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American Political Science Review, 65:1 (1971) pp. 184-186.

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Socio-Economic Development and Political Democracy in Japanese Prefectures*

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The objective of this brief note is to demonstrate that the level of socio-economic development may not be related to the level of political democracy when applied to within-nation comparisons. The between-nation comparisons of economic-political linkages by Lipset, Cutright, and others suggest that a certain level of socio-economic development is a prerequisite for stable democracy.¹ Urbanization, industrialization, education, and communications development are considered to be important components of the political infrastructure which induces a set of attitudes and behavior patterns congruent with key democratic institutions. Using aggregate data collected in 1968 from various Japanese sources, I shall examine the Lipset-Cutright hypothesis.²

I. Measurement

Fifteen socio-economic indicators for 46 Japanese prefectures ((To-Dō-Fu-Ken) are selected for analysis because of their theoretical relevance, their prior use, and their discrimina-

tory power. Factor analysis is employed to obtain summary measures of socio-economic development. As shown in Table 1, rotated factors of these fifteen variables (Kaiser Varimax rotation) reveal two dimensions of socio-economic development in Japanese prefectures. The first factor shows high loadings on percent urban population, percent population in *shibu*,³ per capita income, economic growth rate, percent population in industrial sectors, and others. A total of ten variables load highly on this factor. All seem to be related to the degree of urbanization or industrialization. Hence, we identify this factor as the *urban-industrialism dimension*. The second factor is strongly correlated with five variables: per capita electric power production, newspaper circulation, paved roads, number of automobiles, and per capita library facility.⁴ This factor appears to indicate the amount of social overhead capital investment in prefectures. It is labeled as the *social overhead capital dimension*.

With respect to the measurement of democratic development, Neubauer's index of democratic development is used with some modifications.⁵ Seven political variables are chosen for analysis because they are presumed to be related to some key features of political democracy: electoral participation, electoral competition, and representation equality. These variables are factor analyzed and the results are reported in Table 2. It is clear in the data that democratic development in Japanese prefectures consists of three distinctive dimensions. The first factor shows high loadings on the percentage of votes received by the winning party in prefectural elections, the percentage of time the dominant party has controlled the prefectural assembly, and the percentage of assembly

* The larger project of which this note is a part, the Japan Legislative Research Project, was made possible by a fellowship from the University of Iowa, in connection with a Japanese exchange program supported by the Hill Family Foundation. I wish to thank Mr. Hiroshi Takahashi, a graduate student of the University of Tokyo, for his assistance in collecting the data.

¹ S. M. Lipset, "Some Social Requisites of Democracy," this REVIEW, 53 (March 1959), 69-105. Phillips Cutright, "National Political Development: Its Measurement and Social Correlates," in Nelson W. Polsby, Robert A. Dentler and Paul A. Smith (eds.), *Politics and Social Life* (Boston: Houghton Mifflin Co., 1963), pp. 582-592. A. Smith, "Socio-economic Development and Political Democracy: A Causal Analysis," *Midwest Journal of Political Science*, 13 (February 1969), 95-125. Donald J. McCrone and Charles F. Cnudde, "Toward a Communications Theory of Democratic Political Development: A Causal Model," this REVIEW, 61 (March 1967), 72-79.

² The data sources are: Asahi Shimbun Sha, 1968 *Minryoku: To-Dō-Fu-Ken Minryoku Sokutei Shir-yōshū*, 1968. Sōriifu Tokei Kyoku, 1965 *nen Kokusei Chōsa Hōkoku*, 1966. Keizai Kikaku Chō, *Chiiki Keizai Yōran*, 1966. Mombu Daijinkambō Tōkei Chōsa Ka, *Gakkō Kihon Chōsa*, 1967. Unyu Daijinkambō Tōkei Chōsa Ka, *Rikuun Tōkei Yōran*, 1967. Kensetsu Shō, *Dōro Tōkei Nempō*, 1967. Keizai Kikaku Chō, *Shōhisha Dōkō Chōsa*, 1966. Tōkyō Shuppan Kagaku Kenkyū Shō, *Zasshi no To-Dō-Fu-Ken Betsu Suitei Haisōryō*, 1967. Keizai Kikaku Chō, *Kemmin Shotoku Tōkei*, 1966. Jichi Shō, *Chiho Senkyo Kekka Chōsa*, 1957-1967.

³ *Shibu* is a Japanese term for urban part as distinguished from *gumbu* or rural areas. It is an administrative unit which often includes a substantial area that we would normally regard as rural. The Japanese census uses a different definition of urban areas, namely the density of population. Thus, these two measures of urbanization do not completely overlap, the correlation between them being .78.

⁴ Per capita library facility is a composite score of the number of public libraries and the number of volumes they contain.

⁵ Dean E. Neubauer, "Some Conditions of Democracy," this REVIEW, 61 (December 1967), 1002-1009.

Table 1. Rotated Factors of Socio-Economic Variables

Variables	Urban-Industrialism, Factor I	Social Overhead Capital, Factor II
Percent urban population (Census definition)	<i>.949</i>	.202
Magazines per 1,000 persons	<i>.921</i>	.075
Per capita income	<i>.873</i>	.387
Percent population in <i>shibu</i>	<i>.844</i>	.342
Percent adult having completed primary education	<i>.806</i>	.221
College students per 1,000 persons	<i>.805</i>	.070
Percent population in industrial sectors	<i>.798</i>	.523
Telephones per 1,000 persons	<i>.795</i>	.467
Economic growth rate	<i>.681</i>	.318
Railroads per km ²	<i>.644</i>	.376
Automobiles per 1,000 persons	.333	<i>.760</i>
Paved roads per km ²	.270	<i>.743</i>
Newspapers per 1,000 persons	.527	<i>.722</i>
Per capita electric power production	.302	<i>.529</i>
Per capita library facility	-.060	<i>.474</i>
Percent of total variance	60.8	69.9
Percent of explained variance	87.0	100.0

Note: All loadings of .300 or greater have been italicized for emphasis.

seats won by the winning party. This factor appears to indicate the degree of political competition in prefectures. Thus, we identify it as the *competition dimension*. Voter turnout, female voting turnout, and male/female voting ratio in prefectural elections are highly loaded on our second factor.⁶ Because all three variables are related to voting participation, we label this factor as the *participation dimension*. Finally, only a single variable, the representation index,⁷

* Japanese women gained voting rights for the first time in 1947. Therefore, female voting turnout and male/female voting ratio may be sensitive measures of political participation in the Japanese context.

⁷ The representation index is designed to tab the degree of equality in representation. Assuming that the one-man-one-vote principle is a basic element of political democracy, this index calculates the degree of over- or under-representation in terms of the number of assembly seats won and the percentage of popular votes received by each competing party. The formula is:

$$\text{Index} = \frac{\text{Absolute Sum of Differentials in \% of Seats Won and \% of Votes Received by Each Party}}{\text{Number of Parties Competing in Prefectural Election}}$$

The reason for dividing the numerator by the number of competing parties in the formula is because of the varying number of parties actually competing in prefectural elections. For example, in the 1965 Tokyo To election there were seven competing parties including the Liberal Democrats, Socialists, Komeito candidates, Communists, Independents, and other minor parties, whereas in the 1967 Akita election only four parties competed.

shows a high loading on the third factor. A close examination of the between-item intercorrelations of all variables considered also reveals that the representation index is not significantly correlated with any other variable. This indicates that the degree of representation equality is one distinct dimension of democratic development. The third factor is labeled as the *representation dimension*.

Using only those variables which load highly on the urban-industrialism dimension, a separate factor analysis is performed in order to construct an urban-industrialism scale. From this result, we further factor score each prefecture. Similar procedures are employed to create scales for social overhead capital, competition, participation, and representation equality.

II. Results

If we are to confirm the Lipset-Cutright hypothesis in Japanese prefectures, we need to observe sufficiently strong and positive correlations between the two measures of socio-economic development and the three measures of democratic development. The results of analysis are presented in Table 3. It is clear that the degree of urban-industrialism is neither strongly nor positively correlated with all measures of democracy. Urban-industrialism shows a strong *negative* correlation with the level of participation ($r = -.743$) and bears no visible relation to representation equality ($r = .092$).

Table 2. Rotated Factors of Political Variables

Variables	Political Competition,	Political Participation,	Representation Equality,
	Factor I	Factor II	Factor III
Percent of time dominant party controlling assembly	-.956	-.139	.152
Percent of votes received by dominant party	-.946	-.215	-.134
Percent of assembly seats won by winning party	-.840	-.306	.073
Voter turnout	.208	.962	-.061
Female voting	.196	.935	-.094
Male/female voting	.221	.832	.106
Representation index	-.048	-.021	.994
Percent of total variance	54.6	75.9	90.8
Percent of explained variance	60.1	83.6	100.0

Note: All loadings of $\pm .300$ or greater have been italicized for emphasis.

The only evidence that supports the Lipset-Cutright hypothesis is the relationship between urban-industrialism and the level of competition ($r = .470$).

The amount of social overhead capital, our second measure of socio-economic development, fares no better. It shows very weak relationships with the level of participation ($r = .142$), competition ($r = .086$), and representation equality ($r = -.134$). Thus, the present

Table 3. Correlations between Socio-Economic Development and Democracy

Measures of Socio-economic Development	Political Participation	Political Competition	Representation Equality
Urban-Industrialism	-.743	.470	.092
Social Overhead Capital	.142	.086	-.134

analysis of within-nation variations in socio-economic development and political democracy in Japan offers little evidence to confirm the generalizations regarding economic-political linkages previously reported in several cross-national studies. The findings presented here suggest that socio-economic factors such as the level of urbanization, industrialization, education, or communications development provide an inadequate explanation for the varying levels of political democracy in Japanese prefectures.⁸ These findings would be more valid, however, were the analysis performed in more than one nation. Further research on within-nation variations is needed to test conclusively the Lipset-Cutright hypothesis.

⁸ I have offered elsewhere some speculations about the nature of economic-political linkages in Japanese prefectures. See my "Economic Development and Democracy in Japanese Prefectures," Report No. 29, Laboratory for Political Research, Department of Political Science, University of Iowa (July, 1969).