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Elections and COVID-19 benefit payments

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ABSTRACT

This study examines the political factors associated with the implementation of a benefit payment policy in Japan during the COVID-19 crisis. The Japanese government announced a universal cash payment program in April 2020, but the payment date differed across localities. This study estimates the correlation between this timing and local politicians' characteristics, finding that local governments with mayors elected unopposed tended to start making payments comparatively early. As such, mayors elected uncontested may be able to mobilize resources within government offices to execute programs such as the Special Fixed Benefit program in Japan, which attracted public attention.

1. Introduction

This study examines the political factors associated with the implementation of a benefit payment policy during the COVID-19 crisis in Japan. The COVID-19 crisis and related economic decline have posed enormous challenges to the economic, political, and institutional systems. As a part of the fiscal response, many countries adopted cash transfer policies to households, some of which were universal and unconditional, while others were not. The Japanese government employed universal ones to expedite implementation, but the time to pay the benefits was longer than expected and differed substantially across regions. This study examines the relationship between the timing of paying these benefits and political factors to understand how the government responded to the crisis and thus help policymakers prepare for future crises (Greer, King, da Fonseca, & Peralta-Santos, 2020).

In particular, this study focuses on the implementation of the Special Fixed Benefit program, a universal cash payment program announced in April 2020 in Japan. This policy was decided by the central government and uniformly applied nationwide. The municipalities, the first tier of local government, which were responsible for the implementation of this program, faced huge administrative challenges, which led to differences in the starting dates of distributing the benefits (Ando, Furukawa, Nakata, & Sumiya, 2020). The first municipality started paying benefits in early May, but more than 10 % of municipalities had not yet started by early June. Therefore, the timing of the payments seems nearly random for researchers, who have thus regarded this setting as a natural experiment (Kubota, Onishi, & Toyama, 2021; Kaneda, Kubota, & Tanaka, 2021; Hattori, Komura, & Unayama, 2021). This phenomenon is puzzling, considering that a universal cash payment has an advantage over selective benefits in that governments do not need information on income or assets of households and can distribute benefits quickly (OECD, 2020). Such timing differences were not observed in other countries that employed similar cash payment programs, including the United States, Israel, Singapore, South Korea, and Hong Kong. The possible reasons for this variation include technical factors (e.g., population size and information

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processing system) and the government's disaster preparedness (Dzigbede, Gehl, & Willoughby, 2020).

This study examines the relationship between the payment timing and characteristics of the politicians who could intervene in the policy implementation (i.e., mayors) because the Special Fixed Benefit program attracted the public's attention. The amount of JPY 100,000 (approximately USD 950), which is nontaxable, is sizable and equal to approximately 42 % of the median monthly income of a full-time worker (Kubota et al., 2021). Under such circumstances, mayors might exert their political power to reallocate the resources within municipal offices to pay the benefits earlier. As this depends on the characteristics of politicians, this study examines this hypothesis.

This study is related to the growing literature that explains the heterogeneity in the responses of governments to COVID-19. Some studies examine the relationship with the political regime, finding that more democratic governments take less stringent action and face higher infection rates (Narita and Sudo, 2021; Frey, Chen, & Presidente, 2020; Karabulut, Zimmermann, Bilgin, & Doker, 2021), but that their policies tend to be more effective (Frey et al., 2020; Karabulut et al., 2021).[2]

Policy responses often rely on subnational-level governments, which creates regional heterogeneity,[3] especially in the United States (McDonald, Goodman, & Hatch, 2020). During the COVID-19 crisis, states led by Republican governors and those with term limits were slower to adopt social distancing policies (Adolph, Amano, Bang-Jensen, Fullman, & Wilkerson, 2021; Baccini, Brodeur, & Weymouth, 2021).[4] However, no such differences were observed in Canada (Armstrong and Lucas, 2020; Pickup, Stecula, & van der Linden, 2020). Policy responses can be associated with elections. Incumbent politicians who can run for re-election and those whose election is sooner tend to implement less stringent restrictions (Pulejo and Querubín, 2021).[5] Businesses in electorally important regions can also receive more government funds under the U.S. Paycheck Protection Program (Duchin and Hackney, 2020).[6] Even in China, politicians respond to citizens' discontent on the Internet (Fisman, Lin, Sun, Wang, & Zhao, 2021).

The results of this study suggest that local governments with mayors who held their position through an uncontested election tended to start making payments earlier than others. However, no correlation with the winning margin in the last election is detected. These results are comparable to the Japanese literature on uncontested, or "walk-over," mayors. Studies of political competition have found that politicians who face more stringent competition perform better (Konisky and Ueda, 2011; Bernecker, 2014; Frank and Stadelmann, 2021) and bring better economic and social consequences (Besley, Persson, & Sturm, 2010; Geys, Heinemann, & Kalb, 2010; Ashworth, Geys, Heyndels, & Wille, 2014; Datta, 2019).[7] Studies of Japanese cases, however, often find that uncontested mayors perform better in fiscal terms (Kondo and Miyamoto, 2010; Sumi, 2018; Suzuki and Han, 2019). Their interpretation is that unopposed mayors are strong politicians and receive broad-based support from residents and government officers. Such strong political leadership might have thus been able to mobilize the resources within government offices to execute the program that attracted public attention.

The remainder of this paper is organized as follows. Section 2 presents the institutional background. Section 3 proposes the framework for our econometric specification. Section 4 explains the data used in the regression analysis and Section 5 presents the estimation results. Section 6 examines the yardstick hypothesis. Section 7 concludes.

2. Background

2.1. Special fixed benefit program

2.1.1. Background

The Special Fixed Benefit program (*Tokubetsu Teigaku Kyufukin* in Japanese), which was part of the fiscal response of the Japanese government to the COVID-19 crisis, was announced in April 2020 (see Ando et al., 2020 for a review of the fiscal responses in the first six months). Japan experienced two waves of infections in the first half of 2020: the first occurred between January and March and the second between March and May. To reduce the risk of overwhelming the healthcare system, the Japanese government announced the Declaration of a State of Emergency for high-risk areas in April and May. Although the Declaration did not mean strict infection control policies such as mass testing, early travel bans, or strict lockdowns, the number of cases and resultant deaths were kept lower in Japan than in Europe and North America. However, there was substantial economic damage. The real GDP growth rate in the second quarter of 2020 was −28.5 % (quarter-to-quarter change, seasonally adjusted annual rate). Among the expenditure components, household consumption dropped by 30.6 %.

[2] Hendrix (2021) suggests that level of democracy is not a predictor of COVID-19 mortality rates and that a female head of government is rather one of the key factors. Windsor et al. (2020) also report that the effect of a female head of state is statistically insignificant. Cronert (2020) studies COVID-19-related school closures and finds that democratic countries closed schools quicker than more authoritarian ones. Toshkov, Carroll, and Yesilkagit (2021) identify a negative correlation between government effectiveness and response speed.

[3] Guccio, Pignataro, and Rizzo (2014) suggest that local governments are less efficient at managing the execution process based on Italian public works data. Hemker (2017) studies social policy implementation in France and finds that local executive partisanship is related to the generosity of the benefits.

[4] Such differences were also detected in people's behaviors and thus policy measures can be considered to be more effective in democratic states (Allcott et al., 2020; Courtemanche, Garuccio, Le, Pinkston, & Yelowitz, 2021; Gadarian, Goodman, & Pepinsky, 2021; Painter and Qiu, 2021; Grossman, Kim, Rexer, & Thirumurthy, 2020).

[5] See also Dal Bó and Rossi (2011), Coviello and Gagliarducci (2017), and Aragón and Pique (2020) for the effects of term limits.

[6] Such a phenomenon was observed during the 2014 Ebola outbreak in Liberia (Maffioli, 2021).

[7] The literature also finds that political competition may hinder political accountability by avoiding salient policy tools (Bracco et al., 2019).

2.1.2. The program and its logistics

The Special Fixed Benefit program provided JPY 100,000 (approximately USD 950) in cash to every resident in Japan, regardless of their age, income, family size, employment, or nationality. The amount of JPY 100,000, which is nontaxable, is sizable and equal to approximately 42 % of the median monthly earned income of a full-time worker (Kubota et al., 2021).

This program was implemented by municipalities, as the first tier of the local administration system in Japan. The central government fully subsidized all costs. All individuals recorded in the Basic Resident Registers on April 27 were eligible and heads of households could apply for these benefits for all co-residing household members. As a general rule, the benefits were paid on a household basis into the bank account of the heads of households (i.e., applicants).[8]

There were two routes to applying for the benefits: by mail and online. To apply by mail, households had to receive an application form from the municipality, fill in the information on the household head's bank account, and return it to the municipal office with valid identification documents. To apply online, households had instead to wait for the municipality's website to become ready. In addition, the online application required the Identification Number Card ("My Number Card") of the head of the household. Note that the municipalities responsible for the implementation of this program did not have information on bank accounts.

This logistics plan imposed a huge administrative burden on municipalities. For mail applications, municipalities had to prepare and send out application forms (the information on household members was printed in many cases), receive them from households and check them, and input the bank account information manually. The situation was even worse for online applications for several reasons. First, the portal site of the Identification Number Card, which accepted the online application, was connected with only 935 municipalities' systems out of 1741 (Nikkei Computer 2020.7.9). Then, even if the systems were connected, municipalities had to prepare a local system to send remittances to households (Nikkei Computer 2020.5.28).

Second, the Identification Number Card does not contain information on household members or links to the Basic Resident Registers in municipalities. Therefore, applicants had to manually input their information on household members and bank accounts, which led to many erroneous entries. In addition, households could apply repeatedly. This forced municipal offices to perform an overwhelming amount of manual work. The checklist for online applications had more than 20 items (Nikkei Computer 2020.7.9).

This huge administrative burden generated differences in the progress of payments. By late June, 65 % of applicants nationwide had received benefits. Among large cities, 92 % of applicants had received benefits in Sapporo, while the proportion was less than 10 % in Osaka, Chiba, and Nagoya (Asahi Shimbun 2020.6.27). Although applying for benefits was voluntary, most residents finally applied and received them. By September 4, more than 99 % of the budget for this program had been transferred to households.

2.1.3. Cash transfers in other countries

The differences in the payment dates were unique among COVID-19 relief programs worldwide (Kubota et al., 2021). As OECD (2020) explains, universal income transfers do not require detailed information on households, such as income and assets, which substantially simplifies matters. When the government has a resident registry system and information on bank accounts, it can pay the benefits without any action from households. Although not perfect, the Economic Impact Payments in the United States, Solidarity Payment in Singapore, and A Grant to Every Citizen in Israel[9] are such examples. If the government does not have information on bank accounts, it requires households (or individuals) to apply with their details. Information technology can save cost and time, and most countries use online applications to deliver quick payments, such as the Emergency Relief Payments in South Korea and the Cash Payout Scheme in Hong Kong.

2.2. Local elections

Japan employs a dual representative system for local governments, which has an executive head (mayors for municipalities and governors for prefectures) and a council. Although both are directly elected by local residents, the executive head is in a dominant position over the council (Muramatsu, Iqbal, & Kume, 2001; Bessho, 2016). Therefore, this study focuses on mayors.

Although elections are an important tool for citizens to become involved in political matters, some mayors win office in uncontested elections (i.e., those with only one candidate). The percentage of mayors elected uncontested in Japan is gradually increasing (Suzuki and Han, 2019) and had risen to 38 % by 2020. Several patterns among elections going uncontested can be seen (Iwagami, 2019). First, one candidate is too strong for other candidates to run against. Second, expected candidates coordinate to avoid an election fight. Lastly, since the position of mayor is unattractive, only one person wants to run for election. Further, the literature finds that an election tends to be uncontested when the municipality is in a rural and less populated area, when the previous election was uncontested, and when the tenure of the incumbent has been long (e.g., Sumi, 2017; Iwagami, 2019). Sumi (2017) suggests that mayors elected uncontested often had positions in the government sector before becoming mayors, especially executive positions in municipal offices.

2.3. Hypothesis

Although the Special Fixed Benefit program was designed by the central government, it is possible that mayors (local politicians)

[8] As Ando et al., (2020, p. 920) point out, "special application processes were provided for those who were forced to live apart as victims of domestic violence or who lived in nursing homes/child welfare facilities and for those who were homeless."

[9] Feldman and Heffetz (2022) find that by the first week of August, nearly all eligible citizens had received the direct deposit.

wanted and were able to play a role in the implementation process for two reasons. First, the program attracted considerable public attention. For example, the news reported that municipal offices were busy responding to inquiries from residents. One mayor posted an article[10] explaining why it took time to pay the benefits. Second, the program involved a considerable administrative burden and amount of paperwork. A mayor, as the head of a municipal office, could exert their political power to reallocate its resources to pay the benefits earlier. An example is the mayor of Kobe city, who advertised a smooth implementation. The mayor of Osaka city, where the process was slow, intervened publicly to expedite procedures in May.

The characteristics of mayors could be associated with the differences in payment dates. In particular, this study focuses on political competition. The literature suggests that more competition is associated with better political behavior (Konisky and Ueda, 2011; Bernecker, 2014; Frank and Stadelmann, 2021) as well as better economic and social consequences (Besley et al., 2010; Geys et al., 2010; Ashworth et al., 2014; Datta, 2019). From this viewpoint, mayors elected uncontested or with small winning margins tend to fail to pay benefits quickly. On the contrary, studies of Japanese cases often find that uncontested mayors perform better in fiscal terms (Kondo and Miyamoto, 2010; Sumi, 2018; Suzuki and Han, 2019). Their interpretation is that unopposed mayors are strong and receive broad-based support from residents and government officers. Kondo and Miyamoto (2010) argue that strong political leadership can mitigate the common pool problem and Sumi (2018) points out that broad-based support may require less pork-barrel spending. Suzuki and Han (2019) also note that "walk-over" mayors may be able to "pursue unpopular financial options." If this is the case, mayors elected uncontested can mobilize the resources within government offices to distribute benefits quickly.

3. Econometric specification

This study focuses on the starting date for payments, namely the date when a municipal office started to transfer the benefits to residents. One may argue that the progress of payments is important, but this study limits the discussion to the starting dates for two reasons. First, progress depends on the behaviors of both residents (applicants) and local governments, while the starting date relies only on local governments' decisions. The second is data availability, as explained in the Data section.

This study uses duration analysis in which the dependent variable is the number of days from a reference date to when municipal governments started paying the benefits. The specification in this study is based on the sequential probit model proposed by Gilleskie and Mroz (2004) with coefficient constraints. This model is more flexible than traditional duration models such as the Cox proportional hazard model. We denote by $\lambda(k,\boldsymbol{x})$ the conditional probability that payments start, for example, on the k-th day since the announcement of the program conditional on exogenous variables, $\mathbf{x}$, and is conditional on the municipality not having started making payments during the preceding $k-1$ days. The conditional probability, $P(k|\boldsymbol{x})$, that the municipality started making payments on the k-th day conditional on $\mathbf{x}$ becomes

$$P(k|\boldsymbol{x}) = \lambda(k,\boldsymbol{x})\prod_{j=1}^{k-1}[1-\lambda(j,\boldsymbol{x})] \tag{1}$$

The conditional probability, $\lambda(k,\boldsymbol{x})$, can be formalized as a binary choice model. This study uses the probit model with the corresponding coefficient vector β_k and error term ε_k so that $\lambda(k,\boldsymbol{x}) = \lambda(\boldsymbol{x}_k'\beta_k + \varepsilon_k > 0)$. If the error term ε_k is the sum of the municipality-specific random component and standard error component, we only need to estimate the panel probit model, considering each day as one observation and each municipality as one group.

As the data in this study are duration data, the number of observations decreases as k increases. This makes it difficult to estimate a model with varying coefficients, especially for high k values. This study thus constrains the coefficients of $\lambda(k,\boldsymbol{x})$ to be the same for all k and adds indicator variables for each day to control for day-specific fixed effects. In addition, the baseline specification employs a simple probit model without random effects because the estimated results hardly change with random effects, as discussed in the Results section.

This study examines the correlation with the political characteristics of local governments and does not rigorously identify causality. Although we could exclude the possibility of reverse causality running from the starting date to political characteristics, other factors may affect both the starting date and the political characteristics after controlling for various covariates. Considering the difficulty of assigning political factors randomly, this study should thus provide some insights into government behaviors during a crisis.

4. Data

The data used in this study are based on a report on the progress of the Special Fixed Benefit program, which was released on a nearly daily basis on the website of the Ministry of Internal Affairs and Communications (MIC)[11] between May and August 2020. The data are combined with information on municipalities' mayors and other characteristics. The number of municipalities was 1741.

4.1. Progress of the special fixed benefit program

The MIC uploaded the lists of municipalities that started to pay the benefits, send application forms to households, and accept

[10] See https://note.com/politic/n/n445ebc670a87 (in Japanese).
[11] See https://kyufukin.soumu.go.jp/.

Table 1
Sample statistics.

	Mean	Std. dev	Min	Median	Max
Days until benefits started to be paid	27.98	9.50	8	27	50
Days until mail applications started	16.75	6.76	8	15	43
Days until online applications started	9.99	12.58	4	9	97
Uncontested election	0.38	0.49	0	0	1
Two candidates	0.45	0.50	0	0	1
Three or more candidates	0.17	0.38	0	0	1
Female	0.02	0.14	0	0	1
Age of the mayor	64.37	8.65	31.58	65.93	86.38
Election four years before	0.27	0.44	0	0	1
Election one year before	0.15	0.36	0	0	1
First term	0.34	0.47	0	0	1
Second term	0.24	0.43	0	0	1
Third term	0.21	0.41	0	0	1
Fourth term	0.15	0.36	0	0	1
Fifth term or more	0.06	0.23	0	0	1
LDP involved	0.10	0.30	0	0	1
Komeito involved	0.13	0.33	0	0	1

Note: The number of municipalities is 1741.

online applications. Because the lists were updated on a nearly daily basis on weekdays, the study collected data manually and from a web archive, *Wayback Machine*. Although the data in this study are not a complete collection of the uploaded lists, two-thirds of the data in May (10 out of 16 weekdays) are covered.

The data used in this study are the starting dates on which a municipal government started to remit the Special Fixed Benefit to applicants. The progress of benefit payments, that is, the proportion of those who had already received the payments, might be of more interest, but this is not available at the municipality level. When the MIC collected such data from municipalities, it promised not to publish the municipal-level data to avoid any unnecessary competition among municipalities (Asahi Shinbun Digital 2020.6.27).[12] One newspaper reported the progress of payments for selected large cities in late June. Figure A2 in the Online Appendix shows that the progress of payments tended to be late as the starting date became later.

4.2. Mayors

The information on mayors for May 2020 is based on the *List of Governors and Mayors* published by the Japan Research Institute for Local Government. The Institute compiles this list every year using information from local election results. The list contains data on the election date, turnover rate, candidates' names, shares of votes, and political parties.

The main explanatory variables are constructed from the results of the last election. Three indicator variables are formed corresponding to one, two, and three or more candidates, respectively. The indicator for one candidate represents that the mayor was elected uncontested. Winning margin variables are also constructed. Since the winning margin cannot be defined for an uncontested election, four indicator variables are used to represent a margin of above 30 %, between 20 % and 30 %, between 10 % and 20 %, and below 10 %. Owing to data availability, these variables are not used in the baseline specification.

The other mayor-related variables are election date, gender, age, tenure, and political party. The election date was converted into two indicator variables. The first takes one if the last election was held between May 2019 and April 2020. The second is equal to one if the upcoming election was expected to be held within a year, that is, the last election was held between May 2016 and April 2017, since the term for a mayor is four years. Tenure is represented by the number of elections that the mayor won, since it is rare for mayors to leave office without serving their full four-term term; thus, the tenure is four to eight years if a mayor is in their second term. Most candidates are classified as independent in Japanese local elections and political parties officially recommend or support candidates. Since two national governing parties, namely the Liberal Democratic Party (LDP) and Komeito, strongly promoted the Special Fixed Benefit program, this study uses two indicator variables to represent their involvement.

The sample statistics are shown in Table 1. The first three rows show the number of days from April 30 to certain program milestones (see also Figure A1 in the Online Appendix). The first is the number of days until a municipality started making payments, on which this study focuses. The first municipality started paying benefits on May 8, but approximately half had not started by the end of May. Considering that the advantage of universal income transfers, including the Special Fixed Benefit program, is to save the costs and time incurred in distributing payments, as discussed in Section 2.1.3, the variation in the number of days in this study is large. The second is the number of days until a municipality started to mail out application forms to residents. As explained in Section 2.1, half of municipalities took more than half a month to do so. The third is the number of days until online applications started. Almost half of

[12] One may suspect that a municipality did not start remitting benefits if residents did not apply. However, although the application data are unavailable, this would not have been the case for two reasons. First, the Special Fixed Benefit program was first announced on April 7 and revised on April 20, and it was widely reported through various media. Second, half of municipalities had already started to accept applications online, as shown in Figure A1 in the Online Appendix.

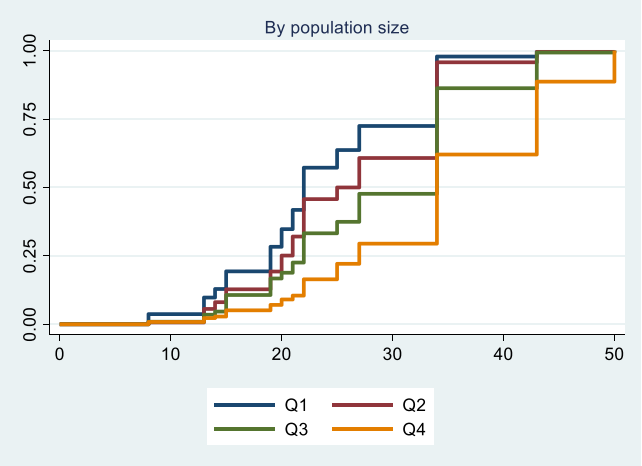

Fig. 1. Starting dates of the Special Fixed Benefit payments, by population size. Note: The vertical axis presents the proportion of municipalities. The horizontal axis presents the days since April 30. This graph shows the proportions of municipalities that had started making payments by the day. "1Q" shows the proportions among municipalities whose population size is in the first quartile (the smallest group).

municipalities started online applications on May 7. The remaining rows present the characteristics of mayors. The table shows that 38 % of mayors were elected uncontested in the last election. The proportion of female mayors is small (only 2 %) and half of mayors are aged 65 or older. As explained above, the majority of mayors ran as independents, and only 10 % and 12 % were recommended or supported by the LDP and Komeito, respectively.

4.3. Controls

This study controls for three types of local government characteristics. The first is the digitization of local governments. The Chief Information Officers' portal of the central government published data on the digitalization of municipalities in March 2020. The Japan Agency for Local Authority Information Systems published a list of municipalities in which residents could request that convenience stores issue them with a copy of their resident card in July 2020. Four variables are constructed from these data. The first is an indicator variable of the issuing system at convenience stores, which might help municipal offices process online applications for the Special Fixed Benefit program.[13] The second is an indicator that a municipality has an electric filing system shared with its prefecture, an upper level of government. The third is an indicator that a municipality has an electric filing system that is not shared with its prefecture. When the municipality does not have an electric filing system, both the second and third variables take zero. Fourth, the proportion of residents who have an Identification Number Card is used.

The second is the fiscal and demographic situation from the settlement statistics of municipal governments. This study uses data for FY2018. It controls for taxable income, local tax revenues, gross bond outstanding, fund outstanding, financial capability index, the quadratic term of population size, population density, average household size, and the shares of the young (those aged 14 or below) and the elderly (those aged 65 or above) as well as indicator variables for government-designated cities, core cities, and normal cities. Taxable income, tax revenues, bond outstanding, and fund outstanding are normalized by population size.

The third is the number of regular public workers in April 2020 from the Survey on the Total Number Management of Civil Servants in Local Governments. This study uses the number of public workers in the administrative sections of municipal offices, which represents the capacity of the municipal office. Since the number of public workers increases with population size, the number is divided by population size and converted into a logarithm. The sample statistics of these control variables are shown in **Table A1** in the Online Appendix.

Models that added prefecture-specific fixed effects are also estimated. The responses of local governments should rely on infection rates and the economic situation, but such data are not readily available at the municipality level. In addition, the behavior of municipal governments may be affected by prefectural (upper) governments' coordination, advice, and technical assistance. Prefecture fixed effects can control for these factors.

[13] Since the serial number of the Identification Number Card was also used to issue copies of resident cards at convenience stores, municipalities that had this issuing system could use the serial number to connect online applications with the Basic Resident Register in a municipality to verify the applicant's identity (Nikkei Computer 2020.7.9).

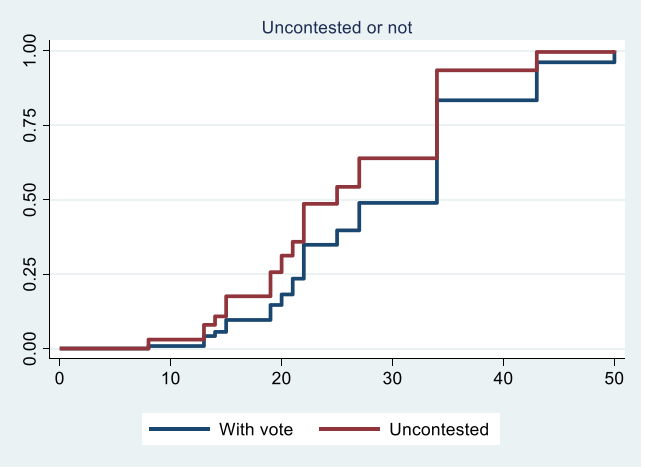

Fig. 2. Progress of the Special Fixed Benefit program, uncontested or not. Note: The vertical axis presents the proportion of municipalities. The horizontal axis presents the days since April 30. This graph shows the proportions of municipalities that had started making payments by the day. "vote" shows the proportions of municipalities among those with mayors elected contested, whereas "no vote" shows those with mayors elected uncontested.

Table 2
Baseline results: marginal effects (%).

	Full sample		Weekly		Weekly (RE)	
	(1)	(2)	(3)	(4)	(5)	(6)
Uncontested election	1.129**	1.232**	1.027	1.272	1.027	1.272
	(0.489)	(0.493)	(0.865)	(0.870)	(0.865)	(0.870)
Three or more candidates	-0.323	-0.259	-0.889	-1.115	-0.889	-1.115
	(0.640)	(0.644)	(1.084)	(1.089)	(1.084)	(1.089)
Election four years before	0.216	0.293	-0.121	-0.354	-0.121	-0.354
	(0.494)	(0.503)	(0.872)	(0.885)	(0.872)	(0.885)
Election one year before	-0.955	-1.137*	-1.552	-1.692	-1.552	-1.692
	(0.615)	(0.621)	(1.063)	(1.070)	(1.063)	(1.070)
Second term	0.229	0.232	1.693*	1.930*	1.693*	1.930*
	(0.588)	(0.588)	(1.025)	(1.020)	(1.025)	(1.020)
Third term	-0.071	-0.059	1.294	1.608	1.294	1.608
	(0.627)	(0.628)	(1.086)	(1.083)	(1.086)	(1.083)
Fourth term	0.863	1.036	1.288	1.564	1.288	1.564
	(0.718)	(0.721)	(1.271)	(1.275)	(1.271)	(1.275)
Fifth term or more	1.173	0.854	1.649	1.104	1.649	1.104
	(0.992)	(0.993)	(1.789)	(1.784)	(1.789)	(1.784)
Female	1.531	2.129	3.402	4.679*	3.402	4.679*
	(1.581)	(1.610)	(2.608)	(2.614)	(2.608)	(2.614)
Age of the mayor	-0.046*	-0.037	-0.080*	-0.060	-0.080*	-0.060
	(0.028)	(0.028)	(0.047)	(0.048)	(0.047)	(0.048)
LDP involved	-0.850	0.060	-2.030	-0.912	-2.030	-0.912
	(1.031)	(1.046)	(1.720)	(1.739)	(1.720)	(1.739)
Komeito involved	-0.093	-0.558	0.901	0.601	0.901	0.601
	(0.911)	(0.930)	(1.519)	(1.548)	(1.519)	(1.548)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Prefecture FE	No	Yes	No	Yes	No	Yes
# of Obs.	14,950	14,950	6891	6891	6891	6891

Note: The unit of observation is day-municipality. Standard errors are in parentheses. This table shows the average marginal effects, multiplied by 100 (in percent terms). ***, **, and * represent that the estimated average marginal effects are statistically different from zero at significance levels of 1 %, 5 %, and 10 %, respectively.

5. Results

5.1. Descriptive statistics

Fig. 1 shows the proportion of municipalities that started paying the Special Fixed Benefit program for different population sizes based on quartile points. Here, the horizontal axis represents the days since April 30 (i.e., "10″ means May 10). The graphs have a

Table 3
Subsample estimation results: marginal effects (%).

	Until May 20		Until May 31	
	(1)	(2)	(3)	(4)
Uncontested election	1.646***	1.804***	1.177**	1.231**
	(0.504)	(0.521)	(0.476)	(0.479)
Three or more candidates	-0.235	-0.526	-0.061	0.005
	(0.723)	(0.757)	(0.641)	(0.646)
# of Obs.	8000	7765	13,975	13,975
Other controls	Yes	Yes	Yes	Yes
Prefecture FE	No	Yes	No	Yes

Note: The unit of observation is day-municipality. Standard errors are in parentheses. This table shows the average marginal effects, multiplied by 100 (in percent terms). ***, **, and * represent that the estimated average marginal effects are statistically different from zero at significance levels of 1 %, 5 %, and 10 %, respectively.

Table 4
Estimation results including the winning margin variables: marginal effects (%).

	(1)	(2)
Uncontested election	1.737***	1.828***
	(0.646)	(0.654)
Three or more candidates	-0.380	-0.312
	(0.649)	(0.654)
Winning margin: 10–20 %	1.256*	1.270*
	(0.734)	(0.738)
Winning margin: 20–30 %	1.259	1.154
	(0.848)	(0.857)
Winning margin: 30 %+	0.473	0.460
	(0.741)	(0.753)
Other controls	Yes	Yes
Prefecture FE	No	Yes
# of Obs.	14,932	14,932

Note: The unit of observation is day-municipality. Standard errors are in parentheses. This table shows the average marginal effects, multiplied by 100 (in percent terms). ***, **, and * represent that the estimated average marginal effects are statistically different from zero at significance levels of 1 %, 5 %, and 10 %, respectively.

horizontal part, especially from late May to early June, because of data availability. The Cabinet approved the program on April 20, and it took more than two weeks for the first municipality to start making payments. By late May, more than half of municipalities had started making payments. As news reported that large cities lagged behind smaller towns and villages, Fig. 1 suggests that small municipalities tended to start making payments early. This graph shows that the progress of program implementation differs across municipalities.

The differences according to the results of the last election are shown in Fig. 2. This graph suggests that municipalities under mayors elected uncontested started paying benefits earlier. Since smaller municipalities are more inclined to elect mayors uncontested, this can reflect the difference in population size. To control for multiple factors simultaneously, we turn to the regression analysis as follows.

5.2. *Baseline specification*

Table 2 shows the estimated marginal effects of the mayor-related variables in the baseline specification. Columns (1) and (2) show the results based on the full sample. As explained in the Data section, the data in this study are not perfect daily data; thus, weekly data are constructed by selecting Fridays (or the nearest day) as observations. Columns (3) and (4) present the results for these weekly data. Columns (5) and (6) show the results of the random effect panel probit model.[14] The results of the random effect models do not differ substantially from those of the simple probit models. The sample sizes differ among the columns, but the number of municipalities used in the estimations is the same (1741).

Most coefficients in the table are not statistically significant, except for the uncontested election indicator variable. The point estimates of the marginal effects range from 1.2 % to 2.1 % points, suggesting that if the mayor was elected uncontested, the probability that the municipality started paying benefits the next day or the next week increased by 1.2 or 2.1 % points, respectively. This suggests that mayors elected uncontested can respond to issues that attracted public attention such as the Special Fixed Benefit

[14] I also applied the random effect panel probit model for the full sample, but the computation did not converge in some cases.

Table 5
Estimation results of the duration models: Hazard ratio.

	Cox		Weibull	
	(1)	(2)	(3)	(4)
Uncontested election	1.097	1.109*	1.093	1.114*
	(0.063)	(0.066)	(0.063)	(0.067)
Three or more candidates	0.986	0.990	0.984	0.989
	(0.072)	(0.074)	(0.072)	(0.074)
# of Obs.	1715	1715	1715	1715
Other controls	Yes	Yes	Yes	Yes
Prefecture FE	No	Yes	No	Yes

Note: The unit of observation is a municipality. Standard errors are in parentheses. This table shows the hazard ratios. * represents that the estimated average marginal effects are statistically different from zero at a significance level of 10 %.

program.

5.3. Robustness checks

Table 3 shows the estimation results when the sample is limited to the early days, considering the possibility that factors change over time. The results are robust, suggesting that the factors associated with the starting date did not change over these two months.

Another robustness check is adding the winning margin variables, which are unavailable for some municipalities. The results are presented in Table 4. Three indicator variables are used in the estimation and the reference group is mayors with a winning margin below 10 %. The coefficients of the winning margin variables are statistically insignificant in most cases, while those of the uncontested election variable do not change drastically. This suggests that even if election results matter, the difference between contested and uncontested elections is important and that the winning margin and vote shares are not associated with the progress of the Special Fixed Benefit program.

Since this study uses duration data, traditional duration models are estimated as a robustness check. Table 5 shows the estimation results of the Cox proportional hazard model and parametric Weibull model. The estimated hazard ratios for the uncontested election indicator variable are approximately 1.1 in all four cases, which suggests that municipalities with an uncontested mayor have a shorter duration than those without. Although not statistically insignificant in columns (1) and (3), the results are comparable with the results of the baseline specification with the full sample in Table 2.

6. Yardstick competition

6.1. Econometric specification

One may argue that the decisions of municipalities depend on those of others owing to yardstick competition, which means that politicians feel pressure from constituents, who use the behaviors of politicians in neighboring regions as a yardstick. The literature supports this hypothesis and Japan is no exception (Hayashi and Yamamoto, 2017; Bessho and Ibuka, 2019). The decision when to start making payments might thus be affected by the behavior of neighboring municipalities. To test this hypothesis, this study estimates a standard spatial lag model. The regression equation is

$$\ln Y_i = \delta w_i \ln Y_{-i} + \gamma x_i + u_i$$

where Y_i is the number of days until municipality i started making payments, Y_{-i} is a vector of the number of days of sample municipalities, W_i is a vector of weights, and $W_i \ln Y_{-i}$ is the spatial lag term. W_i is normalized, so that the sum of the elements is equal to unity. x_i is a vector of the explanatory variables as in the baseline specification and u_i is an error term. δ and γ are the parameters to be estimated. The spatial lag term is endogenous because this study assumes interdependence among municipalities. Thus, ordinary least squares estimators are typically inconsistent. This study therefore applies the two-stage least squares estimation method following Kelejian and Prucha (1998), in which the excluded instruments are a subset of the first-order spatial lag of the explanatory variable $w_i x_i^p$, the weighted average of the mayor-related variables. The validity of the instruments is checked using Hansen's J and Cragg–Donald statistics.

Although finding an appropriate form of weights W_i or spatial weight matrix that defines "neighboring" is difficult, this study takes advantage of the Japanese system of the Fiscal Index Tables for Similar Municipalities (FITS-M) following Hayashi and Yamamoto (2017). The FITS-M categorizes municipalities into nine groups according to municipality type (city or not) and population size and subdivides them into 31 subgroups based on their industrial composition. As Hayashi and Yamamoto (2017) mention, the Japanese central government allows municipalities to use the FITS-M as a yardstick for fiscal planning. This study constructs two weight vectors w_i. The first temporarily assigns a weight of 1 for municipality j if municipalities i and j are in the same subgroup, whereas the other does so if they are in the same group and in the same prefecture.

Table 6
Yardstick competition.

	FITS-M		FITS-M + prefecture	
	(1)	(2)	(3)	(4)
Spatial lag term	0.302**	0.267*	0.460**	0.358*
	(0.138)	(0.142)	(0.188)	(0.202)
Uncontested election	-0.049**	-0.052***	-0.048**	-0.052***
	(0.019)	(0.018)	(0.020)	(0.019)
Three or more candidates	0.006	0.003	-0.000	0.000
	(0.021)	(0.021)	(0.022)	(0.022)
Other controls	Yes	Yes	Yes	Yes
Prefecture FE	No	Yes	No	Yes
Weak IV	232.30	215.00	5.19	6.16
Hansen's J	11.56	10.94	8.22	7.91
# of Obs.	1714	1714	1608	1608

Note: The unit of observation is municipality. Standard errors are in parentheses. The dependent variables are the log-transformed number of days to start making payments. ***, **, and * represent that the estimated coefficients are statistically different from zero at significance levels of 1 %, 5 %, and 10 %, respectively.

6.2. Results

Table 5 shows the estimation results with the spatial lag term, where the dependent variable is the number of days until municipalities started making payments. Columns (1) and (2) present the results with the spatial weight matrix based on the FITS-M only, while columns (3) and (4) present those based on the FITS-M and prefecture. Hansen's J statistics suggest that the instrumental variables are exogenous for these four cases. The Cragg–Donald statistics are sufficiently large in columns (1) and (2) but not in columns (3) and (4). All the coefficients of the spatial lag term are statistically significantly positive even after controlling for the covariates. This may be consistent with yardstick competition or mimicking hypothesis, namely that municipalities decide the starting date of payments by considering the behaviors of neighboring or similar municipalities.

After controlling for the spatial lag terms, the coefficients of the uncontested election indicator variable remain statistically significantly negative. Since the dependent variable is the number of days, this result is consistent with that in the baseline specification. This suggests that even after considering yardstick competition, municipalities with mayors elected uncontested start making payments relatively earlier Table 6.

7. Concluding remarks

This study examines the political factors associated with the execution of a benefit payment policy during the COVID-19 crisis in Japan, namely the Special Fixed Benefit program, a universal and unconditional cash payment that attracted significant public attention. Although this was a nationwide program, different localities started paying benefits on different dates, since local governments were responsible for implementing the program. We thus investigated the relationship between the characteristics of mayors and payment dates.

The results of the regression analysis suggest that local governments with mayors elected uncontested tended to start making payments earlier. No correlation with the winning margin in the last election was detected. These results are comparable to those reported in the literature. For example, studies of political competition have detected better performance and better economic and social consequences for politicians who face more stringent competition. However, the results of this study are inconsistent with these studies and rather consistent with those of Japanese cases that find that uncontested mayors perform better in fiscal terms (Kondo and Miyamoto, 2010; Sumi, 2018; Suzuki and Han, 2019). As Iwagami (2019) notes, elections become uncontested when rival candidates withdraw from the race in the face of an overwhelmingly strong candidate or when potential candidates coordinate in advance. If this is the case, mayors elected uncontested have sufficient political capital and thus receive broad-based support from residents and government officers, which allows them to mobilize the resources within government offices to execute programs. In the case of the Special Fixed Benefit program, which attracted considerable public attention, uncontested mayors might have used this political capital to reallocate the resources in municipal offices to pay the benefits earlier.

This study is not without limitations. First, it examines only the correlation with the political characteristics of local governments and does not rigorously test causality. Second, although the starting date of payments used in this study is measurable and comparable across municipalities, it captures only one aspect of the government's decision-making. Third, the mechanism between political characteristics and policy outcomes remains unclear. Understanding how governments behave during a crisis is important to prepare for future disasters (Greer et al., 2020). These points are worth exploring further in future research.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.asieco.2023.101630.

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