government. It follows then that citizens come to prefer information disclosure. Thus, it is worthwhile to investigate the effect of government size on information disclosure.

Since the 1990s in Japan, an increasing number of local governments have enacted public information disclosure ordinances (IDOs). The purpose of the ordinance enactments is to assure fair governance, ensuring that government activity becomes more transparent and that citizens' participation and local autonomy is enhanced (Uga 2001). The enactment of IDOs appears to reduce the likelihood of government failure. With the aim of exploring the behavior of interest groups in the political process, it is

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effectiveness," "voice and accountability," "regulatory burden," and "perception of corruption" (Islam 2006).

useful to investigate how such groups exert pressure on policy choice in Japan. This paper uses local government level data from Japan. In comparison with cross-country data, the data used in this paper is less likely to suffer omitted variables bias caused by unobserved historical and cultural backgrounds because these backgrounds are the same within a country. Furthermore, Japanese society is considered to be relatively homogenous in terms of social and cultural conditions, although there has been a recent increase in the number of immigrants into the country (Yamamura 2012). Hence, the advantage of using such data is that it is less likely to be affected by heterogeneous factors than more heterogeneous countries such as India.

The purpose of this paper is to examine the effect of the number of interest groups on the enactment of IDOs. Further, a IV-Tobit model is used to control for endogeneity bias of government size. In this model, government size and the rate of enactment of IDOs are examined at the same time. The key findings of these estimations are: (1) the number of special interest groups is positively associated with the rate of enactment of IDOs; (2) the number of special interest groups and the aging population rate increase government size; and (3) government size is positively associated with the rate of enactment of IDOs. Section 2 provides a brief overview regarding the disclosure of local government information in Japan. Section 3 presents the testable hypotheses. In Section 4, the data and methods used are explained. Section 5 discusses the results of the estimations. The final section offers concluding observations.

2. Overview of information disclosure ordinances in Japan

The Freedom of Information Act was enacted in the United States in 1967. Approximately 30 years later in 1999, Japan's central government enacted similar information disclosure legislation. Prior to the recent responsibilities of the central government, local governments in Japan (in towns and villages) played a leading role in the disclosure of public information. In 1982, a town in northeastern Japan, Kanayama, became the first to enact an information-disclosure ordinance (Muroi 1999).

The enactment of IDOs was aimed to signify the regulations of a particular local government, providing residents the right to request the disclosure of information possessed by that body. Figure 1 reveals that the rate of enactment of IDOs significantly increased from 1998 to 2004. The rate of enactment was only 0.2 in 1998, increasing notably to 0.9 by 2004.[2,3] The enactment of public information ordinances is anticipated

[2] This rate would become 1 if all local governments enacted such ordinances.
[3] Since 2005, the annexation of municipalities, towns, and villages has rapidly increased. As a result, the number of municipalities, towns, and villages decreased to approximately 2,300 and 1,800 in 2005 and 2009, respectively. Accordingly, the rate of

to ensure local government accountability in towns, village, and municipalities. IDOs are based on the right to know (Muroi 1999).

IDOs were anticipated to enable citizens to identify the fraudulent interests of politicians, bureaucrats, or private firms. For example, public funds were sometimes used for undesirable ends such as cheating and collusion. Figure 1 shows that before the mid-1990s information disclosure systems were not well developed in of the majority of Japan's local governments. For instance, bureaucrats often claimed expenses for business trips that were not actually undertaken, but this was not disclosed to citizens. In the early 1990s, politicians were often also company managers, even though they were prohibited by law from engaging in side businesses. To take a typical case, it was commonly observed that firms managed by politicians frequently received orders for construction work from local governments (Asano 2010). Within the political process, which was not open to citizens, subsidies were provided purposely to sectors with strong electoral leverage, and local governments spent extravagantly on public works projects.

The enactment of information disclosure ordinances revealed the illicit use of public funds, which were equal to 4 billion yen in 1998 (Muroi 1999, p. 106). As a result of the introduction of an information disclosure system, the process by which, for example, suppliers of public services are appointed has become transparent and the inappropriate behavior of politicians can be deterred. Thanks to the system, citizens are able to scrutinize possible collusion among politicians, bureaucrats, and private firms. Consequently, in a number of prefectures, the practice of local bureaucrats using public funds to entertain central bureaucrats has been (in principle) abolished (Matsui 2000, p. 6). The details of bureaucrats' business trips are now open to the public (Matsui 2000, p. 6). Hence, IDOs have made a great contribution to deterring moral hazards and the misallocation of resources. Accordingly, the efficiency of local government is considered improved.[4]

It follows from this discussion that public IDOs have played a critical role in increasing the welfare of citizens. In contrast, however, those groups who enjoyed the benefits of a lack of information disclosure are now disgruntled with the enactment of the ordinances. That is, politicians, bureaucrats, and special interest groups have

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municipalities enacting ordinances rose from 0.97 in 2005 to 0.99 in 2009. Thus, the annexation of municipalities is considered to be positively related to the rate of enacting ordinances. That is, the rate of enacting disclosure ordinances is partly affected by the annexation of municipalities. From 2005 to 2009, the change in the rate of enacting disclosure ordinances was negligible. Therefore, I focus on the 1998–2004 period in this paper.

[4] It has been shown that the government's public information disclosure is positively associated with GDP growth in Japan (Yamamura 2010).

appeared to lose the benefits of information asymmetry between local government and citizens. Hence, they seem intent on initiating collective actions to oppose the disclosure of public information. In the process of enacting information disclosure legislation, bureaucrats have in fact emasculated the law (Tsuruoka and Asaoka 1997).

3. Hypotheses

Within a political system, a government can be considered to be a monopolist. Local governments can acquire an amount of information that is distinctly greater than that available to the citizenry. However, there are no rivals to the local governments, to reduce efforts to improve the government services supplied to the citizens as a whole. Partly because of the information asymmetry between governments and citizens, politicians and bureaucrats have a tendency to place higher priority on their own profits than on citizens' welfare, resulting in various undesirable outcomes for society as a whole. When an official IDO is enacted, citizens are able to collect information regarding governmental activity. Once citizens are able to access such information, they are more inclined than before to criticize policies that advance politicians' and bureaucrats' self-interests. Citizens are able to vote in the election for the candidate who increases the benefits to citizens rather than interest groups. This creates competitive pressure for politicians. As a result, budget allocations have become more efficient, and this in turn increases citizens' welfare. In contrast, special interest groups lose the vested interest of their members through rent-seeking activity. That is, thanks to the disclosure of public information by governments, there is an increase in the benefits for the whole of society whereas the vested interests of special interest groups are reduced. Inevitably, special interest groups have a strong incentive to prevent public IDOs from being enacted. Members of special interest groups may take collective action against the ordinance. Thus, Hypothesis 1 is proposed as follows:

Hypothesis 1: Special interest groups impede the disclosure of public information by governments.

The influence of government size on the enactment of IDOs can be considered differently. Alternative hypotheses are proposed below. Citizens become the "rational ignorant" when the cost of collecting information regarding political issues is greater than the benefit of collecting it and voting. Rational ignorance leads to citizens poorly monitoring governmental activities. This is considered as the principal-agent problem between government and citizens. However, information regarding government size is

easily obtained by citizens. To put it another way, the cost of accessing information regarding government size is low and citizens do not become the "rational ignorant." Niskanen (1971) asserted that bureaucrats aim to maximize the budget rather than social welfare. Assuming that government size is large, citizens with information regarding government size will infer that a large government is positively associated with their burdens (i.e., tax). If government size exceeds the optimal level of scale maximizing the net benefit of citizens, citizens will reduce government size to the optimal level. Accordingly, citizens are willing to make government more transparent to collect accurate information regarding public expenditure for the purpose of avoiding wasteful spending. Thus, I postulate the following Hypothesis 2(a):

Hypothesis 2(a): The level of disclosure of public information by governments is likely to be greater in a larger government?.

In contrast, there is another possibility regarding the effect of government size on the enactment of IDOs. The larger the government size, the greater the number of people who work in public sectors or who receive benefits from the public sector. IDOs are considered to make a government more efficient by reducing its size. As a consequence, people working in the public sector or related industries appear to lose the benefit. For instance, some public sectors will be downsized and so workers will lose their jobs. If this holds true, then public sector employees will resolutely oppose IDOs. This leads me to raise Hypothesis 2(b) as follows:

Hypothesis 2(b): The level of disclosure of public information by governments is likely to be greater in a smaller government?.

4. Data and method

4.1. Data

Within Japan's administrative system, municipalities, towns, and villages represent the lowest levels of local government. During the study period, 1998–2004, there were approximately 3,200 local governments within the municipalities, towns, and villages in Japan's 47 prefectures.[5] Thus, there are approximately 68 local governments per prefecture.

[5] A Japanese prefecture is roughly the administrative equivalent of an American state or Canadian province.

Proxy variables data for the interest groups were collected from the Establishment and Enterprise Census provided by the Ministry of Internal Affairs and Communications Statistics Bureau. Various categories of organizations are contained in the census. In this paper, proxy variables of the interest groups are (1) cooperative associations[6] and (2) political and business organizations. These variables are used because these organizations are established in part to act as special interest groups to lobby for preferential policies. The number of political and business organizations per population is denoted as *Political group*, while the number of cooperative associations per population is represented by *Cooperative group*. These groups are organized for special interest purposes. *Political group* and *Cooperative group* are incorporated to examine the effects of interest groups on government information disclosure. Table 2 shows the correlation coefficient between *Political group* and *Information disclosure* as –0.06 despite being statistically insignificant. In contrast, the correlation coefficient between *Cooperative group* and *Information disclosure* is –0.21 and statistically significant at the 1% level. These results imply that *Political group* is not significantly associated with the enactment of IDOs, whereas *Political group* is significantly associated with the enactment of IDOs. However, the correlation coefficient is calculated when the trend of the enactment of IDOs illustrated in Figure 1 is not controlled. To remove the trend effect, I included Figures 2(1) and (2). A cursory examination of Figures 2(1) and 2(2) reveals that *Political group and Cooperative group* are negatively associated with *Information disclosure* even after controlling for year dummies to capture the trends of *Information disclosure*. What is observed in Figures 2(1) and 2(2) is consistent with Hypothesis 1. For a closer examination of Hypothesis 1, Tobit and IV-Tobit models were used and these results are discussed later.

Government party was calculated based on the data from the dataset on prefectural assembly, which is available to the public via Yosuke Sunahara's website.[7] Population censuses (1990, 2000), as published by the Ministry of Internal Affairs and Communications, provided data regarding the number of people who graduated from universities over the past 10 years; for the period 1990–2000, the data for 1998 to 2000 were generated by interpolations based on the assumption of constantly changing rates between 1990 and 2000. The data between 2001 and 2004 were calculated by adding the annual number of people who graduated from university between 2001 and 2004. The

[6] In the Establishment and Enterprise Census, cooperative associations include (a) agriculture, forestry, and fishing cooperative associations and (b) business cooperative associations.

[7] Available from http://www.geocities.jp/yosuke_sunahara/data/data.html (accessed November 18, 2010, Japanese only).

annual data between 2001 and 2004 were collected from the Basic Report for Schools (2001–2004) published by the Ministry of Education, Culture, Sports, Science and Technology. The number of people who graduated from university and population data were used to calculate the rate of university graduation. Other variables such as *Female rate, GDP, Old population,* and *Young population* are gathered from the Asahi Shimbun newspaper (2008). Definitions and the basic statistics of the variables used in this paper are presented in Table 1.

4.2. Methods

To examine the hypotheses raised previously, the estimated function takes the following form:

$$\textit{Information disclosure}_{it} = \alpha_0 + \alpha_1 \textit{Government size}_{it} + \alpha_2 \textit{Political group}_{it} + \alpha_3 \textit{Cooperative group}_{it} + \alpha_4 \textit{Government party}_{it} + \alpha_5 \textit{Female rate}_{it} + \alpha_6 \textit{Ln(GDP)}_{it} + \alpha_7 \textit{Education}_{it} + u_t + \varepsilon_{it},$$

where the dependent variable is $\textit{Information disclosure}_{it}$ in prefecture i, for year t. The regression parameters are denoted by α and u_t represents the unobservable year-specific effects of year t to capture the trends demonstrated in Figure 1. The effect of u_t is controlled for by including year dummies. The error term is represented by ε_{it}. The structure of the data covers 6 years for 47 prefectures. The value of *Information disclosure* becomes 1 when all local governments enact an IDO in a prefecture, and it becomes 0 when no local governments enact the IDO in a prefecture. Table 1 shows that the maximum value of *Information disclosure* is 1 and its minimum value is 0.01. This means that some observations of *Information disclosure* are censored at 1 (upper bound). Therefore, a Tobit model is appropriate in this situation and is used for the estimations.

The effects of the key variables in examining Hypotheses 1 and 2(a) and (b) are as follows: Hypothesis 1 creates the expectation that the coefficient sign of *Political group* and *Cooperative group* will be positive; Hypothesis 2(a) predicts that the coefficient signs of *Government size* will be positive; and Hypothesis 2(b) predicts that the coefficient signs of *Government size* will be negative.

Control variables such as *Government party* and *Female rate* are incorporated to capture the influence of political factors on IDO enactment. The Liberal Democratic party (LDP), supported by conservative people, has been the ruling party in Japan since the end of World War II. *Government party* represents rate of seats held by the LDP in the local assembly. *Government party* has a significant influence on political

decision-making and on the allocation of budget. Special interest groups are able to enjoy their vested interests via rent-seeking activity to provide a benefit to the LDP. However, IDOs are considered to deter such rent-seeking activity and so reduce the vested interests. Therefore, LDP supporters are predicted to be against the enactment of IDOs. Even if *Political group* and *Cooperative group* are included as independent variables, the influence of special interest groups has not been completely captured. Hence, *Government party* is incorporated to capture the influence of special interest groups that enjoy benefits by supporting the LDP. The above argument leads to the prediction that the coefficient of *Government party* will take the negative sign.

Within traditional Japanese society, females have held a lower social position than that of males, and women therefore play a minor role in the political process. This situation has persisted since the World War II, although the position of females has improved. IDOs have possibly changed the situation for females and have increased their benefit by reducing the political power of males. Hence, females are likely to support IDOs. Thus, *Female rate* is predicted to take the positive sign. Demand for information disclosure possibly depends on economic conditions captured by, for instance, GDP per capita and education level. A certain level of intelligence is required to understand and utilize the information disclosed by IDOs. Information accessed by the enactment of IDOs appears to be more valuable for people with higher levels of education. More educated people are able to use the information more effectively to increase social welfare and therefore prefer IDOs. Accordingly, the sign of the coefficient of *Education* is predicted to be positive.

4.3. Endogeneity bias and instrumental variables

IDOs are enacted for the purpose of reducing information asymmetry, resulting in more desirable outcomes—IDOs are aimed to increase the welfare of citizens. As argued previously, local government size is expected to affect the decision-making of local governments regarding the enactment of IDOs. Conversely, there is the possibility of reverse causality: the enactment of an IDO influences government size. Governmental public information disclosure is believed to make a government allocate resources more efficiently, thereby reducing the size of government if the result of the government activity is same.[8] If this holds true, then the causality between the enactment of information disclosure and government size is considered ambiguous. Hence, the estimation results appear to suffer from endogeneity.

[8] By using OECD data, Alt and Lassen (2006) provided evidence that fiscal transparency decreases debt accumulation.

This paper used a IV-Tobit model to control for endogeneity bias. Instrumental variables should influence the endogenous variable, but should not be related to the error term. Aged people are generally retired and are more likely to suffer poor health. Accordingly, benefit from social security is considered to be greater for older people. In contrast, the burden of social security lies heavily on the shoulders of the working generation. Therefore, older people are more inclined to prefer a larger government than working people. In addition, an increase in human capital for children is considered to increase their future earnings, which has positive effects on their utility. This, in turn, leads to an increase of utility for their parents (Becker 1981). Hence, for households with school-aged children, the benefits of public spending on education seem to be greater than the burden of spending. Households with school-aged children are considered to prefer a large government because public spending on education is positively associated with government size. It is for these reasons that *Old population* (rate of population over 65 years old) and *Young population* (rate of population between 5 and 19 years old) are used as instrumental variables.

The correlation matrix presented in Table 2 shows that the correlation coefficient between *Government size* and *Old population* is 0.62 and statistically significant at the 1% level. Furthermore, the correlation coefficient between *Government size* and *Young population* is 0.34 and is statistically significant at the 1% level. However, the correlation coefficient is obtained when year-specific effects are not controlled for. For a closer examination, I now turn to Figures 3(1) and (2), which demonstrate the relationships between *Government size* and *Old population*, and *Government size* and *Young population*, after controlling for year dummies. Figure 3(1) reveals that *Old Population* is positively associated with *Government size*. In contrast, Figure 3(1) shows that *Young Population* is positively associated with *Government size.* The results illustrated in Figures 3(1) and (2) are in line with the prediction.

5. Results

The results of the Tobit model are shown in Table 3, and the results of the IV-Tobit are exhibited in Tables 4(1) and (2). As presented in Table 2, the correlation coefficient between *Political group* and *Cooperative group* is 0.66 and statistically significant at the 1% level. This implies that *Political group* is positively related to *Cooperative group*. I interpret this as suggesting that *Political group* is more likely to exist in places where *Cooperative group* exists. This suggests that a collinearity between *Political group* and *Cooperative group* is observed in the regression estimation when both *Political group*

and *Cooperative group* are included at the same time. In Tables 3 and 4, with the aim of alleviating the effect of collinearity (in addition to the full model including *Political group* and *Cooperative group*), I also present alternative specifications that do not simultaneously include *Political group* and *Cooperative group*. Furthermore, as discussed in the previous section, *Government size* and *Political group* (and *Cooperative group*) are correlated, which leads to collinearity. Hence, in columns (1)–(3) of Table 3, the results of the alternative specifications that exclude *Government size* are presented. The results of the second stage estimations of the IV-Tobit model where *Government size* is considered as endogenous are shown in Table 4(1). The results of the first stage estimation of the IV-Tobit where *Government size* is a dependent variable are reported in Table 4(2).

5.1. Tobit model.

I now begin by looking at the key variables to test the Hypotheses. In columns (1) and (2), *Political group* yields the expected negative sign and is statistically significant, which is congruent with Hypothesis 1. However, as exhibited in columns (4) and (5), *Political group* becomes statistically insignificant although the sign of its coefficient continues to be negative once *Government size* is added as an independent variable. Concerning another variable related to Hypothesis 1, *Cooperative group* produces the predicted negative sign in columns (1) and (3), and is statistically significant in column (3), although it is insignificant in column (1). Further, the sign of the coefficient of *Cooperative group* becomes positive in columns (4) and (6), despite being statistically insignificant. Therefore, the results of *Political group* and *Cooperative group* are not robust, and are inconclusive. However, these results possibly suffer from omitted variable bias in columns (1)–(3) or endogeneity bias caused by *Government size* in columns (4)–(6). With respect to *Government party,* as predicted earlier, its coefficient sign is negative and statistically significant at the 1% level in all columns. This means that supporters of government party appear to be against IDOs to protect their vested interests.

I now turn to *Government size* to test Hypotheses 2(a) and (b). I see from columns (4)–(6) that the coefficient of *Government size* takes the negative sign and is statistically significant. This supports Hypothesis 2(b). However, endogeneity bias possibly affected that result. Hence, it is necessary to examine more closely the effect of *Government size* by controlling for endogeneity bias. These results are discussed in sub-section 5.2.

Concerning control variables, the coefficient of *Female rate* shows the mixed sign and

statistical insignificance. This suggests that IDOs are not affected by the female ratio in population. *Ln(GDP)* produces the positive sign and is statistically significant at the 1% level. A significant negative sign for *Education*, with the exception of column (3), is contrary to the prediction. The result possibly suffers from estimation bias. Therefore, I will discuss the results of the IV-Tobit model later in the paper. With respect to year dummies, as shown Table 3, the reference group is 1999. Hence, the coefficient of each year dummy suggests the effects of each year on the IDO enactment rate compared with 1999. All the coefficients of the year dummies show the significant positive sign. Further, its absolute values increase steadily as the number of years pass. This reflects an increase in the rate of enactment of IDOs, which is shown as a growing trend plotted in Figure 1.

5.2. IV-Tobit model.

As is discussed earlier, *Government size* appears to be an endogenous variable. However, the Wald test of exogeneity is required to determine whether *Government size* is indeed an endogenous variable (Wooldridge 2002, p. 472–477).[9] In Table 4(1), the test of endogeneity rejected the null hypothesis that *Government size* is exogenous in all columns, meaning that *Government size* is considered an endogenous variable. And so, a IV-Tobit model is preferred to control for endogeneity bias caused by *Government size.* Table 4(1) provides the results of an over-identification test.[10] This test is necessary to check the validity of the estimation results in the IV-Tobit model. The null hypothesis of the over-identification test is that the instrumental variables do not correlate with the residuals. If the hypothesis is not rejected, the instrumental variables are valid. Table 4(1) shows that the hypothesis is not rejected in columns (1) and (2), suggesting that the estimation results are valid. However, in column (3), the hypothesis is rejected. Therefore, the results of columns (1) and (2) are more reliable than column (3).[11]

In all columns of Table 4(1), the coefficients of *Political group* and *Cooperative group*, as anticipated, are negative and statistically significant at the 1% level. Controlling for endogeneity bias makes the results of *Political group* and *Cooperative group* to be

[9] For the maximum likelihood variant with a single endogenous variable, the test is simply a Wald test where the correlation parameter rho is equal to zero. That is, the test simply asks whether the error terms in the structural equation and the reduced-form equation for the endogenous variable are correlated.

[10] An Amemiya-Lee-Newey minimum chi-square statistic is used for the over-identification test.

[11] It should be noted that special care should be taken in the interpretation of the results in column (3).

robust to alternative specifications and in line with the expectation. From this, I derive the argument that interest groups hamper the enactment of IDOs in order to benefit from the information asymmetry between government and citizens. This strongly supports Hypothesis 1. In addition, *Government party* continues to yield the negative sign. It is statistically significant at the 1% level in columns (1) and (2), although it is statistically insignificant in column (3). This suggests that the results in Table 3 regarding *Government party* are, to a certain extent, robust. This is also consistent with Hypothesis 1. The values of the coefficients vary according to the specifications. Hence, I interpret them by focusing on the full model presented in column (1) because omitted variables bias is alleviated by incorporating all dependent variables. The absolute values of *Political group* and *Cooperative group* are 2.98 and 2.68, respectively. I interpret these results as implying the following: an increase of 1 in the number of political groups per 1000 persons leads to a 2.98% point decrease in the rate of IDO enactment. An increase of 1 in the number of cooperative groups per 1000 persons leads to 2.68% point decrease in rate of IDO enactment. The absolute value of *Government party* is 0.50, meaning that a 1% point increase in seats of the LDP leads to a 0.50% point decrease in rate of IDO enactment.

With respect to *Government size,* it is surprising to observe that the coefficients of *Government size* become positive and statistically significant at the 1% level in all estimations, which is in contrast to the results presented in Table 3. That is, endogeneity bias is considered to markedly influence the results of *Government size.* Furthermore, the values of its coefficients range between 5.41 and 18.2—this represents a significant gap. Columns (2) and (3) possibly suffer from omitted variables bias although the effect of collinearity is alleviated. Hence, I now focus on the full model shown in column (1) to interpret the magnitude of the effect of *Government size.* As shown in column (1), the value 18.2 can be interpreted as suggesting that a 1% point increase in expenditure of government over GDP leads to a 18.2% point increase in the rate of IDO enactment. Hence, citizens are thought to be very sensitive to government size.

As for the control variables, the sign of *Female rate* varies according to specifications and is not statistically significant. Hence, *Female rate* does not influence IDOs. The significant positive sign of Ln(GDP) in all columns implies that GDP per capital makes a contribution to increase the enactment rate of IDOs. As shown in column (1), the coefficient of *Ln(GDP)* is 2.90, meaning that a 1% point increase in GDP per capita leads to 2.90% point increase in the rate of IDO enactments. This shows that economic development leads to a transparent government, suggesting a positive association

between economic development and democracy. Contrary to Table 3, the sign of the coefficient of *Education* takes the positive sign in columns (1)–(3). This is consistent with the expectation. However, *Education* does not show statistical significance. Therefore, effect of *Education* is not conclusive.

I now turn my attention to the results of the first stage results shown in Table 4(2). With regard to the instrumental variables, the sign of the coefficient of *Old population* is positive in all estimations and is statistically significant at the 1% level in columns (2) and (3), whereas that for *Young population* is negative in columns (1) and (2) and positive in column (3). Hence, older populations are considered to prefer larger governments and therefore increase government size, while households with school-aged children do not influence government size. It is interesting to observe that *Political group* and *Cooperative group* yield positive signs and are statistically significant at the 1% level in all estimations. It follows from this that special interest groups are devoted to increasing government size, which is consistent with Mueller and Murrell (1986). They describe how parties supply interest groups with favors in exchange for the interest groups' support in the political process. If these favors take the form of goods targeted to specific interest groups, there is possibly a positive externality that favors other groups. In this case, the government will grow larger.[12]

Taken together therefore, the combined results of Tables 3 and 4 suggest that interest groups impede information disclosure from government and increase government size to increase the benefits for their members.

6. Conclusion

According to Olson (1982), an interest group will lobby for preferential policies for its members at the expense of the rest of society. The role of interest groups is reinforced by information asymmetry between government and citizens, causing government failures. In other words, government failure can be alleviated when citizens are able to share information with their government. However, sharing information concerning public spending between citizens and government appears to reduce the vested interest of interest groups. This may lead interest groups to rigorously oppose enactment of IDOs.

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[12] The following argument is noteworthy: "some interest groups favor higher government expenditures (automobile and truck drivers want larger highway expenditure), but others favor lower expenditures (environmental groups oppose highway construction). *Everyone* prefers to receive higher subsidies, but to pay lower taxes… The *net effect* of interest groups on the size of government cannot be determined a priori. It is an empirical question"(Mueller 2003, p. 521).

In addition, government size is thought to play a critical role in the formation of public policy, such as the enactment of IDOs. This paper examined the effects of interest groups and government size on the enactment of IDOs using a local government level dataset from Japan. Government size can be considered as an endogenous variable, leading to estimation bias. I used a IV-tobit model to control for any endogeneity bias caused by including government size as an independent variable. The major findings are summarized as follows: (1) special interest groups have a detrimental effect on information disclosure; (2) special interest groups and an aged population act to increase government size; and (3) information disclosure ordinances are more likely to be enacted by a larger government.

The primary contribution of this paper is twofold. First, the role of interest groups is explored in the political process where IDOs are enacted. This study provides a definite understanding of the effect of groups on the choice of public policy. Second, this paper examines not only the effects of government size on information disclosure policy but also the influence of groups on government size. From the results shown in this paper I derive the argument that interest groups put pressure on governments to impede any policy that reduces the benefits to those groups in the process of information disclosure concerning public issues. Therefore, the continuation of an inefficient political system is caused, in part, by the endeavors of interest groups to pursue their own benefits.

However, the role played by interest groups to determine government size (Mueller 2003, p. 521) and influence policy-making appears to depend on the features and aims of the groups. Therefore, a more detailed classification of groups is required to explore their influence on government size and the enactment of IDOs. In addition, this paper did not investigate the effect of IDOs on corruption in the public sector and economic efficiency, although IDOs are intended to increase the welfare of all society. It would be worthwhile to investigate the effect of IDOs in these areas to determine the various policy implications. These remaining issues can be addressed in future work.

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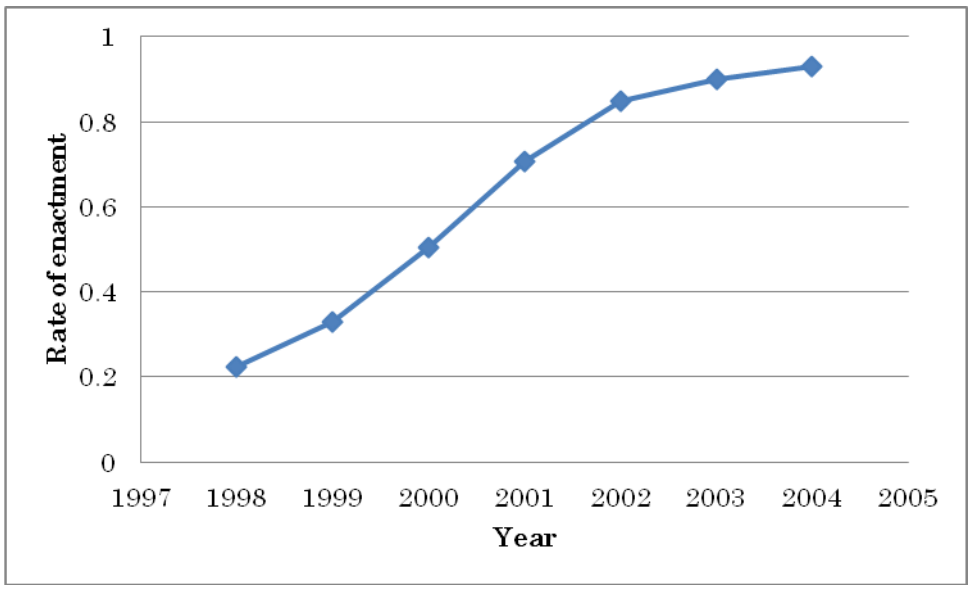

Fig. 1 Rates of enactment for municipalities of government information disclosure ordinances.

[1] The rate would become 1 if all local governments enacted the ordinances.

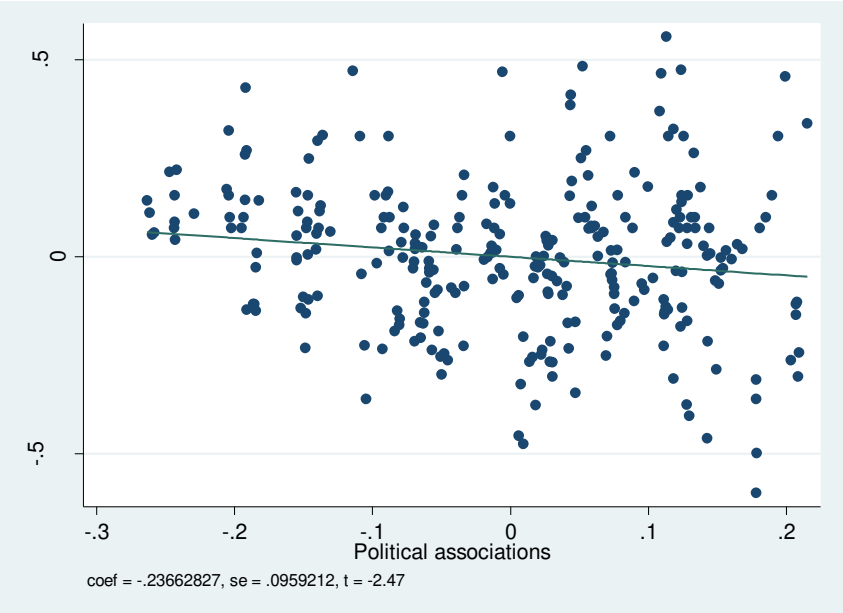

Fig. 2(1) Relation between political groups and rates of municipalities enacting government information disclosure ordinances

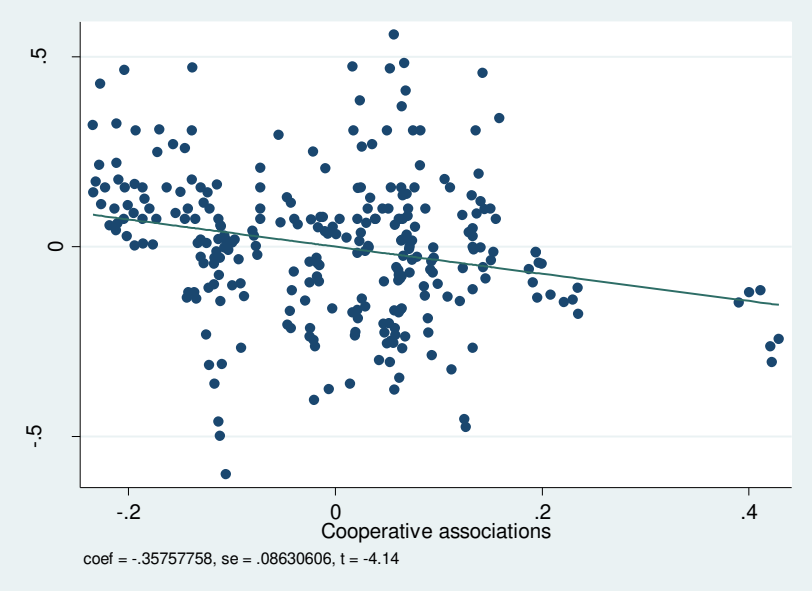

Fig. 2(2) Relation between cooperative associations and rates of municipalities enacting government information-disclosure ordinances

Note: These relations are obtained after controlling for unobserved year-specific effects and are illustrated using the avplot command in STATA 11.

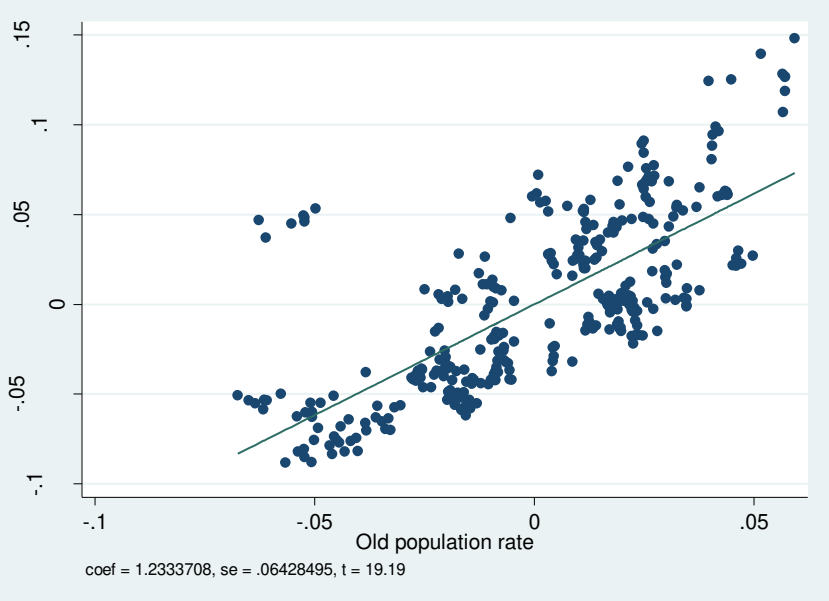

Fig. 3(1) Relation between government size and rate of old population

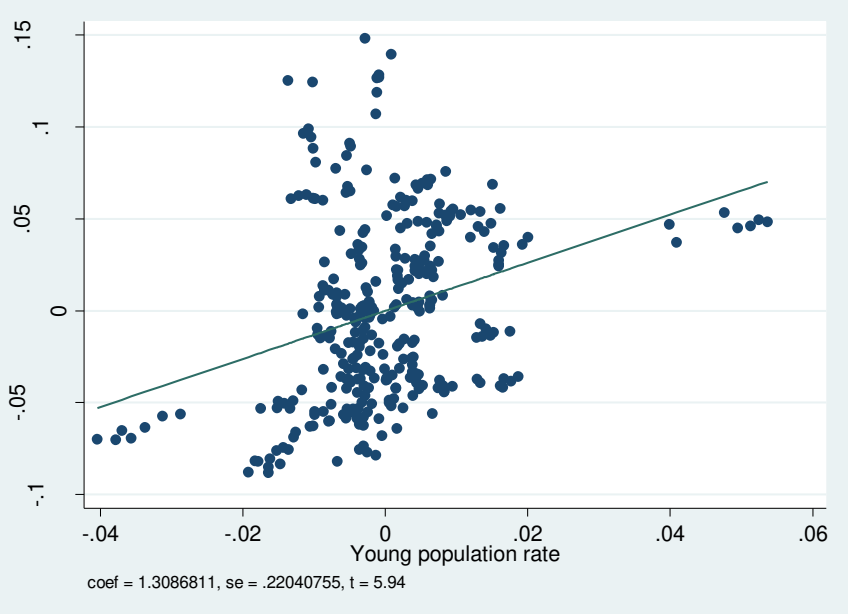

Fig. 3(2) Relation between government size and rate of young population

Note: These relations are obtained after controlling for unobserved year-specific effects and are illustrated using the avplot command in STATA 11.

Table 1. Variable definitions and basic statistics

Variable	Definition	Mean	Standard deviation	Max	Min
Information disclosure	Rates of municipalities enacting government information disclosure ordinances (municipalities enacting ordinances/all municipalities)	0.70	0.28	1.00	0.01
Government size	Government expenditure/ GDP	0.13	0.04	0.29	0.05
Political group	Number of political and business organizations associations per population (number of political and business organizations/1,000 persons)	0.35	0.11	0.56	0.09
Cooperative group	Number of cooperatives per population (number of cooperative associations/1,000 persons)	0.31	0.13	0.74	0.07
Government party	Rate of the Liberal Democratic party (number of seats/all seats in a local assembly)	0.49	0.13	0.75	0.09
Female rate	Rate of female population	0.51	0.01	0.54	0.48
GDP	GDP per capita (in millions of yen)	0.03	0.007	0.07	0.02
Education	Rate of university graduation	0.10	0.03	0.24	0.05
Old population	Rate of population over 65 years old	0.19	0.02	0.26	0.11
Young population	Rate of population between 5 and19 years old	0.16	0.01	0.21	0.12

[1] Data were collected from the *Asahi Shimbun* newspaper (2008) and the Ministry of Internal Affairs and Communications Statistics Bureau (various years).

Table 2. Correlation matrix of variables used in estimations

	Information disclosure	*Government size*	*Political group*	*Cooperative group*	*Government party*	*Female rate*	*GDP*	*Education*	*Old population*	*Young population*
Information disclosure	1.00									
Government size	–0.33***	1.00								
Political group	–0.06	0.62***	1.00							
Cooperative group	–0.21***	0.75***	0.66***	1.00						
Government party	–0.13**	0.10*	–0.06	0.22***	1.00					
Female rate	–0.19***	0.56***	0.51***	0.55***	0.16***	1.00				
GDP	0.20***	–0.52***	0.007	–0.27***	–0.09*	–0.38***	1.00			
Education	0.28***	–0.67***	–0.44***	–0.62***	–0.18***	–0.45***	0.52***	1.00		
Old population	0.20***	0.62***	0.64***	0.79***	0.25***	0.63***	–0.26***	–0.54***	1.00	
Young population	–0.60***	0.34***	0.16***	0.14**	0.02	0.26***	–0.45***	–0.52***	–0.15***	1.00

1. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 3. Tobit model

	(1)	(2)	(3)	(4)	(5)	(6)
Government size				–1.25**	–1.11**	–1.52***
				(–2.40)	(–2.42)	(–3.24)
Political group	–0.36**	–0.41***		–0.18	–0.16	
	(–2.43)	(–3.19)		(–1.11)	(–1.02)	
Cooperative group	–0.09		–0.26**	0.09		0.05
	(–0.66)		(–2.15)	(0.57)		(0.38)
Government party	–0.50***	–0.52***	–0.42***	–0.51***	–0.50***	–0.48***
	(–5.22)	(–5.59)	(–4.62)	(–5.29)	(–5.32)	(–5.18)
Female rate	0.58	0.46	–0.47	0.39	0.50	-0.07
	(0.47)	(0.37)	(–0.40)	(0.32)	(0.42)	(-0.06)
Ln(GDP)	0.51***	0.51***	0.43***	0.34***	0.36***	0.28***
	(5.75)	(5.78)	(5.16)	(3.10)	(3.37)	(2.97)
Education	–1.06**	–0.96*	–0.80	–1.16**	–1.23**	–1.07**
	(–2.06)	(–1.96)	(–1.56)	(–2.26)	(–2.46)	(–2.11)
Year_1999	<Reference group>					
Year_2000	0.17***	0.17***	0.17***	0.17***	0.17***	0.17***
	(4.55)	(4.45)	(4.40)	(4.45)	(4.47)	(4.40)
Year_2001	0.38***	0.37***	0.37***	0.37***	0.38***	0.37***
	(9.92)	(9.75)	(9.66)	(9.75)	(9.78)	(9.66)
Year_2002	0.55***	0.54***	0.53***	0.54***	0.54***	0.53***
	(14.0)	(13.6)	(13.5)	(13.6)	(13.6)	(13.5)
Year_2003	0.62***	0.60***	0.59***	0.60***	0.61***	0.59***
	(15.5)	(14.9)	(15.0)	(14.9)	(14.9)	(15.0)
Year_2004	0.67***	0.64***	0.63***	0.64***	0.64***	0.63***
	(16.1)	(15.3)	(15.6)	(15.4)	(15.4)	(15.6)
Constant	2.25***	2.31***	2.39***	1.87***	1.87***	1.85***
	(3.79)	(3.93)	(4.00)	(3.07)	(3.07)	(3.03)
Log likelihood	23.5	23.3	20.6	26.3	26.2	25.7

Observations	281	281	281	281	281	281
Censored observations	45	45	45	45	45	45

[1] Numbers in parentheses are z-statistics.
[2] *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 4(1). IV-Tobit model

	(1)	(2)	(3)
Government size	18.2*** (2.72)	5.41*** (3.68)	10.2*** (2.63)
Political group	–2.98*** (–2.86)	–1.58*** (–4.32)	
Cooperative group	–2.69*** (–2.86)		–2.40*** (–2.83)
Government party	–0.61*** (–2.59)	–0.72*** (–5.47)	–0.18 (–0.95)
Female rate	2.73 (0.85)	0.002 (0.00)	–3.58 (–1.50)
Ln(GDP)	2.90*** (3.19)	1.24*** (5.36)	1.45*** (3.47)
Education	0.16 (0.12)	0.24 (0.33)	0.94 (0.84)
Year_1999		<Reference group>	
Year_2000	0.25** (2.50)	0.19*** (3.80)	0.21*** (2.98)
Year_2001	0.52*** (4.75)	0.42*** (8.03)	0.43*** (5.88)
Year_2002	0.78*** (6.07)	0.63*** (11.2)	0.63*** (8.09)
Year_2003	0.93*** (6.25)	0.73*** (12.1)	0.72*** (8.76)
Year_2004	1.00*** (6.32)	0.78*** (12.5)	0.76*** (9.10)
Constant	8.17*** (3.13)	4.56*** (4.65)	6.31*** (3.48)
Wald chi-square	89.7	298.0	160.8
Exogeneity test	64.3 (P-value = 0.00)	49.0 (P-value = 0.00)	32.4 (P-value = 0.00)
Overidentification test	0.25 (P-value = 0.61)	1.15 (P-value = 0.28)	7.91 (P-value = 0.00)
Observations	281	281	281
Censored observations	45	45	45

[1] Numbers in parentheses are z-statistics.

[2] *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 4 (2). IV-Tobit model (first stage):
Government size is a dependent variable

	(1)	(2)	(3)
Old population	0.24 (1.64)	0.65*** (5.11)	0.57*** (3.67)
Young population	–0.20 (–1.03)	–0.06 (–0.33)	0.39* (1.91)
Political group	0.14*** (7.94)	0.17*** (9.26)	
Cooperative group	0.10*** (4.86)		0.15*** (6.60)
Government party	0.002 (0.22)	0.008 (0.73)	–0.03*** (–2.95)
Female rate	–0.31* (–1.75)	–0.55*** (–3.04)	–0.19 (–0.99)
Ln(GDP)	–0.14*** (–12.9)	–0.14*** (–12.9)	–0.10*** (–9.48)
Education	–0.05 (–0.75)	–0.03 (–0.39)	0.002 (0.03)
Year_1999	<Reference group>		
Year_2000	–0.005 (–1.28)	–0.007 (–1.55)	–0.005 (–1.17)
Year_2001	–0.01** (–2.38)	–0.01** (–3.05)	–0.09* (–1.77)
Year_2002	–0.01*** (–3.74)	–0.02*** (–5.07)	–0.01*** (–2.93)
Year_2003	–0.02*** (–4.64)	–0.03*** (–6.71)	–0.02*** (–3.55)
Year_2004	–0.02*** (–4.96)	–0.04*** (–7.54)	–0.02*** (–3.78)
Constant	–0.25*** (–3.61)	–0.23*** (–3.16)	–0.30*** (–3.91)
F-test	86.7 (P-value = 0.00)	84.8 (P-value = 0.00)	72.0 (P-value = 0.00)
Observations	281	281	281

[1] Numbers in parentheses are z-statistics.
[2] *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.