

The cooperative and competitive urban municipality policies in the Tokyo Area to target transforming community needs.

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Abstract

The global cities tend to enlarge both the amount and the variety in economic and social activities. Considering the natures and the functions of the global cities has attracted many researchers in the different fields since the 1980s. The global cities are obliged to confront with growing mount of social needs. Coping with increasing new types of social needs, they have developed net work structure evolutionally. Using an application of agency theory in the stakeholder society, Tanaka (2011) makes clear the theoretical framework that the municipalities in global city activate the net work mechanism of the global city in the process of competition and cooperation. Tanaka (2013) demonstrates positively that some analytical results could be confirmed in the examination on the net work structure of the Tokyo Area.

Although the growth of the global city will transform the urban structure in hard and soft social system, we must examine the alternating mechanism to attain the comfortable societies. This article aims to find the empirical facts to confirm the theory in the mechanism of the global cities. This positive research might inspire the access to this mechanism analysis from many fields of researchers and could pave the way to the interdisciplinary approach to the global cities. Since the theoretical frame work is firmly constructed by the comprehensive system analysis of current societies, the political implication from this frame work could provide the effective political method to cope with urgent urban problems.

1. Introduction

It had been recognized commonly in the traditional industrial societies that the large

manufactures have led enlarging scales of cities¹. Enlarging global markets has released the major cities from the restrictions with the domestic manufacturing and the budget of the single government. The development of global cities could be achieved by accompanying the enlargement of the market and construct the unprecedented urban structures. Market economies have grown voluntarily or automatically and caused the many problems as the external diseconomies. Environmental problems, traffic congestions, transforming social structure are included in the examples of external diseconomies from the 1980s as the expanding global economies. The external diseconomies are origins of the derivative social needs. The scale and range of the social needs tend to expand largely. The many new types of social needs seek for the efficient social system to provide public services. This social system must keep the rule to cooperate with voluntary mechanism of the markets. The provision of public goods should be owed by the government as well as private organizations. Consequently, the enlargement of market does not only require the replacement of industries but also induce the structural change in the global cities. Although the growth of the global city will transform the urban structure in hard and soft social system, we must find out the alternating mechanism to attain the comfortable societies. The main result in this article is to find the empirical facts to confirm the theory in the mechanism of the global city. This positive research might inspire the access to this mechanism analysis from many fields of researchers and could pave the way to the interdisciplinary approach to the global city.

This article is organized as follows. The section 2 discusses that the agent theory for the stakeholder society could explain the relation between the global city and the composing municipalities as follows. The municipalities might decide different reactions to foster better communications and corporations compete with themselves to take advantages of location. The two types of decision by regions compose the competition and cooperation in the global city. The section 3 demonstrates the urban structure positively by using the questioner survey for the municipalities in the Tokyo Area.

2. The network mechanism of global cities and an agency model in the stakeholder society

Tanaka (1993) formulates the model to analyze theoretically the mechanism that the market condition influences on the market quality in the urban structure. After the

¹ Many researchers have devoted themselves to examine the field of the Global City or the World City, such as Anderson and Beckfield (2007), Friedmann(1986) ,(2002), Kennedy(2011), Korff(1987), Taylor(2001), Taylor, Derudder, Saey, Witlox(2007) and Short (2007).

global financial crisis, 2008-2009, Tanaka (2013) demonstrates that the model analysis developed by Tanaka (1993) could analyze the quality change of buildings of the global city, the Tokyo Area. As economical and social activities have expanded in the global cities, the urban system should improve evolutionary to facilitate the activities. We should investigate this evolutionary transformation in urban system of global cities. The cooperation and the competition inside and outside of the urban system are supposed to be core factors to promote the evolution. This article focuses on the cooperative and competitive policies of the municipalities in the Tokyo Area by examination of the questioner survey for the city planning sections.

The theoretical framework of this article could be based on one kind of agency models. The globalized economies should make the multinational corporations communicate with more large numbers of stakeholders than before the large scale of global change. The corporations with many production sites globally have connected simultaneously with some local governments and residents in many different regions. This type of the relations between the principal and the agents was formulated theoretically by Tanaka (2004). The approach are followed and developed for various problems associated with stake holder societies by a series of research Tanaka (2009), (2011) and others. In particular, Tanaka (2011) presents that the agency theory leads the effective results in the global cities to examine the cooperative and competitive relations which reflect some complicate appearance.

We will make a brief introduction to the model analysis². It is supposed that the corporation has the n stakeholders including local governments and residents. The production activity and private profit of the corporation are denoted by x and $\Pi(x)$. The evaluations of stakeholders sometimes reflect crucial decision makings of the corporation in the cases of environment and compliance problems. The corporation is influenced not only by own achievement but by the evaluations of the stakeholders. Because of asymmetric information the corporation could estimate the evaluation of the voluntary contribution or payment t_i for each stakeholder i indirectly by the altruistic coefficient δ . The stakeholder i obtains the benefit $V_i(x, t_i)$ derived from the performance of the corporation to pursue self interest and the altruistic contribution on the stakeholder. At the same time, the corporation is expected to be forced to owe the compensation payment $\Phi_i(V(x, t_i))$ directly or indirectly for each stakeholder i . Since

² The complete explanation is stated in Tanaka (2011).

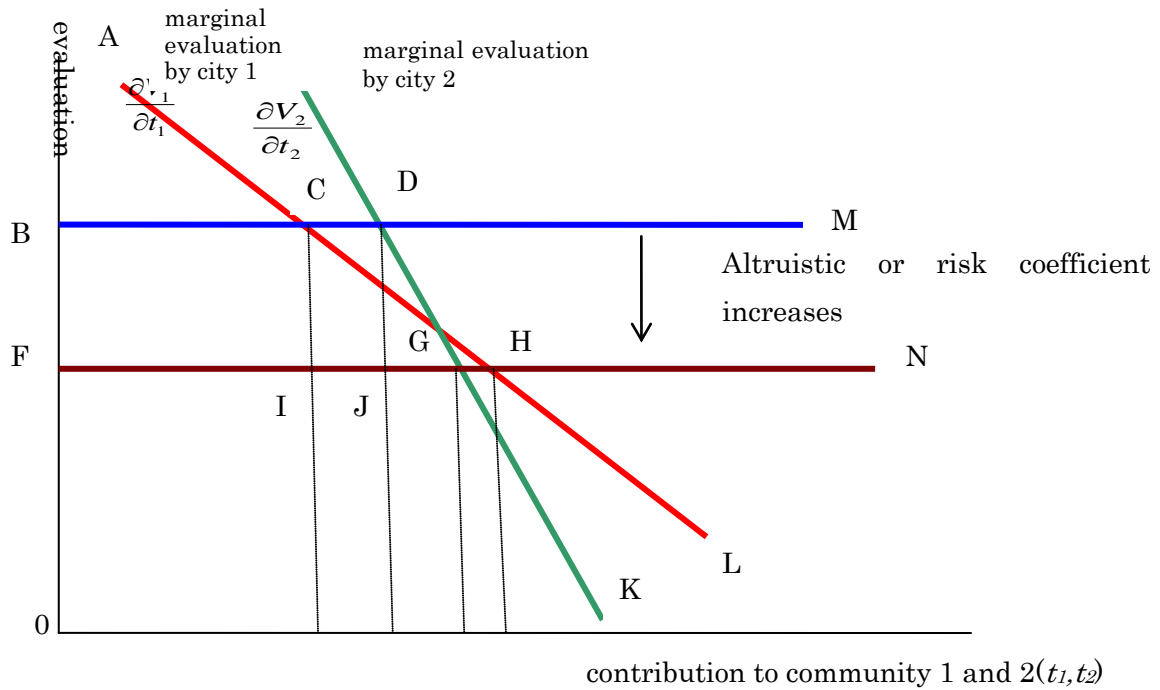
the payment $\Phi_i(x)$ indicates the implicit risk cost for the corporation, the marginal value $\frac{d\Phi_i}{dV_i}$ is named by the risk coefficient. The theoretical analysis of Tanaka (2011) ensures that the corporation could attain the sustainability of the own organization by satisfying the two following optimal conditions.

Marginal private profit = Marginal total or net external social benefit evaluated by stakeholders.

Marginal benefit of i from the payment $t_i = 1 / (\text{altruistic coefficient} + \text{risk coefficient})$.

The implication of the above expressions is considered graphically by using Figure 1 and 2. Figure 1 expresses a situation that the corporation is connected simultaneously with the two cities 1 and 2 as the stakeholders. Suppose that the city 1 and 2 reform the urban social system to increase the altruistic or risk coefficient. In particular, to aim at these effects the cities are assumed to initiate the policy reforms that improve communication in the society, the private participations and management to promote the voluntary contribution. The results shift equilibrium in Figure 1 from the points C and D to points H and G. The reforms take the city 1 the welfare expressed by the area of the trapezium BFHC and the city 2 by BFGD. Suppose that the social costs of the reform in city 1 and 2 are indicated by areas of rectangles BFIC and BFJD. The net benefits of city 1 and 2 are equal to the areas of triangle CIH and DJG. Considering the areas, the reform is supposed to be more attractive in the city 1 than in the city 2. To induce the corporation to contribute more local contribution the city 1 should reform urban system more positive than the city 2. Consequently, the above argument founds the Proposition 1.

Proposition 1. The allocated conditions bring the different urban reforms for the individual cities. In other words, the urban reforms are more likely to progress differently municipalities in the global cities.

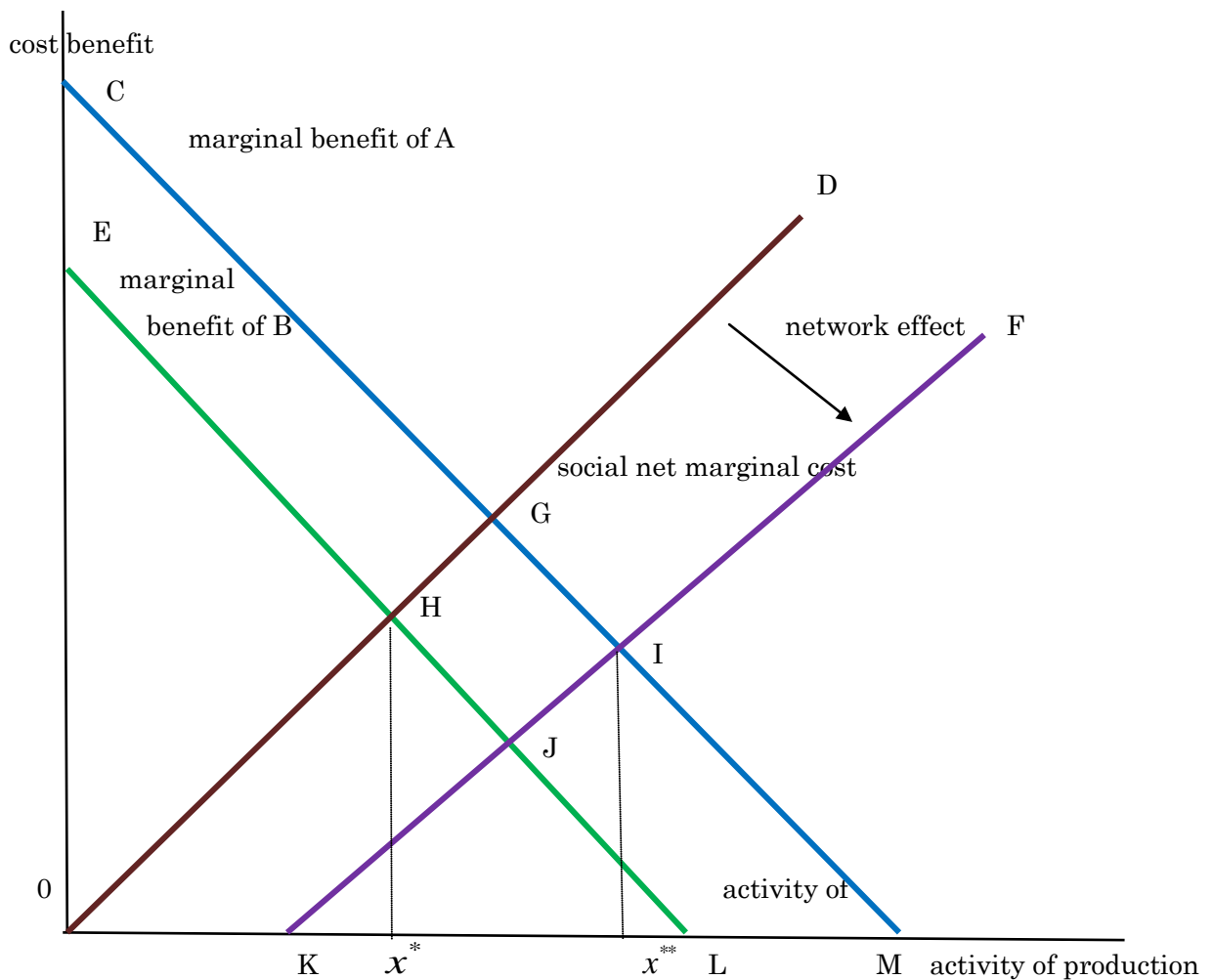


Source: Tanaka (2011).

Figure 1 Contributions on the communities.

Figure 2 indicates the benefits of corporations A and B are situated on the identical city 3. The synergy effect of the city 3 produces advantageous benefits for the both two corporations. The benefits of synergy or network effects with corporations A and B in city 3 are expressed by areas of quadrilateral OKIG and OKJH. The effects for corporation in the global city 3 take greater benefits on A than on B. Since A obtains an advantage against B, A could be located in more competitive site. In the case that B recognizes to lose the completion with A, B might leave the city 3 to seek another profitable site. The profitable corporation remains and contributes to grow the global city 3. The greater the network effects enhance, the more competitive the circumstance of corporations becomes. The competition in the location of corporations leads efficiency and growth in the urban transformation. We summarize the above discussion as Proposition 2.

Proposition 2. The synergy or network effects of the global cities could attract many corporations. The benefits from the global city lead the competition of location and are main origins on the growth of the global city.



Source: Tanaka(2011).

Figure2 Competition of locations by the corporation.

3. The questioner survey on the municipalities in the Tokyo Area.

3-1 The method of survey

The above theoretical analysis on the global cities focuses on the complicate structural mechanism of the global cities. The global cities are developed to seek for the provision of the various social needs efficiently. The social needs include employment, residence, health, education, environment, social security and other social services. Each resident, in the case of the single or the family, seems to obtain the different weight over the social needs practically. Since the scale of global cities grows to large enough, the diverse supply systems develop for the various types of social needs. It is supposed that the well functioned urban system is equipped with competitive and

cooperative mechanism of inner and inter global city. We will make clear how the mechanism works in the Tokyo Area by using questioner survey for city planning or civil service section of the municipalities.

Table 1 The outline of questioner survey

Regions	The total number of municipalities	The number of answers	Rates of answers
Western Tokyo	27	16	59.3%
Central Tokyo	24	13	54.2%
Saitama	41	20	48.8%
Kanagawa	20	6	30%
Chiba	38	19	50.0%

Source: Tanaka(2014).

The survey used mails and the term to answer was from August through November 2013. Since our office is located in the Western Tokyo (Tama), this region shows highest rate of answers. The location of our office seems influence the rate of answers. The total population of the Tokyo Area in 2010 is 35.6million and shares 27.8% in the total population 128.1 million of Japan. The Tokyo Area is the regions on which population and economic activities concentrate in the national level. Since Tanaka (2013) indicates the firmly connected relation economically and socially among the 5 regions, in this article we will consider further the structure of this Tokyo Area. To prepare the discussion we briefly introduce the location of the area. The overview map of this area is exhibited by Figure 3. According to the spatial theory of cities, Central Tokyo could be seated as the CBD: Central Business District. Other regions surrounding Central Tokyo play their own distinct roles to develop the Tokyo Area as we will aim to focus on.

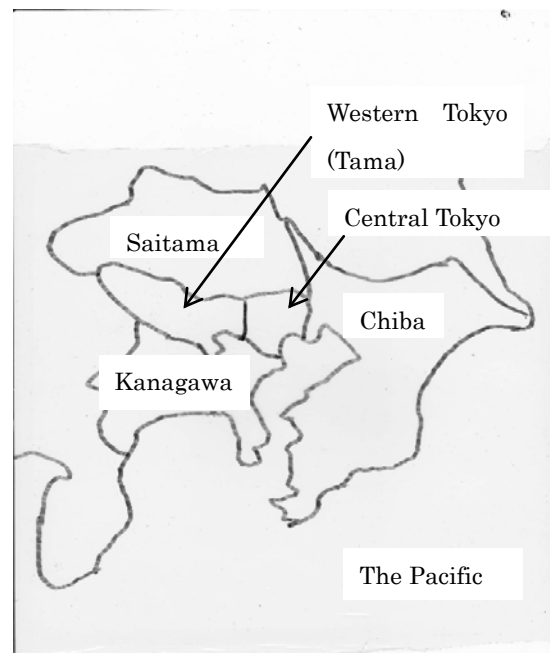
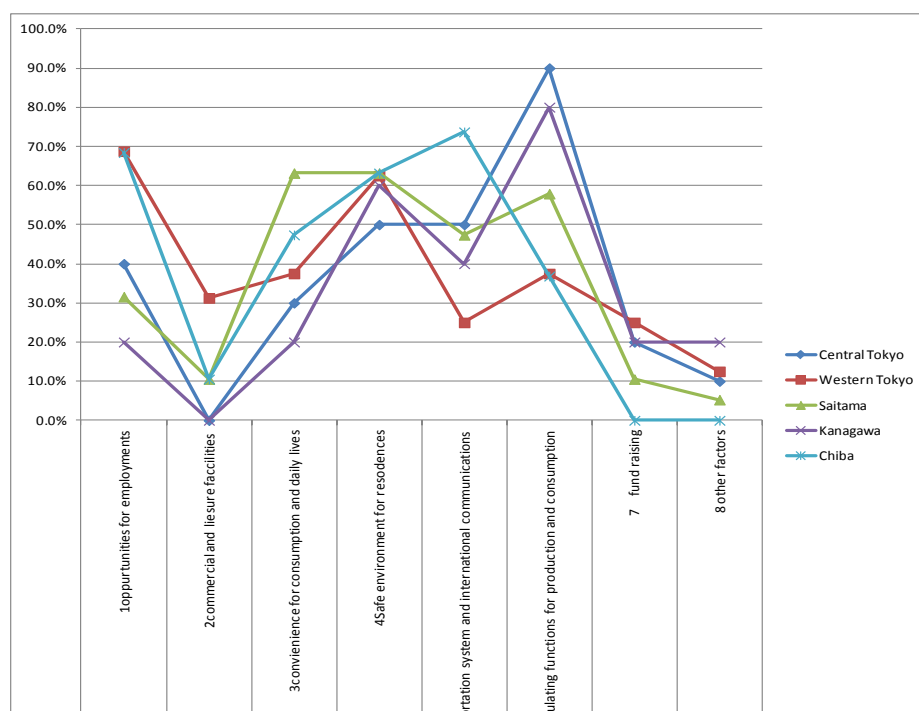


Figure 3 The Map of the Tokyo Area.

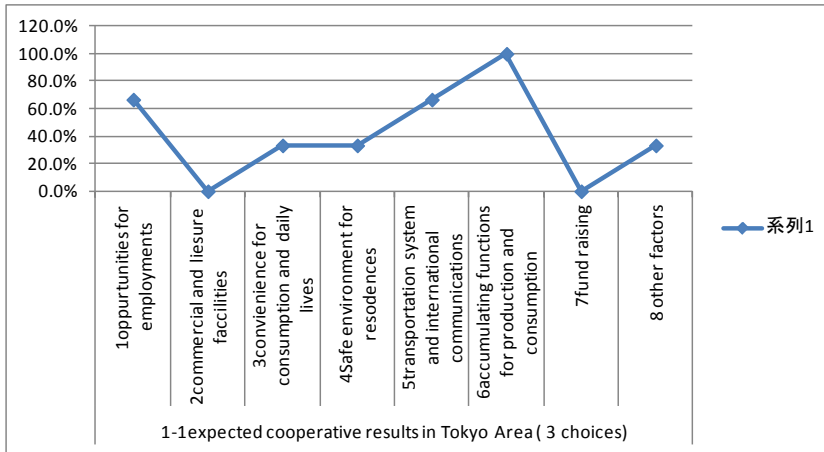
3-2 The expected cooperative results

At the first question, we inquire what benefits municipalities could expect to obtain by behaving cooperatively as a member of the Tokyo Area. Figure 4 and 5 exhibit the answers. Figure 4 shows the answers from municipalities of small regions (cities) and Figure 5 is the opinions of large integrating municipalities (prefectures). Figure 5 implies that main effects of a large scale cooperation are “accumulating function of production and consumption”, “transportation” and “opportunities for employments”. Figure 4 expresses that individual cities own particular roles in the large integrated community. Each city evaluates different cooperative merits but “public facilities, safe and high quality residential environments” are commonly recognized important social needs in many cities. Figure 4 shows that each region recognizes own sharing merits to contribute the Tokyo Area cooperatively. In particular, we could state regional roles from the Figure 4 as follows. Western Tokyo and Chiba emphasize “employment” and “commercial and leisure facilities” as the regional merit. Chiba takes the advantage in “transportation and communication”. Saitama exhibits the regional feature “Conveniences for consumption and daily lives”. Central Tokyo and Kanagawa obtain regional advantage on “accumulating functions for production and consumption”.



Source: Tanaka(2014).

Figure 4 Cooperative benefits expected by cities.

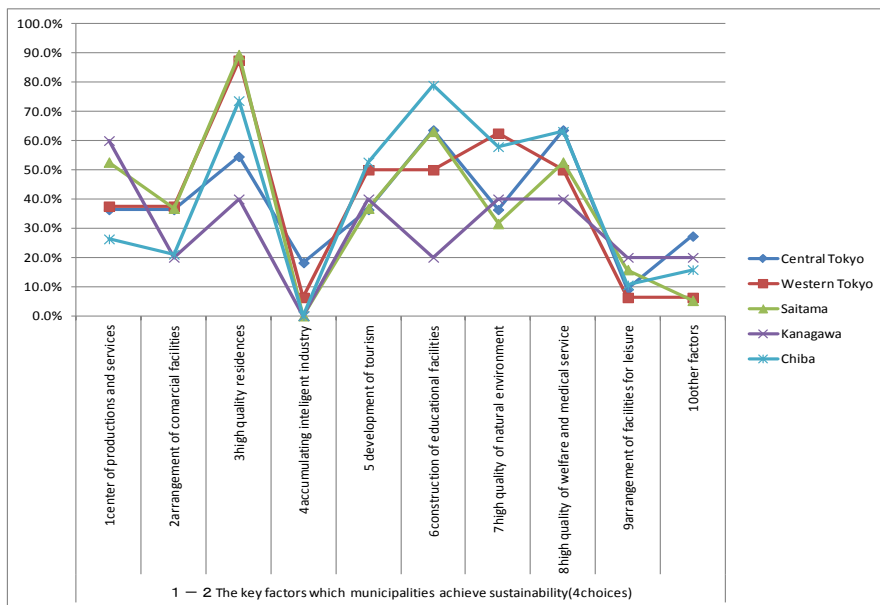


Source: Tanaka (2014).

Figure 5 Cooperative benefits evaluated by prefecture.

3-3 Competitive Advantage in the Tokyo Area

Many municipalities compete with other units to obtain the better position in the Tokyo Area. The competition is supposed to improve the progress of the Tokyo Area. The second question inquires the competitive advantages of the municipalities. The Figure 6 and 7 state regional strategy to survive the competition in the small unite and large unite. The Figure 6 makes clear the divided role for the region by the inter municipality

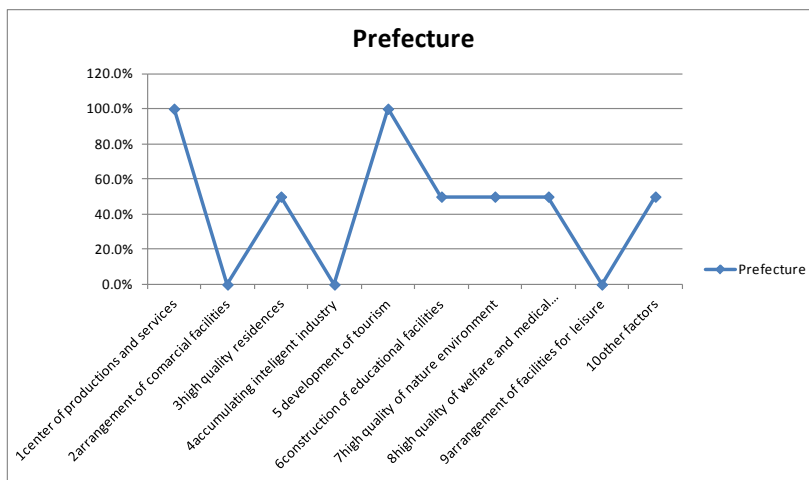


Source: Tanaka (2014).

Figure 6 Cooperative benefits evaluated by prefecture.

competition. The center of productions and services is Kanagawa, Saitama. Western Tokyo, Saitama and Chiba provide high quality residences. Western Tokyo and Chiba have the advantage of natural environment. Chiba, Saitama and Kanagawa have leading strategies in construction of education facilities. Central Tokyo and Chiba take advantages in medical service. This division of role among the regions is formed by the results of corporative competition discussed in Proposition 2.

Figure 7 expresses that the present key policies in the large region are “center of productions and services” and “development of tourism”. The key policies will change according to movement of social needs.

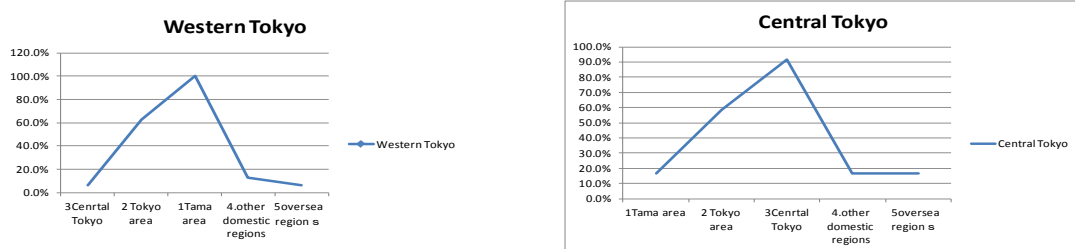


Source: Tanaka (2014).

Figure 7 Cooperative benefits evaluated by prefectures.

3-4 The connectedness with region

We wonder if the municipality chooses to cooperate with partners. The third question asks the municipality the most firmly connected region for them. When the municipality could choose own region, Figure 8 confirms that Western Tokyo and Central Tokyo complete the net work inter the regions,. Figure 9 indicates the choice in



Source: Tanaka (2014).

Figure 8 Regional connections.

the municipalities which could select the object outside the own region. In this case Saitama and Kanagawa select the Tokyo Area and Chiba shows some regions. Saitama and Kanagawa take the large benefits from the Tokyo Area. The municipalities in Chiba belong to some different net works of regions. In Chiba the cities neighboring the Central Tokyo obtain the interest from there. Some cities of Chiba have mutually related interest with the Tokyo Area or northeast outer area.

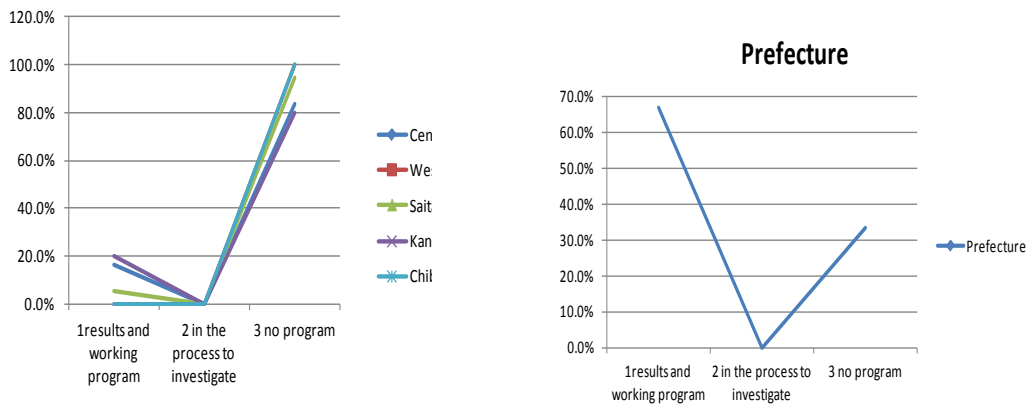


Source: Tanaka (2014).

Figure 9 Area connections.

3-5 The ways to the global society: Planning units

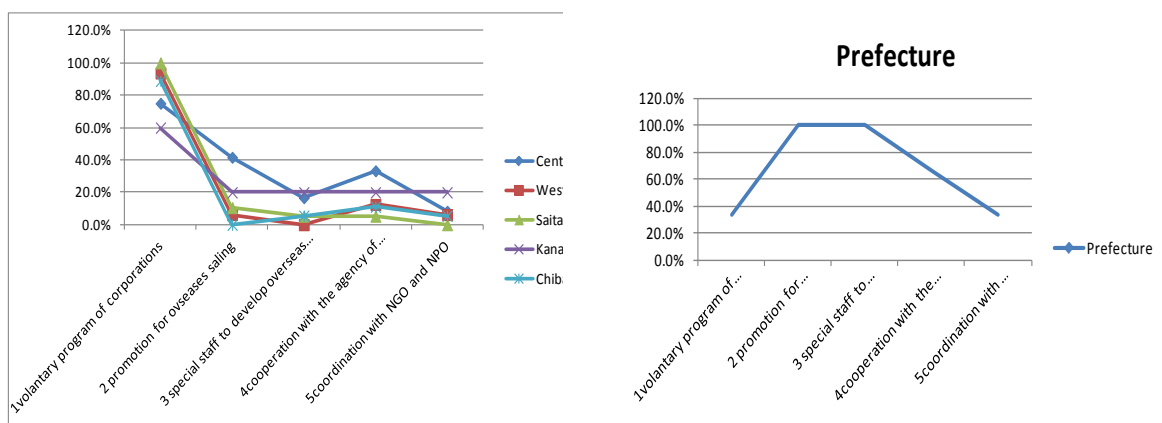
We investigate how the municipalities composing the global city should approach the global society. Figure 10 denotes the planning units to make a vision of the globalizing societies. The left and the right graphs indicate the inducing programs on the small and large scale municipalities. The two graphs appear in the symmetrical figures approximately. The working programs to induce overseas corporations could be provided by the some large scale of municipalities such as prefectures.



Source: Tanaka (2014).

Figure 10 Comparative investigations on program inducing overseas corporations.

Figure 11 shows the policies to support the local productions or exports in overseas. The left and the right graphs survey the policies in the small and the large unites of municipalities. The small scale of municipalities could not take active policies to support the overseas activities of business. The voluntary program of corporation prevails in this field of policies. The large scale municipalities support corporations by “promotion for overseas sailing” and providing the “special staff to develop overseas markets”.

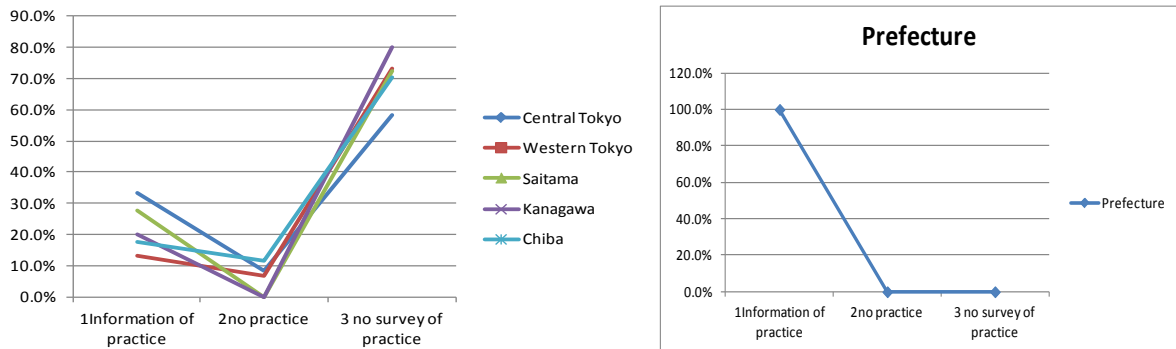


Source: Tanaka (2014).

Figure 11 Comparative investigations on policies to induce overseas corporations.

The case studies of local productions in overseas are surveyed by Figure 12 and 13. Figure 12 is composed by two different scales of municipalities as Figure 10 and 11. The

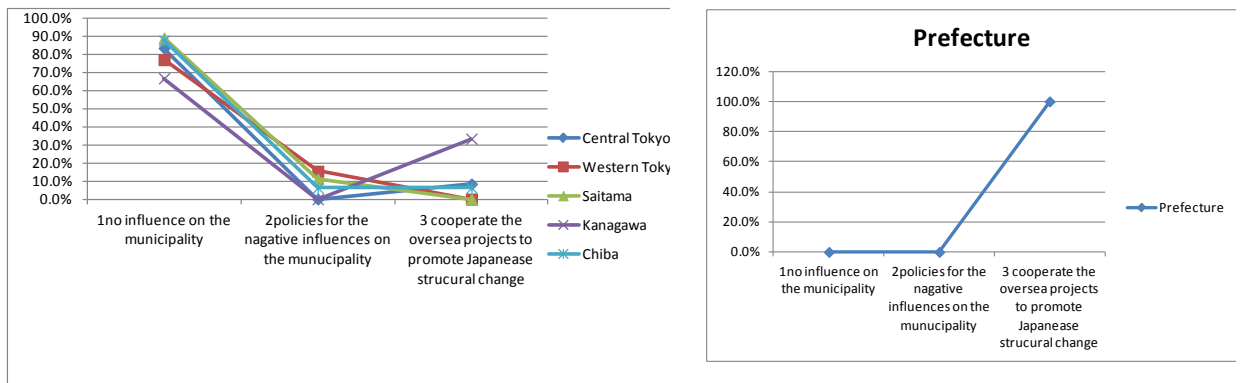
small scale of municipalities cannot afford to observe the particular cases in details. They expect that the particular matters might not enlarge to influence the region seriously. The expectation could be founded by well performance of the Tokyo Area in this couple of decades. The prefectures examine the cases of local productions to prevent the regions from destructing economic and social activities.



Source: Tanaka (2014).

Figure 11 Information of local productions overseas.

The reasons why the municipalities are not positive to research the cases of local productions are considered in Figure 12. Figure 12 makes clear the influence of local productions on the regions apparently. The left graph states that in the Tokyo Area the

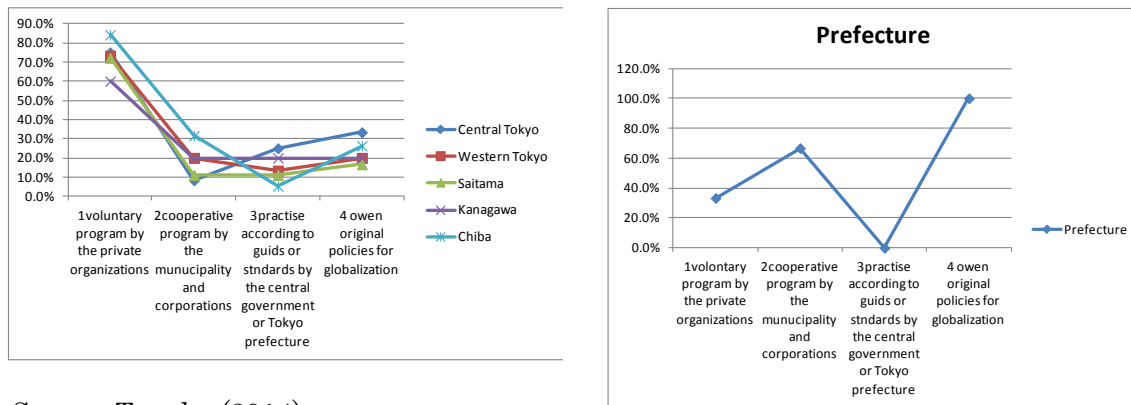


Source: Tanaka (2014).

Figure 12 Regional influences of local productions.

flows of local productions are diffused over large area. As each small municipalities could observe relatively few cases of local productions, they tend to underestimate the impacts of flows. But right graph reflects the social risk that the total amount of the losses might reach too large to be neglectable. If the flows could be observed to be steady

trend, the local or central governments to manage a large area should seek for appropriate policies to prevent the regional losses. Figure 13 focuses on the effective framework to promote globalizing societies. This set of figures imply that cooperative



Source: Tanaka (2014).

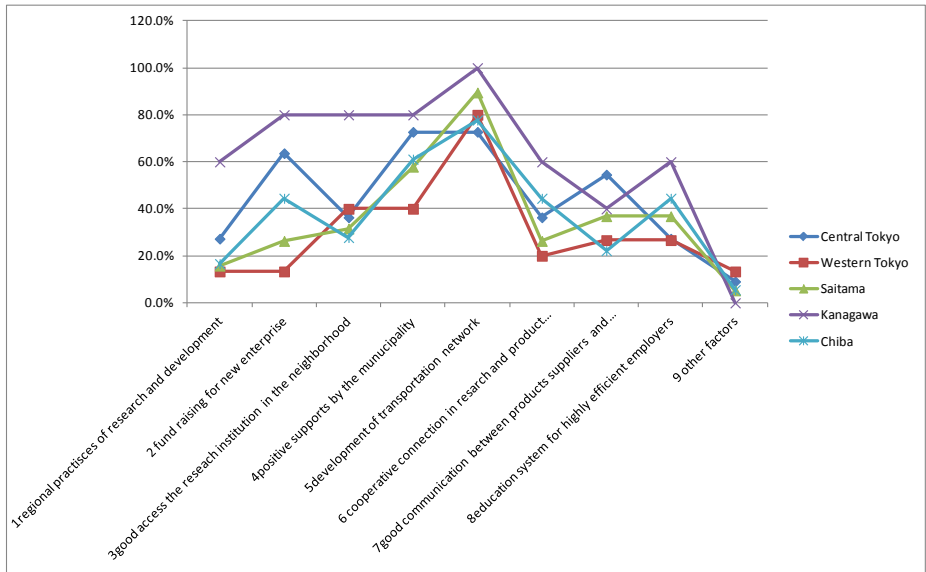
Figure 13 The scheme on regional globalization.

framework with government and private organizations could not be expected to fulfill the better performance. The left graph shows that small scale municipalities leave the solutions to the voluntary program by the private organizations. The right graph states that the prefectures prefer provision of own original policies for globalization rather than the cooperative scheme with public and private organizations.

3-6 The structural change of the global city

Finally, we consider the transformation in the Tokyo Area. Figure 14 focuses on the strategic factors to vitalize regions. Many municipalities share commonly on the importance of “development of transportation net work”. Figure 4 expresses that Central Tokyo and Kanagawa emphasize their competitive advantages on “accumulating functions for production and consumption”. From the observation that the two regions evaluate many vitalizing factors positively high, the regions sustain high performances in productions are forced to practice a variety of vitalizing policies widely. This is supposed to fund the Proposition 1.

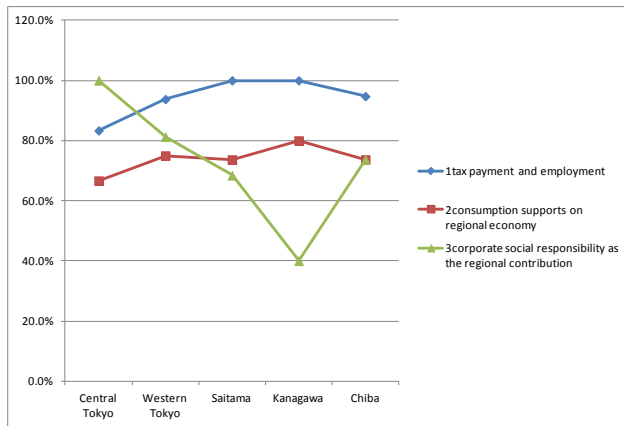
The contributions of corporations required by the regions have changed by the shift of dominant industries. Central Tokyo is located by industries of highly advanced technology and finance. On the other, Kanagawa contains large scale manufactures for exports. Figure 14 makes clear that Central Tokyo evaluates CSR as the first and that Kanagawa ranks tax payment and employment in the highest. The higher develops



Source: Tanaka (2014).

Figure 14 The vitalizing factors of regions.

industrial technology in the region, the more weight the regions evaluate CSR. The reason is supposed as follows. Since highly developed technologies might bring regions more rapid and unpredictable changes, residents and municipalities require CSR for the sustainability of the region³. The above considerations could bring us another examination of the Proposition 1.



Source: Tanaka (2014).

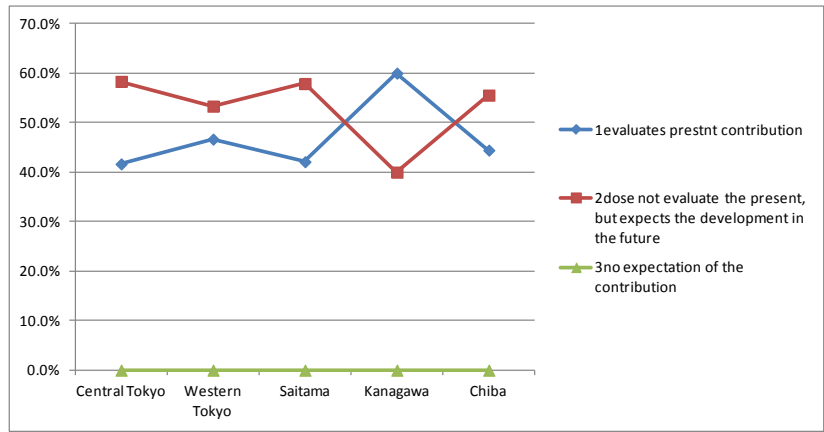
Figure 15 Expected contribution for the corporation.

The expected role of NPO and the social enterprise is explained in Figure 16. This

³ Becchetti and Berzaga(2010) and Benn and Bolton (2011) discuss the relation between CSR and Globalizing societies.

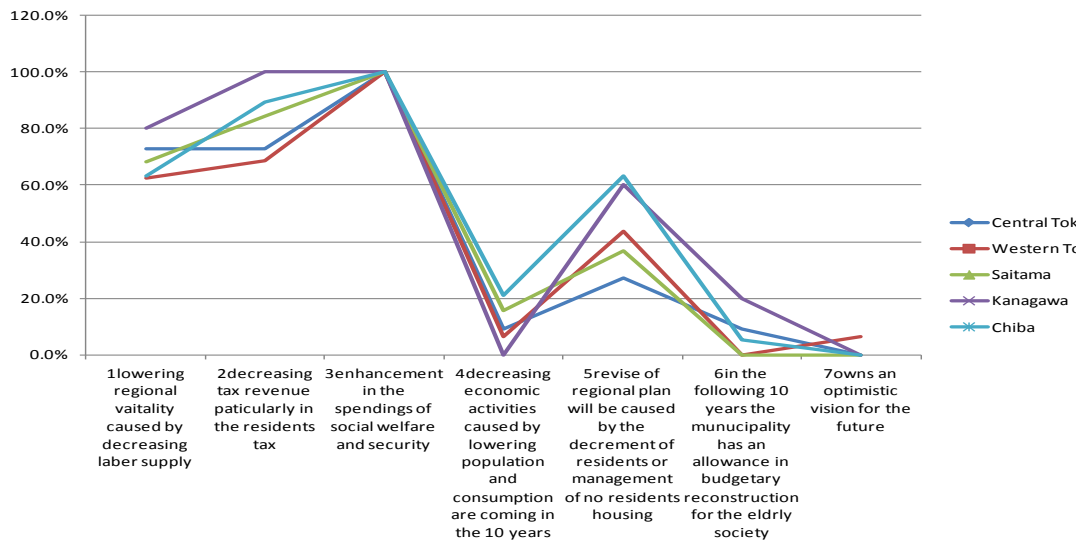
figure implies that the expectation for NPO and the social enterprise will not change largely for the time being.

Figure 17 examines the increasing social needs for the elderly society⁴. Since the 3



Source: Tanaka (2014).

Figure 16 Expected role of NPO and the social enterprise.



Source: Tanaka (2014).

Figure 17 Increasing social needs for the elderly society.

terms (No1,2,3) show relatively high values, municipalities are supposed to recognize the significant matters in the coming elderly society. However, the remained terms

⁴ Richardson and Nam (2014) argue that many Global Cities in the advanced countries expected to have a feature of shrinking main region caused by globalization and aging societies.

indicate relatively low. That is, the regions could not prepare the policy reform to be ready for the social change.

4. Concluding Remarks

The agency theory could provide an efficient approach to make clear the factors to characterize development of the global cities. By employing altruistic coefficients (voluntary management system, reporting system, participation of residents etc.), risk coefficients (rule, requirement, audit, tax and punishment etc.) , competitive and cooperative regional mechanism could analyzed theoretically. This theoretical approach argues that system analysis is effective to make clear the structure of the global cities. This paper confirms empirically some results from the system analysis. The function of the global cities is supported by competitive and cooperative urban structure. The questioner survey for municipalities in the Tokyo Area (2013) focuses on the regional structures of the global cities. The Tokyo Area as the all shears firmly the common objects for regional policy. The individual componential municipality recognizes the given parts to contribute on the development of the Tokyo Area. Locally, vital voluntary activities in the global market economies propel the development of the global city. However, the sustainable regional plans should be performed by an integrated local government in the global city. As the region seek the benefits from the scale of production and consumption, it becomes to emphasize the own advantages in the competition and to require the corporation more contribution in tax payment and employment than CSR activities. The regions with the highly advanced technology industries weight more CSR than the tax and employment in corporative contributions to prevent from the unpredictable social risks. In the presently coming elderly society, many municipalities could share the common expectations but are not ready to construct the firm policy program for the problems.

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