Elected Officials in the Local Assembly:

Analysis of Prefectural Plenary Session Transcripts

Akihiko Kawaura　（Doshisha University）

Yasutomo Kimura　（Otaru University of Commerce）

Keiichi Takamaru　（Utsunomiya Kyowa University）

Yuzu Uchida　（Hokkai-Gakuen University ）

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Akihiko Kawaura[a], Yasutomo Kimura[b],
Keiichi Takamaru[c] and Yuzu Uchida[d]

[a] Faculty of Policy Studies, Doshisha University
[b] Faculty of Commerce, Otaru University of Commerce
[c] Faculty of City Life Studies, Utsunomiya Kyowa University
[d] Faculty of Engineering, Hokkai-Gakuen University

(Abstract)

This paper investigates the behavior of elected officials in the local government in Japan. The specific focus of the inquiry is their effort to make themselves recognized in the local assembly so that they can improve the evaluation by voters. The methodological innovation is the use of local assembly transcripts from all 47 prefectures in the 2011-2014 period for the empirical analysis. The character count of remarks in the assembly's plenary sessions, both of governors and assembly members, represent their control of the deliberations. The regression analyses suggest that the performance of the incumbent governors in the immediate gubernatorial election is a determinant of their character count. A big electoral success gives a governor more sway in the local assembly.

I. Introduction

The separation of powers is an important element of democracy. In the *trias politica* model, a government is divided into three branches, i.e., a legislature, an executive, and a judiciary, so that checks and balances of powers can be provided. The legislative and executive branches usually have the primary authority to determine the allocation of public resources, and their decision-makers are elected through popular votes in most democracies either through a direct or indirect manner. For these reasons there is an extensive body of political economy literature that has investigated their incentives and behavior that reflects them.

One example in this field of research is the inquiry into the determinants of government budget allocation that involves legislators and officials in the executive body. The pioneering work was in the examination of New Deal budget allocation in the US, which includes Fleck (2001), Wallis (1987), and Wright (1974). Kawaura (2003, 2011) investigated locational budget allocation in Japan, Thailand and the U.S. by examining whether local legislative representatives belong to parties that control the executive branch.

This paper constitutes an attempt to take the analysis to the local government level to investigate the interplay of executive-legislative decision-makers. To the extent that elected local politicians face the same re-election incentives, their behavior must exhibit similar patterns in the local government as in the central government. The rest of the paper is as follows. The next Section describes methodology and data for the empirical analysis. Section III reports results of the regression analyses. The concluding Section discusses scopes of future research.

II. Methodology and Data

This research seeks to empirically examine politicians' behavior in the local assembly. The executive leader of the local government, i.e., governors and mayors, engage in policy debate with legislative members in the assembly. Both governors/mayors and assembly members have their constituents, and are concerned how they are evaluated by the voters. One means for them to improve their evaluation is to make themselves recognized by speaking in the assembly, which increases their visibility. This is more effective when voters can observe assembly sessions and when

sessions are broadcast on mass media and/or internet. As deliberation time is usually limited by assembly schedules, however, they have to compete for the speaking time. This is where the relationship between governors/mayors and assembly members could come into play to determine their relative space in the deliberations. Hence the analyses in this paper employ assembly records, i.e., plenary session transcripts, to identify their amount of remarks.

This use of the assembly transcripts is the methodological innovation in this research. The data source is Japan's 47 prefectures, each of which publishes the full transcripts of the plenary sessions of its assembly. These transcripts record all the utterances registered during the sessions together with the identity of their speakers. The sample period is 2011-2014. The character count data tabulated from these transcripts is the principal variable in this research.[1]

Figure 1 shows the average total character count by prefecture for the four-year period.[2] One can observe that there is a large variation in the character count across prefectures. While the count average is 1,318 thousand, the range is between 555 thousands for Yamagata and 2,711 thousand for Tottori. The size of the largest value relative to the smallest is 4.89 (=2,711,017.25/554855.5). The other observation is that the total character count is not necessarily correlated with the assembly size in terms of its member population. For example, the prefecture of Tottori with the largest character count has the smallest assembly of 35 members. The next highest character count takes place at Shiga, which also has a small assembly with 47 members. Although Tokyo has the biggest assembly with 127 members on the other hand, its character count of 1,437 thousand stands at the 18th among prefectures. The average count of five prefectures with more than 100 assembly members (Tokyo, Osaka, Kanagawa, Hokkaido, and Aichi) is 1,405 thousand and not very different from the overall prefecture mean. This is reflected on a small value (0.065) of the coefficient of

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[1] This count data is part of the information created in a project to prepare the Japanese political corpus. The corpus is available at [http://local-politics.jp/], which is designed to provide various information contained in the prefectural assembly transcripts and is also equipped with a search function by key words. For example, it allows an investigation of specific policy issues that are discussed in individual prefectures to the extent that they are reflected in the assembly deliberations. For more information, please see Kimura, *et al.* (2016).

[2] The size of remarks/statements is represented by the "character count". This is different from the "word count" in the English text analysis. The Japanese language writing does not require a space between individual words, which makes the "word count" of Japanese transcripts extremely hard to prepare.

Figure 1. Prefectural Assembly Transcript Character Count: 2011-2014 Average
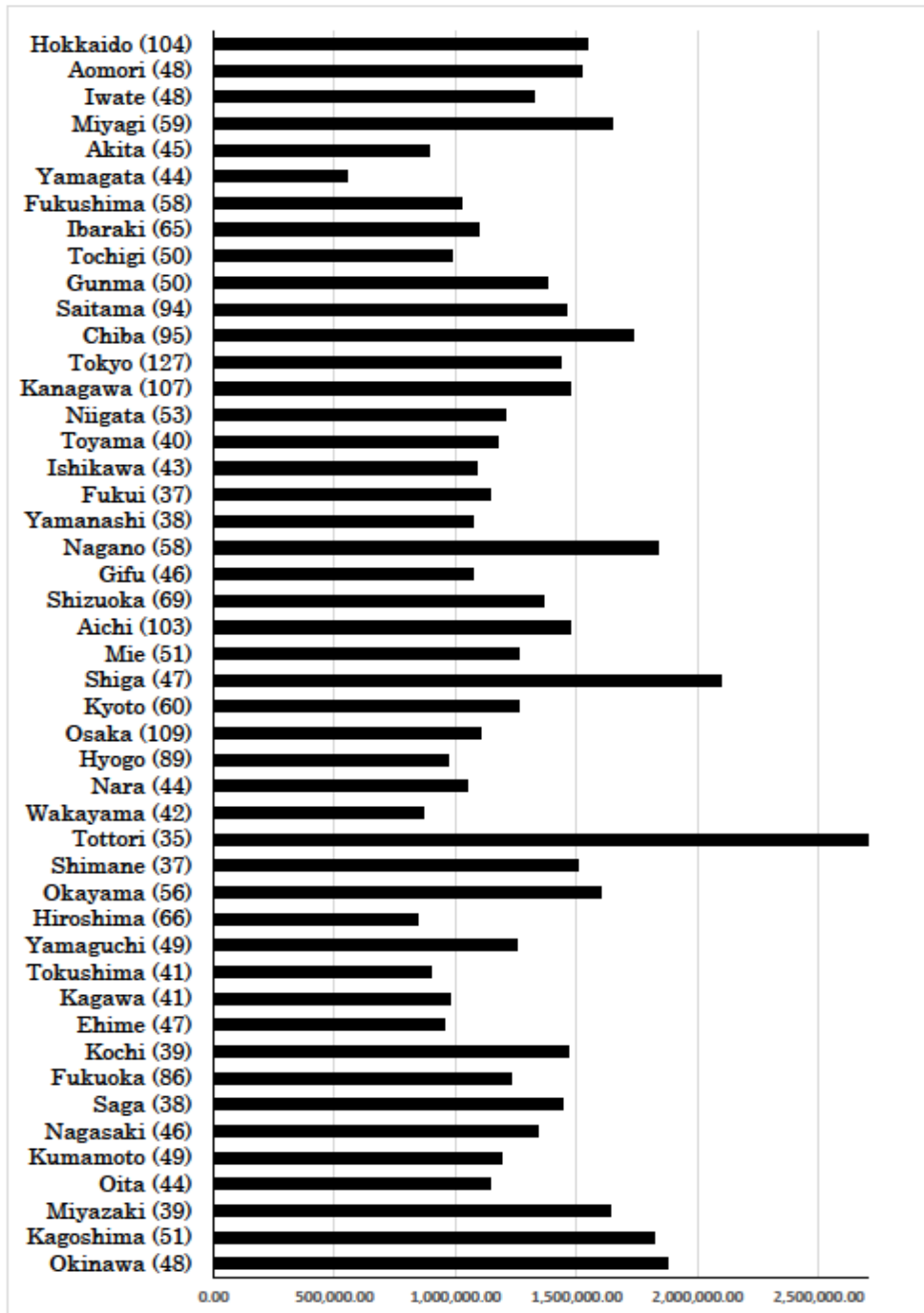
Note: In parentheses after the prefecture name is the number of members in each assembly.

correlation between the assembly's total character count and the number of its members.

The total character count itself, however, contains factors that are not particularly informative for the inquiry into the behavior of local politicians. For example, transcripts include verbal description/explanation of individual documents distributed for the assembly sessions. Prefectural assemblies do not have a common convention regarding the documents preparation, and the total character count may simply reflect their procedural difference. There are also remarks by the local government bureaucrats to describe administrative rules and regulations to facilitate deliberations by the elected officials. In addition, the assembly members may pose specific questions on behalf of voters in their constituents, which prompts response by non-elected prefecture officials. Finally, when witnesses are called to the sessions to provide expert opinions on policy matters, their remarks also constitute the total character count.

Since the focus of this paper is the behavior of elected officials, it is important to analyze their character count separately from the total count. Table 1 displays the character count for the remarks by the governors and assembly members, together with their percentage share in the total count.[3] Governors' character count shows a variation that is wider than that of total counts. Similarly with the total count, the smallest value is observed for the prefecture of Yamagata and the largest for Tottori. The relative size between largest to smallest, however, is very different. While it was 4.89 for the total count, the equivalent value for the governors' count reaches 13.51 (=1,077,644.50/79,738.75). The character count for the governor is determined by the behavior of a single person, which may explain the pronounced variation in the size of remarks among governors. As assembly members' character count is a function of multiple members' behavior, it is less likely to exhibit extreme values. For their character count, the relative value between its maximum and minimum (again for Yamagata and Tottori) is 3.67 (=1,063,105.75/289,997.00). The collective character count by the assembly members usually exceeds that of a single governor. One

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[3] The utterances by the chairperson, who is selected from assembly members, is excluded from the assembly member character count. This is because the chairperson is heavily engaged in session management, and her character count for this task varies across prefectures. Inclusion of count attributable to this type may bias the count comparison among prefectures.

Table 1. Assembly Transcript Character Count by Prefecture: Governor and Assembly Members

Prefecture	Character Counts (4-Year Mean)				Assembly Member (B)	Assembly Characters/Member (A)/(B)	[rank]
	Governor	share (%)	Assembly-Members (A)	share (%)			
Hokkaido	369,255.00	23.96	768,875.00	49.89	104	7,393.03	42
Aomori	176,374.75	11.61	683,534.50	45.00	48	14,240.30	14
Iwate	165,996.75	12.52	603,364.75	45.50	48	12,570.10	23
Miyagi	333,285.25	20.22	793,413.75	48.15	59	13,334.68	21
Akita	291,817.50	32.75	461,646.25	51.81	45	10,258.81	34
Yamagata	79,738.75	14.37	289,997.00	52.27	44	6,590.84	44
Fukushima	89,980.00	8.76	585,975.25	57.08	58	10,103.02	35
Ibaraki	204,066.00	18.65	530,582.25	48.48	65	8,162.80	39
Tochigi	126,402.25	12.81	533,044.75	54.01	50	10,660.90	32
Gunma	108,692.00	7.88	699,715.50	50.73	50	13,994.31	16
Saitama	252,383.75	17.35	741,732.00	50.99	94	7,890.77	41
Chiba	141,254.25	8.16	1,038,972.00	60.01	95	10,936.55	30
Tokyo	151,523.25	10.55	579,460.25	40.33	127	4,562.68	47
Kanagawa	388,872.00	26.33	880,303.75	59.61	107	8,227.14	38
Niigata	346,715.25	28.73	634,661.75	52.59	53	11,974.75	27
Toyama	308,019.75	26.28	428,893.00	36.59	40	10,722.33	31
Ishikawa	264,514.75	24.41	446,565.50	41.21	43	10,385.24	33
Fukui	238,690.75	20.90	518,090.75	45.36	37	14,002.45	15
Yamanashi	217,544.25	20.36	473,025.75	44.28	38	12,448.05	24
Nagano	362,854.25	19.80	809,435.00	44.16	58	13,955.78	17
Gifu	186,508.00	17.42	626,819.50	58.54	46	13,626.51	19
Shizuoka	322,809.25	23.67	661,129.50	48.47	69	9,581.59	36
Aichi	192,941.75	13.12	915,206.75	62.24	103	8,885.50	37
Mie	197,171.00	15.62	729,530.75	57.81	51	14,304.52	13
Shiga	603,798.00	28.79	1,052,182.00	50.18	47	22,386.85	3
Kyoto	316,647.00	25.17	736,547.75	58.55	60	12,275.80	26
Osaka	152,928.75	13.89	618,292.50	56.17	109	5,672.41	46
Hyogo	228,759.75	23.51	542,340.75	55.73	89	6,093.72	45
Nara	312,526.00	29.81	541,970.50	51.69	44	12,317.51	25
Wakayama	114,737.75	13.21	538,848.00	62.06	42	12,829.71	22
Tottori	1,077,644.50	39.75	1,063,105.75	39.21	35	30,374.45	1
Shimane	310,848.25	20.69	705,126.25	46.93	37	19,057.47	5
Okayama	369,688.75	23.13	856,638.75	53.60	56	15,297.12	11
Hiroshima	143,162.25	17.06	461,418.75	54.99	66	6,991.19	43
Yamaguchi	162,232.25	12.99	733,692.75	58.75	49	14,973.32	12
Tokushima	200,842.25	22.34	467,533.25	51.99	41	11,403.25	29
Kagawa	248,104.00	25.41	563,310.25	57.69	41	13,739.27	18
Ehime	159,345.50	16.66	547,411.00	57.25	47	11,647.04	28
Kochi	308,176.50	21.04	660,486.75	45.09	39	16,935.56	7
Fukuoka	418,648.00	33.95	679,654.25	55.11	86	7,902.96	40
Saga	327,186.75	22.73	638,497.00	44.35	38	16,802.55	9
Nagasaki	191,925.00	14.32	801,738.25	59.83	46	17,429.09	6
Kumamoto	118,447.50	9.93	804,012.50	67.40	49	16,408.42	10
Oita	215,487.50	18.84	593,974.25	51.92	44	13,499.41	20
Miyazaki	245,377.25	14.99	900,132.25	55.00	39	23,080.31	2
Kagoshima	130,874.00	7.20	1,030,127.00	56.70	51	20,198.57	4
Okinawa	160,191.00	8.54	811,417.25	43.27	48	16,904.53	8

exception is the prefecture of Tottori, whose governor's count is larger than the combined counts of its 35 assembly members.

Since governors and assembly members compete for the speaking time, assembly members' share in the total character count may reflect their numbers. Regressing their percentage share on their number, i.e., (B) in Table 1, produces:

Assembly members' share in the total character count   No. of Observation: 47

$= \;\; 48.58 \;\; + \;\; 0.06 \;\; \times \;\;$ Assembly_Member   Adjusted R^2: 0.02

(18.13)   (1.33) $F_{(1, 45)}$: 1.76.

This specification is not statistically significant at the 10 percent level, nor is the estimated coefficient of Assembly_Member variable statistically different from zero. The result does not support the association between the assembly size and the share of its member's speaking time. A large assembly does not necessarily lead to an opportunity for its members to speak in the sessions.

The result above shows that a member of a large assembly has to share the speaking opportunity with her fellow assembly members, which may arise from the fact that the deliberation time does not necessarily increase with the assembly size. This could in turn lead to a smaller character count per assembly member in a large assembly. Below is the result of the regression analysis of the character count per assembly member, (A)/(B), on the assembly size in terms of its member, (B) in Table 1.

Character count per assembly member   No. of Observation: 47

$= \;\; 20588.10 \;\; - \;\; 133.31 \times$ Assembly_Member   Adjusted R^2: 0.38

(13.32)***   (5.40)*** $F_{(1, 45)}$: 29.14.

The specification is significant at the 1 percent level, and the estimated coefficient of Assembly_Member is negative and statistically significant at the 1 percent level. This is consistent with the hypothesis regarding the character count per assembly member. For an individual assembly member, it takes more effort to gain opportunity to speak in a large assembly.

III. Regression Analysis and Results

This section examines the determinants of governors' character counts. Governors seek for ways to improve their evaluation by local voters. In the prefectural assembly, this attempt may take the form of increasing their presence through taking to the microphone in the sessions. Since the deliberation time is limited, however, success of their effort may depend on the power and support they enjoy as an incumbent. Hence the analysis here investigates if their electoral performance is a determinant of their character counts. The result of this analysis is expected to provide a new insight into their behavior in the assembly.

The determinants are identified in the following form:

$$\text{Governor\_Count} = \alpha + \sum \beta_M \times \text{ELECT}_M + \sum \gamma_N \times \text{Non-ELECT}_N + \varepsilon$$

where Governor_Count represents character counts of their remarks in the prefectural assembly's plenary sessions. The summary statistics of the dependent variable (Governor_Count) and explanatory variables (ELECT and Non-Elect) are in Table 2.

The ELECT variables include two measures that represent governor's political capital. The percentage share of the votes cast for the governor in the immediate gubernatorial election is VoteShare-Cast, and the share in the total voter number (including those who did not vote) is VoteShare-Total.[4] The other variable is governor's cumulative term, Term, and its tally in month, Term-Month. Variables in the Non-Elect category are prefecture size (area, AREA, and population, POP), demographic composition (percentage share of residents in the age range of 15-64, Productive) and prefecture budget size per resident (Exp-PC).

The dataset is a panel with 47 prefectures for four years. Coefficient estimates are obtained from the random effects specification. Selection of the random effects over the fixed effects and pooled cross-section is based on the Breusch and Pagan Lagrangian

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[4] Multiplying VoteShare-Cast by the voting rate produces VoteShare-Total.

Table 2. Summary Statistics

	Mean	Std. Dev.	Min	Max
Governor_Count	257,443.10	164,817.70	67,763	1,175,142
(ELECT)				
VoteShare-Cast	69.83	14.98	39.58	91.67
VoteShare-Total	32.65	8.76	17.63	54.19
Term	2.17	1.08	1	6
Term-Month	80.63	52.22	6.5	253.5
(Non-ELECT)				
AREA	80.02	118.86	18.77	834.57
POP	2799.94	2712.70	574	13,390
Productive	60.96	2.34	55.6	68.1
Exp-PC	456,820.50	152,961.20	203,800.6	1,121,214

Units: VoteShare-Cast, VoteShare-Total, Productive, and Senior (percentage);

POP (thousand); AREA (thousand km^2): Exp-PC (yen)

Note: The number of observations is 179, which is 188 (47 prefectures x 4 years) minus 9 observations for governors elected uncontested.

multiplier test and the Hausman test. Regression results are reported in Table 3. The specification I and II use the percentage share of votes for the incumbent among total votes, VoteShare-Cast, as the performance in the immediate gubernatorial election, while specification III and IV have the share in the total voter population, VoteShare-Total.

The coefficient estimates of VoteShare-Cast are positive and statistically significant. Its size indicates that a governor with a voting share of extra one percentage point can record an additional 820-845 utterances in the character count of the assembly transcript, which corresponds to 0.32-0.33 percent of the sample average. When the electoral success is alternatively represented by VoteShare-Total, however, its coefficient is not statistically significant. This suggests that the incumbent

Table 3. Determinants of Governors' Character Count in the Assembly: 2011-2014

Governor_Count	I	II	III	IV
(ELECT)				
VoteShare-Cast	820.98*	845.71**		
	(1.76)	(2.00)		
VoteShare-Total			1183.30	1402.20
			(1.05)	(1.29)
Term	-3424.24		-131.33	
	(0.51)		(0.02)	
Term-Month		-187.76		-163.91
		(1.52)		(1.30)
(Non-ELECT)				
AREA	102.71	107.69	88.35	93.52
	(0.48)	(0.50)	(0.44)	(0.47)
POP	-13.58	-13.54	-13.00	-12.95
	(1.39)	(1.39)	(1.41)	(1.42)
Productive	19268.08***	18266.01***	17783.90***	16748.19***
	(6.37)	(5.95)	(6.03)	(5.53)
Exp-PC	0.06	0.05	0.04	0.03
	(0.67)	(0.63)	(0.49)	(0.39)
Adjusted R²	0.02	0.03	0.05	0.06
Wald chi2 statistic	42.52	45.10	38.07	40.10
(p-value	0.00	0.00	0.00	0.00)
No. of observations	179	179	179	179

Note: t-statistics are in parentheses. ***Statistically significant at the 1% level.

** Statistically significant at the 5% level. *Statistically significant at the 10% level.

governor's record at the polls would determine her performance on the assembly floor, and that the share of her votes among those actually cast is important. The share of votes in her favor in the total voter population does not count. This may reflect the tendency for the media to report the winner's voting share among votes cast on the headlines, which is registered among prefecture officials as her popularity.

The estimated coefficients of variables for governors' cumulative tenure, Term and Term-Month, are not statistically different from zero. This could be counter-intuitive, as multi-term governors with a solid political base is expected to have a clout over the deliberations in the assembly. One interpretation is that the potential benefits in terms of appeal to voters from greater presence in the assembly may diminish as they accumulate terms. With a wide name recognition among residents, multi-term incumbent governors may not be concerned with their performance in the assembly.

Among Non-Elect variables, the percentage share of residents in the 15-64 age range, Productive, has statistically significant coefficient estimates. Their sign is positive, which implies that governors tend to make more utterances in a prefecture with a larger working age population. Presence of productive residents demands deliberations on a wide range of policy issues, which requires the leader in the executive branch to take an initiative in the assembly.

The explanatory power of the regression is limited, however, in terms of R-squared. One way of increasing it could be to include attributes of governors themselves. The same governor remained in position in 39 out of 47 prefectures throughout the sample period. Part of the reason is the time-dimension of the panel. It is four years, which is the same with the length of a governor's tenure. For the prefectures whose gubernatorial election cycle coincides with the sample period, characteristics of a specific governor may determine the governor's character count. Even when a gubernatorial election takes place during the sample period, an incumbent may prevail and continue to serve. The analysis in this paper accounted for governors' electoral performance and prefecture's geographical/fiscal size and demographic composition. Addition of variables to represent governors themselves to the determinants of character counts could lead to valuable findings.

IV. Conclusions

This paper represents an attempt to make use of the Japanese political corpus developed from the prefectural assembly transcripts for the empirical analysis in the social science. The corpus provides a wide range of information contained in the prefectural assembly deliberations across 47 prefectures in Japan. The analysis in this paper examined if there is a political factor that explains the size of utterances by the governors.

Examples of researches made possible by the political corpus include the assessment of the impact of governor's campaign promises on the assembly deliberations. If local voters elect a governor based on her policy priorities contained in the election promises, it is important for these policies to be debated on the assembly floor. If this link is missing, it may lead to voter disillusion about local democracy. Another potential theme is the relationship between individual assembly members' character count and re-election probabilities. If visibility of an assembly member to voters is a factor to determine the re-election prospect in the next election, there could be a positive association between these variables.

Past empirical researches have used variables representing outcome, such as budget allocation and legislation, to investigate behavior of politicians. The corpus provides opportunities to engage in inquiry into the political process by way of analysis of the deliberations in the assembly. This could lead to the expansion of the scope of empirical inquiry in the political economy field.

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