

APIR Trend Watch No. 92

Economic ripple effects of Osaka-Kansai Expo -Economic impact of the Greater EXPO and estimates based on the latest data-

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Summary

The objective of this paper is to present an estimate of the economic ripple effects of the Osaka-Kansai Expo based on the most recent data on Expo-related project costs and other pertinent factors. It argues that an expanded Expo (a 'Greater Expo') is of great importance. The background to the estimates presented in this analysis include the accelerating inflation rate as well as increasing supply constraints due to the aftermath of the COVID-19 pandemic and the invasion of Ukraine by Russia. Despite these challenging circumstances, we maintain that hosting the Osaka-Kansai Expo is of great significance. The Expo represents an invaluable opportunity for the Kansai economy, and by extension, the Japanese economy, to embark on a path of recovery. By seizing this opportunity, we can make a valuable investment in the future, ensuring a successful turnaround. Below is a summary of the results and implications of this analysis:

1. The final demand for the current period is estimated to be JPY 727.5 billion for Expo-related projects and JPY 891.3 billion for consumption expenditures. The former is estimated to be JPY 138.1 billion (+23.4%) and the latter JPY 104.7 billion (+13.3%) higher than our previous forecast.
2. The economic ripple effects were calculated based on the final demand derived from the APIR's Interregional Input-Output Table for Kansai. The induced production amount is JPY 2,745.7 billion in the baseline scenario, which assumes that the Expo will take place only at the Yumeshima site. In the Greater Expo Case 1, the induced production amount is JPY 3,238.4 billion, which assumes an increased number of nights by visitors related to events outside the Yumeshima site. Finally, in the Greater Expo Case 2, the induced production amount is JPY 3,366.7 billion. Case 2 assumes an increase in repeat visitors. These amounts are respectively 15.6% (JPY 369.8 billion), 16.2% (JPY 450.9 billion), and 16.8% (JPY 484.9 billion) higher than our previous forecast.
3. Our estimates are based on calculations of final demand generated under a specific industrial structure. Since we assume that there are no distinct supply constraints, the results of this analysis should be considered rough estimates.
4. It is imperative to alleviate supply constraints in order to achieve the projected outcomes. To this end, the utilization of DX ('Digital Transformation') will be pivotal. DX will enhance Japan's potential growth rate. Additionally, in order to attract overseas visitors, it is crucial to refine the availability of travel options in conjunction with the Expo.

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Introduction.

The purpose of this paper is to present an estimate of the economic ripple effects of the Osaka-Kansai Expo based on the latest data and to argue for the importance of turning the Expo into an expanded event, which we call a 'Greater Expo'.

Since the first estimate of the economic ripple effects of the Osaka-Kansai Expo was released by the government in 2017², APIR has released three estimates using the Inter-regional Input-Output Table for the Kansai Region³, reflecting changes in the economic environment since then. This report features the fourth estimate. The reason for publishing a fourth estimate is that Expo-related project costs (a basic assumption in our analysis) have been greatly revised upward. This revision has raised the number of objections to holding the Expo. In addition, the global and Japanese economies have faced major changes since 2017, including the impact of the COVID-19 pandemic and Russia's invasion of Ukraine. Accelerating inflation and rising supply constraints resulting from these events were key drivers behind the upward swing in Expo-related project costs.⁴

We believe that even under these circumstances, it is still important to hold the Osaka-Kansai Expo. In the past, Expos have been a place to showcase industrial development and technological innovation internationally, but recently they have become a place to propose solutions to issues common to the entire humankind.⁵ For that reason, we believe that the Expo is a unique opportunity to turn around the Kansai economy and, by extension, the Japanese economy, and that there is great historical significance in this.⁶

We would like to emphasize the importance of turning the Expo into an expanded event, which we call a 'Greater Expo'. This is a new concept that was not seen at the 1970 Osaka Expo. The idea of the expansion of the expo refers to an effort to expand the concept of the Expo's theme, time axis, and spatial axis, thereby turning the entire Kansai region into a virtual pavilion, and to develop various economic activities, including projects that are difficult to implement in the Expo itself.

The inter-regional input-output table for Kansai developed by APIR, which is the main tool for the analysis presented in this report, had this far been a provisional version, as we had to make our own estimate of the unpublished Nara Prefecture input-output table. This analysis, however, is based on the final version of the table, as we have replaced our provisional data with the new Nara Prefecture input-output table, which was published in December 2023.

The rest of this paper is organized as follows: in Section 1, we present a re-estimation of final demand generated by the Osaka-Kansai Expo based on the latest data; in Section 2, we present the estimated results of its economic ripple effects (the baseline scenario and the Greater Expo scenario); in Section 3, we summarize our analysis and its implications.

1. Re-estimating the final demand generated by the Expo

Final demand generated by Expo can be roughly divided into two categories: (1) Expo-related expenses incurred by organizers and exhibitors (e.g., venue construction costs, operating costs, and related infrastructure), and (2) consumption expenditures by visitors. Table 1 is a comparison of our previous estimate⁷ of final demand and our current estimate. The current estimate features the incorporation of municipal expenditures for Expo preparations into venue construction, operating costs, and related infrastructure. The following sub-section provides an explanation of the changes in expenditures between the previous year and the current year by major category.

1-1.Changes in Expo-related expenses

The costs of Expo-related projects are based on publicly available data from various sources. These include the International Expo Association (2023a and 2023b), the Osaka-Kansai Expo Promotion Bureau (2023), the

² See Ministry of Economy, Trade and Industry (2017) for details.

³ See Asia Pacific Institute of Research (2019), Asia Pacific Institute of Research (2022), and Yoshihisa Inada, Hiroaki Irieiri, Akira Shimoyama, and Ryosuke Nomura (2023).

⁴ Comparing 2020 and 2010, the Energy (National Consumer Price Index: 2020=100) and Construction Composite Deflator (Construction Costs Deflator: 2015=100) are +21.7% and +10.2% higher, respectively.

⁵ The theme of the Milan Expo was "Feeding the Planet, Energy for Life," the theme of the Dubai Expo was "Connecting Minds, Creating the Future," and the theme of the Osaka-Kansai Expo The theme of this year's Osaka-Kansai Expo is "Designing Future Society for Our Lives."

⁶ The Kansai economy needs increased investment to turn around, and the Expo can be used as an opportunity to do so. See Inada (2022) for details.

⁷ See Inada, Irie, Shimoyama, and Nomura (2023) for previous estimates.

Secretariat of the International Expo Promotion Headquarters, Cabinet Office (2023), and Deloitte Touche Tohmatsu LLC (2018)⁸.

Construction cost of venue (organizer/exhibitor)⁹

With regard to construction costs, the total amount for the organizers is JPY 235.0 billion, representing an increase of JPY 50.3 billion from the previous total of JPY 184.7 billion¹⁰. The primary categories of expenditure are JPY 157.9 billion for the construction of pavilions and service facilities, JPY 27.8 billion for the installation of infrastructure (electricity, plumbing, etc.), and JPY 17.4 billion for the provision of parking. The remaining costs are allocated to the following categories: lots and entrances, JPY 13.2 billion; infrastructure (civil engineering, paving, landscape work, etc.), JPY 13.2 billion; venue production and others (survey design costs, administrative costs), JPY 5.7 billion. Among all categories, the increase of JPY 47.6 billion in the cost of pavilion and service facilities (up from JPY 110.3 billion in the previous report) is the most notable. This is due in part to the effects of inflation and rising supply constraints.

The total expenditure of exhibitors was JPY 102.4 billion, representing an increase of JPY 37.4 billion from the previous total of JPY 65.0 billion. The main categories of expenditure are as follows: JPY 77.9 billion for pavilion and service facilities, JPY 16.7 billion for others (research and design, administrative expenses), and JPY 7.7 billion for on-site production. The costs associated with pavilion facilities and service facilities have increased by JPY 28.5 billion.

Operating expenses (organizer/exhibitor)¹¹

With regard to operating expenses, the total amount for the organizers is JPY 135.9 billion, representing an increase of JPY 55.0 billion from the previous total of JPY 80.9 billion. Therein, the expenses for venue management and administrative personnel are JPY 76.7 billion, while the costs for planning and project cost adjustment are JPY 15.5 billion, the costs for planning and transportation are JPY 14.3 billion, and the costs for advertising and promotion are JPY 9.5 billion. In addition, JPY 19.9 billion was allocated for expenses to ensure safety at venues¹², which was not included in the previous report.

The total amount for exhibitors was JPY 208.0 billion, representing an increase of JPY 62.0 billion from the previous total of JPY 146.0 billion. The main breakdown is as follows: JPY 124.8 billion for venue management and administrative personnel expenses, JPY 49.9 billion for advertising and promotion, and JPY 33.3 billion for planning and business coordination.

Related Infrastructure Development

The total amount of related infrastructure development decreased by JPY 82.2 billion – from JPY 112.8 billion to JPY 30.6 billion. The reason for this significant decrease is that the previous report included all expenses related to infrastructure development, whereas this time, only the project expenses that are incurred in hosting the Expo are included in the total. The breakdown is as follows: JPY 4.7 billion for railway improvements (central subway extension and transportation capacity expansion, etc.), JPY 19.9 billion for road improvements (Konohana Bridge, Yumemai Bridge widening, etc.), JPY 2.1 billion for additional land reclamation work, and JPY 3.8 billion for others.

Municipal expenses for hosting Expo

The recently approved expenditures are municipal expenses related to the hosting of the Expo. The total amount is JPY 15.6 billion, with the majority allocated to projects to be carried out by Osaka Prefecture and the City of Osaka¹³. The primary breakdown is as follows: JPY 4 billion has been allocated for the “promotion of participation”, JPY 3.9 billion for “building momentum”, JPY 400 million for “increasing the

⁸ Assumptions for final demand are assigned to the items in the previous estimation based on each reference material.

⁹ The detailed figures used to assume final demand for venue construction costs (organizers and exhibitors) were taken from the following sources. Organizer: Japan Association for the International Exposition, 2025 (2023a), p. 7; Exhibitor: Deloitte Touche Tohmatsu LLC (2018), p. 11.

¹⁰ In addition to the overall construction cost, a contingency fund (JPY 13 billion) is included in the total construction cost of the venue (by the organizers).

¹¹ The following documents were consulted for the figures used for calculating the final demand for operating expenses. Organizer: Japan Association for the International Exposition, 2025 (2023b), "On the Draft Financial Plan (Operating Expenses)," Exhibitor: Deloitte Touche Tohmatsu LLC (2018), p. 11.

¹² The Ministry of Economy, Trade and Industry (METI) is bearing the cost of these expenses, which have been newly appropriated in response to the shooting of former Prime Minister Abe and other incidents.

¹³ In this estimation, only the project costs for Osaka Prefecture and City were included because the exact costs for municipalities other than Osaka Prefecture and City could not be ascertained.

attractiveness of the Expo”, and JPY 4.7 billion for “events designed to build momentum”. The budget includes JPY 1.2 billion for on-site events during the Expo, JPY 2.4 billion for “building momentum and improving hospitality by taking advantage of regional characteristics”, and JPY 400 million for “investments in the future society”. The budget for the "Osaka Health Care Pavilion Project" is 2.0 billion JPY. It should be noted that the cost of inviting children to the Expo is included in the operating expenses (on the organizers' side) and was recorded as a deduction item to avoid double-counting.

The aforementioned items bring the total expenses related to the Expo project to JPY 727.5 billion, an increase of JPY 138.1 billion (23.4%) from the previous total of JPY 589.4 billion.

Table 1: Comparison of Expo-related project expenses

Unit: JPY 100 million

	Previous assumption	Current assumption	Difference
1-1. Venue construction expenses (organizer)			
Infrastructure development (civil engineering construction, pavement, landscaping, etc.)	130	132	2
Infrastructure development (electricity, water supply and drainage, etc.)	285	278	-7
Parking lot, entrance	171	174	3
Pavilion facilities, service facilities	1,103	1,579	476
Rendering at the venue	50	57	-101
Other (research and design expenses, administrative expenses)	108		
Total	1,847	2,350	503
1-2. Venue construction expenses (exhibitors)			
Pavilion facilities, service facilities	495	779	285
Rendering at the venue	49	77	28
Other (research and design expenses, administrative expenses)	106	167	61
Total	650	1,024	374
2-1. Operating expenses (organizer)			
Planning business, transportation business, etc.	129	143	14
Venue management, administrative personnel expenses, etc.	446	767	321
Expenses to ensure all possible safety precautions in the venue	-	199	199
Advertising, promotion, etc.	83	95	12
Planning, project coordination, etc.	151	155	4
Total	809	1,359	550
2-2. Operating expenses (exhibitors)			
Venue management, administrative personnel expenses, etc.	876	1,248	372
Advertising, promotion, etc.	350	499	149
Planning, project coordination, etc.	234	333	99
Total	1,460	2,080	620
3. Related infrastructure development			
Railroad development, etc. (extension of the subway Chuo Line and expansion of the transportation capacity)	610	47	-563
Road improvements, etc. (widening of Konohana Bridge and Yumemai Bridge, etc.)	250	199	-51
Additional construction costs for south area reclamation	89	21	-68
Other	179	38	-141
Total	1,128	306	-822
4. Municipal expenses for hosting Expo			
Participation Promotion	-	40	40
Fostering momentum, etc.	-	39	39
Expenses incurred in attracting	-	4	4
Events to foster momentum for the Expo, etc.	-	47	47
Events, etc. at the Expo	-	12	12
Foster momentum and improve hospitality by taking advantage of regional characteristics, etc.	-	24	24
Investing in the Future Society	-	4	4
Osaka Healthcare Pavilion Project Cost	-	20	20
Deductible item (free children's expenses)	-	-34	-34
Total	-	156	156
Total final demand for Expo related project expenses	5,894	7,275	1,381

Source: 2025 Japan International Expo Association (2023a and b); Osaka Expo Promotion Bureau (2023); Secretariat of the Headquarters for Promoting International Expositions, Cabinet Office, Ministry of Economy, Trade and Industry, Commerce and Services Group (2023); and Deloitte Touche Tohmatsu LLC (2018).

Expo expenses borne by each entity

Figure 2 illustrates the cost-sharing structure of the Expo, delineating the contributions of various entities, including Osaka Prefecture and Osaka City, the national government, the business community, and the Expo Association. The venue construction cost, borne by the organizers, is estimated at JPY 235 billion, with the three aforementioned entities each bearing one-third of the total cost. Furthermore, Osaka Prefecture and Osaka City will each contribute JPY 5 billion for the "Osaka Healthcare Pavilion". The national government will bear JPY 36 billion for the Japan Pavilion¹⁴.

From the organizers' side, the operating expenses are to be paid by the Expo Association, which will bear JPY 116 billion, and expenses are to be covered by ticket revenues and other revenues. Furthermore, JPY 19.9 JPY billion has been allocated by the national government to ensure safety in the venue. With regard to the operating expenses borne by exhibitors, only the total (JPY 208.0 billion) is listed, as the detailed burden rate of each entity could not be ascertained¹⁵.

Osaka Prefecture and Osaka City will be responsible for bearing the costs of infrastructure development related to the Expo, with the former providing JPY 7.2 billion and the latter JPY 23.3 billion. Furthermore, the same entities will be responsible for bearing the costs of hosting the Expo, with the former providing 9.0 billion JPY and the latter 6.7 billion JPY.

Table 2: Expo-related project cost burden by entity (Unit: JPY 100 million)

	Osaka pref. and Osaka city		Japan	Business community	Expo 2025 Osaka, Kansai, Japan	Total	
	Osaka pref.	Osaka city					
1-1. Venue construction expenses (organizer)	783	392	392	783	783	2,350	
1-2. Venue construction expenses (exhibitors)	99	50	50	360	565	1,024	
2-1. Operating expenses (organizer)				199	1,160	1,359	
2-2. Operating expenses (exhibitors)				278		2,080	
3. Related infrastructure development	306	72	233			305	
4. Municipal expenses for hosting Expo	156	90	67			157	
Total	1,344	603	741	1,620	1,348	1,160	7,275

Note: "Cost of invitations to children in Osaka (JPY 3.4 billion)" is deducted from the cost burden of the Osaka Prefectural Government. Figures in the table are rounded off, so some figures may not equal the total.

Sources: 2025 Japan International Expo Association (2023a and b); Osaka Expo Promotion Bureau (2023); Secretariat of the Headquarters for Promoting International Expositions, Cabinet Office, Ministry of Economy, Trade and Industry, Commerce and Services Group (2023); and from Deloitte Touche Tohmatsu LLC (2018).

1-2.Changes in consumption expenditures by visitors

Re-estimating consumption per visitor

Our previous estimate utilized the 2019 average consumption per visitor (before the Covid-19 pandemic). In contrast, the current estimate employs the average expenditure for the January-September period of 2023¹⁶. Furthermore, the average spending by Japanese and foreign tourists was divided by the average number of nights (Japanese: 2.2 nights, foreign tourists: 11.1 nights) and converted to consumption per person per night (Figure 3). This figure is then multiplied by the expected number of individuals and nights to determine the total expected expenditure (Figure 4). The Japan Tourism Agency's "Survey of Travel and Tourism Consumption Trends" and "Survey of Foreign Visitors to Japan" were utilized as the primary data sources.

¹⁴ Note that the expenses related to the Japan Pavilion (JPY 36 billion) include operating expenses, but since a detailed breakdown could not be ascertained, the entire amount is allocated to the 1-2. venue construction expenses (exhibitors).

¹⁵ According to the "Secretariat of the Headquarters for the Promotion of International Expositions, Cabinet Secretariat, Commerce and Service Group, Ministry of Economy, Trade and Industry (2023)," "Expenses for supporting developing countries to exhibit (JPY 24 billion)" and "Expenses for building nationwide momentum (JPY 3.8 billion + future expenses)" were recorded, but as a detailed breakdown could not be obtained, these were allocated to "2-2."

¹⁶ The unit price revisions were made using data from 2023 onward, when the impact of the Corona pandemic has subsided and the effects of government and municipal measures to stimulate travel demand have not been included.

Table 3: Expenditure per person by domestic and international visitors (Unit: JPY)

Previous Estimates				Current estimate			
	Domestic day visitor	Domestic overnight visitor	Overseas		Domestic day visitor	Domestic overnight visitor	Overseas
Transportation expenses	7,665	8,111	1,885	Transportation expenses	7,782	8,823	2,130
Lodging expenses	0	9,210	5,352	Lodging expenses	0	11,580	6,489
Food and drinks expenses	3,462	4,439	3,928	Food and drinks expenses	4,263	5,443	4,371
Shopping expenses	5,332	3,923	6,030	Shopping expenses	6,033	4,627	4,810
Entertainment services expenses	4,979	3,327	722	Entertainment services expenses	6,179	4,064	1,110
Total	21,438	29,011	17,917	Total	24,256	34,538	18,911

Note: Spending per person per night for domestic and international visitors.

Source: Compiled from the Japan Tourism Agency's "Survey of Travel and Tourism Consumption Trends" and "Survey of Foreign Visitor Consumption Trends in Japan."

Re-estimating total consumption expenditure by visitors

According to the Japan International Expo Association (2020), the total number of visitors to the Osaka-Kansai Expo is expected to be approximately 28.2 million (an average of 154,000 visitors per day). The breakdown of the total number of visitors is as follows: approximately 15.6 million from the Greater Kansai area, approximately 9.1 million from domestic areas outside of Kansai, and approximately 3.5 million from overseas (19,000 visitors per day). As a reference, the total number of visitors the 2005 World Expo held in Aichi Prefecture was 22,049,544 (with an average of 120,000 visitors per day), of which 1,049,000 were from overseas. The number of foreign visitors to Japan in 2005 was 6,728,000, while the number of visitors in 2023 was 3.7 times higher (25,066,000), suggesting that the expected number of overseas visitors is likely to be correct.

For the purposes of this analysis, it is assumed that visitors from the greater Kansai area will visit the Expo on a day trip, while those from other parts of Japan will spend one night in Kansai. It is further assumed that overseas visitors will stay for three nights and four days.

The Greater Expo scenario posits that an increase in repeat visitors can be achieved by encouraging additional participation in events held in various locations other than the Yumeshima site. We consider two cases: one in which the number of overnight visitors increases (hereinafter referred to as Greater Expo Case 1), and another one in which the number of day-trippers increases in addition (hereinafter referred to as Greater Expo Case 2).

In both Greater Expo Case 1 and Case 2, the number of nights spent by domestic overnight guests is expected to increase from one to two nights, while the number of nights spent by international guests is expected to increase from three to five nights. With regard to the two-night increase for overseas visitors, one night is assumed to be spent in Osaka, while the other night is assumed to be spent in another area, in the same proportion as the extra night spent by domestic visitors¹⁷.

With regard to the increase in spending, we made the following assumptions. For domestic overnight visitors, the accommodation expenses are assumed to increase by 2 nights, and transportation, food, beverage, and entertainment expenses are assumed to increase by the equivalent of an additional 1.5 days. This results in a total of 5 nights of accommodation expenses, and transportation, food, beverage, and entertainment expenses for 4.5 days.

In addition, Case 2 assumes a 20% increase in transportation, food, and beverage, and entertainment service expenditures by day visitors. Based on the experience of the Aichi Expo, approximately 40% of visitors are reported to be repeat visitors¹⁸. It was assumed that the efforts of the Kansai municipalities, namely the pavilionization of the Kansai prefectures, would result in an additional 20% increase in domestic day-trippers visiting areas other than Osaka. Assumptions about the travel patterns of domestic day-trippers in the Kansai region (excluding Osaka) during the January-September period of 2023 were based on the Japan Tourism Agency's "Survey of Travel and Tourism Consumption Trends."

Table 4 shows our estimate of visitors' consumption expenditures in each prefecture. Total consumer spending is projected to be JPY 891.3 billion in the baseline scenario, representing an increase of JPY 104.7 billion (+13.3%) from our previous estimate. In Greater Expo Case 1, the total consumer spending is estimated to be JPY 1,165.4 billion, representing an increase of JPY 151 billion (+14.9%) from our previous

¹⁷ The destinations of domestic overnight visitors and international visitors for extended stays are calculated using the Japan Tourism Agency's "Lodging Travel Statistics Survey" (January-September 2023), using the share of total overnight stays in one prefecture and eight prefectures (excluding Osaka).

¹⁸ For details, see the Post-Exposition Data Collection.

estimate. Finally, in Greater Expo Case 2, the total consumer spending is projected to be JPY 1,241.1 billion, representing an increase of JPY 176.5 billion (+16.6%) from our previous estimate.

Table 4: Consumption expenditures by visitors (Unit: JPY 100 million)

Previous Estimates					Current estimate				
Conventional case					Conventional case				
	Domestic day visitor	Domestic overnight visitor	Overseas	Total		Domestic day visitor	Domestic overnight visitor	Overseas	Total
Transportation expenses	1,196	738	198	2,132	Transportation expenses	1,214	803	224	2,240
Lodging expenses	0	838	562	1,400	Lodging expenses	0	1,054	681	1,735
Food and drinks expenses	540	404	412	1,356	Food and drinks expenses	665	495	459	1,619
Shopping expenses	832	357	633	1,822	Shopping expenses	941	421	505	1,867
Entertainment services expenses	777	303	76	1,155	Entertainment services expenses	964	370	117	1,450
Total	3,344	2,640	1,881	7,866	Total	3,784	3,143	1,986	8,913
Greater EXPO case1					Greater EXPO case1				
	Domestic day visitor	Domestic overnight visitor	Overseas	Total		Domestic day visitor	Domestic overnight visitor	Overseas	Total
Transportation expenses	1,196	1,107	297	2,600	Transportation expenses	1,214	1,204	335	2,754
Lodging expenses	0	1,676	937	2,613	Lodging expenses	0	2,108	1,136	3,243
Food and drinks expenses	540	606	619	1,765	Food and drinks expenses	665	743	688	2,096
Shopping expenses	832	357	633	1,822	Shopping expenses	941	421	505	1,867
Entertainment services expenses	777	454	114	1,345	Entertainment services expenses	964	555	175	1,693
Total	3,344	4,201	2,599	10,144	Total	3,784	5,031	2,839	11,654
Greater EXPO case2					Greater EXPO case1				
	Domestic day visitor	Domestic overnight visitor	Overseas	Total		Domestic day visitor	Domestic overnight visitor	Overseas	Total
Transportation expenses	1,435	1,107	297	2,839	Transportation expenses	1,457	1,204	335	2,997
Lodging expenses	0	1,676	937	2,613	Lodging expenses	0	2,108	1,136	3,243
Food and drinks expenses	648	606	619	1,873	Food and drinks expenses	798	743	688	2,229
Shopping expenses	832	357	633	1,822	Shopping expenses	1,129	421	505	2,056
Entertainment services expenses	932	454	114	1,500	Entertainment services expenses	1,157	555	175	1,886
Total	3,847	4,201	2,599	10,646	Total	4,541	5,031	2,839	12,411

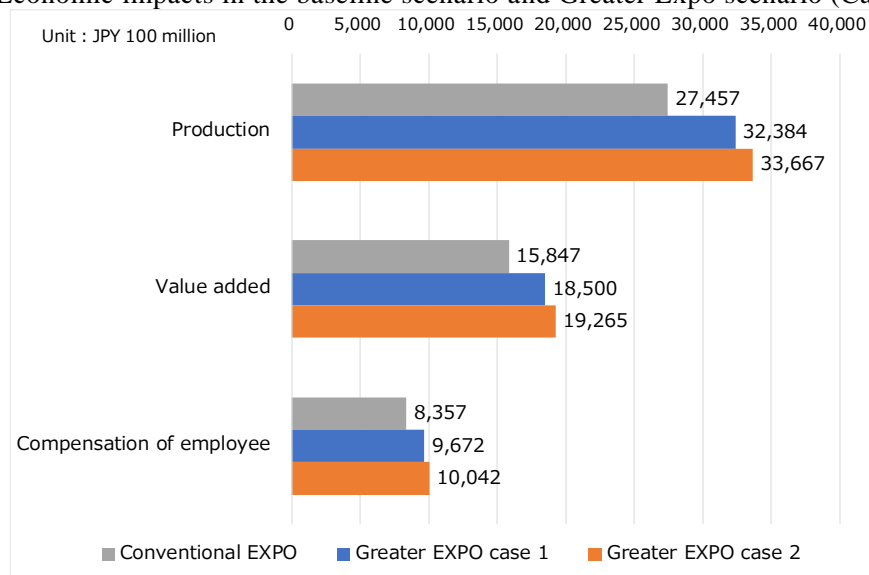
Source: Prepared by the authors

2. Re-estimation of economic ripple effects

We re-calculated the economic ripple effects of the Expo using APIR’s Interregional Input-Output Table¹⁹ for Kansai in conjunction with our re-estimation of final demand presented above. The three kinds of economic ripple effects²⁰ (induced production, induced gross value added, and induced employment income) are shown in Figure 1. For the economic ripple effects (induced production) by prefecture, refer to Appendix table 1 below.

The induced production is estimated to be JPY 2,745.7 billion in the baseline scenario, JPY 3,238.4 billion in Greater Expo Case 1, and JPY 3,366.7 billion in Greater Expo Case 2. The gross value added inducement is estimated to be JPY 1,584.7 billion in the baseline scenario, JPY 1,850.0 billion in Case 1, and JPY 1,926.5 billion in Case 2. The induced employment income would be JPY 835.7 billion in the baseline scenario, JPY 967.2 billion in Case 1, and JPY 1,042.2 billion in Case 2.

Figure 1: Economic impacts in the baseline scenario and Greater Expo scenario (Cases 1 and 2)



Source: Prepared by the authors

2-1. The inducement effect of Expo-related project expenses vs. consumption expenditures: baseline scenario

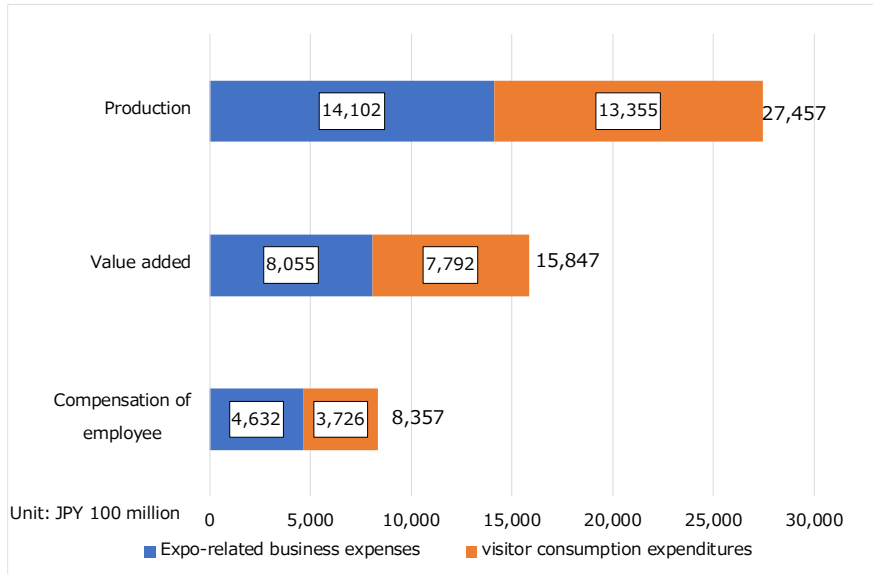
Above (Figure 1), we presented the total inducement (spillover/ripple) effect by Expo-related project expenditures and consumption expenditures. In Figure 2, we divide that total inducement effect into the share of total effect generated by project expenditures vs. the share of total effect generated by consumption expenditures.

Expo-related projects will result in the generation of JPY 1,410.2 billion in production, JPY 805.5 billion in induced gross value added, and JPY 463.2 billion in induced employment income. On the other hand, consumption expenditures will induce JPY 1,335.5 billion in production, JPY 779.2 billion of gross value added, and JPY 372.6 billion of employment income.

¹⁹ The economies of the Kansai and non-Kansai regions are affected by the transfers in and out. Therefore, the value of transactions other than exports and imports in the “Other Regions” outside of Kansai is calculated by subtracting the value for Greater Kansai from the value in the national table.

²⁰ In estimating economic ripple effects using the input-output table, the primary ripple effect, which is calculated by multiplying changes in final demand by the inverse matrix, and the effect from increased consumption (secondary ripple effect) generated from the increased income generated from the increased demand are considered. See Reference Figure 3 below for the calculation flow of economic ripple effects.

Figure 2: Economic ripple effects by Expo-related project expenditures vs consumption expenditures: baseline scenario

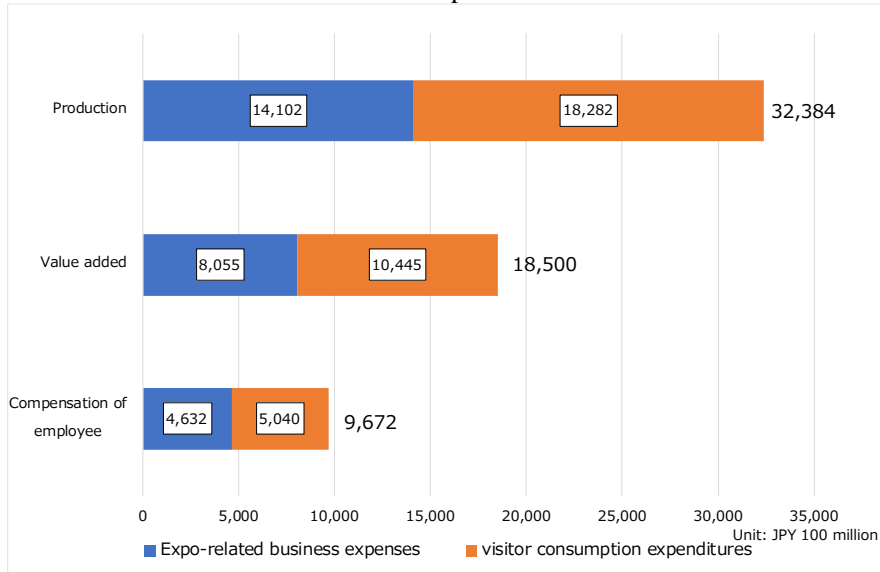


Source: Prepared by the authors

2-2. The economic ripple effects of a ‘Greater Expo’

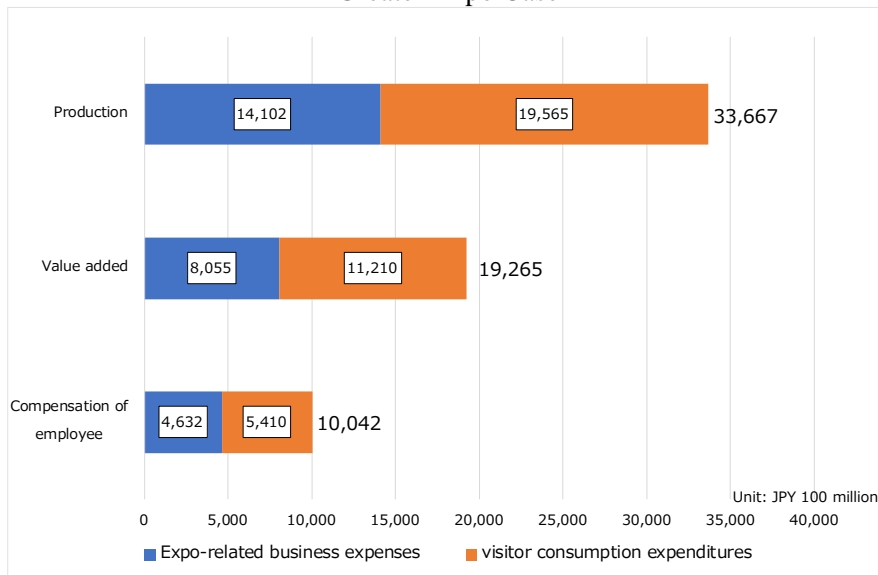
Figures 3.1 and 3.2 illustrate the economic ripple effects of the Greater Expo case in comparison to the baseline scenario presented in Figure 2.

Figure 3.1 Economic ripple effects of Expo-related project expenditures vs. consumption expenditures: Greater Expo Case 1



Source: Prepared by the authors

Figure 3.2 Economic ripple effects of Expo-related project expenditures vs. consumption expenditures:
Greater Expo Case 2



Source: Prepared by the authors

As the economic ripple effects of the Greater Expo case are manifested only in consumption expenditures. In Greater Expo Case 1, the induced production, induced gross value added, and induced employment income for consumption expenditures are JPY 1,828.2 billion, JPY 1,044.5 billion, and JPY 504.0 billion, respectively. In comparison to the baseline scenario, the figures are respectively, JPY 492.7 billion, JPY 265.3 billion, and JPY 131.5 billion higher. In Greater Expo Case 2, the production induced by consumption expenditures is estimated to be JPY 1,956.5 billion, the gross value added JPY 1,121.0 billion, and the employment income JPY 541.0 billion. Relative to the baseline scenario, the figures are respectively, JPY 621.0 billion, JPY 341.8 billion, and JPY 168.4 billion higher (Table 5).

Table 5: Comparison of economic ripple effects

Unit: JPY 100 million

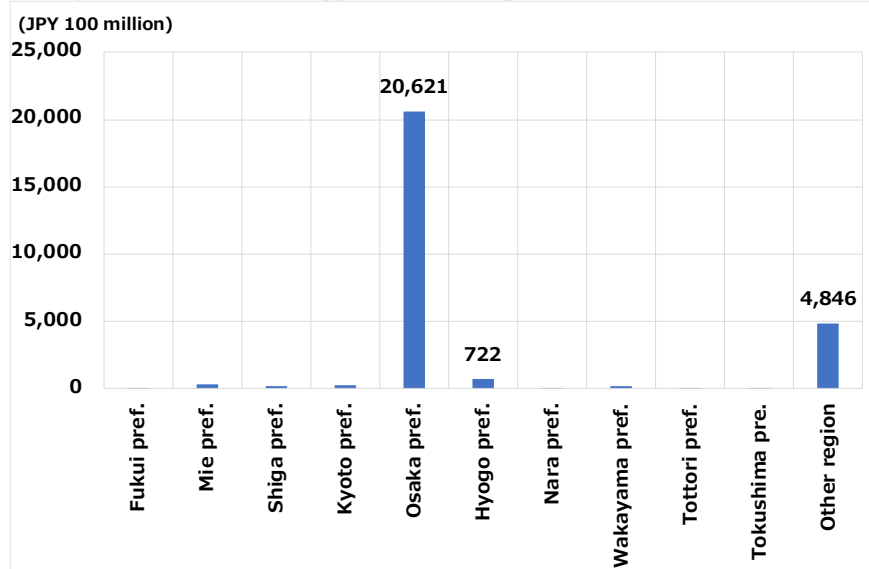
	Conventional Expo(a)	Greater Expo case1(b)	Greater Expo case2(C)	Difference from conventional case	
				Greater Expo case1 (b)-(a)	Greater Expo case2 (c)-(a)
Production	27,457	32,384	33,667	4,927	6,210
Value added	15,847	18,500	19,265	2,653	3,418
Compensation of employee	8,357	9,672	10,042	1,315	1,684

Source: Prepared by the authors

2-3. Economic ripple effects by prefecture

Figure 4.1 illustrates the economic ripple effects (induced production) by prefecture in the baseline scenario. In the baseline scenario, Osaka Prefecture is the beneficiary of a much larger ripple effect than the other prefectures, with an estimated value of JPY 2,062.1 billion. Osaka is followed by the category “other regions” with an estimated value of JPY 484.6 billion, and Hyogo Prefecture with an estimated value of JPY 72.2 billion. The economic ripple effects generated in “other regions” imply that a certain amount of economic activity generated in other regions to meet the new demand generated mainly in Osaka Prefecture (direct demand). The economic ripple effects of Expo-related business expenditures and consumption expenditures by prefecture are shown in Appendix tables 2.1 and 2.2 below.

Figure 4.1 Economic ripple effects by prefecture: baseline scenario

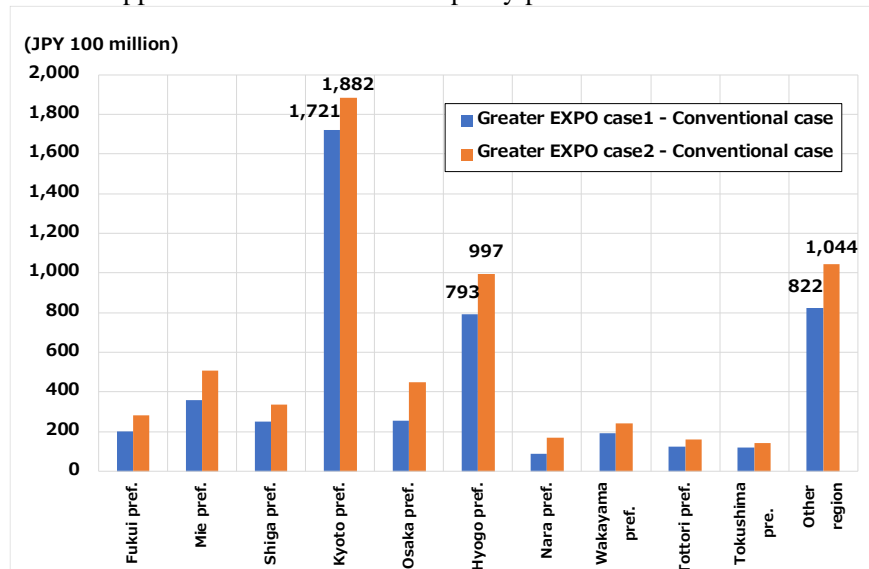


Source: Prepared by the author

Next, we examine the extent to which induced production in Greater Expo Cases 1 and 2 diverges from the baseline scenario by prefecture (Figure 4.2). Kyoto Prefecture (Greater Expo Case 1: 172.1 billion JPY, Greater Expo Case 2: 188.2 billion JPY) exhibits the most pronounced increase in both cases, followed by “other regions” (JPY 88.2 billion in Case 1, JPY 104.4 billion in Case 2), and Hyogo Prefecture (JPY 79.3 billion in Case 1, JPY 99.7 billion in Case 2).

As illustrated in Appendix Figure 1, the distribution of economic ripple effects by region reveals that the share of Osaka Prefecture declines from 75.1% in the baseline scenario to 62.6% in Greater Expo Case 2, while the shares of other prefectures increase. In terms of consumption expenditures, Osaka's share declines from 75.5% in the baseline scenario to 53.8% in the Greater Expo Case 2, while the shares of other prefectures increase further. The results of this estimation indicate that the economic ripple effect can be significantly enhanced if appealing content for tourists in various locations throughout the Kansai region is developed.

Figure 4-2 Economic ripple effects of a Greater Expo by prefecture: deviation from baseline scenario



Note: See the Appendix Figure below for the economic ripple effects of Expo-related business expenses and visitor consumption expenditures.

Source: Prepared by the authors

3. Summary and Implications

Summary and Comparison of Economic Ripple Effects

Figure 10.1 compares our latest final demand estimates with the previous ones. In our previous estimates, Expo-related project expenditures were assumed to be JPY 589.4 billion. However, in the current report, reflecting the latest data, Expo-related project expenditures are assumed to be JPY 727.5 billion. According to our previous estimate, consumption expenditure was JPY 786.6 billion. However, the figure has increased to JPY 891.3 billion in our current estimate. Expo-related project expenditures have increased by JPY 138.1 billion, representing a 23.4% increase, while consumption expenditures have increased by JPY 104.7 billion, representing a 13.3% increase.

Figure 6.2 compares the economic ripple effects of the previous and current estimates. Previously, in the baseline scenario, the total economic ripple effect was JPY 2,375.9 billion, but the latest figure is JPY 2,745.7 billion, an increase of JPY 369.8 billion (+15.6%). In the Greater Expo scenario, the increase from the previous estimate is JPY 450.9 billion (+16.2%) in Case 1 and JPY 484.9 billion (+16.8%) in Case 2.

It should be noted that the Ministry of Economy, Trade and Industry (2017) estimates that 30 million people will visit the Expo, and that the Expo-related final demand will be JPY 1.1 trillion: JPY 0.2 trillion from construction expenses, JPY 0.2 trillion from operating expenses, and JPY 0.7 trillion consumption expenditures. The economic ripple effects on the entire country by each of these categories are estimated at JPY 0.4 trillion, JPY 0.4 trillion, and JPY 1.1 trillion, respectively, or a grand total of JPY 1.9 trillion.

Figure 6.1 Comparison of Final Demand

	Expo-related business expenses	visitor consumption expenditures		
		Conventional EXPO	Greater EXPO case 1	Greater EXPO case 2
Previous estimate (JPY 100 million)	5,894	7,866	10,144	10,646
Current estimate (JPY 100 million)	7,275	8,913	11,654	12,411
Deviation Range (JPY 100 million)	1,381	1,047	1,510	1,765
Deviation rate (%)	23.4	13.3	14.9	16.6

Figure 6.2 Comparison of economic ripple effects

Unit : JPY 100 million, %

Current estimate	Conventional Expo	Greater Expo case1	Greater Expo case2
Production	27,457	32,384	33,667
Value added	15,847	18,500	19,265
Compensation of employee	8,357	9,672	10,042
Previous Estimates	Conventional Expo	Greater Expo case1	Greater Expo case2
Production	23,759	27,875	28,818
Value added	13,599	15,820	16,382
Compensation of employee	7,206	8,312	8,588
Difference between current estimate and previous estimate	Conventional Expo	Greater Expo case1	Greater Expo case2
Production	3,698	4,509	4,849
Value added	2,248	2,680	2,883
Compensation of employee	1,151	1,361	1,454
Difference between current estimate and previous estimate	Conventional Expo	Greater Expo case1	Greater Expo case2
Production	15.6	16.2	16.8
Value added	16.5	16.9	17.6
Compensation of employee	16.0	16.4	16.9

Source: Prepared by the authors

A note on our estimates

This report presented our estimates of final demand generated by the Expo, as well as its economic ripple effects based on the APIR's Regional Input-Output Table²¹ for Kansai. The obtained estimates are based on calculations of how much demand will be generated in various industries under the scurrent industrial structure, both directly and indirectly. It should be noted, however, that the economic ripple effects obtained from the input-output analysis are based on the assumption that there are no supply constraints. However, in 2024, the possibility of problems that could create bottlenecks for the construction of the Expo site is still being discussed. Consequently, our estimates should be taken as approximate.

In order for our estimates to turn into reality, it is essential to alleviate supply constraints. To this end, the use of DX (e.g., "MaaS" in the construction and transportation industries) will be crucial, and this will enhance Japan's potential growth rate. In this estimation, the economic ripple effects are calculated separately for Expo-related demand (construction costs, operating costs, and municipal expenses for hosting the Expo) and consumption expenditures. With regard to the former, it is of the utmost importance to alleviate supply constraints. With regard to the latter, it is of the utmost importance to refine the travel content tied to the Expo in order to attract overseas travelers to the Expo.

²¹ In the case of an inter-regional input-output table for each prefecture alone, industries with low self-sufficiency rates have large leakages, suppressing direct effects, but the "inter-regional input-output table" is characterized by the fact that all (domestic) demand is captured as demand in one of the regions, allowing a more accurate grasp of spillover effects.

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Appendix Table 1 Economic ripple effects of Osaka-Kansai Expo by prefecture: Total effects

	Conventional Expo	Greater Expo case1	Greater Expo case2	Greater Expo1- Conventional	Greater Expo2- Conventional	Greater Expo1-Expo2	Conventional Expo share	Greater Expo case1 share	Greater Expo case2 share
Fukui pref.	78	278	359	199	280	81	0.3	0.9	1.1
Mie pref.	359	719	865	360	506	146	1.3	2.2	2.6
Shiga pref.	201	452	535	251	334	83	0.7	1.4	1.6
Kyoto pref.	242	1,963	2,124	1,721	1,882	161	0.9	6.1	6.3
Osaka pref.	20,621	20,874	21,069	254	448	194	75.1	64.5	62.6
Hyogo pref.	722	1,515	1,719	793	997	204	2.6	4.7	5.1
Nara pref.	76	165	246	88	170	81	0.3	0.5	0.7
Wakayama pref.	192	385	436	193	244	51	0.7	1.2	1.3
Tottori pref.	32	156	193	125	161	37	0.1	0.5	0.6
Tokushima pre.	89	210	232	121	142	22	0.3	0.6	0.7
Other region	4,846	5,668	5,889	822	1,044	221	17.6	17.5	17.5
Total	27,457	32,384	33,667	4,927	6,210	1,283	100.0	100.0	100.0

Appendix Table 2.1: Division of Economic Ripple Effects of Osaka-Kansai Expo by Prefecture: Expo-Related Businesses

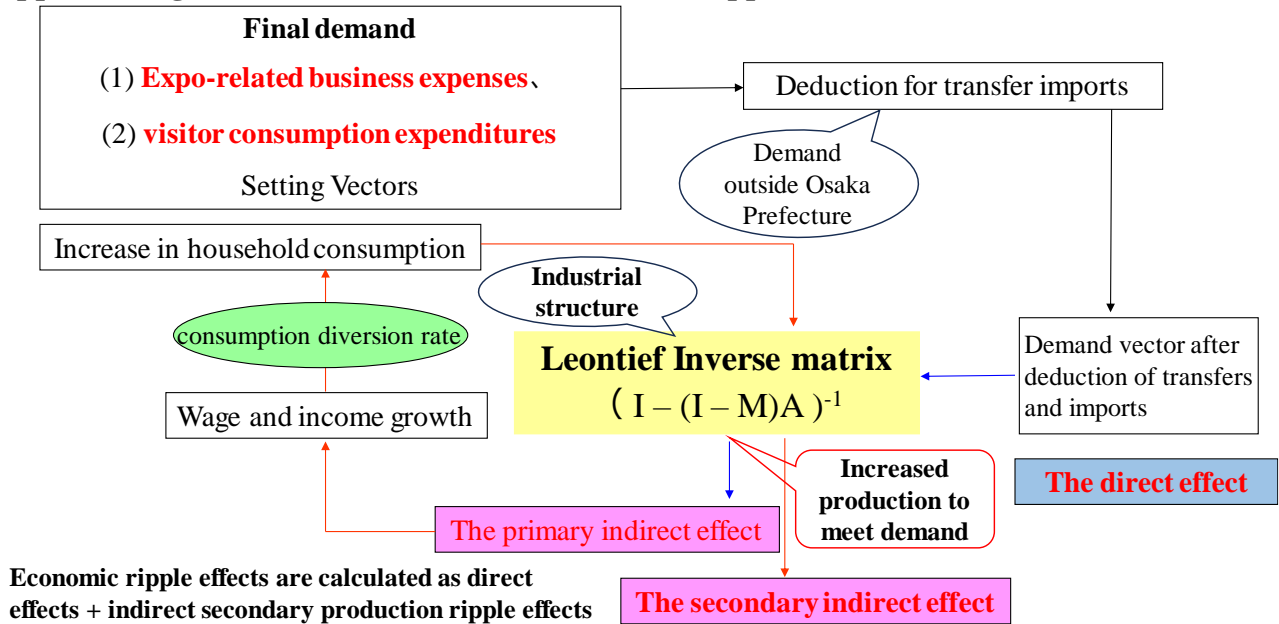
	Conventional Expo	Greater Expo case1	Greater Expo case2	Greater Expo1- Conventional	Greater Expo2- Conventional	Greater Expo1-Expo2	Conventional Expo share	Greater Expo case1 share	Greater Expo case2 share
Fukui pref.	36	36	36	0	0	0	0.3	0.3	0.3
Mie pref.	186	186	186	0	0	0	1.3	1.3	1.3
Shiga pref.	124	124	124	0	0	0	0.9	0.9	0.9
Kyoto pref.	101	101	101	0	0	0	0.7	0.7	0.7
Osaka pref.	10,535	10,535	10,535	0	0	0	74.7	74.7	74.7
Hyogo pref.	392	392	392	0	0	0	2.8	2.8	2.8
Nara pref.	48	48	48	0	0	0	0.3	0.3	0.3
Wakayama pref.	104	104	104	0	0	0	0.7	0.7	0.7
Tottori pref.	14	14	14	0	0	0	0.1	0.1	0.1
Tokushima pre.	34	34	34	0	0	0	0.2	0.2	0.2
Other region	2,528	2,528	2,528	0	0	0	17.9	17.9	17.9
Total	14,102	14,102	14,102	0	0	0	100.0	100.0	100.0

Appendix Table 2.2 Division of Economic Ripple Effects of Osaka-Kansai Expo by Prefecture: Consumption Expenditure

	Conventional Expo	Greater Expo case1	Greater Expo case2	Greater Expo1- Conventional	Greater Expo2- Conventional	Greater Expo1-Expo2	Conventional Expo share	Greater Expo case1 share	Greater Expo case2 share
Fukui pref.	43	242	323	199	280	81	0.3	1.3	1.7
Mie pref.	173	533	679	360	506	146	1.3	2.9	3.5
Shiga pref.	77	328	411	251	334	83	0.6	1.8	2.1
Kyoto pref.	141	1,862	2,023	1,721	1,882	161	1.1	10.2	10.3
Osaka pref.	10,086	10,340	10,534	254	448	194	75.5	56.6	53.8
Hyogo pref.	330	1,123	1,327	793	997	204	2.5	6.1	6.8
Nara pref.	28	116	197	88	170	81	0.2	0.6	1.0
Wakayama pref.	88	281	332	193	244	51	0.7	1.5	1.7
Tottori pref.	18	142	179	125	161	37	0.1	0.8	0.9
Tokushima pre.	55	176	198	121	142	22	0.4	1.0	1.0
Other region	2,318	3,140	3,361	822	1,044	221	17.4	17.2	17.2
Total	13,355	18,282	19,565	4,927	6,210	1,283	100.0	100.0	100.0

Source: Prepared by the author

Appendix Figure 1: Calculation flow of economic ripple effects



Source: Prepared by the author

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