Determinants of International Conference Venues in Japanese Prefectures

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Abstract

In this paper, we attempt to show what is effective to attract more international conferences to a region, using Japanese prefectural data of 1998-2017. This article follows the methodology of Falk and Hagsten (2018), performing regression analysis on data of 943 European cities from 2012 to 2016 and showing that city size and other factors (culture, openness, etc.) work to attract international conferences. Our regression analysis shows mixed results of prefectural population, depending on model specification with prefecture/year dummies. Other independent variables, including tourism resources, international organizations, accommodation, and transportation infrastructure, also have mixed results, whose statistical significance changes with model specification. Therefore more analysis on the current independent variables as well as policy measures by governments is needed.

Keywords: International Conference, Japanese Prefectural Data, Poisson Regression
JEL: Z30 and Z39

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1. Introduction

An international conference is an event that attracts many people from both inside and outside of a country and whose participants are expected to give various benefits to local economies partly due to their characteristic as business travelers. Because of those desirable properties, many countries and cities are competing with each other to attract more international conferences these days. Previous studies have focused on cities in Europe and other developed economies, which have long history of hosting international conferences and other MICE (Meeting, Incentive Travel, Convention/Conference, and Exhibition) events, especially for Europe (Crouch and Louviere 2004 for Australia, Mair and Thompson 2009 for the U.K., Borghans et al. 2010 for labor economists in Europe, Hanly 2012 for Ireland, Events Industry Council 2016 for the U.S., for instance), whose origin of exhibition is back to the Middle Ages.[1]

Compared to European cities, fewer studies have focused on Asian counterparts, including Japan.[2] However, Asian countries/cities have been growing their importance as hosts of international meetings. For instance, Union of International Associations (UIA) showed in its press release of June 16, 2018 that in 2017, four of top ten international meeting countries were in Asia (South Korea, Singapore, Japan, and Thailand) while five of them are in Europe (Austria, Belgium, Spain, Germany, and France).

In this paper, we attempt to show what is effective to attract more international conferences to a region, using Japanese prefectural data of 1998-2017. This article follows the methodology of Falk and Hagsten (2018), who examine factors that some European cities have to host a lot of international conferences. They perform regression analysis on data of 943 cities from 2012 to 2016, and show that city size and other factors (culture, openness, etc.) work to attract international conferences.[3] Our regression analysis show mixed results of prefectural population, depending on model specification with prefecture/year dummies. Other independent variables, including tourism resources, international organizations, accommodation, and transportation infrastructure, also have mixed results, whose statistical significance

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[1] See Getz and Page (2016) for more extensive survey on the previous literature and other research topics on event tourism.

[2] One exception is Chen (2006) for Taiwan. Also, in the 2010s, China has drawn more attentions from researchers because of its economic development as well as its increased number of international conferences.

[3] Bernini (2009) classifies Italian cities into six categories based on the cluster theory, and performs quantile regression as well as OLS to find competitive advantages of cities in terms of convention venues.

changes with prefecture/year fixed effects. Therefore more analysis on the current independent variables as well as policy measures by central/local governments is needed.

The structure of this article is as follows. Section two discusses data and some observations. Section three shows regression analysis. Section four concludes this article with further extensions.

2. Data and Observations

The data of international conferences held in Japan by prefecture are from Japan National Tourism Organization (JNTO) International Conferences Statistics. In the statistics, an international conference is defined as an event satisfying the following four conditions:

(1) Its purpose is not to pursue the interests of specific companies.

(2) Its total number of participants is more than fifty.

(3) Its number of participating countries, including Japan, is more than three.

(4) Its session is more than one day.

Note that the JNTO's definition is different from those by other organizations. For example, the definition of international conference by International Congress and Convention Association (ICCA), whose database are used by Falk and Hagsten (2018), does not include one-time events.[4]

The reasons why prefecture data rather than city data are used in this article are as follows. First, about large Japanese cities, Matsubara (2015) conducted a similar analysis. Thus, one of the purposes of this article is to compare results from prefecture data with those from city data. Second, data of possible explanatory variables are available only at prefecture level, not at city level in Japan. However, limited data availability may not be necessarily bad. For instance, even if tourist attractions luring (potential) participants of international conferences are not in cities of conference venues, it is enough that those attractions are located NEARBY the cities. Therefore, it is possible that tourist attractions in a prefecture may appeal to conference participants visiting cities in the same prefecture that do not have those attractions by themselves. Third, many Japanese prefectures have a big city besides their capital cities for geographical or historical reasons. For instance, in some prefectures, their capital cities are political centers while other cities are

[4] For details, see "Criteria" in the website of ICCA Association Database, whose URL is available in the references.

economics centers.[5] This implies that in such prefectures, venues of international conferences are not concentrated in their capital cities, depending on characteristics of international conferences held in those prefectures. This might suggest that analysis with city data is more appropriate, and the numbers of international conferences for all Japanese cities are available in the JNTO statistics. However, as stated above, data of possible determinants of international conferences, especially policy variables, are not available at city level. Moreover, how the venues of international conferences are diffused in a prefecture and how such diffusion affects decisions by conference organizers is not a focus of this article, except for showing some examples in Appendix 2.

Table 1 shows averages and other information for the number of international conference by prefecture and prefectural population. For the both variables, there are huge variations among prefectures. Tokyo has the maximum of the both. Many prefectures in rural areas had no or few international conferences during the sample period. Such regional variations should be studied more.

Table 1 Descriptive Statistics

Variable/Statistics	Average	Minimum	Maximum	Standard Deviation
Number of International Conferences in a Year	42.136	0	631	88.545
Population (thousands)	2,710	565	13,724	2,600

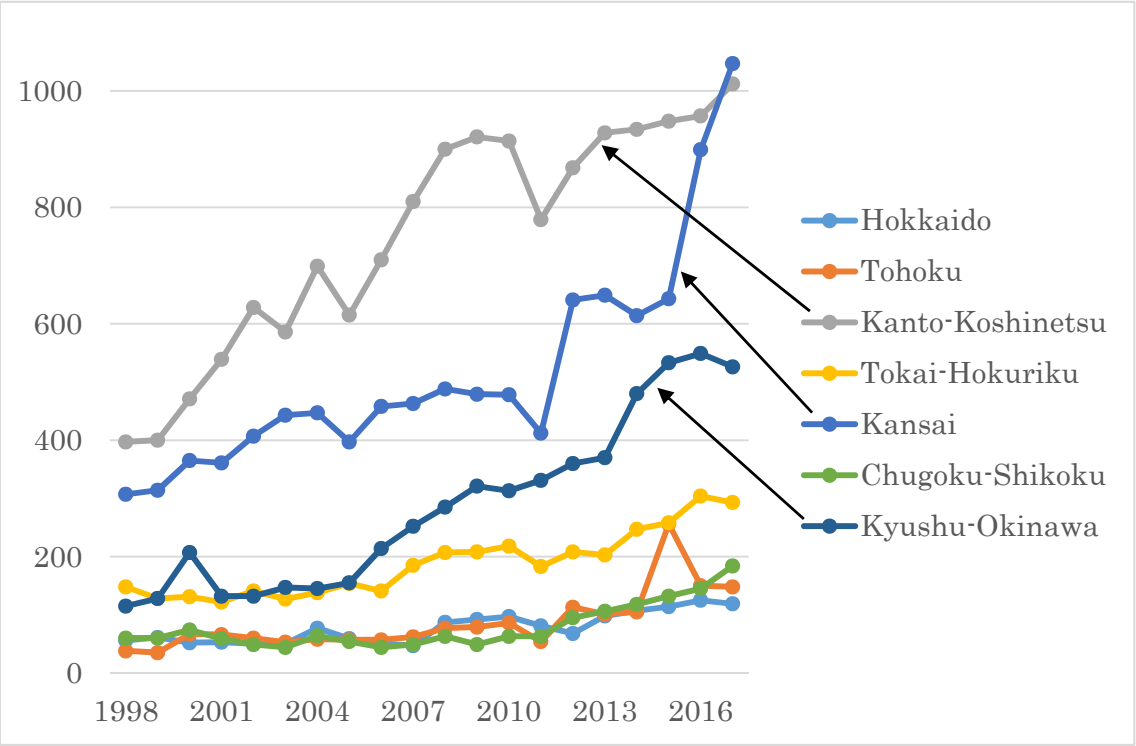
Note. NOB = 940 (= 47 prefectures×20 years). The sources are shown in the text.

Figure 1 shows the time series of the numbers of international conferences by region from 1998 to 2017. Among the seven regions, the following three regions have attracted many international conferences and/or the numbers have grown at very high rates.

- Kanto-Koshinetsu (gray), including Tokyo and Kanagawa (Yokohama).
- Kansai (blue), including Osaka, Kyoto, and Hyogo (Kobe).
- Kyushu-Okinawa (navy), including Fukuoka and Okinawa.

[5] See Appendix 2, showing examples of three prefectures (Osaka, Fukuoka, and Okinawa).

Figure 1 Number of International Conferences by Region, 1998-2017



Notes

1. The Source of the data is shown in the text.
2. Except for Hokkaido, which is one of the 47 prefectures, each Region consists of the following prefectures.
   - Tohoku: Aomori, Iwate, Akita, Yamagata, Miyagi, Fukushima.
   - Konto-Koshinetsu: Gumma, Tochigi, Ibaraki, Chiba, Saitama, Tokyo, Kanagawa, Niigata, Nagano, Yamanashi.
   - Tokai-Hokuriku: Toyama, Ishikawa, Fukui, Shizuoka, Gifu, Aichi, Mie
   - Kansai: Shiga, Kyoto, Nara, Wakayama, Osaka, Hyogo.
   - Chugoku-Shikoku: Tottori, Shimane, Okayama, Hiroshima, Yamaguchi, Kagawa, Tokushima, Ehime, Kochi.
   - Kyushu-Okinawa: Fukuoka, Saga, Nagasaki, Oita, Kumamoto, Miyazaki, Kagoshima, Okinawa.

Kanto-Koshinetsu has Tokyo, capital of Japan and other highly urbanized prefectures surrounding Tokyo (Kanagawa, Chiba, and Saitama). Those four prefectures form Greater Tokyo Area. The above three prefectures in Kansai region have long history and a lot of tourist-attracting sites.[6] Kyushu-Okinawa region is

[6] Kyoto was the former capital of Japan. Osaka was the economic center of Japan for a

a south-west part of Japan, and near to other East-Asian countries such as China, South Korea, and Taiwan. This area has also attracted many foreign cruise ships in the 2010s because of its locational advantage to other regions in Japan (Matsubara and Bae 2018).

3. Regression Analysis

3-1 Effects of Population and Prefecture/Year Dummies

We perform regression analysis whose dependent variable is the number of international conferences held in a prefecture in a year. Because the dependent variable is count data with zeros, we perform Poisson regression.[7] Independent variables are as follows: (1) Log of population of a prefecture, capturing the size of the economy. Population data is from e-stat, portal site for Japanese Government Statistics. (2) Prefecture dummy (Tokyo as reference). (3) Year dummy (1998 as reference) or time trend term. (4) Others.

Table 2 shows the following results. (1) Prefectural population seems to have a positive effect. However, the effect gets smaller and even negative when adding prefecture and year dummies to the regression equation. A fixed-effect Poisson regression with year dummies shows a similar result. Region dummy has a positive effect, but it may not be enough to capture regional variations. (2) About year dummy, when controlling for only year 2011, it has a negative effect. However, when controlling for all sample years, they are positively significant (except for year 1999), maybe capturing increasing trends. Time trend term as substitute for time dummy also has a positive effect.

The first result looks puzzling because previous studies show positive effects of the size of the economy. One factor we should consider is that during the sample period, population decreased in many prefectures due to low birthrate and longevity of the Japanese society (the impact of the low birthrate has been quite serious, especially in rural areas). On the other hand, numbers of international conferences have positive trends in many prefectures at the same time (Figure 1). We added annual rate of change in population by prefecture and its cross term with population to the regression equation, but it did not have significant effect to solve the puzzle.

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long time. Kobe has been one of the largest ports in Japan as well as Yokohama.

[7] About count data and Poisson regression, see Wooldridge (2002).

Table 2: Determinants of International-Conference Venues
(Population and Prefecture/Year Dummies)
Dependent variable = Number of International Conferences. NOB = 940.

Equation / Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log (population)	1.601 (0.007)	4.472 (0.196)	-0.763 (0.220)	1.583 (0.007)	4.527 (0.196)	-0.791 (0.218)	1.785 (0.010)
Region							Yes(+)
Prefecture		Yes(+)	Yes(-)		Yes(+)	Yes(-)	
Year			Yes(+)	Yes(+)			
Year 2011					-0.087 (0.024)	-0.190 (0.024)	-0.200 (0.024)
Time						0.057 (0.001)	0.053 (0.001)
Pseudo R^2	0.654	0.897	0.931	0.690	0.897	0.930	0.738

Notes
1. Standard errors are in parentheses. Every coefficient is statistically significant at one-percent level.
2. Region, Prefecture, and Year 2011 are dummies (signs of the coefficients are in parentheses). Time captures the time trend.

The second result is quite plausible. In 2011, the Great East Japan Earthquake occurred. A negative effect of the earthquake is shown when controlling for only year 2011. However, as stated above, when controlling for all sample years, year dummies are positively significant (including the dummy of 2011 and except for year 1999). Dollar/yen exchange rate does not have a significant effect (not shown in the table). Matsubara (2015), who performs regression analysis with data of fourteen Japanese cities from 1998 to 2013, show that exchange rate has a positive effect, but the result with prefectural data is different. Since the end of 2012, Dollar/yen exchange rate depreciated, which might have caused the difference between the result of this article and that of Matsubara (2015). More analysis is need for exchange rate as well as other economic/policy variables.

3-2 Population-Classification Dummies with More Independent Variables

The regression analysis in the last subsection should be improved. First, the negative coefficients of prefectural population are not consistent with intuition and

therefore must be analyzed more. Second, more independent variables should be added to the regression equation. Following Falk and Hagsten (2018), possible candidates are:

(1) Ranking or other indicator of universities.
(2) UNESCO world heritage sites.
(3) Museums
(4) (International) airport and other transportation infrastructure.
(5) International organizations
(6) Accommodation

In Japan, universities are venues of many international conferences, so including (1) seems to be plausible. However, all of the above variables except for (1) are added to the regression equations. The reason why the university variable is excluded is that in Japan, most high-ranked universities, both public and private, are located in Tokyo and other big cities. Also, only two universities, University of Tokyo and Kyoto University, are listed in the top 100 of the world ranking such as Times Higher Education, whose data are used by Falk and Hagsten (2018).

Variables (2) and (3) are indicators of tourism resources, which may attract (potential) participants of international conferences. International organizations host a lot of international conferences (their annual meetings for instance), so including (5) seems to be reasonable. Finally, ability of providing visitors with accommodation is necessary to invite international conferences, so (6) is added as an explanatory variable.

To solve the first problem, following Falk and Hagsten (2018), population variable is classified as the following five categories:

(1) class one: less than one million inhabitants.
(2) class two: more than one million and less than 1.4 million inhabitants.
(3) class three: more than 1.4 million and less than 2 million inhabitants.
(4) class four: more than 2 million and less than 5 million inhabitants.
(5) class five: more than 5 million inhabitants.

With this classification, the 47 prefectures are divided almost equally. Note that during the sample period, some prefectures moved up or down from one class to the other due to its population increase or decrease. In Table 3, these population-classification dummies (class one as reference) are significant positive effects. These positive effects are robust with other independent variables, even with year dummies, which is different from the results in Table 2, the signs of whose population effects changes with year dummies. Also, coefficients are larger with larger-

population dummies (one exception is class two and three dummies in equations (6) and (7)). This result is same as that in Falk and Hagsten (2018).

Table 3: Determinants of International-Conference Venues
(Population-Classification Dummies and Other Independent Variables)
Dependent variable = Number of International Conferences. NOB = 940.

Variable/Equation	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Million≦Population < 1.4 Million (class 2)	1.014 (0.056)	1.043 (0.056)	0.951 (0.056)	0.991 (0.056)	0.912 (0.056)	0.715 (0.056)	0.718 (0.056)
1.4Million≦Population < 2 Million (class 3)	1.063 (0.056)	1.102 (0.056)	1.005 (0.056)	1.057 (0.056)	0.955 (0.056)	0.689 (0.057)	0.664 (0.057)
2 Million≦Population < 5 Million (class 4)	2.737 (0.051)	2.819 (0.051)	2.747 (0.051)	2.775 (0.051)	2.713 (0.051)	2.291 (0.053)	2.143 (0.053)
5 Million≦Population (class 5)	4.092 (0.050)	4.129 (0.050)	4.107 (0.050)	3.766 (0.050)	3.457 (0.050)	3.085 (0.052)	3.010 (0.052)
Number of World Heritage Sites			0.328 (0.011)	0.125 (0.011)	0.207 (0.012)	0.223 (0.012)	0.239 (0.012)
Number of International Organizations				0.069 (0.001)	0.052 (0.001)	0.043 (0.001)	0.014 (0.002)
Number of Rooms per Hotel					0.010 (0.0002)	0.011 (0.0002)	0.011 (0.0002)
Bullet Train Station						0.478 (0.016)	0.442 (0.016)
Number of Museums of Fine Arts							0.019 (0.001)
Year Dummies (1998 as Reference)		Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.601	0.646	0.655	0.737	0.763	0.773	0.777

Notes

1. Standard errors are in parentheses. Every coefficient is statistically significant at one-percent level.
2. Year dummies have significant positive effects except for dummy of 1999.

More independent variables are added in equations (3) to (7). Descriptive statistics and sources of those variables are shown in Appendix 1. First, the dummy of whether a prefecture has a world heritage site(s) has significant positive effects.

Because the world heritage sites are not very concentrated in prefectures with large population, they may help prefectures in rural areas attract international conferences. Second, numbers of international organizations have significant positive effects. However, sizes of the effect are rather small. One possible reason is that most of the international organizations are UN agencies located in Greater Tokyo Area.

Third, numbers of rooms per hotel in a prefecture have significant positive effects. Two other types of hotel variables, numbers of hotels and total numbers of rooms are also attempted, but they are either non-significant or almost-zero positive effect. How to measure prefecture's ability to provide visitors with accommodation has room to investigate more. Fourth, the dummy of whether a prefecture has at least one station of Shinkansen bullet train has significant positive effects, showing the importance of transportation infrastructure. However, the dummy of whether a prefecture has an airport with at least one 2,500 meter runway is not significant (not shown in the table). Finally, numbers of museums of fine arts have a significant positive effect, although the size of the effect is small. Number of all kinds of museum, including zoo, is not significant (not shown in the table).

3-3 Robustness Check with Prefecture Dummies.

From Table 3, all explanatory variables including population-classification dummies seem to have significant effects. However, from Table 2, prefecture dummies are also likely to have some explanatory power. In this subsection, prefecture dummies are added to the all regression equations with other independent variables to check the robustness of the results of Table 3.

Table 4 shows the results. First of all, all of the prefecture dummies (Tokyo as reference) have negative significant effects. Second, the coefficients for all population-classification dummies get smaller and some of them, especially those for class-four dummy (population is between two- and five-millions), are not statistically significant. Also, sizes of the coefficients for other three population dummies (classes two, three, and five) are not very different, compared to those in Table 3 (basically the coefficient for class five is the largest, class four the second, class three the third, and class two for the smallest).

Third, the signs of the coefficients for the numbers of world heritage sites and international organizations (equations (2) and (3) respectively) are changed to negative, contrary to our intuition. Fourth, variables measuring ability to provide visitors with accommodation shows mixed results (equations (4) to (6)). Number of hotels and total

Table 4: Determinants of International-Conference Venues (Prefecture Dummies and Other Independent Variables)

Dependent variable = Number of International Conferences. NOB = 940.

Variable/Equation	(1)	(2)	(3)	(4)	(5)	(6)
1 Million≦Population < 1.4 Million (class 2)	0.412* (0.190)	0.425* (0.190)	0.461* (0.190)	0.333 (0.190)	0.374* (0.190)	0.420* (0.190)
1.4 Million≦Population < 2 Million (class 3)	0.542* (0.198)	0.555** (0.198)	0.603** (0.198)	0.411* (0.198)	0.480* (0.199)	0.579** (0.198)
2 Million≦Population < 5 Million (class 4)	0.159 (0.251)	0.180 (0.251)	0.270 (0.251)	0.018 (0.251)	0.073 0.253)	0.202 (0.251)
5 Million≦Population (class 5)	0.556* (0.273)	0.580* (0.273)	0.612* (0.273)	0.285 (0.274)	0.454 (0.276)	0.602* (0.274)
Number of World Heritage Sites		-0.060** (0.020)				
Number of Inter-national Organizations			-0.059** (0.006)			
<Accommodation>						
Number of Hotels				0.003** (0.0002)		
Total Number of Hotel Rooms					0.000006* (0.000002)	
Number of Rooms per Hotel						-0.003** (0.001)
Year Dummies (1998 as Reference)	Yes(+)	Yes(+)	Yes(+)	Yes(+)	Yes(+)	Yes(+)
Prefecture Dummies (Tokyo as Reference)	Yes(-)	Yes(-)	Yes(-)	Yes(-)	Yes(-)	Yes(-)
Pseudo R-squared	0.931	0.931	0.932	0.932	0.931	0.931

Notes

1. * = statistically significant at five percent level. ** = statistically significant at one percent level.
2. Year dummies have significant positive effects except for dummy of 1999.

number of hotel rooms have significant positive effects, although their sizes of coefficients are very small. These two variables are not statistically significant without controlling for prefecture fixed effects with dummies. One the other hand, the sign of

Table 4: Determinants of International-Conference Venues (Prefecture Dummies and Other Independent Variables)(continued)

Dependent variable = Number of International Conferences. NOB = 940.

Variable/Equation	(7)	(8)	(9)	(10)
1 Million ≦ Population < 1.4 Million (class 2)	0.436* (0.190)	0.410* (0.190)	0.382* (0.190)	0.403* (0.190)
1.4 Million ≦ Population < 2 Million (class 3)	0.562** (0.198)	0.540** (0.198)	0.515** (0.198)	0.531** (0.198)
2 Million ≦ Population < 5 Million (class 4)	0.201 (0.251)	0.155 (0.251)	0.106 (0.251)	0.143 (0.251)
5 Million ≦ Population (class 5)	0.571* (0.273)	0.554* (0.273)	0.472* (0.273)	0.536* (0.273)
< Transportation infrastructure>				
Airport with 2,500m Runway	-0.314** (0.034)			
Bullet Train Station		0.085 (0.052)		
<Museum>				
Number of Museums			0.011** (0.001)	
Number of Museums of Fine Arts				0.008** (0.003)
Year Dummies (1998 as Reference)	Yes(+)	Yes(+)	Yes(+)	Yes(+)
Prefecture Dummies (Tokyo as Reference)	Yes(-)	Yes(-)	Yes(-)	Yes(-)
Pseudo R-squared	0.932	0.931	0.932	0.931

Notes

1. * = statistically significant at five percent level. ** = statistically significant at one percent level.
2. Year dummies have significant positive effects except for dummy of 1999.

coefficient for the number of rooms per hotel, which has significant positive effects in Table 3, is now negative, although its size is very small as well as other hotel variables.

Fifth, dummies measuring transportation infrastructure also have mixed results (equations (7) and (8)). Airport dummy is negative while bullet-train station dummy is positive, the latter is not statistically significant though. Finally, number of museums and that of museums of fine arts are significant positive effects (equations (9) and (10)).

4. Conclusions

The regression analysis of this article shows strong prefecture/year fixed effects while the effects of other explanatory variables are rather small. Possible extensions of the analysis are as follows. First, in addition to the explanatory variables examined by the regression analysis, effects of other (macro)economic variables and policy measures that prefectural governments and/or Japanese government implement should be examined. For instance, visa weaver policy by Japanese government is effective to attract foreign cruise ships (Matsubara and Bae 2018). Second, for each independent variable, other measures should be used. For airport variable, availability of (international) low-cost carrier (LCC) is one candidate. Third, some properties that only prefecture data have should be examined to check if results from prefecture data are comparable with those from city data. For instance, a measure of concentration of conference venues to capital cities and/or those of diversification of venues to more than one city are possible candidate of explanatory variables.[8]

References

- Bernini, Cristina (2009), "Convention industry and destination clusters: Evidence from Italy," *Tourism Management* Vol. 30, 878–889.
- Borghans, Lex, Margo Romans, and Jan Sauermann (2010), "What Makes a Good Conference? Analysing the Preferences of Labor Economists," *Labour Economics* Vol 17, 868-874.
- Central Japan Railway Company. https://global.jr-central.co.jp/en/
- Chen (2006), "Applying the analytical hierarchy process (AHP) approach to convention site selection," *Journal of Travel Research*, Vol 45 (November), 167–174.
- Crouch, Geoffrey I. and Jordan J. Louviere (2004), "The Determinants of Convention Site Selection: A Logistic Choice Model from Experimental Data," *Journal of Travel Research*, Vol 43 (November), 118-130.
- East Japan Railway Company. https://www.jreast.co.jp/e/

[8] See Appendix 2 about meaning of those variables.

- e-Stat (portal site for Japanese Government Statistics). https://www.e-stat.go.jp/en
- Events Industry Council (2018), *2016 Economic Significance of Meetings to the U.S. Economy*.
- Falk, Martin and Eva Hagsten (2018), "The Art of Attracting International Conferences to European Cities," *Tourism Economics*, Vol. 24(3) 337–351.
- Getz, Donald and Stephen J. Page (2016), "Progress and Prospects for Event Tourism Research," *Tourism Management*, Vol. 52, 593-631.
- Hanly, Paul A. (2012), "Measuring the economic contribution of the international association conference market: An Irish case study," *Tourism Management*, Vol. 33, 1574-1582.
- Hokkaido Railway Company. http://www2.jrhokkaido.co.jp/global/index.html
- International Congress and Convention Association (ICCA) database. https://www.iccaworld.org/knowledge/benefit.cfm?benefitid=4027
- Kyushu Railway Company. https://www.jrkyushu.co.jp/english/
- Mair, Judith and Karen Thompson (2009), "The UK association conference attendance decision-making process," *Tourism Management* Vol. 30(3) (June), 400–409.
- Matsubara, Kiyoshi (2015), "Determinants of International-Meeting Venues: from Data of Japanese Cities, " *Journal of Business* (College of Commerce, Nihon University), Vol. 85 (1&2) 93-113.
- Matsubara, Kiyoshi and Bae Jongmin (2018), "Cruise Tourism in East Asian Countries: Japan-Korea Comparison," *Journal of Business* (College of Commerce, Nihon University), Vol. 88 (2) 21-42.
- Ministry of Education, Culture, Sport, Science and Technology of Japan, "Social Education Survey," (in Japanese). http://www.mext.go.jp/b_menu/toukei/chousa02/shakai/
- Ministry of Foreign Affairs of Japan, "International Organizations in Japan," (in Japanese). https://www.mofa.go.jp/mofaj/link/kokusai/index.html
- Ministry of Health, Labor and Welfare of Japan, "Public Health Administration Report," (in Japanese). https://www.mhlw.go.jp/toukei/list/36-19.html
- Ministry of Land, Infrastructure, Transport and Tourism of Japan, "Airports," (in Japanese). https://www.mlit.go.jp/koku/15_bf_000310.html
- UNESCO World Heritage List. https://whc.unesco.org/en/list/

- Union of International Associations (UIA) (2018), "Union of International Associations releases 2018 International Meetings Statistics Report," June 18. https://uia.org/sites/uia.org/files/misc_pdfs/pubs/UIA_2018_International_Meetings_Statistics_Report_PR18.pdf
- West Japan Railway Company. https://www.westjr.co.jp/global/en/
- Wooldridge, Jeffrey M., (2002), *Econometric Analysis of Cross Section and Panel Data*, MIT Press.

Appendix 1 Descriptive Statistics of Other Independent Variables

Variable	Source (websites)	Mean	Standard Deviation	Min	Max
Dummy = 1 if a prefecture has at least 1 world heritage site.	UNESCO World Heritage List	0.353	0.478	0	1
Number of inter-national organizations	Ministry of Foreign Affairs of Japan	0.667	2.801	0	24
Number of hotels	Ministry of Health, Labor and Welfare of Japan	194.095	145.658	10	707
Total number of hotel rooms		15541.66	16016.2	1064	102246
Number of rooms /number of hotels		75.980	24.134	37.554	172.815
Dummy = 1 if a prefecture has an airport with at least 1 runway of 2,500 meter or longer.	Ministry of Land, Infrastructure, Transport and Tourism of Japan	0.554	0.497	0	1
Dummy = 1 if a prefecture has at least one bullet-train station.	Central Japan Railway and Other Japan Railway (JR) Companies	0.552	0.498	0	1
Number of museums	Ministry of Education, Culture, Sport, Science and Technology of Japan	25.136	18.353	5	111
Number of museums of fine arts		8.809	7.675	0	45

Notes.

1. For every variable, number of observations = 940.
2. Because the survey for the number of museums (of fine arts) has been conducted every three or four years, missing numbers are interpolated by the following way:

interpolated year	used year	interpolated year	used year
2000 and 2001	1999	2009 and 2010	2008
2003 and 2004	2002	2012 to 2014	2011
2006 and 2007	2005	2016 and 2017	2015

Appendix 2 Prefectures Whose International-Conference Venues are not Concentrated in Their Capital Cities.

<Kansai Region>	2010	2011	2012	2013	2014	2015	2016	2017
Osaka	152	135	281	314	253	242	280	251
(C) Osaka	69	72	140	*172	*130	*139	180	*139
Senri Area	65	54	113	*113	*104	*94	85	98
Ikeda	1	1	3	2	1	0	2	1
Higashiosaka	5	2	7	5	7	5	4	3
Sakai	9	3	11	13	8	*4	7	6
Izumisano	1	2	2	3	0	1	0	*3
<Kyushu-Okinawa Region>	2010	2011	2012	2013	2014	2015	2016	2017
Fukuoka	269	268	301	312	411	450	488	436
(C) Fukuoka	216	*221	252	*253	*336	*363	383	296
Kurume	1	2	3	1	1	1	0	3
Kasuga	0	*8	0	3	4	0	0	2
Yame	0	0	0	0	0	*1	0	0
Kitakyushu	49	38	45	*57	*73	86	105	134
Iizuka	1	0	0	0	*1	0	0	0
Okinawa	16	27	23	22	39	29	25	37
(C) Okinawa Area	*12	*17	14	6	16	8	*8	13
Itoman	0	1	0	0	*2	0	0	0
Nishihara	0	*2	0	0	1	0	0	0
Nago	*2	3	3	4	*8	4	1	2
Onna	3	4	6	12	12	17	*17	19
Ishigaki	0	0	0	0	1	0	0	3

Notes

1. (C) indicates the capital city of a prefecture.
2. * means that the number includes international conference(s) that other city(s) in the same prefecture co-hosted in the year.
3. Senri Area in Osaka Prefecture includes Toyonaka, Suita, Ibaraki, Takatsuki, and Minoo Cities.
4. Okinawa Area in Okinawa Prefecture includes Naha (Capital), Urazoe, Ginowan, and Okinawa Cities.

Cities hosting international conferences more than others in each of the three prefectures, Osaka in Kansai Region and Fukuoka and Okinawa in Kyushu-Okinawa Region, from 2010 to 2017 are shown in the table. For Osaka, first four cities including its capital city are located in the northern part of the prefecture, while the last two cities are located in the southern part. For Fukuoka, first four cities including its capital city are located in the western part of the prefecture, while the last two cities are located in the eastern part. For Okinawa, first three cities including the area with the capital city are located in the southern part of the prefecture, while the next two cities are located in the northern part, and the last city is in a different island. Therefore, the table shows regional dispersion of hosting cities in these three prefectures. Also, some international conferences were co-hosted by two or more cities in a prefecture.[9]

However, each prefecture has some characteristics peculiar to each of them. For Osaka, regional dispersion is observed even inside the northern part of the prefecture. Osaka, capital city, and Senri Area had almost the same numbers of international conferences every year. One reason is that Senri Area has a lot of universities, hospitals, and other types of research institutes. It also has good access for both international airport and Shinkansen bullet train.[10] For Fukuoka, concentration for its capital city is relatively high, but Kitakyushu, the second largest city of the prefecture and a former agglomeration of steel industry with a large international port, have nonnegligible share. For Okinawa, the northern cities have nonnegligible shares. Especially, Onna village is a famous beach resort and thus has a lot of large-scale hotels that can be venues of international conferences.

[9] To specify the host cities of an international conference, individual data of the conferences must be examined, which is beyond the scope of this article. Therefore, whether each of the conferences were hosted by neighboring cities or by separate cities is unknown and whether hosting international conferences has some externality or a network effect cannot be explored at this point.

[10] Senri area shares its border with Osaka City, which has a Shinkansen station.