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Legislative Participation and Re-Election of Otaru City Assembly Members

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Abstract

This study investigates the effects of legislators' policy-making participation on their re-election prospects. Legislative participation is measured by statements on the floor, the records of which are available in assembly session transcripts. Data from five assembly elections in a Japanese municipality are analyzed as a panel. The results indicate making statements in assembly sessions helps incumbents earn more votes in the next election.

1. Introduction

This study is an attempt to investigate whether legislators' participation in assembly deliberations would enhance their re-election prospect. In representative democracies members of a legislative body have the duty to formulate public policy to improve people's life. The electoral process offers voters an opportunity to express which candidate is best qualified to serve them. When incumbent politicians seek re-election, voters would need measures to evaluate if their representatives are making conscious efforts to engage in policy-making on their behalf.

Legislators' efforts take several forms. Some of them, such as backroom dealing among legislative colleagues, are difficult to observe for voters. On the other hand, some are relatively easy to follow, which include participation in assembly debate. While legislative participation itself comprises a variety of activities, legislators' address at the podium on the assembly floor is quantifiable from the legislature transcript text.

The deliberation transcripts contain valuable information about individual representatives' involvement in decision-making, and its use represents part of an expanding effort to utilize text information as data in the economic empirical research. Gentzkow *et al.* (2019) is a survey of the growing empirical literature that uses text data and summarizes analytical methods that deal with text data's multi-dimensional nature. This research focuses on the amount of legislators' speech as a proxy of their policy-making participation.

This paper contributes to the literature of political economy of democracy by investigating behavior of elected officials and outcome of their re-election campaign. Examples of studies that examined incumbents' behavior include: Raveh and Tsur (2020), Schettini and Terra (2020), Vukovic (2020) Gonschorek *et al.* (2018), Conconi *et al.* (2017), and Drazen and Eslava (2010) for members of the executive branch. Klingensmith (2019), Hogan (2008), and Milligan and Rekkas (2008) examined the same issue for legislative officials.

The empirical analysis in this inquiry will test if legislators' address on the assembly floor has positive effects in their re-election bid. The data come from the assembly of the city of Otaru, Hokkaido, as it is a representative of Japanese

municipalities. We collect panel data for sets of legislators who were elected and campaigned for re-election in the period of 1999-2019. Hypotheses on legislative participation and electoral performance are tested with these data.

2. Otaru and its Assembly

Otaru is a port city adjacent to the city of Sapporo, which is the capital city of Hokkaido Prefecture. When Japan transformed itself from the feudal system to the modern nation in the second half of the 19th century, Hokkaido served as the frontier for economic development as it was scarcely inhabited at that time. The Meiji government promoted settlement to the island to make it the source of food supplies. Otaru played a major role in this phase, serving as the island's commercial and financial hub with a port and a branch of country's central bank, Bank of Japan. After the end of World War II, Sapporo emerged as the economic center of Hokkaido, and Otaru's population peaked at 207,095 in 1964.

This research selects Otaru as the case study because it is a representative of Japanese municipalities on the size dimension. As Japan recently experiences population decline, Otaru has also seen its resident's number dwindle. As Table 1 shows, its population stays around the average of municipalities in the "city" and "Tokyo ward" categories.¹ The average city/ward population has been relatively stable as the central government promoted municipality consolidation. While creation of new cities through amalgamation of towns/villages increased their numbers, merger of cities expanded their size.

Municipality consolidation requires that local assemblies be also combined, which complicates analysis of election outcome. Otaru is desirable as a case study in this sense, as it has not engaged in merger with other municipalities and offers stable electoral environments for the analysis.

¹ Japan has four municipality categories: city, Tokyo ward, town and village. According to the census of 2020, 91.8 percent of its population live in cities and 23 Tokyo wards.

Table 1. Population of Otaru and City/Tokyo Ward Category Municipalities

Year	Otaru	City and Tokyo Ward Average
2000	150,687	144,413 (693)
2005	143,900	140,419 (755)
2010	131,928	143,357 (813)
2015	121,924	142,624 (815)
2020	111,299	142,034 (815)

Note: In parentheses are the number of "city" and "Tokyo ward" municipalities. The number of "Tokyo ward" is 23 throughout the period.

The assembly of Otaru meets four times a year, February-March, June-July, September and December, for its plenary sessions, each of which usually lasts for two weeks. The assembly began to publish its official transcripts of plenary sessions in 2000, which allows inquiry into legislative participation of individual assembly member, beginning with those who won the 1999 election until the ones who ran in the most recent election of 2019. This research uses character count data tabulated from these transcripts as a proxy for their participation.

Members of the assembly of Otaru are elected from a single city-wide constituency and serves a four-year term.² Elections take place in April every four years. During the period of this inquiry, six elections were held as shown in Table 2. The table also demonstrates that, following the decline of the number of city residents, the assembly has downsized itself. In 20 years since 1999, the assembly experienced a reduction of 11 seats.

² This city-wide single constituency facilitates investigation of election results, as environment differences need not be addressed in the analysis.

Table 2. The Number of Otaru City Assembly Seats and Candidates at Elections

Election Year	Assembly Seats (A)	Candidates (B)	(A)/(B)
1999	36	40	0.900
2003	32	37	0.865
2007	28	39	0.718
2011	28	32	0.875
2015	25	28	0.893
2019	25	29	0.862

There have been different degrees of competition in assembly member elections as illustrated in Table 2. In the 1999 election, for example, there were only four losers among 40 candidates, while 11 candidates (out of 39) did not win a seat in 2007. Once elected, assembly members are allowed to serve multiple terms, as there is no term-limit law for elected officials in Japan. Among those who won assembly seats in 1999-2015 elections, a majority tried to continue to serve and ran in the following elections as shown in Table 3. Out of 25 legislators who were voted to be assembly members in the 2015 election, for example, 20 chose to seek re-election.

A comparison of Table 2 and 3 suggests that it is advantageous to campaign as an incumbent. The ratio (A)/(B) in Table 2 is the share of successful candidates, and the ratio (D)/(C) represents the corresponding share for incumbent candidates. In every election, the latter is higher than the former. The 2011 election is particularly remarkable, as all of 19 incumbents running for re-election managed to remain in their position.

Table 3. Re-Election by Incumbent Assembly Members

Election Year	Incumbents seeking Re-Election (C)	Re-Elected (D)	(D)/(C)
2003	22 [36]	20	0.909
2007	23 [32]	19	0.826
2011	19 [28]	19	1.000
2015	20 [28]	18	0.900
2019	20 [25]	19	0.950
Total	104	95	0.913

Note: In square brackets are the number of assembly members from the last election.

The total number of incumbent candidates in five elections for 2003-2019 is 104, as shown in Table 3. As some legislators succeeded in attaining a long tenure and repeated running in consecutive elections, these 104 observations count them more than once. Tabulation of individual members according to the number of times they ran in the sample elections produces Table 4. In total, 53 individuals are in the dataset. Out of 53 members, for example, two of them campaigned in all five elections as incumbents and succeeded in serving after the 2019 election.

As individual members differ with respect to the number of times they appear as candidates in the sample period, we have an unbalanced panel dataset whose time-series dimension is five elections with four-year interval. This panel data will be used in the analysis that examines the link between legislators' speech on the assembly floor and their election performance.

Table 4. Incumbents by the Number of their Re-Election Bids: 2003-2019

Number of Re-Election Bids (A)	Number of Incumbents (B)	(A) x (B)
5	2	10
4	4	16
3	8	24
2	15	30
1	24	24
Total	53	104

3. Legislative Participation and Election Results

This section will test the hypothesis that assembly members with more legislative participation would perform better at the polls. The empirical analysis will examine data from Otaru assembly members to determine if their legislative participation improves their chance of electoral success. In the panel regression analysis, the dependent variable is the vote share received by the candidates. As this study attempts to capture the effect of incumbents' legislative participation on their re-election campaign, we focus on the change in the vote share from the last election, in which they won the assembly seat. The variable to represent this change would be the difference of the vote share.

This variable construction, however, needs an adjustment in view of the variance in the number of candidates in our sample's elections shown in Table 2. If an election had a crowded field of candidates, the expected vote share for each contender would be smaller. This is because votes cast would be spread among many candidates. Incumbents running for re-election against more candidates than in the previous election are expected to receive a smaller share of votes, independent of their own efforts during the term. The reverse holds when re-election is sought in a contest with fewer candidates. In a sample with multiple elections, it is necessary to normalize the vote share of each candidate across elections.

In order to incorporate this factor into the electoral performance measure, we first derive the "excess vote share", which is the actual vote percentage received in excess of the arithmetic average vote share, which is 100% divided by the candidate number. This inquiry uses the change in the "excess vote share" from the last election as the gauge of results of incumbents' re-election effort. We denote this variable as `Dif_ExcessVote`.

In the regression analysis to investigate the determinants of `Dif_ExcessVote`, the explanatory variable of primary interest is the character count (`Character`) during the last term for incumbents seeking re-election, which serves as the proxy for legislative participation. The amount of speech would be measured by "word count" if the medium of communication was English. For the Japanese writing, however, the word count is extremely difficult to prepare. The Japanese text does not require a space between individual words. In addition, the presence of postpositional particles in the Japanese language renders divisions of transcripts into word-units arbitrary.

As the beginning of assembly member's term, April, coincides with the start of Japan's fiscal year (April to March), we use fiscal years to tally their amount of speech by year. The members' total character counts for each fiscal year (and legislators' four-year term) are listed in Table 5. They do not include utterance attributed to mayors and bureaucrats, as this study focuses on legislators. The statement by the assembly chairperson is also excluded in legislators' character counts when the speech is made for the purpose of session management. Examples consists of such activities as declaration of session opening, reading of the session agenda and explanation of documents and related materials distributed among participants. This omission is necessary as chairperson's session participation is of a different nature and measuring it on the same basis with regular legislators may bias the analysis. Instead, the impact of the chairperson's position on election results is identified with a separate dummy.

Table 5 also indicates that the speech amount for the assembly members is not necessarily constant on an annual basis. Hence, we will use individual members' count data in the analysis first, which will then be supplemented by the variable normalized to isolate the changes in the total speech amount. It is denoted as `Norm_Character` and obtained by dividing individual members' character count data by the total character counts recorded by all assembly members.

Table 5. Character Counts recorded by Assembly Members

Fiscal Year	Character Counts
[with 36 members from 1999 Election] 1,649,521	
1999	Transcript Not Available
2000	589,762
2001	603,852
2002	455,907
[with 32 members from 2003 Election] 1,914,255	
2003	360,337
2004	386,912
2005	582,757
2006	584,249
[with 28 members from 2007 Election] 2,298,800	
2007	561,013
2008	595,990
2009	584,502
2010	557,295
[with 28 members from 2011 Election] 2,436,352	
2011	637,376
2012	568,369
2013	601,634
2014	628,973
[with 25 members from 2015 Election] 2,553,164	
2015	716,226
2016	577,674
2017	699,772
2018	559,492
[with 25 members from 2019 Election]	
2019	492,748
2020	364,856

Note: Data for 2020 fiscal year do not include the last session in FY2020, which was held in February-March in 2021.

Control variables in the regression are: the number of cumulative term (Term), the age (Age), whether the incumbent belongs to the Liberal Democratic Party (LDP), and whether the incumbent served as chairperson in the immediately preceding term (Chair).

Multiple terms, reflected on Term, should serve as a sign of experience and competence as legislators. If local voters judge that an incumbent deserves another term due to its seniority among assembly members, this variable could contribute to positive changes of the "excess vote share". The impact of the Age variable on Dif_ExcessVote depends on the voter perception of incumbent's effectiveness as assembly members at the age four years older than at the last election. The extra four years may convince voters that a young politician has matured as a dynamic decision-maker. On the other hand, the aging may also send the message regarding the senior members that they have peaked their usefulness.

The LDP dummy depicts potential benefits of belonging to the Liberal Democratic Party. As the dominant party at the national politics, its influence extends to the local level.³ For LDP members in the Otaru assembly, gaining seniority in the influential policy group may lead to wider support from local voters. Finally, the Chair dummy isolates the impact of being a chair. If the chairperson's position carries prestige and impresses voters, it may be linked to electoral success. Summary statistics of these dependent and explanatory variables are shown in Table 6.

The mean value for Dif_ExcessVote suggests that incumbents are evenly distributed between those who gained and lost in their excess vote share in comparison to their previous elections. The Character variable is defined for the full-term, the second half of the term, and the term's final year. This is to examine the possibility that voters would place greater value for legislators' participation toward the end of the term (i.e., close to the election). A glance at summary statistics of Full_Term and 2nd_Half Character variables implies that many assembly members record more character counts during the second half of the term in relation to the term's first two year.

³ Krauss and Pekkanen (2011) illustrates the party's central position in Japan's politics.

Table 6. Descriptive Statistics

	Mean	St.Dev.	Min.	Max.
Dif_ExcessVote (%)	0.005	0.585	-1.877	1.675
Character (in thousands)				
Full_Term (4 Years)	78.075	57.854	0	261.05
2nd_Half (3rd/4th Year)	42.495	32.381	0	141.15
Final_Year	20.271	16.343	0	71.20
Norm_Character (%)				
Full_Term (4 Years)	3.593	2.663	0	12.178
2nd_Half (3rd/4th Year)	3.626	2.774	0	12.095
Final_Year	3.651	2.965	0	15.616
Term	2.558	1.606	1	7
Age	58.327	9.711	30	82
LDP	0.385	0.489	0	1
Chair	0.019	0.138	0	1

The panel regression results are in Table 7. Coefficients are estimated with random effects specification in view of the unbalanced nature of the panel. Standard errors are clustered by individual assembly member. The character count variable has a positive coefficient that is statistically significant at the 5 percent level for every period. It helps incumbent assembly members to speak in the plenary sessions for the purpose of electorally performing better than the last election. An interesting observation is that the coefficient size is greater for the 2nd half and the final (4th) year during the term than for the total four years. This means that, assuming that the cost of speaking at the podium (including that for preparation) does not differ across a point in a term, it is more rewarding to schedule it in the second half of the term for incumbents seeking re-election. It could be the reason for the greater total character counts during the second half than the first.

Table 7. Results of Panel Regression: Random Effects

Period for Speech	(I) Full Term (4 Years)	(II) 2nd Half (3rd/4th Year)	(III) Final Year (4th Year)
Character	0.002 ** (0.001)	0.004 ** (0.002)	0.007 ** (0.003)
Term	0.020 (0.030)	0.027 (0.031)	0.027 (0.030)
Age	-0.014 ** (0.007)	-0.015 ** (0.007)	-0.016 ** (0.007)
LDP	0.135 (0.111)	0.143 (0.109)	0.123 (0.102)
Chair	0.949 ** (0.389)	1.020 ** (0.435)	0.999 ** (0.444)
Constant	0.568 (0.399)	0.569 (0.405)	0.643 (0.399)
Adj. R-Squared	0.126	0.135	0.125
Wald chi2	18.65	16.47	13.89
(P-value	0.002	0.006	0.016)

Note: In parentheses are robust standard errors clustered by individual assembly member. ** and * denote statistical significance at the 5 and 10 percent levels.

The Age variable has negative coefficients significant at the 5 percent level. The advantage from additional maturity and experience conceived by the voters would diminish as candidates grow old. Finally, the duty of chairperson has positive returns, as it improves the excess vote share by about one percentage point above the last election.

Table 8. Results of Panel Regression with Normalized Character: Random Effects

Period for Speech	(I) Full Term (4 Years)	(II) 2nd Half (3rd/4th Year)	(III) Final Year (4th Year)
Norm_Character	0.038 * (0.021)	0.043 * (0.023)	0.036 * (0.019)
Term	0.022 (0.031)	0.027 (0.031)	0.027 (0.031)
Age	-0.015 ** (0.007)	-0.015 ** (0.007)	-0.016 ** (0.007)
LDP	0.123 (0.110)	0.136 (0.108)	0.119 (0.101)
Chair	0.954 ** (0.399)	1.012 ** (0.436)	0.996 ** (0.444)
Constant	0.628 (0.402)	0.601 (0.406)	0.654 (0.375)
Adj. R-Squared	0.120	0.129	0.123
Wald chi2	16.94	15.72	13.53
(P-value	0.005	0.008	0.019)

Note: In parentheses are robust standard errors clustered by individual assembly member. ** and * denote statistical significance at the 5 and 10 percent levels.

Table 8 represents panel regression results when the Character variable is normalized to remove the effects of changes in total character counts across years. The amount of speech remains statistically significant with positive coefficients after being normalized. Its impact is greater for the 2nd half of the term than for the 4 years as a whole.

4. Conclusions

This paper has investigated the relationship between legislative participation and subsequent electoral performance for the Otaru City Assembly members using election data for the 2003-2019 period. The main findings are that making statements in the assembly sessions helps incumbents to earn more votes in the next election, and that this effect is relatively greater when the speech takes place during the second half of the term.

This observation is relevant for the wider inquiry into the behavior of politician, as re-election is an important motive shared by many elected officials. Examination of involvement in decision-making is a field that has not previously been explored. As preparation of text data from session transcripts has become more readily available by the development of algorithm technology, it is worth to expand the coverage of this research into more local assemblies in Japan and other democracies in the world.

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