DYNAMIC ANALYSIS ON EXPENDITURE BUDGET OF TAMBON ADMINISTRATIVE ORGANIZATION

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A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Public Administration
School of Public Administration
National Institute of Development Administration
2016

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July 2017

ABSTRACT

Title of Dissertation	Dynamic Analysis on Expenditure Budget of Tambon Administrative Organization
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Degree	Doctor of Public Administration
Year	2016

Although the government has a policy of transferring its mission to the local government organization to provide access to more people's problems and allow local people to obtain sustainable development, the results of the policy have still not been successful. There is also a growing problem of inequality and injustice that has arisen regularly in the provision of basic public services on education, public health, social welfare, and infrastructure development. The rich who are of good economic status have access to basic public services better than the poor who are of poor economic status and receiving basic public services at a lower level, both in quantity and quality. Thus, the researcher investigated the cause of the impact on changes in local expenditures. It is an empirical approach for analyzing the policy in allocating the expenditure budget on education, public health, social welfare, and infrastructure of Tambon Administrative Organizations (TAO) in the northeastern region of Thailand. The data that was used in this study are secondary data, being retrospective data for five years from 2009 to 2013, and constitutes the main data for quantitative analysis. The framework of the study is divided into two parts as follows. First, the framework of the study on the determinant influences to the public expenditures on education, public health, social welfare, and infrastructure, including local demand affecting budget spending. And second, the framework of the study in how institutional or political impacts influence the local budget allocation. The variables were studied as follows. The independent variables include incremental budgeting, economic determinants, and demographic, community, and environmental determinants.

The mediator variable is the governmental determinant. The dependent variables are the expenditures on education, public health, social welfare, and infrastructure. The result of the study found that the independent variables directly affected public expenditures on education, including one-year lagged public expenditure on education, revenues allocated by government, grants, savings, general grants, population, and programs. The independent variables that directly affected the expenditures on public health were one-year lagged public expenditures on public health, revenues allocated by government, withdrawals from reserved funds, savings, general grants, staff, and programs. Those that directly affected the expenditures on social welfare were one-year lagged public expenditures on social welfare, revenues allocated by government, withdrawals from reserved funds, savings, general grants, staff, and programs. Lastly, those that directly affected the expenditures on infrastructure were one-year lagged public expenditures on infrastructure, revenues allocated by government, withdrawals from reserved funds, savings, general grants, staff, and programs. The consideration of each determinant directly and indirectly affected the local expenditures on education, public health, social welfare, and infrastructure. The results revealed that the determinants directly affected all these expenditures, including incremental budgeting, economic determinants, the governmental determinant, and demographic, community, and environmental determinants and indirectly all these expenditures, including economic determinants and demographic, community, and environmental determinants through the governmental determinant. The budget is allocated for the local expenditures on education, public health, social welfare, and infrastructure. All these use original budgeting by past experience as a basis for budgeting. This involves just a little change in budgeting. Budgeting of these expenditures has political influence that is involved in the form of activities or programs. So, for local development, politicians try to present the policies that respond to the demands of the people. The politicians cited for public relations tools are seeking votes. However, in order for these activities or programs to be implemented they must be approved by the local council as a first priority. Although the policy is latent with political votes, it is a legitimate policy. Therefore, the expenditure policy that is implemented on education, public health, social welfare, and infrastructure must be received fairly and equitably, and it should

be allocated more for the poor than the rich in order to achieve equality and eliminate poverty. The lines between rich and poor are not that much apart because it is becoming an inequitable and unfair society.

ACKNOWLEDGEMENTS

This dissertation on Dynamic Analysis of Expenditure Budget of Tambon Administrative Organization (TAO) could not have been accomplished without the assistance of many advisors. I would like to express my immense gratitude for the support and supervision of Professor Dr. Anchana Na Ranong, my major advisor, and Professor Dr. Direk Patmasiriwat, who is an expert in public finance and my co-advisor, both of whom gave advice that was extremely useful for this study, and their guidance provided when the study proceeded into many obstacles and difficulties. Special thanks to Professor Dr. Bunton Dokthaisong, who has kindly served as the committee chairman. His suggestions were of considerable assistance in the study. Were it not for the key informants, this work would have never been successfully completed. I would like to thank all the interviewees for their cooperation and assistance. I am grateful for the valuable input and the assistance in data collection from all the staff of Tambon Administrative Organizations (TAO) and Local Government Organizations (LGO). Furthermore, I would like to thank my friends in DPA 5 at NIDA who inspired the progress of my dissertation and facilitated all paper work in connection with my dissertation. Ultimately, I would like to thank my loving father and mother for their greatest love who gave me the opportunity to be educated at the highest level. Thanks also to my family for their encouragement during my period of dissertation, as well as constantly providing me with their assistance and support so that I could complete my Doctoral Degree.

Techatach Khlaisokk

July 2017

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CHAPTER 1

INTRODUCTION

1.1 Statement and Significance of the Study

The budget allocation for public expenditures within a Tambon Administrative Organization (TAO) is an important tool for finance in determining the capacity of local administrations, and plays a key role in delivering public services for improving the quality of life within the community. However, these public services may have more or less different levels of efficiency and effectiveness. This depends on raising revenues and the important independence of finance. If there are more revenues and a high degree of independence in finance, the result is a more efficient delivery of public services for the improvement of the quality of life in the community. Conversely, if there is little revenue and a low degree of independence with regard to finance, the result will be inefficiency in delivering the public services needed to improve the quality of life in the community. So, budget allocations for public expenditures of Local Government Organizations (LGO) are allocated for Bangkok Metropolis, Pattaya City, Provincial Administrative Organizations (PAO), Municipalities, and Tambon Administrative Organizations (TAO). All these depend on available revenue and the important independent of finance. All these revenues may be received as local revenues, or obtained as transfer payments from the government. It can be concluded that these revenues support the mission of LGOs, including revenues collected by LGOs, revenues collected and allocated by the government and transfer payments from the government or subsidies of various types (Sakon Varanyuwatana, 2013, pp. 120-121). The mission of an LGO was supported in the past before there was the Determining Plans and Process of Decentralization to Local Government Organization Act B. E. 2542 (1999). The proportion of total revenues for LGOs compared to government revenues is quite a low percentage,

approximately 11:13 to 13:31. When the law is enforced, the government allocates the budget for expenditures of LGOs. According to the law, it must be not less than 20%. The proportion of government revenues per net revenues has increased annually since fiscal year B. E. 2544 (2001), up until right now it has increased from 20.68% in fiscal year B. E. 2544 (2001) to 21.88, 22.19, 22.75, 23.50, 23.32, 25.17, 25.20, 25.82, 25.26, 26.14, 26.77, and 27.27 in fiscal year B. E. 2545 – 2556 (2002 – 2013), respectively, as shown in Figure 1.1. Beyond that, revenues for LGOs have been allocated subsequently since fiscal year B. E. 2544 – 2556 (2001 – 2013). The proportion of revenue that has continually increased includes the revenues collected by LGOs, revenues collected and allocated by the government, and subsidies of the government that have continually increased, as shown in Figure 1.2 (Office of the Decentralization to the Local Government Organization Committee, 2008, pp. 6-9). So, when the revenues of LGOs are continually increasing annually like this, it raises the question whether the efficiency of delivering public services for improving the quality of life in the community is also increasing, or not. Because the LGO is a local agency which is as intimate as possible to most of the people, it should best understand and know the problems of the community. It has an important role in assisting the community in obtaining a better quality of life. This is because the LGO has a clear structure of its revenues, which are revenues collected by the LGO, the revenues collected and allocated by the government, and subsidies of the government. The ability of budget allocation for delivering public services to the community is indicated in the law by the establishment of LGOs on various levels, including the Provincial Administrative Organization Act B. E. 2540 (1997), Municipal Income Act B. E. 2497 (1954), Tambon Council and Tambon Administrative Organization Act B. E. 2537 (1994), Bangkok Metropolitan Administration Act B. E. 2548 (2005), the Pattaya City Administration Act B. E. 2542 (1999), and Determining Plans and Process of Decentralization to Local Government Organization Act B. E. 2542 (1999) (Office of the Decentralization to the Local Government Organization Committee, 2008, pp. 3-4). The budget allocation for expenditures of LGOs today was allocated according to the law, rule, and Determining Plans and Process Decentralization to Local Government Organization Act B. E. 2542 (1999), and amended in B. E. 2549 (2006), in section 30 for determining duty and tax allocations, subsidies and other

revenues for the plan of decentralizing LGOs. It must comply appropriately with the implementation of the authority in each type of LGO. Since fiscal year B. E. 2550 (2007) subsequently, LGOs shall receive increasing revenue, in a ratio per net revenue of the government that is not less than 25%. LGOs have increased their revenue as a ratio per net revenue of the government at a ratio that is not less than 35%. This ratio is also a fair and equal allocation of the revenues for the LGO. In addition, the revenues of LGOs increase per net revenue of the government, which shall increase over a reasonable period of time for the consideration of the LGO to operate public services on its own. According to the mission of transferring to an LGO, the transfers have increased onwards after fiscal year B. E. 2549 (2006). In any case, the allocation of subsidies is not less than what the LGO was allocated in fiscal year B. E. 2549 (2006) (Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542, 1999, pp. 63-64; Office of the Decentralization to the Local Government Organization Committee, 2008, p. 2)

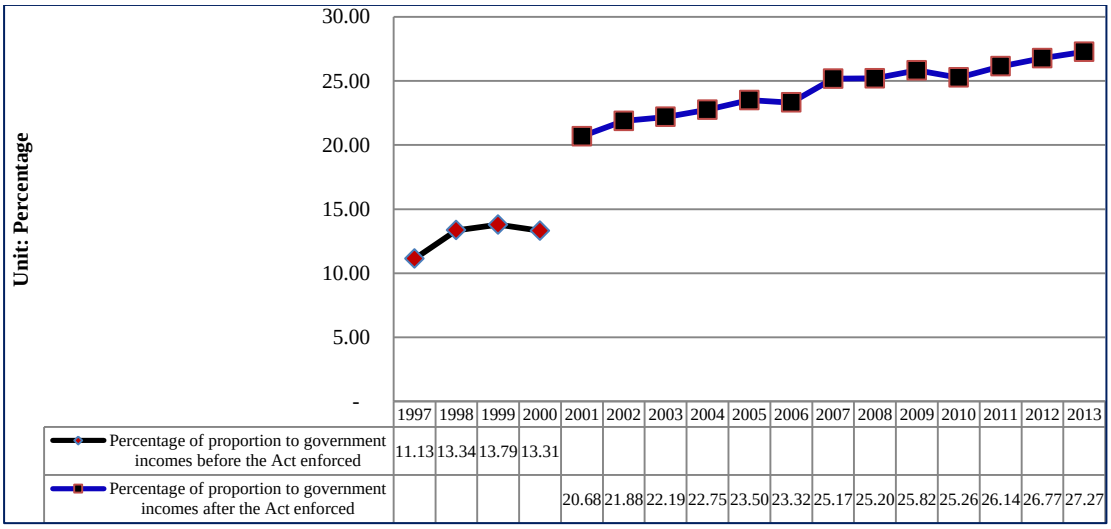
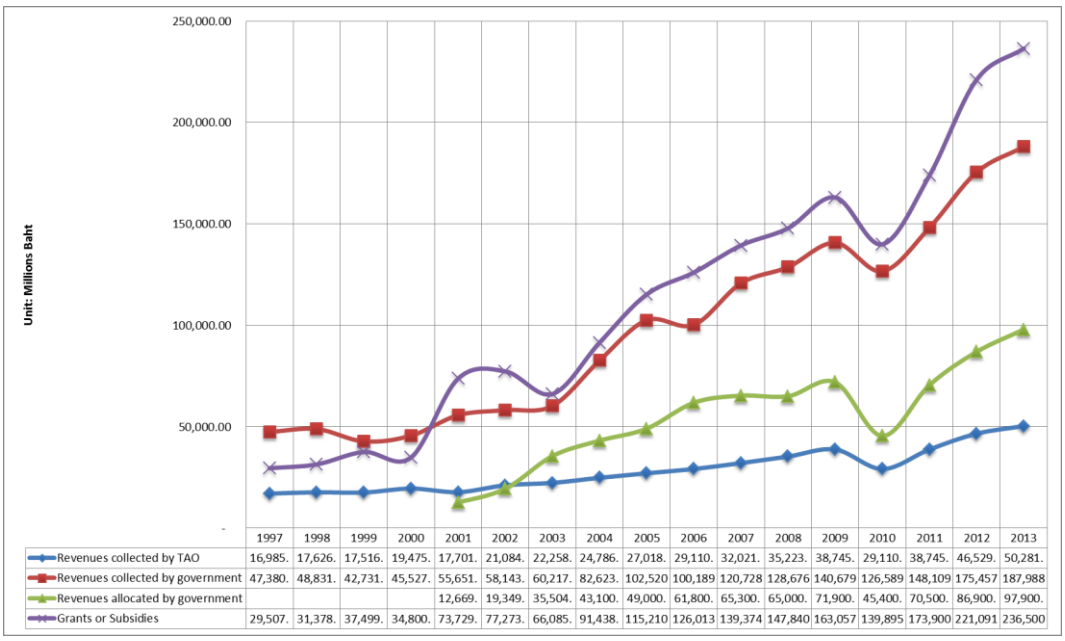


Figure 1.1 Comparing Revenue Ratio of LGO per Net Revenue Before and After Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542 in Fiscal Year B. E. 2540 – 2556 (1997 – 2013)

Sources: Office of the Decentralization to the Local Government Organization Committee, 2008, pp. 6-9; 2013, pp. 6-8.



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Revenues collected by TAO	16,985.	17,626.	17,516.	19,475.	17,701.	21,084.	22,258.	24,786.	27,018.	29,110.	32,021.	35,223.	38,745.	29,110.	38,745.	46,529.	50,281.
Revenues collected by government	47,380.	48,831.	42,731.	45,527.	55,651.	58,143.	60,217.	82,623.	102,520	100,189	120,728	128,676	140,679	126,589	148,109	175,457	187,988
Revenues allocated by government					12,669.	19,349.	35,504.	43,100.	49,000.	61,800.	65,300.	65,000.	71,900.	45,400.	70,500.	86,900.	97,900.
Grants or Subsidies	29,507.	31,378.	37,499.	34,800.	73,729.	77,273.	66,085.	91,438.	115,210	126,013	139,374	147,840	163,057	139,895	173,900	221,091	236,500

Figure 1.2 Revenue Ratio of the LGO per Net Revenue of the Government with Continual Increment in Fiscal Year B. E. 2544 – 2556 (2001 – 2013)

Sources: Office of the Decentralization to the Local Government Organization Committee, 2008, p. 9; 2013, pp. 6-8.

The public expenditures of TAO are indicated in the Tambon Council and Tambon Administrative Authority Act B. E. 2537 (1994). In section 85, a TAO may have the following expenditures: salaries, wages, other compensation, sundries, cost of materials, cost of durable articles, cost of land and constructions and other property, cost of public utilities, subsidies for other agencies, and any other expenses from commitments or as the law or rules of the Ministry of Interior stipulates (Tambon Council and Tambon Administration Organization Authority Act B. E. 2537, 1994, p. 31). The TAO's mission is to provide public services to the community for infrastructure, including general administration, community and social services consisting of education, public health, social welfare, housing and community, strengthening the community, recreation, culture, religion, and economic affairs (Klong Sarm Tambon Administrative Organization, 2013). Because TAOs of small, medium, and large size are different, it may cause different levels of efficiency in public services to the community. A study by the World Bank found that Thailand

had LGOs of small size in excess of 3,000. The population of these areas is lower than 5,000. This does not make for an administration offering the maximum benefit or an economy of scale. The suitable size for an LGO should have a general population in the area of around 10,000 people, so these LGOs of small size should merge together in order to make a larger organization. Public services are then provided with cost – effectiveness, management and a reduction of administrative costs. However, the merger of LGOs is a political challenge and an effort for the governments in many countries in order to provide the needed incentives to encourage the incorporating mergers of LGOs of small size. Some countries enforce incorporating mergers by law. However, the merging system of LGOs in Thailand is very difficult. The World Bank has other choices for contributing to the efficiency of public services. This study indicated that LGOs have a total number of 7,853 in Thailand. LGOs of small size are TAOs, which can be measured by the size of the area and the population being cared for. TAOs have a total number of 3,055 where the population in the area is lower than 5,000 people. Most TAOs, numbering 6,733, have populations in their areas lower than 10,000 people. These areas with populations of such small size mean that the tax base is barely a source of local revenue. The expenditures compared with the cost of administration is higher than the annual budget obtained. In general the size of an LGO for the local government of a developed country has an average population for its area in the range of 10,000 – 30,000 people. Incorporating the merger of LGOs can reduce the cost of management by 5 – 10%. An LGO with a population of less than 5,000 people shall spend 75 – 80% on management. If it can reduce these expenditures it can transfer the cost of management to public services. An LGO of large size can save its budget by 5 – 10%. This makes for a higher capacity of finance, and it is efficient and effective in its budget for delivering public services. Thailand initiated decentralization in B. E. 2542 (1999). The result found that the expenditures on general administration were 11% of the budget for LGOs. In B. E. 2554 (2011), it increased the expenditures on general administration to 18%. Therefore, if it is managed efficiently, it shall reduce the expenditures of this section by 3 – 5%, which shall save the budget and be more useful (World Bank, 2012).

In addition to incorporating mergers, the World Bank has suggested that it should create incentives for LGOs to build on the importance of monitoring and evaluating themselves. There must be a monitoring and evaluation system on the performance of LGOs, and it should open up to the opportunity for people to have more participation. LGO reports should indicate annual performance and determine the same reporting standard as the central government or a national standard. It is most important that the quality of performance connects with the budget allocated for each year, whether or not the budget received depends on the same standard as established. The report indicates that the plan for decentralization reform for localities in Thailand is currently in a period of transition. It did not achieve the desired objective even during the years B. E. 2542 – 2554 (1999 – 2001) and should clearly transfer the responsibility to the locality. In practice, the transfer of services to the locality is limited. In addition, the fiscal data for the result of delivering public services of the local agency is not adequate. It is difficult to decide how the resources of the local agency are used and whether the use of such resources achieves the directed and desired results or not.

So, a TAO is an agency of the public sector which is as close as possible to the most people as possible. If there is good and efficient management, people will obtain the maximum benefit. For this reason, there has been an attempt to decentralize the LGO under the Determining Plans and Process of the Decentralization to Local Government Organization Act B. E. 2542 (1999). A government agency belongs under various ministries, with the transfer of six missions to the LGO, including: 1) infrastructure, 2) the promotion of quality of life, 3) organizing the community, society, and peacekeeping, 4) planning and promotion of investment, commerce, and tourism, 5) management and conservation of natural resources and environment, 6) arts, culture, tradition, and local wisdom (The Action Plans for Determining the Decentralization Process to Local Government Organization B.E. 2545, 2002, pp. 3-4). There are local agencies that have obtained the transfer of these missions, including Bangkok Metropolis, Pattaya City, Provincial Administrative Organizations (PAO), Municipalities, and Tambon Administrative Organizations (TAO). The mission of responsibility is also different, depending on the level of LGO as identified

in the details of the Determining Plans and Process of Decentralization to Local Government Organization Act B. E. 2542 (1999). In the transfer of missions, the TAO has responded to the demand for delivering public services for improving the quality of life in the community. The plan is defined as development over a period of three years for the plan's implementation. The preparation of the annual budget provision for expenditures has accorded the mission of transferring from the government and uses a budget manual each year. There is a plan for budget spending on each side as follows. The expenditures on general administration include general management, and internal peacekeeping of the community. Society and community services include education, public health, social welfare, housing and community, strengthening of the community, recreation, culture, and religion. Economic affairs include industry and public works, agriculture, and commerce. Other operations include the plan of the central budget (Beung Kum Proy Tambon Administrative Organization, 2013, p. 9; Klong Sarm Tambon Administrative Organization, 2013, p. 11). Budget spending in each plan determines the annual budget provision on expenditures of the TAO, as monitored and evaluated by the Department of Local Administration (DLA). The local agency has to report to the central information system of the LGO. The database system is designed for exploring the information of LGOs throughout the country. The information of local agencies is publicized by the DLA. LGOs and their related agencies have inducted the information for using the most utilization, the central information system of the LGOs includes general conditions, infrastructure, public utility, society, economy, public health, environment, protection and public disaster mitigation, and money and finance. (Department of Local Administration, 2014). The mission of transferring is up to the budget allocation on public expenditures for delivering public services to the community of the TAO in the transition of this mission. Therefore, the researcher studied a dynamic analysis of the expenditure budget of TAOs in order to study the determinants influencing the budget allocation on expenditures of TAOs, whether it influences the change of expenditures or not. Development was originally focused on infrastructure, but nowadays there is an emphasis on delivering the public services needed to improve the quality of life for the community. In addition, there is a study on the institutional and political impacts, which studies the influences on the budget allocation on expenditures for delivering

the public services of TAOs. There are also related theories, as follows. Incremental budgeting is one year of lagged public expenditures that is based on past budgeting or experience as the basis for budgeting in the current year. Economic, demographic, community, and environmental determinants are the study of economic-population theory that influences the expansion of local expenditures. Governmental determinants influence the expansion of local expenditures. Political determinants influence the expansion of local expenditures as measured by qualitative interviews (Dye, 2011).

1.2 Research Questions

This research studied the dynamic analysis of expenditure budgets of TAOs. The questions of research are as follows.

1. What are the key determinants of the budget allocation on local expenditures? And how do the budget allocations of expenditures respond to local demand in each area?
2. Do the institutional or political influences in each area affect the budget allocation for local expenditures? And how do local politicians motivate to allocate budgets for political votes?

1.3 Research Objectives

This research studied the dynamic analysis on expenditure budgets of TAOs. The objectives of research are as follows.

1. To study the determinants influencing the budget allocation of local expenditures, including local demands that affect budget spending.
2. To study the institutional or political influences in each area affecting the budget allocation of local expenditures.

1.4 Scope of the Study

Thailand enacted the Determining Plans and Process of Decentralization to Local Government Organization Act B. E. 2542 (1999), and an announcement of the decentralization committee to LGOs on the action plan for determining the decentralization process for LGOs. It has the mission of transferring by the government for the delivery of public services on infrastructure, the promotion of quality of life, creating community and society stability, internal peacekeeping, planning, promotion of investment, commerce, tourism, natural resources management and conservation, arts, culture, tradition, and local wisdom. Therefore, this study is of the budget allocation on expenditures for delivering the public services of TAOs. The mission has been transferring from the government that which the TAO has implemented and actuated onwards for delivering public services for improving the quality of life in the community since B. E. 2545 (2002). The TAO has created a strategic plan and the annual budget provision on expenditures for delivering public services as follows. The strategic plan on general administration includes general administration and internal peace keeping. The strategic plan on society and community services includes education, public health, social welfare, housing and community, strengthening the community, recreation, culture, and religion. The strategic plan on economic affairs includes industry and public works, agriculture, and commerce. The scope of the study is: 1) to study the relationship of the incremental budgeting, economic, demographic, community and environmental, governmental, and political determinants affecting the budget allocation on public expenditures for delivering public services on education, public health, social welfare, and infrastructure of the TAO, including local demands affecting budget spending, and 2) to study the institutional or political impacts in each area influencing the budget allocation for local expenditures. This study uses a panel data or pooled time series – cross section analysis, which uses retrospective data for five years from B. E. 2552 – 2556 (2009 – 2013). Data collection used the annual budget provision on expenditures of Tambon Administration Organization (TAO), Department of Local Organization

(DLO), Office of the Decentralization to the Local Government Organization Committee (ODLOC), and Office of the Election Commission of Thailand (OECT).

1.5 Limitation of Study

This research is a study on the dynamic analysis of expenditure budgets of TAOs. It is a data collection using the annual budget provision on expenditures of TAO that the preparation for the Tambon Council proposes for approving the annual budget on expenditures. These data are collected by the Department of Local Organization (DLO), Office of the Decentralization to the Local Government Organization Committee (ODLOC), and Office of the Election Commission of Thailand (OECT). These data comprise the independent variables as follows. Incremental budgeting that affects the expansion of local expenditures that are measured by one year of lagged public expenditures of the TAO. Economic determinants that affect the expansion of local expenditures are measured by revenues collected by the TAO, revenues allocated by government, grants, withdrawal from reserved funds, savings, and general grants. Demographic, community, and environmental determinants that affect the expansion of local expenditures are measured by the number of kindergarten children centers, students, teachers, old persons, disable persons, AIDS patients, roads, bridges, and programs. Governmental determinants that affect local expenditures are measured by local staff. Political determinants that affect the expansion of local expenditures are measured by qualitative interviews with chief executives of the TAO or local staff involved.

1.6 Benefit of Study

The following are benefits of this study.

1. This study creates a new viewpoint of the determinants affecting the budget allocation of expenditures for delivering the public services of TAOs. The empirical data has studied what determinants affect the budget allocation on expenditures of TAOs. This thus expands a spacious and clearer frontier of

knowledge and understanding of the budget allocation on expenditures for delivering the public services of TAOs.

2. This study shows a future scenario of public policy through a perspective analysis on public expenditures of TAOs.

3. This research study is a resource for the budget allocation on expenditures for delivering the public services of TAOs in the future. This resource of information and the subsequent policy recommendations can help decision makers decide on and understand the impacts of budget allocations on expenditures for delivering the public services of TAOs, how it should be, and whether or not public policy can be applied with the budget allocations on expenditures for delivering the public services of the TAO. This is to improve the quality of life and provide maximum benefit to the community.

1.7 Definitions of Terms

Terms are defined in the context of this study as follows.

1. Public expenditures means government spending proceeding with all activities of government expenditures, classified as three types: 1) expenditures of general administration, 2) expenditures of state enterprises, and 3) expenditures of state funds (Ponlapat Buracom, 2011b, p. 1).

2. Expenditure budget of the TAO means the budget as approved by the local council and as approved by the provincial governor, sheriff, or bailiff. As defined by the laws of each type of LGO, it also includes the additional budget and transfers for correcting the budget statement (Ministry of Interior Rule on Budgetary Process of Local Administration Organization B. E. 2541, 1998, p. 6).

3. Intergovernmental transfer payment means government revenue transferred to an LGO in one of two ways: revenue sharing transfers, and budgetary transfers or so-called grants (Office the National Economic and Social Development Board, 2001, p. 13).

4. Grant means the expenditures required to pay the fees or help in supporting the implementation of an autonomous agency under the constitution, or a

government agency which is not in the central government under the Land Administration Act in an agency of state autonomy, public organization, state enterprise, Local Government Organization, sub-district council, international organization, corporation, private sector, public benefit affairs, including the subsidy, religion subsidy, and expenditures of the bureau of the budget required to pay for the list of this spending.

5. General grants aim to increase the revenue to local governments that have been subsidized. Therefore, it is said that this form of general grant has an effect on income, which makes it possible for local governments to be free to use the subsidy that they receive in order to perform their duties according to their intended goals.

CHAPTER 2

LITERATURE REVIEW

2.1 Background of the Tambon Administrative Organization (TAO)

Tambon Administrative Organizations (TAO) are units of the local government that have the status of a corporation and the local government. It was initially started as the Tambon Council (TC) under King Rama VI with the Regional Administration Act, Ratana Kosindra Era 116, or B. E. 2440 (1897). It was repealed and amended as the Regional Administration Act B. E. 2457 (1914) and again after the political change in B. E. 2475 (1932). TC was founded under mandate in 222/B.E. 2499 (1956) by the Interior Ministry on March 8, B. E. 2499 (1956), and was amended as the Tambon Council and Tambon Administration Authority Act B. E. 2337 (1994). Its content is related to financial management, including section 29 – 37 regarding the revenues and expenditures of the TC, and in section 74 – 78 concerning the revenues and expenditures of Local Government Organizations (LGO) (Phairat Trakarnsirinon, 2007, pp. 74-78). It was enacted on March 2, B. E. 2538 (1995) and amended at a later time. This act resulted in the decentralization of the organization at the sub-district level. TCs that raise their status on regulative criteria have increased their revenues, excluding grants, in the past fiscal year for three years running, and by an average that is not less than 150,000 Baht per year. This can raise the status for changing from a TC to a TAO. The establishment of a TAO is a product of current society that requires a reform in politics. A TAO is one dimension in the effort to reform politics by decentralization to the locality. It is particularly important to the locality because TAOs are the smallest unit and the ones closest to people and their participation in democratic self-government, especially people in rural areas. As the form of TAO is a vital part in making rural residents have the opportunity to govern themselves according to the spirit of the current constitution, it demands much more decentralization to the locality.

2.1.1 Administrative Structure of TAO

The administrative structure of a TAO under the Tambon Council and Tambon Administrative Organization Act B. E. 2537 (1994) (TCTAOA) consists of the Tambon Administrative Council (TAC) and the Executive Committee (EC). The TAC is comprised of the members of councils in two categories. The first type consists of members of the council by position, which consist of a village headman, the village head from every village, and a Tambon physician. The second type is a member of the council who is elected by the people in each village, this constitutes two residents. The EC comprises the village headman as chairman by position and the village head, but is not to exceed two residents, and the members of the council from the election is not to exceed four residents; all included, the executive committee is not to exceed seven residents. The Tambon Council and Tambon Administrative Organization Act B. E. 2537 (1994) was amended at a later date in B. E. 2542 (1999) (No. 3) as the Tambon Council and Tambon Administrative Organization Act B. E. 2542 (1999). It is to comply with the constitutional provision of the local government in section 285, requiring the local authorities to consist of the local council and administrators. The local executives and councilors must be elected directly by the people or approved of the local council. The original structure of a Tambon Administrative Organization under the the Tambon Council and Tambon Administrative Organization Act B. E. 2537 (1994) is comprised of a few members of the council and executive committee by position. Therefore, the provision of the law was amended for all members of the council to be elected directly by the people and the executive committee to be approved by the council.

In mid – B. E. 2546 (2003), congress revised the Tambon Council and Tambon Administrative Organization Act B. E. 2537 (1994) with amendment No. 4 of B.E. 2546 (2003), and enacted the law on June 18, B. E. 2546 (2003). It changed the so-called name of the executive board to the executive committee. The so-called name of the executive chairman was changed to the chief executive of TAO, and the vice executive chairman to deputy chief executive of TAO. Tambon regulation was changed as a provision of TAO, and the cancellation of chief administrator of TAO became the secretary of the executive committee. The success of the municipality is

because of the movement to the section of the Provincial Administration Organization (PAO) and Tambon Administrative Organization (TAO), calling for the law revision and the change of the executive section from a direct election by the people. In late B.E. 2546 (2003) came the biggest change in the history of local government in Thailand when parliament passed a local law with amendments in three copies, including the Provincial Administration Organization Act (No. 3) B. E. 2546 (2003), Municipal Act (No. 12) B. E. 2546 (2003), and Tambon Council and Tambon Administration Act (No. 5) B. E. 2546 (2003). This substantive law in three copies was scheduled for the local administration organization for direct election by the local residents. Therefore, the administrator of the local government organization in all forms in Thailand must be elected directly by the people in the same county. The structure of the TAO consists of legislative, executive, and sub-district staff, as shown in Figure 2.1.

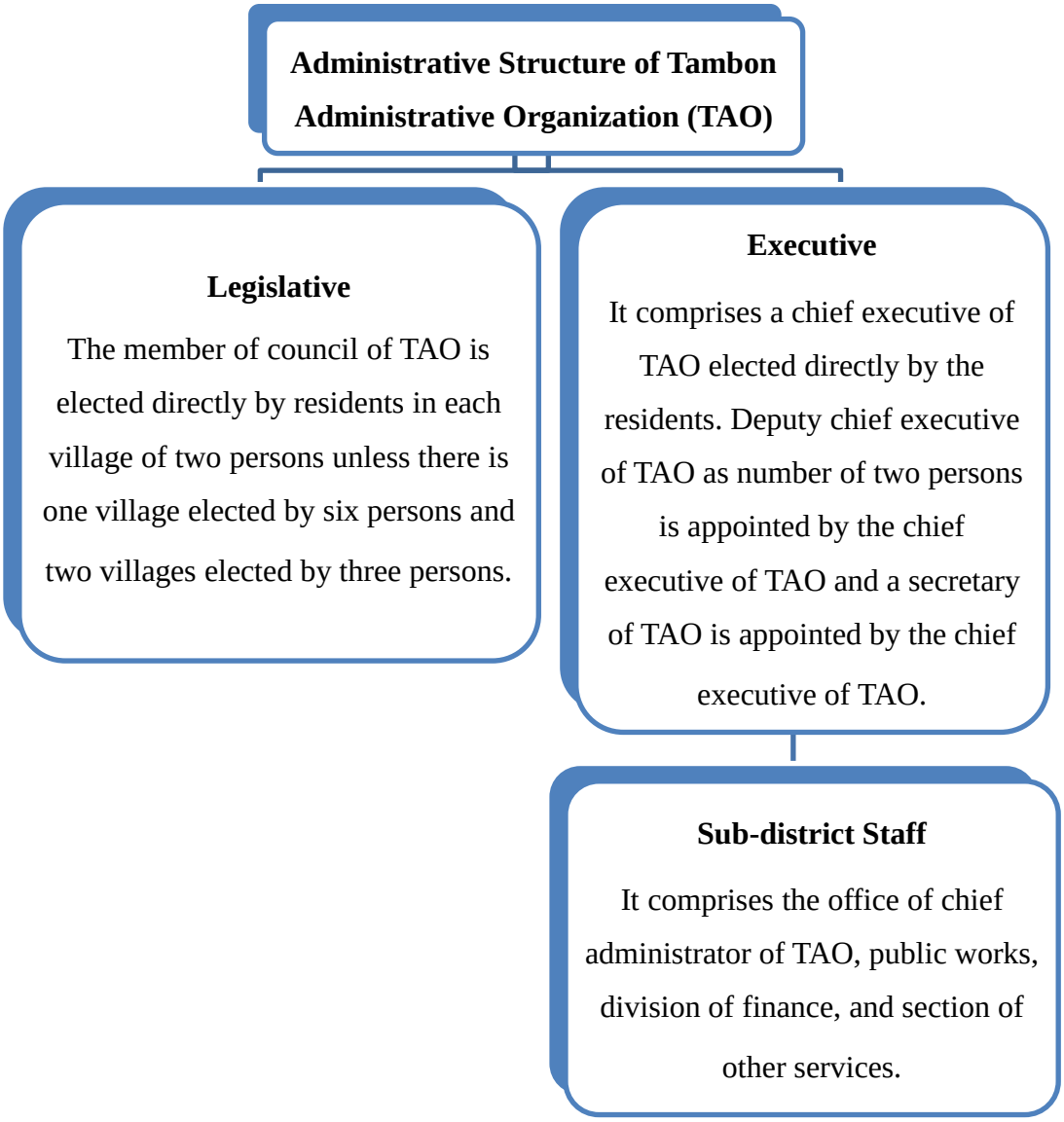


Figure 2.1 Administrative Structure of the Tambon Administrative Organization (TAO)

Sources: Tambon Council and Tambon Administration Organization Act (No. 5), B. E. 2546 (2003).

2.1.2 Hierarchical Level and Division Criterion of TAO

A key criterion is used to divide up the size of TAOs. There are five class levels of criteria, indicated as follows. The first indication criterion concerns revenues, and includes TAOs of a large size having revenues, excluding grants, of

more than 20 million Baht. A TAO of medium size has revenues, excluding grants, of 6–20 million Baht. A TAO of small size has revenues, excluding grants, of less than 6 million Baht. The second criterion is indicated by personnel costs. The third criterion is indicated by economy and society, including the area, population, infrastructure, slaughterhouses, markets, industrial estates, schools, child development centers, hotels, religious places for worship, hospitals, and trade centers. A TAO is declared by its zone of building control, the declaration for law enforcement on maintaining cleanliness and tidiness, materials and tools for public disaster prevention and mitigation, materials, equipment and tools for eliminating waste and sewage, the structure of government, and commercial business units. The fourth indication criterion concerns performance efficiency and effectiveness, and includes revenue collection, plan and budget management, human resource management, and services. The final criterion is indicated by good governance, including the rule of law, virtues, transparency, participation, accountability, effectiveness, and equity (Political and Governmental Database of King Prajadhipok's Institute, 2010).

2.1.3 Authority of TAO

Authority under the Tambon Council and Tambon Administration Act B. E. 2537(1994) requires TAO sub-district development to abide by the terms of its economic, social, and cultural mission, which is an extensive scope of work. This Act was amended (No. 3) B. E. 2542 (1999) in section 67 and section 68, where the authority of the TAO is required to operate only within their area of responsibility (Chakaphat Sombatmon, 2008, pp. 90-91; Tambon Council and Tambon Administration Organization Authority Act B. E. 2537, 1994, pp. 26-27). As mentioned above, the authority of a TAO is not limited to the authority of a ministry, bureau, department, government agency or organization in order to execute any activity for the sake of the residents in the sub-district area. It is to notify appropriately and in advance that a case of the TAO has commented on the operation of such ministry, bureau, department, government agency or organization. This opinion is taken also for the consideration of operational processes. In addition, TAOs may operate together with other government units within the locality outside their zone of responsibility, including TCs, TAOs, and PAOs, for conducting joint

activities. Once consent is given by the sub-district, TAO, PAO, or local unit of government involved, any activity which is done must be related to the mission of the authority under its duty (Somkit Lertphaitoon, 2011). The authority under Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542 (1999) and Constitution of the Kingdom of Thailand B. E. 2540 (1997) requires the state to decentralize LGOs. As the status of a TAO is a form of local government organization, the government is needed to decentralize the TAO. It has been defined in Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542 (1999) in section 16 that the TAO authorizes the system management of public services for the benefit of the residents in their zone of responsibility. (Chakaphat Sombatmon, 2008, pp. 5-6; Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542, 1999, pp. 53-54).

2.1.4 Expenditures of TAO

In section 85 of the Tambon Council and Tambon Administration Act B. E. 2537 (1994), TAOs determine their organizational expenditures as follows. There are expenditures on salaries, wages, other remuneration, sundries, cost of material, cost of durable articles, cost of land, constructions and other property, cost of public utilities, subsidies for other agencies, and any other expenses from commitments or as the laws or rules of the Ministry of Interior stipulate. In section 86 the remuneration for the chairman, vice chairman, chief executive, deputy chief executive, council secretary, secretary of chief executive, and members of council of TAO shall be in accordance with the Rules of the Ministry of Interior. (Tambon Council and Tambon Administration Organization Act (No. 5) B. E. 2546, 2003, p. 32).

2.1.5 Preparation of the Annual Budget Provision on Expenditures of TAO

A TAO is to prepare a balanced budget with expenditures lower than revenues of not less than 2%, and the TAO cannot take on a loan for preparing the expenditure budget. The Department of Provincial Administration determines the budget document in the form of a line–item budget (Charas Suwanmala, 1998, p. 25). There

are laws and regulations on the preparation of the annual budget provision on expenditures, including the Tambon Council and Tambon Administration Act B. E. 2537 (1994), the Rules of Ministry of Interior on Budgetary Process of Tampon Administration Act B. E. 2541 (1998), and the Rules of Ministry of Interior on Regulation of Local Council Meeting B. E. 2547 (2004).

2.1.6 Sources of the Expenditure Budget of TAO

A TAO has its revenue sources specified in the Act as follows. In section 23 of the Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542 (1999), the proportion of allocated taxes and duties of the municipality, Pattaya City, and the TOA may be earned through revenues from taxes, duties, fees, and other revenues (Determining Plans and Process of Decentralization to Local Administration Organization Act B. E. 2542, 1999, pp. 56-58). In addition, as indicated in section 74 of the Tambon Council and Tambon Administration Organization Act B. E. 2537 (1994), a TAO determines its revenue collection using local development tax, house and land tax, signboard tax, animal slaughter tax and fees, as well as other benefits from killing animals. If the TAO has collected the revenues in their zone of responsibility under the laws involved, it shall be the revenues of the TAO. The collection of local development tax, and house and land tax of the TAO, indicate that under paragraph one, the chief executive of the TAO authorizes the Mayor under the law regarding local development tax and house and land tax, except for laws requiring otherwise. A TAO may empower other state agencies having the powers and duties to do the foregoing. Expenses can be deducted as stipulated in section 81. In section 75, the taxes and fees for automobiles and cycles collected in the Province shall be allocated to the TAO under the rules and procedures provided in the law. In section 76, the TAO is authorized to issue sub-district regulations for tax and fee collection, but not exceeding 10% of taxes, duties, and fees in any or all categories.

As mentioned above, the revenue structure of LGOs was specified in the Provincial Administration Organization Act B. E. 2540 (1997), Municipal Revenue Act B. E. 2497 (1954), Bangkok Metropolitan Administration Act B. E. 2548 (2005),

Pattaya City Administration Act B. E. 2542 (1999), Tambon Council and Tambon Administration Act B. E. 2537 (1994) and amendments, and Determining Plans and Process of Decentralization to Local Administration Act B. E. 2542 (1999). It can be concluded that the TAO has main revenues from revenues collected by the locality, revenues allocated by the government, revenues divided by the government for the locality, and subsidies of the government. (Office of the Decentralization to the Local Government Organization Committee, 2008, pp. 3-5)

2.1.7 Budget Allocation on Public Expenditures of Government

The budget allocation of public expenditures is classified by function based on the government's purpose in providing public services. These functions are based on the International Monetary Fund, which classifies government activities into 10 major groups under 3 categories. First are general services, including general public services, defense, and public order and safety. Second is economic affairs, and third is to provide community and social services, including environmental protection, housing and community amenities, health, recreation, culture, religion, education, and social protection. These are the details, as follows.

First, public expenditures on general public services will be spent on administrative and legislative activities, monetary and fiscal management, central personnel administration, statistical services, foreign affairs, economic assistance to various countries, and research and development for general governmental services. In addition, it also includes loan repayments and transfers to the locality.

Second, public expenditures on defense will be utilized for territorial defense by the Ministry of Defense and the civilian sector, which includes territorial defense volunteers and local administration officers.

Third, public expenditures on public order and safety will be spent on judiciary services, police forces, fire brigades, and penitentiary institutions, along with research and development for internal peace keeping.

Fourth, public expenditures on economic affairs will be used for land management, provision of land for farmers, price support for agricultural products, pest control, forestry, fisheries, exploration, supply, development and control of fuel resources, electricity generation from various sources of energy, operations of mineral resources, industrial promotion and control under the Ministry of Industry, industrial research and development programs of the Thailand Institute of Scientific and Technological Research, operating expenditures of the Department of Public Works and Town and Country Planning, Ministry of Commerce's international trade activities, supervision of hotel and restaurant businesses, promotion of tourism, labor, and other multipurpose projects. It also includes the administration and construction of land and water transport systems, communications (excluding television and radio broadcasting systems, which are classified as functions under recreation, culture, and religion) and research and development of economic affairs.

Fifth, public expenditures on environmental protection will be utilized for collecting, transforming and eradicating waste, management of sewage, sewerage treatment systems, management and construction of drainage systems, protecting air and atmospheric conditions, protecting land and surface water, lessening noise pollution, preventing atomic radiation, construction of noise barriers, establishing measures to reduce water pollution, preserving ecological systems and scenery, along with research and development on the environment.

Sixth, public expenditures on housing and community amenities will be spent on the provision of housing development, housing standards, urban planning, and community development, along with the supply of water for consumption, and research and development on housing and community amenities.

Seventh, public expenditures on health will be applied to the provisions of public health services performed by the Ministry of Public Health and other government agencies. These services include planning and administration of hospital and health center operations, as well as the provision of health care information, and research and development for public health.

Eighth, public expenditures on recreation, culture, and religion will be spent on sports events organized by the Sports Authority of Thailand as specified by policy, other than the administration of education. In addition, expenditures will be allocated for cultural and religious activities of the Fine Arts Department and the Religious Affairs Department respectively, along with expenditures for radio and television broadcasting of the Public Relations Department, administration of publishing affairs, construction of public parks and recreational areas, public libraries, botanical gardens, and aquariums.

Ninth, public expenditures on education will be for education administration from pre-primary level to university, non-formal education, scholarships for students and research on education. This will also include subsidies to the Bangkok Metropolitan Administration and local administration offices' education expenses.

Tenth, public expenditures on social protection will be used on social security for those losing income resulted from illness and for compensation to the general public and retiring government employees. They will also be utilized for social welfare by providing shelter to various groups of people, as well as other social assistance such as compensation for loss of property due to disasters, and research and development on social welfare.

2.1.8 Budget Allocation on Public Expenditures of TAO

The public budget for expenditures of TAOs as allocated is indicated in the annual budget provision on expenditures with 4 categories. First is the budget allocation of public expenditures for general administration, including general administration and internal peace-keeping. Second is the budget allocation for public expenditures on society and community services, including education, public health, social welfare, housing and community, strengthening the community, recreation, culture, and religion. Third is the budget allocation for public expenditure on economic affairs, including industry and public works, agriculture, commerce, and other services.

2.1.9 Connection in Process of Budget Allocation on Expenditures for Delivering the Public Services of TAO

For the transfer of mission for delivering public services from the government to an LGO, a TAO implements and processes the transfer by making the annual budget provision on expenditure and the strategic plan for public services in general administration, society and community services, and economic affairs. In addition, the decentralization committee to LGO allocates grants for LGOs who have received a good governance award by starting the award announcement to LGOs in B. E. 2546 (2003). Therefore, local agencies such as the PAO, Municipality, and TAO have annually received the good governance award. This is to encourage efficiently for LGOs having the initiative thinking in delivering public services to the community. TAOs of large, medium, and small size have allocated their budgets on public expenditures for delivering public services to the community, and good governance awards for TAOs who award initiative thinking for innovation in improving the quality of life in their community, as shown in Figure 2.2.

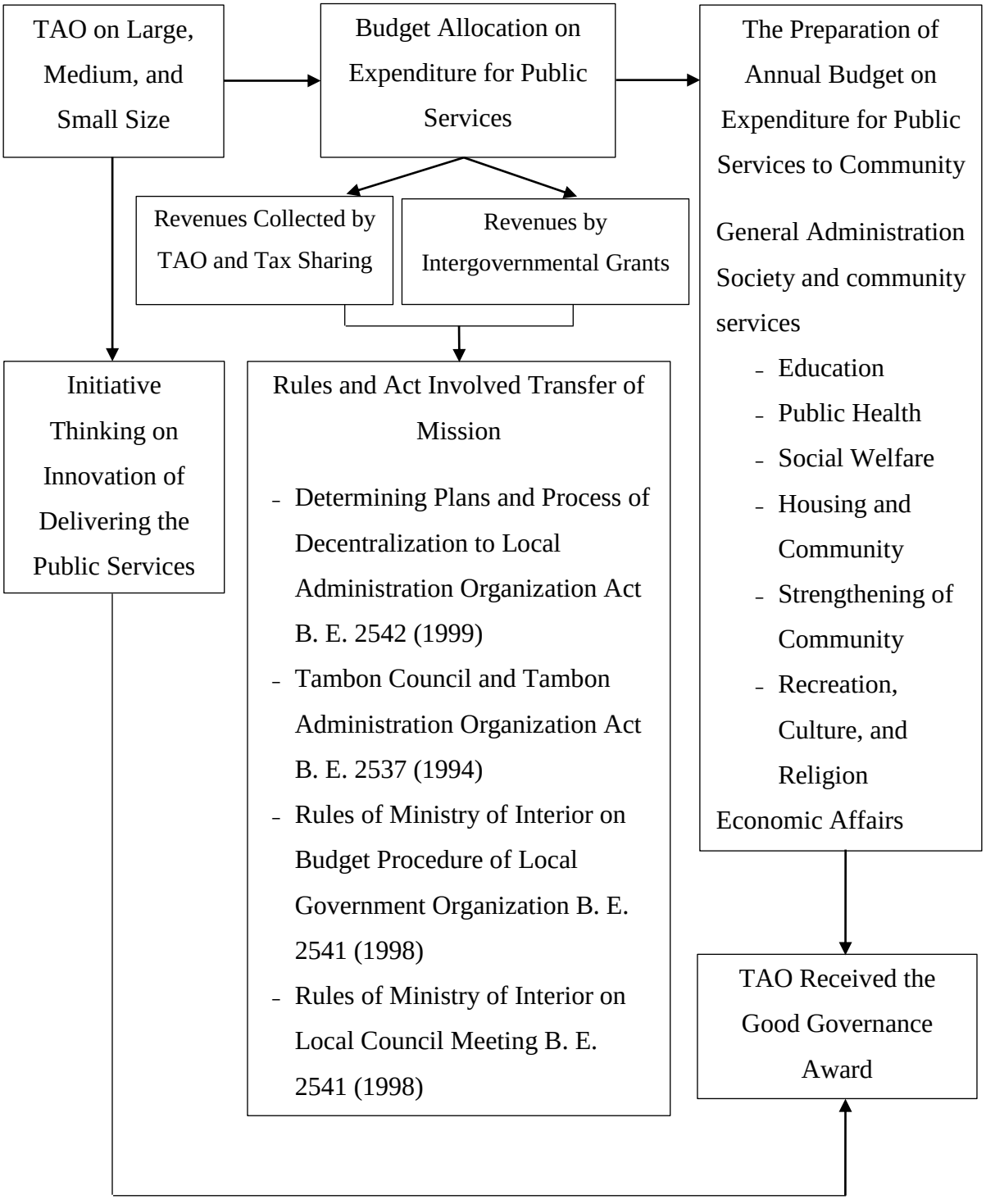


Figure 2.2 Process of Budget Allocation on Public Expenditure for Delivering the Public Services to Community of TAO of Large, Medium, and Small Size

2.2 Determinants of the Budget Allocation on Public Expenditure

Dynamic analysis of the expenditure budgets of TAOs include three important theories, namely: 1) incremental theory consisting of the decision–making within the organization, 2) economic–demographic theory consisting of demographics of the community and environment, and 3) public choice theory consisting of social choice. The details are as follows.

2.2.1 Incremental Theory with the Budget Allocation on Public Expenditure

Decision theory is a conceptual framework in which the budget allocation of public expenditure is described for delivering public services to the community by analyzing the influence of decision making within the organization for considering the expansion of public expenditures. This is the essential determinant of the government's decision, whether or not the government has ruled on how to decide the budget allocation for public expenditures for the various departments of government in every year. The government will have to decide on requesting for budget approval and whether it would have to ask for more or less than the original budget from the past year or not. Meanwhile, budget approval is requested for both the executive and the legislature when deciding whether or not the budget is approved for the requesting agency. It should approve the increased or decreased budget, so the allocation process for the public budget on expenditure involves more theories of decision. Describing the process of this decision has two models in the explanatory theory, as follows: 1) a rational comprehensive model, and 2) an incremental model. The details are as follows.

2.2.1.1 Rational Comprehensive Model

This is the rational comprehensive model for a rational choice. The process of best practice is found and selected for the budget allocation of public expenditures. However, development and change are achieved for providing the maximum benefit, this theory is the concept of economist Downs (1957) who took it

from microeconomic theory for explaining political behavior (Sombat Thamrongthanyawong, 2011, p. 233). This theory believes that policymakers have five qualified reasons: 1) knowing the requirements of target groups in society, 2) knowing an alternative policy, 3) knowing the outcome of the alternative policy, 4) analyzing and calculating the cost–benefit in each alternative policy, and 5) being able to choose the most effective alternative policy (Dye, 1995, p. 28). However, a rational decision is actually the rarer process of occurrence, there are many obstacles and limits. First, it is clearly difficult to establish what the purpose of the activity is, especially in the contradictory goals of more difficult decisions. Second, we cannot find or know what all the options are to achieve such goals. Most of us have known or analyzed only the familiar choices. Third, gathering all available information involves various options that may not be achieved because of limited time and resources. Even if there is sufficient time and resources, we cannot know for sure all the relevant information. There may be many unexpected things (Ponlapat Buracom, 2011b, p. 130). Under these restrictions, Lindblom (1959) indicated that the decision process with an incremental model can actually be implemented rather than the rational model.

2.2.1.2 Incremental Model

The theory of an incremental model is to allocate the expenditure budget for changing just a little from the original baseline (Sombat Thamrongthanyawong, 2011, pp. 241-249). It is a gradual change of public spending from the previous year. In a comparison of the two theories of the decision model, the incremental theory has been applied more. It is easy to practice and is nothing compared to more complicated problems. It is characterized by only slightly increasing or decreasing the allocation from the original. It is an alternative model that can be easily implemented. Although this is not the best option, public expenditure can be managed under this theory. Incremental theory rarely responds to the demands of society, but it will respond to the demands from the original. The theory that the government in today's world deploys budget allocations on public expenditure for administrating the country each year is to change a little from the original. There may be only a slight increase or decrease, or the same characteristics, in the budget

allocation from the year before. So, in this theory of decision, the incremental model is important as follows. First, the decision choice may not necessarily be the best choice or the most prized. As it is a choice, it can likely be implemented more than another alternative. Second, in the event that the former option is not a satisfactory alternative, a new choice can used that is often not different than the old one from before. Because the abandonment of the pattern had not been practiced before, it is turned out in a whole new way. It could be a mistake to so easily change it, therefore it's better to happen incrementally. And third, the incremental model views the decision as the result of compromise among various related interest groups. Accordingly, since the change occurs from before-hand as opposed to afterward, it may affect the interests of certain groups or several groups and result in resentment or opposition. The decision–maker thus always tries to maintain the status quo without letting too much change (Ponlapat Buracom, 2011b, p. 131).

The rational choice theory has been criticized as a theory that cannot be put into actual practice. It has several weaknesses that need to be resolved. For this reason, Simon (1997, 2000) and Lindblom (1959) suggested that the rational–choice theory in practice cannot be true. Because the policy makers do not know all five characteristics, as mentioned above, the incremental theory has been decided on for budget allocations of public expenditures. It remains a question whether or not the government has allocated the budget on public expenditure for the administration of the country. The government has been enlisted for decision making as to whether the budget allocation should receive more, less, or equal to the agency's budget request. The agency requests its budget after it has decided on the decision process of the budget request. It can request more, less, or equal to the budget. Danziger and Ponlapat Buracom (1978; 2011b, p. 132) indicated the budget allocation of governmental expenditure in two aspects as follow; 1) the kind of budget in each fiscal year unchanged from the previous year, and 2) a budget in each fiscal year with gradual changes from the previous year. It changes by a constant ratio. The reason the government allocates the budget on public expenditure with an incremental model is because the budget is gradually allocated by changing little by little from the original. It is a slightly increased or decreased allocation from the original.

The government allocates the incremental budget for the following reasons. First, the government has not enough time, information, or budget for considering an alternative policy. Second, policymakers have legitimized the existing policy, hence they have avoided the risk and uncertainty of a new policy. Third, due to the large investment of mega-projects, the government needs to implement continual policies from the originals that is already existing. This is to require compromise for avoiding serious impacts and maintain the status of the person considering the budget. Fourth, for political convenience, because an incremental budget is allocated it will make it easier for policymakers to allocate the budget for operating projects. This is with only a slight increase or decrease. And fifth, because there is no agreement on the social value and goal, a government in a pluralistic society processes the existing projects, this will make it easier to plan new policy. (Dye, 1995, pp. 31-32; 2011, 2013; Ponlapat Buracom, 2011b; Sombat Thamrongthanyawong, 2011, pp. 242-244)

In the incremental theory, the governmental budget for public expenditures is allocated with the characteristic of an increasing or decreasing allocation. This theory focuses on the study of the determinants affecting the decision in allocating the governmental budget for public expenditure, and how it should be allocated to maximize benefits. Simon (1997, 2000) and Lindblom (1959) suggested this concept in order to eliminate weaknesses or limitations of the theory regarding the rational decision–making model, in that they do not agree with budget allocations for public expenditure with this theory. So they proposed the incremental theory, whereby the allocation may be increased or decreased incrementally, or remain equal. The budget is allocated incrementally in this trend but it may lead to inefficiencies in the allocation of public resources. It may be responsive to only little requirements and changes in a new society. A good solution in the incremental allocation of public expenditure is as follows. First, the establishment of a budget agency would depend directly on the approved budget. Data are to be collected and analyzed for presenting the information on the program’s cost of governmental expenditure, as well as to assess the effect of state spending on various projects for disseminating the information to all those involved with the acknowledged budget in mind. The budget

is then effectively approved. And second, it allows people to express satisfaction in more governmental expenses of the project. It is a participatory budgeting system for encouraging all sectors to participate directly in the preparation of the budget. Due to the participatory budgeting system, it opens up an opportunity to participate directly in the budget process by adding more information into the political system. By starting with the local, it then goes to the federal government. This approach is to make the public part of the consideration consisting of (1) budget preparation, (2) budget approval, and (3) budget implementation and evaluation. (Ponlapat Buracom, 2011a; 2011b, pp. 145-147) The incremental theory states that policymakers will use the normal expenses of existing projects from the previous year (lagged time) as a base to justify expenditures or projects in the current year. It can be written as a model for education in Figure 2.2 as follows. (Ponlapat Buracom, 2011a)

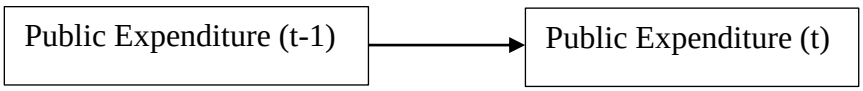


Figure 2.3 Incremental Theory with Budget Allocation on Public Expenditure

Sources: Ponlapat Buracom, 2011a, 2011b.

2.2.2 Economic – Demographic Theory with the Budget Allocation on Public Expenditure

Economic-demographic theory is the study of the economic environment and population that influences the expansion of public expenditure (Ponlapat Buracom, 2011b, p. 149). The academic research to support this theory includes Wagner (1883). He suggested that increasing public expenditure is called the law of rising public expenditures due to the economic and social development of countries. The government allocates for increasing goods and services. This study of Wagner (1883) found that the factors that affect the expansion of public expenditure include economic growth, efficiency in goods and service production in government, growth of population, migration of population into cities, and expansion of the tax base.

Therefore, the causes of increasing public expenditures in government are as follows. First, public goods have income elasticity that is more than one. This means that public expenditure increases with the rate of economic growth by measuring the rate of increasing gross national product (GNP). Because of economic growth, government has more duty toward the welfare of people and infrastructure. Second, the efficiency of government is low. Wagner suggested that the competition between suppliers of goods and services in the private sector will make the development of new technology faster than the government. That is, the cost of manufacturing public goods by the government is likely higher than the cost of producing them in the private sector in the long term. Third, because of the growth of population, more immigrants into the city, and the expansion of communities, the government has to increase spending on activities such as housing, utilities, transportation, and traffic, etc. And fourth, the ability of the government to collect revenues and taxes is a key factor in determining the spending of government. In a country with a low level of development, the government will often face problems in collecting tax due to the management of levies with low efficiency. In addition, their economic systems are mainly produced from the agricultural sector. It is difficult to collect income tax or trade because the taxpayer is mostly freelance. Trade will be in the form of small traders without certain accounting. More advanced countries have affected a broader tax base and the collection of income tax and business tax is convenient and concise. So when the country is developed at a higher level, the ability of spending by the government is increased as well. (Ponlapat Buracom, 2011b, pp. 151-152; Wagner, 1883)

Peacock and Wiseman (1961, 1967) investigated the rise in public expenditures that occur in times of war situations. He found that increases in government expenditure are not always smooth, but rather rise like a staircase, though it depends on the event or emergency situation. The imposition of government, which is the main source of income, is paid for by development in areas that would importantly depend on the tax burden and public acceptance. However, in the event of war the public is willing to accept a tax increase more than during an acceptable level of normalcy. The government is therefore assisted for deploying in times of war. The

result can be ongoing when the situation calms down. If people still accept a higher level of taxation the government is able to spend in other areas for further development. A study in public expenditure of the US government during World Wars I and II found that it quickly increased. Afterward it fell sharply at the end of the war. However, the proportion of total expenditures per gross national product (GNP) remained at a level higher than before the war. Other expenditures had replaced the expenditure to protect the country after the war. It is noteworthy during the Korean and Vietnam Wars that public expenditures of the government clearly increased like a ladder, the same as in World Wars I and II (Ponlapat Buracom, 2011b, p. 153). In addition, Musgrave (1969); Musgrave and Musgrave (1980, 1989) studied the theory of public expenditure and listed the factors that influence the growth of public expenditure as follows. First, the economic factor includes the level of economic development. The expansion of urban and industrial development is the expansion of big business and national income. Secondly, the demographic factor, which includes the growth of population, the expansion of the school-age population and birth rate, and the increase in life expectancy of the population. Third, the technological factor, includes the development of technology and technological competition in the military and aerospace. And fourth, the social and political factors that include the expansion of social and democratic ideals and the political participation of citizens. The transition from dictatorship to democracy has influenced the expansion of public expenditures. (Ponlapat Buracom, 2011b, pp. 153-157) The economic–population factor has influenced public expenditures, therefore, the federal government must allocate grants for assisting in the formation of programs, such as in education, social welfare, public health, the environment, etc. In addition, in government spending if any state with a high income is likely to provide better education, it can cause inequality in the society whereby the central government must intervene. If the inequality is to be eliminated the government must allocate grants for assistance. The study of factors influencing public spending in the United States found that political variables influenced less than economic and social variables. Environmental factors influenced subsidies for unemployment compensation, the creation of governmental innovation, and spending trends for the well–being of society.

A study by Dye (1995, pp. 38-40) embraced the system theory for suggesting that political factors influence public policy. This theory explains that public policy is political productivity. Support will occur only when the individual or group of people will accept the result of elections, pay taxes, obey the law, and conform to policy decisions. So if inequality is reduced in these various states, it is greatly avoided elsewhere. The problem is solved where the federal government intervenes for minimizing inequality. Meanwhile, voter participation is essential to the federal government with regard to providing public expenditures. The results of most of this research has not been studied because feedback has been limited, it has not been able to cover everything within the subject. If the feedback is studied it must focus on a new subject. The political system will have to respond to the needs of the citizens. Meanwhile, Wagner (1883) said that when people have more revenue it increases their demand for public goods, while Dye (1978) did not agreed with these ideas of Wagner. Because the budget of government is allocated, it is allocated to the rich areas with higher incomes more than to the poor areas with lower incomes. So, the theory of Dye (1995) indicates that environmental factors are more influential than political ones. The economic–demographic or system theory is important with economic, social, population and environmental determinants. This is based on the theory of democracy, with the belief that the political system or the government must respond to the impetus and the needs of its people or environment. Policy or public spending is the productivity of the political system to respond to the impulse of the economy, society, and demography with a model, as shown in Figure 2.4. (Ponlapat Buracom, 2011a)

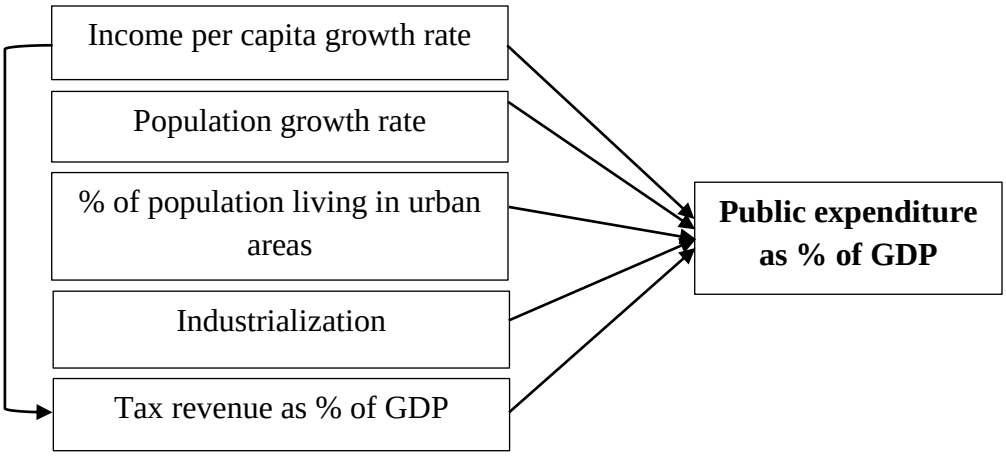


Figure 2.4 Wagner's Model on Growth of Public Expenditure

Sources: Ponlapat Buracom, 2011a, 2011b.

The study of economic–demographic theory involved the following research. Lamartina and Zaghini (2011) suggested increasing public expenditures per Wagner's law in OECD countries. The approach of panel co-integration estimation consists of a times series and cross–sectional dimension of the data set from 1970 – 2006 from 23 countries in the OECD. The results of the study found that public spending and per-capita gross domestic product (GDP) correlated positively. It has a long–run elasticity of more than 1. The recommendation of this study is it should increase the proportion of more government expenditure on economic activity. In addition, the result of this study found that the relationship of income per capita in different countries is low. So it can be indicated that strengthening the development of governmental activity would be like a catching–up period, and that economic development will result in more progress.

2.2.3 Public Choice Theory with the Budget Allocation on Public Expenditure for Delivering Public Services

Public choice theory is the study of political variables that influence public spending or public policy. This theory is a concept of neoclassic economic theory. The assumption of this study indicates that individuals, including consumers,

producers, politicians, voters, and officials, will do whatever benefits themselves in order to seek maximum benefit. Politicians who want to seek maximum benefit vote for forming a government and gaining power. Voters also want the maximum benefit from the government policy or expenditure that contributes the most benefit to themselves. Hence, politicians obtain the most votes by essentially proposing the policies or public programs that are needed to get votes. The interaction between politicians and voters is detailed as follows. (Buchanan, 1975; Mueller, 2003; Ponlapat Buracom, 2011a)

2.2.3.1 Representative Democracy Theory or Medial Voter

Representative democracy theory attempts to explain the role of politicians and voters. It compares their role and how it looks like a company seeking competition by usurping customers in the market. Politicians try to provide products and services for responding to the needs of consumers as much as possible, too. So, people who are entitled to vote provide it at election time. For this reason, representative democracy responds to the demands of the people who mostly vote (Ponlapat Buracom, 2011b, p. 161). This theory suggests that man is a rational animal seeking maximum profit, and considers the key main reasons. Meanwhile, politicians take into account maximum benefit, too. Their attempts at projects are submitted for the various expenses of responding to the demands of voters in their area. Politicians propose the expenditures or policies that respond to the needs of most voters. They are elected as the government, so the maximum benefit that politicians want most is the suffrage of voters. These results can affect themselves as government. Meanwhile, voters will vote for the candidates that they feel can respond best to their needs. When politicians are elected, they will propose essentially the policy or program that responds to the needs and satisfaction of the voters. If they are satisfied, they will have voted for the right politician. It will be a benefit to both parties, called a win–win (Black, 1958, 1987; Bowen, 1943; Downs, 1957). This model, as many scholars have explained, is why public expenditure on society includes education, public health, and others. It is high up. This is because the purpose of the median voter is to acquire voting for forming a government. The majority are made up of the poor, who are entitled to vote. While politicians want those votes, they submit their policies for the

benefit of a vote. The voters who are voting for the politician need good welfare, such as a good education and medical care, etc. (Meltzer & Richard, 1981, 1983; Mueller, 1997; Peltzman, 1980). For this reason, median voters provide the key model for eliminating the inequality in income distribution. The government will have to resolve this by delivering public services for free education and stability of society, etc. In countries with high voter participation the government is likely to have a trend of high income distribution. So, with regard to median voter theory, if public expenditure on society is high, what will ensue? Some perspective is good. Some theorize that if public spending is high it makes the economic system expand as well. Some countries have to appease voters by holding activities or projects that are popular with the voters at election time. But at the same time, there must always be a ceiling on the limit of spending, as incurred expenses are related to the income from collected taxes. In contrast, if there are too few median voters the government will become an elite democracy. This becomes a feature of the state when it is not interested in the welfare of its people. Therefore, the purpose of the median voter is to explain the expansion of public expenditure on society. The theory is based on the assumption of public choice theory. Politicians often focus only on their own interests and seek maximum benefit, the benefit that most politicians want is to win election. Politicians must respond to the needs of voters who come from poor families. A majority of people can provide politicians the vote, in the meantime, what voters with impoverished families want more than anything is income distribution for more equality. (Meltzer & Richard, 1981, 1983) So, the effect of median voter participation is to bring more democracy, which incurs more balanced development. On the other hand, if politicians focus only on the policy of income distribution with the voters, creating the popular vote may result in public spending with more expansion, a surplus budget causing public debt, and a reduction in economic growth or private investment (Tanzi & Schuknecth, 2000). A good solution is to determine an applicable rule for allocating public budget expenditures as follows. First, in a normal situation, the government must prepare a balanced budget. Secondly, if the deficit budget is prepared, it must be approved by a two-thirds vote of MPs. And third, if it is to make a deficit budget, it must not exceed 3% of GDP. In addition, Tanzi and Schuknecth (2000) indicated that if an inequality distribution of income causes voter participation, the vote of the poor will increase.

As a result, the state will have to formulate a public policy of expenditure on social security, education, and public health. It will increase voter participation in order to retain its base of voter participation from the poor for the sake of winning election and remaining in the government. So, in representative democracy theory, the model of study is as shown in Figure 2.5. (Ponlapat Buracom, 2011a)

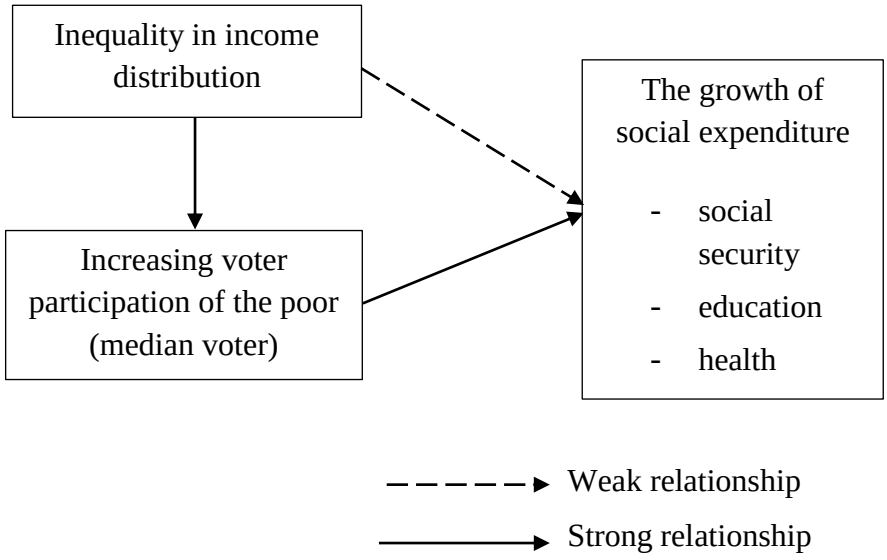


Figure 2.5 Model of Representative Democracy Theory
Sources: Ponlapat Buracom, 2011a, 2011b.

2.2.3.2 Vote–Maximizing Theory

The theory of chasing the highest number of votes tries to point out the imperfection of the democratic political mechanism as an imperfection of market mechanisms, which results in the allocation of public expenditure being inefficient (Ponlapat Buracom, 2011b, p. 162). It points out the following details. First, the vagueness and uncertainty of the benefits received from public goods. Since those receiving the public goods are clearly not for the common man, they are received with substantial, tangible, or direct characteristics. As a result, voters feel that they do not benefit from state services. Secondly, the incompleteness of the information, Although government provides information to the voters in order to achieve a better

understanding and appreciation of public expenditures on the products of public goods and services, this action incurs time and a high cost. Large projects with considerable sophistication require more cost too. For this reason, therefore, the information is often not complete because the time of disseminating such information is usually over a short period during the election campaign. And third, the limited time and resources spent in seeking the information for these voters results in public spending that is too small in size (Downs, 1960; Ponlapat Buracom, 2011b, p. 167). When political parties want the highest vote count, projects of various expenses are proposed for responding to the demands and preferences of the most voters. This allows the voters to vote in the election. It makes a political party function as the government for administrating the country. It is the ultimate goal that politicians want. So, the maximum benefit of the voters is the project that mostly benefits themselves and their partisans. Things that the politicians want mostly are votes, because that helps themselves and their partisans in the government. However, of all the projects of various expenses that are proposed by politicians, it is the project of earning money for spending that is crucial, to collect tax to be spent on various projects. Tax collection is a burden that everyone hates paying, but project expenditures are in the interest of political parties. So, supporting tax collection would sink a political party that aspires to be elected and in office for the next government. It thus tries to offer tax collection that causes minimal impact or loss of votes as possible. It is a suitable intersection of equilibrium that all parties should accept (Ponlapat Buracom, 2011b, p. 163).

2.2.3.3 Voting Bias Theory (Fiscal Illusion Theory)

This theory suggests the imperfections of the political mechanism. Because the result of the allocation of public expenditure is inefficiency, the government wants the maximum votes. The effort of the campaign for its project proposal creates the maximum preference of the voters. As a result, there is increasing public expenditure. While the revenue of the government from the collection of tax allows the budget to implement the project, the tax causes the creation of dissatisfaction with the election voters. So, the government tries to reduce such effects by avoiding the direct collection of tax and instead turn to indirect ones such as a

business tax, in order to not burden people of paying more tax. Alternatively, if the government establishes a budget deficit so that people do not feel they must pay tax, in fact such action of government imposes a burden on all people. Such products may be more expensive and cause public debt, but it is an obligation of the public to use the public debt together for the future. The results of research have found that factors of the proportion of indirect tax are a percentage of the total tax, and the proportion of the budget deficit that is a percentage of GDP influences the expansion of public expenditure (Buchanan, 1975; Buchanan & Tullock, 1962; Ponlapat Buracom, 2011b). Therefore, the bias voting model is a theory that has been proposed by public choice theorists. The purpose of this theory explains the growth of public expenditure. The assumption indicates that politicians seek the maximum benefits for themselves and their partisans. The benefit that politicians most want is the election vote. Therefore, in order to get the most votes, politicians make projects of public expenditure for responding to the preferences and the needs of the voters. For this reason, the expansion of public expenditure means that government will have to earn money by tax collection. With the collection of tax the voters become dissatisfied, therefore the government tries to push a tax burden in which voters don't feel themselves bearing the payment of more tax. Tax is collected, including indirect taxes such as tax on trade. This debt of financial commitments is a burden for people in the future, which is why it is called a public debt. The resulting of budget allocation is a fiscal illusion which will cause inefficiency in the allocation of public resources. The budgeting of this fiscal illusion causes the expansion of indirect tax, public expenditure and a budget with an excessive deficit (Marshall, 1991; Wallace E. Oates, 1988, 1989). So, it is recommended that a legal requirement is used for the expansion of public expenditure, whereby if the tax is increased deficit budgeting must be approved by a vote of two-thirds of the legislature before it will be implemented. The voting bias model is built on the hypothesis that confidence in the government results when high indirect tax is collected along with a high budget deficit. This results inevitably in a high expansion of public expenditure as well, as shown in Figure 2.6 (Ponlapat Buracom, 2011a).

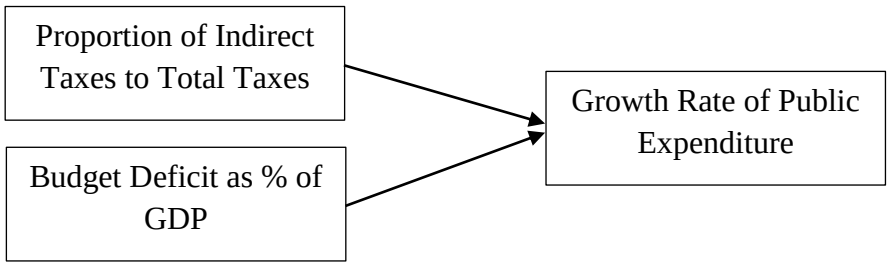


Figure 2.6 Model of Voting Bias Theory (Fiscal Illusion Theory)

Sources: Ponlapat Buracom, 2011a, 2011b.

2.2.3.4 Budget–Maximizing Bureaucratic Theory

This theory suggests that a bureaucracy needs maximum benefit in order to extend its agency and power more than ever. It attempts to exploit interest or maintenance as much as possible. So, it likes civil servants, politicians and voters in general elections, it wants to increase the public expenditure as much as possible in order to maintain and expand its organization and role. This is because government officials are the same as entrepreneurs in the private sector of general business with regard to maintaining or seeking maximum benefit, being comprised of individuals with power acquired both inside and outside the organization, money, social status, wealth, loyalty, and the pride of performance (Downs, 1967; Ponlapat Buracom, 2011b, p. 171). They try to seek and obtain a budget for building their power base in the bureaucratic system. For achieving these goals, government officials compete for acquisition of more budgets with expanding and larger organizations and staff. As they acquire power, wealth, and higher social status, it reduces conflict within the organization, and it prepares them for more change within the organization (Borcherding, 1977; Dunleavy, 2013; Niskanen, 1971, 1991). For this reason, the bureaucratic system causes an expansion of public expenditure. The budget will be employed in the public sector and tax collection will be implemented by local government. The result of this research has found that the proportion of employment in the public sector compares with the total one, and the proportion of tax collected by local government compares with the total tax, influencing the expansion of public

expenditure. In the bureaucratic model, government officials are the same as common mortals who want maximized self–profit. They need a larger size organization, and an increase of beautiful buildings. As a result, public spending is higher, which is based on the assumption that the government officials have more power, which drives up public expenditure, and so on. So, when the bureaucratic system tries maintaining its interest, it is all about salary, fame, power, and the ability to foster subordinates, as well as the capability of expanding to a larger organization. High wages and compensation are obtained, as well, the welfare and opportunity of their position is promoted while acquiring their accepted social status. The bureaucratic system tries increasingly to maintain its benefit, which results in more expansion of public expenditure in turn (Bacon & Eltis, 1978; Cameron, 1978; Freeman, 1975; Heidenheimer, Heclo, & Adams, 1990; Tarschys, 1975). The result of this study has shown that employment in the public sector, with the expansion of public spending, is related in a positive direction. This means that large bureaucratic systems have more power. This makes the public expenditure of government large as well (Henrekson, 1988). In addition, there are also studies for measuring the strength of local government systems in countries with federalist regimes, which consist of a local government and a local bureaucracy system being free from the central government. This system is likely to have much more public expenditure because these countries have a lot of bureaucratic systems in each varying level if government. More than in countries ruled as a single state, this excess of bureaucratic systems tries to expand into larger organizations and results in an increasing budget. This study can measure the strength of the local government system. It is measured by the distribution of fiscal power to local government. The assumption is that financial decentralization to a local authority can be measured from the taxes collected by local government when compared with all taxes. The proportion of employment in the public sector compared to total employment is likely to have a positive correlation with the expansion of public expenditures (Cameron, 1978; Heidenheimer et al., 1990; Tarschys, 1975). However, the bureaucratic system has too much influence on the expansion of public expenditure. It makes for an inefficient allocation of public expenditures. The allocation of public expenditure ends up meeting the needs of the bureaucratic system rather than the needs of society, and it takes too much to expand the public

expenditure. Meanwhile, scholars have submitted a model called the budget–maximizing theory, including Borcherding (1977), Ferris and West (1999), and Niskanen (1971). This makes the assumption that civil servants will seek maximum benefit by acting on what is essentially their own interest. The benefit that governmental officials want mostly is allocating an increasing budget. The size of the organization increases, which brings power and prestige. For this reason, it causes the expansion of public expenditure. The assumption is that when the power of government officials increases, it results in an expanding high public expenditure as well. If the expansion of the governmental officials' salary has a high correlation, it means that the government will levy increasing taxes to bring up the salaries of civil servants, as shown in Figure 2.7 (Ferris & West, 1999). So, when the budget is allocated by the budget–maximizing bureaucrat theory it causes an inefficient allocation of public resources. Due to the expansion of public expenditure on too much consumption, it is recommended that a legal provision must limit the growth of public expenditure on consumption. It should increase by no more than 70% of the total budget.

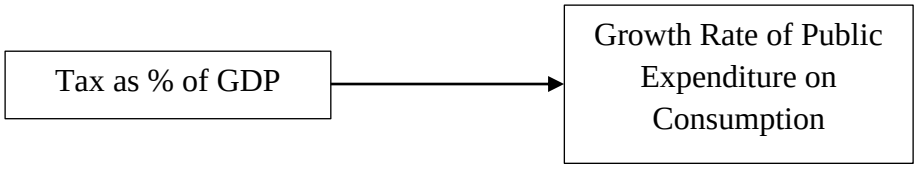


Figure 2.7 Model of Relation between Tax as % of GDP and Growth Rate of Public Expenditure on Consumption

Sources: Ponlapat Buracom, 2011a, 2011b.

2.2.3.5 Interest Group Theory

Interest groups need the government to have projects that benefit their own group. For example, rubber growers want the government to guarantee a higher price for rubber products. Farmers want the government to guarantee the price of rice at a higher price as well, and groups in the construction industry want the government

to promote projects for constructing and infrastructure, etc. They want to sell the construction equipment. Each of these interest groups can push the government for increasing public expenditures. The interest groups that are capable of integration highlight inequality. Some groups may be combined easily to get more funding for pushing their own demands on the government. This causes the expansion of public expenditure, but society is different. Society depends on how much social groups or interest groups have the strength to influence the allocation of public expenditure at any given time. So, this idea tries to point out that interest groups have a capacity for inequality grouping. One problem is the so-called free rider, when some people demand public goods and services but are not willing to pay for those public goods (Becker, 1983; Kristov, Lindert, & McClelland, 1992; McCormick & Tollison, 1981, 1983; Olson, 1965). A case in point is when the same interest groups demand the government to set tariffs preventing cheaper foreign cars from entering into competition with domestic cars. The interest group with many members and high overhead costs avoids participation in driving the subject matter because participating is a waste of time, the risk of employment is dismissed or they incur huge costs in driving. Even if it is not impelled to attend it is successful. There are barriers that are occurring. These groups are also the beneficiaries (Ponlapat Buracom, 2011b, pp. 174-175). Or there's the interest group with incomplete data, so the participant doesn't push for any cause. This group is just a small one. There are a few members who are unlikely to influence the success (Mueller, 2003). Therefore, it can be concluded that the interest groups with a small number of members can be grouped together to push public policy easier than interest groups with members more than two. Interest group with numerous members, or an aggregation of groups, will be more efficient. It only adds specific motivation by providing the members with the incentive of increasing for more aggregation of the groups. The aggregation of groups for negotiating for benefits has tended to allow the major members to exploit the minor ones (Mueller, 2003). Therefore, the interest group model is a theory of academics on public choice theory. Olson (1965) proposed studying the assumption that individuals mostly want the benefit for responding to their own needs as much as possible, or seeking a maximum benefit. Therefore, individuals have a common interest in pressuring the government to follow what they want. Individuals have a

different potentiality to establish policy and public expenditures for responding to the demands of powerful interest groups, as shown in Figure 2.8 and Figure 2.9. The consequences are that there is favoritism in the allocation of public expenditures toward expanding economic growth. The majority poor may gain the least benefit. So, the suggested solution is that a participatory allocation of budget should be used, with the benefits falling mostly to the poor. Meanwhile, Bastelaer (1998) investigated the political economy of food pricing: an extended empirical test of an interest group. The result of this study found that the policy of grants or subsidies provided to the agricultural sector of poor countries around the world occurs primarily where the population is mostly involved in agriculture. The economic status and well-being of the public is at a moderate level in cities with a low population. These cities are capable of group aggregation and have influence over the government. The government in this country has attempted often to intervene and control price, especially with subsidies for low food prices for people in the city. For rich and developed countries, the proportion of farmers to the total population is smaller. The agricultural sector has always been subsidized by policies of the government. Cameron (1978) studied the expansion of the public economy: a comparative analysis found that a country with an open economy will always rely on the high international economy. The revenue from the import and export of goods is in the higher proportion. As a result, the expansion of public expenditure is high. Because changes in the global economy affect countries who import and export, this is a serious consequence for this country. For this reason, the government has intervened and played a role in maintaining a greater impact on the economy. As a result, there are more public expenditures. The government must bring about a budget to train workers who lose their jobs due to structural changes in the economy. According to the current global economy, a restructure of the economy makes it able to enter the new market of labor with competitive capacity. The country relies on the import and export economy. It is an industrial country concentrated along the coast near ports for reducing transport cost. Because of the aggregation and cluster like this, it gives labor users the opportunity to unite into strong unions of labor. They can then negotiate and push the government for public spending on the rising welfare of society and labor. The combination of these unions or interest groups sometimes make for an inefficient

allocation of public expenditure in government because the allocation of public expenditure responds to the needs of interest groups with only a few groups instead of responding to the needs of the general public. Therefore, the solution is to allow a group of citizens to come together and achieve greater participation in the allocation of public expenditures. A study by Tsai (2007) suggested solidarity groups, informal accountability, and local public goods provision in rural China. The result of this study found that informal groups in society include groups of community leaders, religious and temple leaders, and kinship in rural China. These groups have an extremely important role in pushing the Chinese government with allocating public expenditures for public investment in the infrastructure of rural areas in China. The result of the study indicates that the strength of the social group in rural China is related to the statistical significance of allocating public expenditures in rural areas of China. It can be concluded that even in a country as undemocratic as China, it encourages and provides opportunity for social groups with much more strength. As a result, public expenditure is allocated for responding to the needs of poor people better.

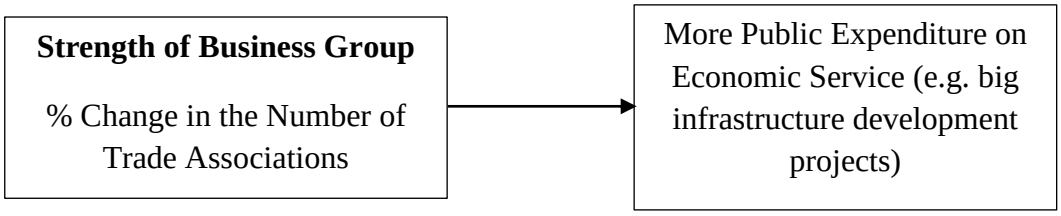


Figure 2.8 Strength of Business Group Affecting the Expansion of Public Expenditure

Sources: Ponlapat Buracom, 2011a, 2011b.

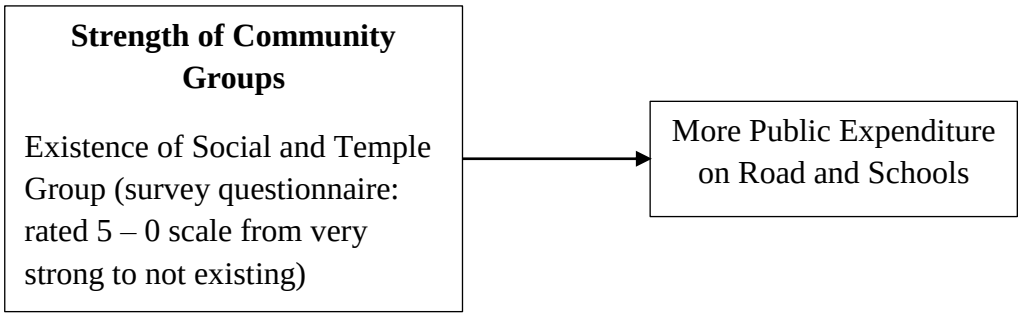


Figure 2.9 Strength of Community Group Affecting the Expansion of Public Expenditure

Sources: Ponlapat Buracom, 2011a, 2011b.

2.2.3.6 Political Business Cycle Theory

The theory of the political economy cycle is that the government uses fiscal instruments for increasing governmental spending in order to stimulate rising products in the economy. This will result in increased employment and a reduced unemployment rate, especially from pre-election until the end of the election. This is to call out the voters for popular voting. However, these actions at the same time will cause higher inflation, though that will decline after the election. The government will seek out how to control the inflation by bringing the cost of government down, in order to create economic stability. The result is a rising rate of unemployment, so the government uses monetary and fiscal policy for public expenditure and taxes for the stabilization of the economy and the solution of unemployment and inflation. The assessment of the theory of public choice is that it does not solve the problem by creating economic stability in any way. On the contrary, it incurs increasing economic instability and causes a cyclical fluctuation of the economic condition. It is alternately a cause of unemployment and inflation. This is because the government and politicians uses monetary and fiscal instruments for the specific advantage of politics in order to get elected. So, the government uses monetary and fiscal tools to reduce public spending and taxes. These adjustments to the economic situation include unemployment, inflation, and national income in accordance with the requirements of

the voters in the previous election, in order to receive the ballot or the popular vote and allow the government to come back again (Frey, 1978; Paldam, 1997). Therefore, politics of the economic cycle is where the government uses fiscal tools on public expenditures and taxes. To stimulate productivity in the economic system, this is increasingly from using employment and the reduction of the unemployment rate, especially during the pre-election until the end of the election. This is to get the popular vote from voters. However, this action will increasingly cause inflation, though such problems can be reduced after the election. The government will seek ways to control the inflation by reducing governmental spending for the stabilization of the economy. Meanwhile, the unemployment rate will return up again with the switching cyclical rotation (Frey, 1978; MacRae, 1977; Paldam, 1997). There is an assumption that voters will rationally decide the selection of the political party. The performance evaluation of the government on the economy is keenest during the election. The work that the public is satisfied with is the rate of employment and low inflation. The public does not know about the relationship of replacement exchange, between inflation and the rate of the employment. This is the concept of the pursuit of maximum utility and the rational decision of neoclassical economics which explains the political behavior of the government and the electoral vote. There is also the assumption that people do not look at the long–term outcome and the complete lack of information about government actions (Ponlapat Buracom, 2011b, p. 182). Therefore, study of the political economy cycle illuminates its major limitation, that it focuses on the relationship of elections with the expenditure policy of the state for creating conditions of economic fluctuation, such as a reduction in the unemployment rate, an increase in inflation, or the growth of income per capita of the population only, without bringing other factors into consideration. It lacks the credibility of a study with empirical data and finds that it is not only the relationship of the state election with the conditions of up or down business cycles, which happens anyhow. This weakness may be because first, the economic conditions of each country are affected by other countries through international trade, movement of capital, and the transition of certain products such as oil prices. This effect may cause changes in the unemployment rate and inflation. Secondly, the economic cycle happens because of the direct economy, it may be severe power that overshadows the economic cycle

from the election in the short time. And third, the election cycle in many countries may not occur during a fixed time. In some countries like the United States, it takes several election cycles in order to bring up the political economic cycle for empirical testing (Paldam, 1997). The problem is that scholars have to find a way, instead, by turning to study the relationship between the electoral representative and the expansion of public expenditure (Alesina, 2001; Hibbs, 1994).

The model of the political business cycle has been proposed by scholars, including Alesina (2001); Hibbs (1994); and Tufte (1978). There is an assumption that the politicians have sought maximum benefit, then acted on what is mostly beneficial to their own interests. So, the benefit that politicians need most is to win the election. The politicians in the government party of the coalition attempt to do the projects that benefit their voters. This causes increasing public expenditures during the pre-election. This is to show their satisfied voters that the government could win the election. Hence, the study on this theory has the assumption that at the time of the electoral voting, it results in the expansion of public expenditures. As a result, the allocation of public resources is inefficient. Because of excessive public spending, it responds to the election in the short–term only. The suggestion for solving this problem is that a fiscal rule is used to control public spending during the election. As a result, the study on the political business cycle theory is measured by dummy variables, as shown in Figure 2.10.

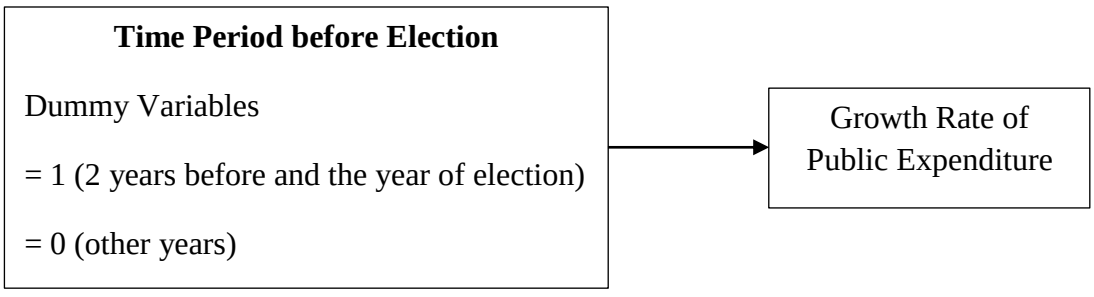


Figure 2.10 Political Business Cycle Model

Sources: Ponlapat Buracom, 2011a, 2011b.

2.3 The Determinants of the Budget Allocation of Public Expenditure

2.3.1 Incremental Budgeting of the Budget Allocation of Public Expenditure of TAO

Incremental budgeting is the study of one year lagged public expenditures of a TAO, which is the study of public expenditures in the current year for delivering the public services of education, public health, social welfare, and infrastructure of the TAO. The study of incremental budgeting has found the following results of research. Porntip Kanjananont (2010) researched revenue structure, expenditure structure, and factors affecting municipal budget allocation. The study was of the deciding factors in the organization that influenced the public budget on expenditure in the municipality. Allocation of the budget is mainly used as the base of experience from the last year. Because of the government, there are subsidy and tax allocations to municipalities no less than a year ago. Allocation of the budget is based on the last year in order to reduce the risk on insufficiency of resources, and any conflict is reduced among the municipal council, administrative section and sub-district council. The allocation of almost all budgets is based on the above mentioned theory, more than in the district municipality and city municipality. Meanwhile, Worrapong Trakarnsirinont (2010) suggested factors affecting social expenditures and impacts on income distribution by studying the factors that affect public expenditures in the country. The results of the study found that the deciding factor in the organization influences the allocation of public expenditures on society, education, public health, and social welfare. This theory is based on the deciding theory within the organization. The government does not have the time or the complete information. The decision for the preparation of a public budget of expenditure has changed only slightly from the original. This is to minimize disputes among agencies, provide political convenience, and make it easier to set up new policies and programs. In addition, Pichit Ratchatapibhunphob (2012) suggested that economic, social, political and bureaucratic factors influence the decision for the allocation of public expenditures in Bangkok. The results of this study found that the deciding factors have directly and indirectly influenced the allocation of public expenditure in Bangkok. This relationship is indirect through the bureaucratic variable. Therefore, the study of the incremental determinant affects

public expenditure for delivering public services for general administration, society and community services, and economic affairs of the TAO. From the literature review and related research, it can be summarized that the incremental determinant within organizations has a significant effect on the budget allocation of public expenditures for delivering public services of TAOs, as shown in Table 2.1.

Table 2.1 Incremental Budgeting of the Budget Allocation of Public Expenditure for Delivering the Public Services of TAO

Academics	One-Year Lagged Budget Allocation of Public Expenditure of TAO
Anthony Downs (1957)	✓
Thomas R. Dye (1995)	✓
Charles E. Lindblom (1959)	✓
Ponlapat Buracom (2011b)	✓
James N. Danziger (1978)	✓
Porntip Kanjananont (2010)	✓
Worrapong Trakarnsirinont (2010)	✓
Pichit Ratchatapibhunphob (2012)	✓
Herbert A. Simon (1997)	✓

2.3.2 Economic Determinants of the Budget Allocation of Public Expenditure of TAO

Study of the economic determinants affect the budget allocation of public expenditure for delivering public services in education, public health, social welfare, and infrastructure of TAOs. There is related research as follows. Gramlich (1968) studied alternative federal (Gramlich, 1968) politics for stimulating state and local expenditures: a comparison of their effects. The result of this study found that factors have influenced allocation on the public budget for expenditures of the state and local government, including subsidies by the central government, grants of contribution, unconditional grants, income, and interest rates. Henderson (1968) studied local government expenditures: a social welfare analysis. The results of this study found

that determinants have influenced the public expenditure of local government, including governmental subsidies, income, and population. In addition, Häkkinen and Kaleviluoma (1995) studied the determinants of expenditure variation in health care and care of the elderly among Finish municipalities. It found that factors have influenced allocation on the public budget of expenditure for health care of the municipality, including the income level of the population, state subsidies, efficient allocation, performance of service providers, and demand for delivering services. Oates (1979) studied lump-sum intergovernmental grants with price effects. The results of this study found that the subsidy from government had a significant effect on the cost of goods and public services. The civil servant who benefits the most from the budget will target the production of public goods and the administration at the highest level. Meanwhile, the collection of low taxation will make for a voter with maximized satisfaction. Therefore, grants within the state will actually lower the cost of goods and public services. In addition, Hwang (1987) studied an analysis of local government expenditures in a developing country: the case of central Korea. The results of this study found that factors have a significant effect on the public expenditure of local government, as follows. First, political variables are political participation, candidate competition, party competition, administrative capacity, and representativeness. Secondly, socioeconomic variables are education, industrialization, population density, total tax burden, local tax burden, road conditions, motor vehicles, commercial market conditions, financial market conditions, housing conditions, health conditions, and cultural environments. Third, governmental variables are government aid, financial capacity, level of delivering public service, regulation level, and production level. Beaton (1974) suggested the determinant of police protection expenditures. The result of this study found that five factors affect the allocation of public expenditure on police, including tax base, compensation, debt service, population, and crime.

In addition, Sudasinghe (2010) studied an analysis of local government expenditures: reconciling socioeconomic, political and governmental perspectives. The result of this study found that determinants have influenced the allocation on public budget of expenditure of local government as follows. First, socio-economic

variables include population density, education, health status, and commercialization. Secondly, political variables include political participation, party competition, and candidate competition. Third, governmental variables include government service, financial capacity, and intergovernmental finance relations. Therefore, study of the economic determinants has a significant effect on the budget allocation of public expenditures for delivering the public services of general administration, society and community services, and economic affairs of TAOs. F. Bastida, M.-D. Guillamon, and B. Benito (2013) studied the determinants of municipal spending in Spain. Results of the study found that politics, demographics, and fiscal/economies had a significant effect on the public expenditures of security, education, and culture. An analysis on the determinants of social welfare services found that revenue (per capita), grants/subsidies (per capita), and population had a significant effect on the social welfare services and annual growth rate of expenditure per capita (Mirya R Holman, 2013; The University of Mississippi, 2009). Therefore, expenditure decentralization had a significant effect in a positive direction on public spending for education, social security subsidy, administration, and capital construction (Jia, Guo, & Zhang, 2014). From the literature review and related research it can be concluded that economic determinants have a significant effect on the budget allocation of public expenditure for delivering public services on general administration, society and community, and economic affairs of TAOs, as shown in Table 2.2.

Table 2.2 Economic Determinants of the Budget Allocation of Public Expenditure of TAO

Academics	Revenues Collected by TAO	Revenues Collected by Government	Grants
Edward M. Gramlich (1968)	✓	✓	✓
James M Henderson (1968)	✓	✓	✓
Unto Häkkinen and Kaleviluoma (1995)	✓	✓	✓
Wallace E Oates (1979)			✓
Theodore C. Bergstrom and Robert P Goodman (1973)	✓	✓	
Yun Won Hwang (1987)	✓	✓	✓
W. Patrick Beaton (Beaton, 1974)	✓	✓	
S.R. Sepalika Nayanie Sudasinghe (2010)	✓	✓	✓
Francisco Bastida et al. (2013)		✓	✓
Mirya R Holman (2013)	✓	✓	✓
The University of Mississippi (2009)	✓	✓	✓
Jia et al. (2014)	✓	✓	✓

2.3.3 Demographic, Community, and Environmental Determinants of the Budget Allocation of Public Expenditure of TAO

The study on demographic, community, and environmental determinants affect the budget allocation of public expenditure for delivering public services on education, public health, social welfare, and infrastructure of TAOs. The research is involved as follows. De Medeiros and Barcelos (2007) stated the public expenditure on education: an empirical analysis in Brazilian municipalities. A study of 5,087 municipalities in Brazil found that determinants have influenced allocation on the public budget of expenditure for education, including size of population, population income, and aged structure of population. In addition, Fabricant (1975) studied the trends of government activity in the United States since 1900. Its result found that

factors have influenced the allocation of public budgets of expenditure, including population density, nature of city, and population expenditure per capita. Meanwhile, Holcombe and Williams (2008) studied the impact of population density on municipal government expenditures. Their study of 487 municipalities found that determinants have influenced government allocation on the public budget of expenditure, including the number of population, and population density. In addition, Weicher (1970) investigated the determinants of central city expenditures: some overlooked factors and problems. The result of this study found that factors have influenced government allocation on the public budget of expenditure. Service factors include population density, slums, and age of dwellings. Factors included differences in race, education, and aged structure. Meanwhile, Bergstrom and Goodman (1973) studied the private demands for public goods. Their results found that determinants have influenced government allocation on the public budget of expenditure, including population, population density, tax portion of voter, revenue of voter, percentage of black population, percentage of elder population, percentage of increasing population, percentage of people with homes of their own, and the ratio of employment per population. Furthermore, Morss (1966) studied some thoughts on the determinants of state and local expenditures. These results show that determinants have affected the state and local allocation on public budget expenditure, including urbanization, number of population, and ability to collect taxes. Bates and Santerre (2013) investigated the determinant of municipality spending on education. The result of this study found that the influence of population had a significant effect in a positive direction. In addition, Osman (1966) investigated the dual impact of federal aid on state and local government expenditures. The result of this study found that the following factors have affected state and local allocation on the public budget of expenditure, including demographic factors, revenue, and federal aid. Kee (1965) conducted a study of central city expenditures and metropolitan areas. The result of the study found that the determinants that have affected the allocation on public budget of expenditure in metropolitan areas include housing conditions, subsidies by the state, population, and income. Therefore, the study of the demographics, community, and environmental determinants all have a significant effect on the budget allocation of public expenditure for delivering public services for general

administration, society and community services, and economic affairs of TAOs. Meanwhile, Walden and Eryuruk (2012) investigated the determinants of local highway construction spending in North Carolina. The result of their study found that population density had a significant effect on highway construction expenditure, but it was in a negative direction. The result of the study on the determinants of political competition and local social spending found that population had a significant effect on social spending and is in both positive and negative directions (Bounding & Brown, 2014; Gomes, Alfinito, & Melo Albuquerque, 2013; Muyanga & Jayne, 2014). From the literature review and related research, it can be summarized that demographic, community, and environmental determinants all have a significant effect on the budget allocation on public expenditure for delivering the public services of TAOs, as shown in Table 2.3.

Table 2.3 Demographic, Community, and Environmental Determinants of the Budget Allocation of Public Expenditure for Delivering Public Services to the Community of TAO

Academics	Population	Demographic Density
Adolf Wagner (1883, as cited in Ponlapat Buracom, 2011b)	✓	✓
Richard A. Musgrave (Musgrave, 1969)	✓	✓
Richard A. Musgrave and Peggy B. Musgrave (1980, 1989)	✓	✓
Otavio Ribeiro De Medeiros and Carlos Leonardo Klein Barcelos (2007)	✓	
Solomon Fabricant (1975)		✓
Randall G. Holcombe and De Edgra W. Williams (2008)	✓	✓
John C. Weicher (1970)		✓
Theodore C. Bergstrom and Robert P. Goodman (1973)	✓	✓
Elliott R. Morss (1966)	✓	
Jack W. Osman (1966)	✓	
Woo Sik Kee (1965)	✓	
Walden and Eryuruk (2012)		✓
Bounding and Brown (2014)	✓	
Gomes et al. (2013)	✓	
Muyanga and Jayne (2014)		✓
Bates and Santerre (2013)	✓	

2.3.4 Governmental Determinant of the Budget Allocation of Public Expenditure of TAO

Governmental determinants influence the budget allocation of local expenditures, as well. These determinants relate to two groups of personnel or local administrations as follows. First, political groups mean a group of individuals with a local political position that are executives or policymakers. They include the chief executive of the TAO, mayor, chief executive of the provincial administrative organization (PAO), and the members of the local administration council. These political groups have influence over the budget allocation of local expenditures. And second, the administration sections are the government officials or local employees who implement policy and compose the various units of the TAO, including the office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staff are very important in driving the success of development of local community public health for a better quality of life. Results of this study found that bureaucrats influence the expenditures of Bangkok. Meanwhile, economic factors on the ability to collect revenue at the Bangkok office had a positive relationship with government officials or local staff. The environment, community, and population that are measured by the density of population have a relationship with bureaucrats or local staff. (Pichit Ratchatapibhunphob, 2012) According to results of the study, factors that have a significant effect on the public expenditure of local government include governmental variables on government aid, financial capacity, the level of delivering public service, regulation level, and production level (Hwang, 1987). According to the results of the study, governmental variables have influence over allocation on the public budget of expenditure of local government, including government service, financial capacity, and intergovernmental finance relations (Sudasinghe, 2010). From the literature review and related research, it can be summarized that governmental determinants have a significant effect on the budget allocation of public expenditures for delivering public services of TAOs, as shown in Table 2.4.

Table 2.4 Governmental Determinant of the Budget Allocation of Public Expenditure for Delivering Public Services to the Community of TAO

Academics	Governmental Determinant
Pichit Ratchatapibhunphob (2012)	✓
Hwang (1987)	✓
Sudasinghe (2010)	✓

2.3.5 Political Determinants of the Budget Allocation of Public Expenditure of TAO

The study on political determinants affect the budget allocation of public expenditures for delivering public services on education, public health, social welfare, and infrastructure of TAOs. The research involved is as follows. Fry and Winters (1970) studied the politics of redistribution. Their results found that socio–economic variables include the ability to pay an average income comprised of industrialization, urbanization, education, and demand. It is measured by the Gini coefficient. The political variables include mass political behavior, consisting of political participation. It is measured by the average rate of the voters, democratic vote, interparty competition, and legislative incentives. Administrative institutions include appointments, legislative party cohesion, governor power, and governor tenure. Elite behavior includes the strength of interest groups, protection system of civil service in the state, legislative professionalism, and innovative index. All of these factors have influence over the allocation of public expenditures of the local government. Meanwhile, Nordhaus (1975) studied the political business cycle in nine countries with democratic regimes, including Germany, New Zealand, USA, Australia, Canada, Japan, England, Sweden and France. It proves the relation between elections and the unemployment rate. The study found a trend in the unemployment rate before and after the election. The assumption of the study is that the unemployment rate will decline during the pre-election and rise at the end of the election. The study found that elections are associated with the unemployment rate in some countries, including

Germany, New Zealand, and the United States. Australia, Canada, Japan, and the UK found that they had no correlation. Sweden and France had correlation within a certain range, but they were not clear. Meanwhile, there was a study on the determinants of social expenditures in Brazil. Results of this study found that voter percent had a significant effect on the budget allocation of public expenditure on society, education, and health spending (Torpey-Saboe, 2015). MacRae (1977) studied the political model of a business cycle in the United States. The case of elections in the United States was over four year periods from 1957 to 1972, including the first period from 1957 to 1960, the second period from 1961 to 1964, the third period from 1965 to 1968, and finally from 1969 to 1972. The assumption was that the government was convinced that the voters would not vote for results in the long term, but they would hopefully result in the short one. As a result, the government may use fiscal tools to increase government expenditures, which would decrease the unemployment rate. The hope was that the voters would see the government working on the economy. This action would cause an increase in inflation. The result of study found that the elections only during the second and third periods had a relationship between the election and the economic cycle as based on the hypothesis. The election in the first and fourth period found no relationship between the election and the economic cycle. In conclusion, the election may not always cause economic cycles. In addition, Tufte (1978) studied political control of the economy on the selection of the president of the United States from 1948–1976. The result of the study found that the election of a US president caused a decreasing unemployment rate in the period of the election. After that the unemployment rate would gradually increase again in the next 12–18 months after the election. There was a study with 27 other countries with democratic regimes, from 1961 to 1972, that studied whether the election involves the growth rate of income per capita or not. The results showed that there was, in about 19 countries. The growth rate of income per capita in the election year is higher than in the non-election one. A study on voter turnout and population found that there was a significant effect on public spending, but the effect of population had a negative direction (Aggeborn, 2016; Nooruddin & Simmons, 2015). In addition, a study on the determinants of municipality expenditures found that the voters had a significant effect in a positive direction (Bowler, 2015; Drazen & Eslava, 2010).

Alesina (2001) studied political cycles in OECD countries and Hibbs (1994) studied the political model of economic cycles by studying the relationship between the election and the expansion of public expenditures. There is an assumption that in the period of the pre-election, the government attempts to increase public expenditure for stimulating economic growth for the preference of the voters. Thus, the period of the pre-election is likely to have a positive correlation with the expansion of public expenditure. This study can be measured by observing the period before the election and after. The dummy variables indicated at 1 = 2 years before the election and 0 = other years, as shown in Figure 3.8. The results of the study found that the year before the election showed a related statistical significance to the expansion of public expenditure. This supports the larger concept of the political economy cycle. Worrapong Trakarnsirinont (2010) studied the factors affecting social expenditures and impact on income distribution. The result of that study found that the decision making, social, economic, and political determinants had influence over the allocation of public expenditures on society, education, public health, and social work. In addition, public expenditures on society cause a progressive distribution of income, as measured by the GINI coefficient, but it makes a worse distribution of income as measured by the ratio of gross domestic product (GDP) in the non-agricultural sector to the GDP in the agricultural one. Expenditure on education makes the progressive distribution of income as measured by the GINI coefficient, but it does not affect the distribution of income as measured by the ratio of GDP in the non-agricultural sector to the GDP in the agricultural one. The expenditure on public health makes the progressive distribution of income as measured by the GINI coefficient, but it makes a worse distribution of income as measured by the ratio of the GDP in the non-agricultural sector to the GDP in the agricultural one. The expenditure on social work makes a progressive distribution of income as measured by the GINI coefficient, but it does not affect the distribution of income as measured by the GDP in the non-agricultural sector to the GDP in the agricultural one. Therefore, the study of political determinants has a significant effect on the budget allocation of public expenditure for delivering public services on general administration, society and community services, and the economic affairs of TAOs. Therefore, the study on the determinants of government spending found that population density had a significant effect on public

expenditure in a positive direction (Funk & Gathmann, 2013). From the literature review and related research it can be concluded that political determinants have a significant effect on the budget allocation of public expenditures for delivering public services to the community of a TAO, as shown in Table 2.5.

Table 2.5 Political Determinants of the Budget Allocation of Public Expenditure of TAO

Academics	Political Participation	Year of Election
Douglas A. Hibbs (1994)		✓
Alberto Alesina (2001)		✓
Brian R. Fry and Richard F Winters (1970)	✓	
Worrapong Trakarnsirinont (2010)	✓	✓
Torpey-Saboe (2015)	✓	
Aggeborn (2016)	✓	✓
Drazen and Eslava (2010)	✓	
Nooruddin and Simmons (2015)	✓	
Bowler (2015)	✓	✓
Funk and Gathmann (2013)	✓	✓

2.4 Conceptual Framework of Research

The conceptual framework of research on the determinants that affects the expenditures of TAOs includes incremental budgeting, economic determinants, governmental determinants, demographics, community and environmental determinants, and political determinants. All these determinants affect the budget allocation on public expenditures for education, public health, social welfare, and infrastructure of TAOs, as shown in Figure 2.11.

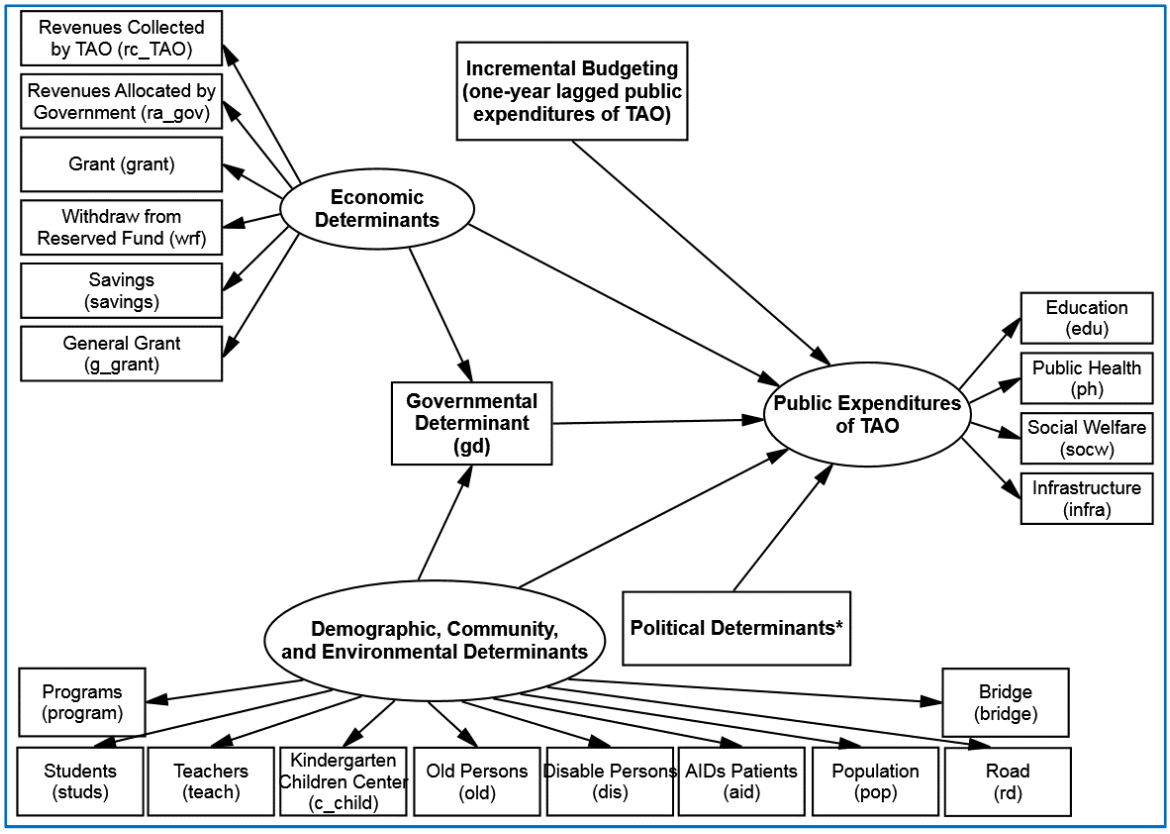


Figure 2.11 Conceptual Framework of Research on Determinants of the Budget Allocation of Public Expenditures of TAO for Delivering Public Services to the Community

Note: * qualitative data collection by interview

2.5 Mathematical Model of the Study

The equation model of the mathematical function can be written in the form of a multiple regression equation, as follows.

$$edu\_cap\_studs_{it} = a + b_1 l.edu\_cap\_studs_{it} + b_2 pop\_cap\_studs_{it} + b_3 rc\_TAO\_cap\_studs_{it} + b_4 ra\_gov\_cap\_studs_{it} + b_5 grant\_cap\_studs_{it} + b_6 wrf\_cap\_studs_{it} + b_7 savings\_cap\_studs_{it} + b_8 g\_grant\_cap\_studs_{it} + b_9 gd\_cap\_studs_{it} + b_{10} program\_cap\_studs_{it} + b_{11} c\_child\_cap\_studs_{it} + b_{12} teach\_cap\_studs_{it} + e$$

$$ph\_cap\_pop_{it} = a + b_1 l.ph\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} + b_9 program\_cap\_pop_{it} + b_{10} old\_cap\_pop_{it} + b_{11} dis\_cap\_pop_{it} + b_{12} aid\_cap\_pop_{it} + e$$

$$socw\_cap\_pop_{it} = a + b_1 l.socw\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} + b_9 program\_cap\_pop_{it} + b_{10} old\_cap\_pop_{it} + b_{11} dis\_cap\_pop_{it} + b_{12} aid\_cap\_pop_{it} + e$$

$$infra\_cap\_pop_{it} = a + b_1 l.infra\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} + b_9 program\_cap\_pop_{it} + b_{10} rd\_cap\_pop_{it} + b_{11} bridge\_cap\_pop_{it} + e$$

$$total\_pexp\_cap\_pop_{it} = a + b_1 l.total\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} + b_9 program\_cap\_pop_{it} + b_{10} studs\_cap\_pop_{it} + b_{11} teach\_cap\_pop_{it} + b_{12} c\_child\_cap\_pop_{it} + b_{13} old\_cap\_pop_{it} + b_{14} dis\_cap\_pop_{it} + b_{15} aid\_cap\_pop_{it} + b_{16} rd\_cap\_pop_{it} + b_{17} bridge\_cap\_pop_{it} + e$$

Wherein:

a = Constant of Multiple Regression

$b_1 \dots b_{17}$ = Regression Coefficient of Independent Variables

a	=	Constant of Multiple Regression
$b_1 \dots b_{17}$	=	Regression Coefficient of Independent Variables
edu_cap_studs	=	educational expenditures per capita students

l.edu_cap_studs	=	one-year lagged educational expenditures per capita students
ph_cap_ pop	=	public health expenditures per capita population
l.ph_cap_ pop	=	one-year lagged public health expenditures per capita population
socw_cap_ pop	=	social welfare expenditures per capita population
l.socw_cap_ pop	=	one-year lagged social welfare expenditures per capita population
infra_cap_ pop	=	infrastructure expenditures per capita population
l.infra_cap_ pop	=	one-year lagged infrastructure expenditures per capita population
total_pexp_cap_ pop	=	total expenditures per capita population
l.total_cap_ pop	=	one-year lagged total expenditures per capita population
rc_TAO_cap_ studs	=	revenues collected by TAO per capita population
ra_gov_cap_ studs	=	revenues allocated by government per capita population
grant_cap_ studs	=	grant per capita population
wrf_cap_ studs	=	withdraw from reserved fund per capita population
savings_cap_ studs	=	savings per capita population
g_grant_cap_ studs	=	general grant per capita population
pop cap_ studs	=	population per capita students
c_child_cap_studs	=	kindergarten children center per capita students
teach_cap_studs	=	teacher per capita students
program_cap_ studs	=	program per capita students
gd_cap_studs	=	governmental determinant per capita students
rc_TAO_cap_ pop	=	revenues collected by TAO per capita population
ra_gov_cap_ pop	=	revenues allocated by government per capita population
grant_cap_ pop	=	grant per capita population

wrf_cap_ pop	=	withdraw from reserved fund per capita population
savings_cap_ pop	=	savings per capita population
g_grant_cap_ pop	=	general grant per capita population
c_child_cap_pop	=	kindergarten children center per capita population
studs_cap_pop	=	students per capita population
teach_cap_pop	=	teachers per capita population
old_cap_pop	=	old persons per capita population
dis_cap_pop	=	disable persons per capita population
aid_cap_pop	=	AIDS patients per capita population
rd_cap_pop	=	road per capita population
bridge_cap_pop	=	bridge per capita population
program_cap_ pop	=	program per capita population
gd_cap_pop	=	governmental determinant measured by local staff per capita population

e = Residual

The *it* subscript is the *t* as data series of the year, the *i* is data series of the number of Tambon Administrative Organizations (TAO).

CHAPTER 3

RESEARCH METHODOLOGY

This dynamic analysis of the expenditure budget of a TAO is a study of both quantitative and qualitative research, in which the characteristic of the quantitative research is non-experimental research using a panel data or pooled time series–cross sectional analysis of TAOs with retrospective data for five years, from 2009 – 2013. The analysis of the panel data combines a cross section and time series to correct for the weakness of the analysis of cross–sectional data. It explains the different units of analysis but does not take into account the difference in the time of data with static characteristics. The weakness of using time series data is not as important when using a different unit of analysis. This f research uses the following descriptive statistics to analyze the normal distribution of data on the budget allocation of expenditures for delivering the public services of a TAO: correlation, mean, standard deviation, maximum, minimum, skewness, and kurtosis. The analysis of inferential statistics uses multiple regression analysis for investigating the determinants' affects to the budget allocation on expenditure for delivering public services to the community of a TAO. The data of research is analyzed with a computer program. After that, it was studied using qualitative interviews with the chief executives of the TAO for confirming the results of research, or for more clearly supplementing of the results of the quantitative research. The steps of research are as follows: population and sampling, data collection, unit of analysis, variables and definitions of operation, indicators, data analysis, and mathematical model for the study. The details are as follows.

3.1 Population and Samplings

This research applies mixed methods, using both quantitative and qualitative research. The empirical data constitutes both secondary and primary data, which includes panel data or pooled time series-cross sectional analysis of TAOs. This is a study of retrospective data for five years from 2009 to 2013. The researcher used 200 samplings of TAO data collected in the northeastern provinces of Thailand, namely 61 units of TAO in Nakhon Phanom (30.55%), 54 units of TAO in Sakon Nakhon (27%), and 85 units of TAO in Udon Thani (42.5%). In addition, there are interviews with the chief executive or local staff of some TAO involved. There are 15 units of TAO that were interviewed, including 5 units of TAO in Nakhon Phanom, 5 units of TAO in Sakon Nakhon, and 5 units of TAO in Udon Thani.

3.2 Data Collection

The data of this study uses mixed methods of both quantitative and qualitative research. The empirical data is both secondary and primary, which constitutes a panel data or pooled time series-cross sectional analysis of TAOs. The details are as follows.

3.2.1 Secondary Data

An analysis of the determinants that affect the budget allocation on expenditures for delivering public services of TAOs is a study of retrospective data for five years, from 2009 to 2013. It is a study using panel data or pooled time series–cross sectional analysis. The variables involved are as follows. The independent variables include incremental budgeting measured by one year of lagged public expenditure of TAOs. Economic determinants are measured as revenues collected by the TAO, revenues allocated by government, grants, withdrawn reserved funds, savings, and general grants. Demographic, community, and environmental determinants are measured by the number of population, kindergarten children

centers, students, teachers, old persons, disabled persons, AIDS patients, roads, and bridges. Governmental determinants are measured by local staff. The political determinant is the qualitative variable as measured by interviews with the chief executive of the TAO or the local staff involved. The dependent variables are measured by public expenditures of TAO on education, public health, social welfare, and infrastructure. All these data of research can be found in documents, textbooks, literature reviews, related researches, Department of Local Administration (DLA), Office of the Election Commission of Thailand (OECT), and Office of the Decentralization to the Local Government Organization Committee (ODLOC).

3.2.2 Primary Data

Primary data includes interviews with the chief executive of the TAO or local staff involved. There were 15 units of TAO interviewed, including 5 units of TAO in Nakhon Phanom, 5 units of TAO in Sakon Nakhon, and 5 units of TAO in Udon Thani.

3.3 Unit of Analysis

The unit of analysis for this research is the TAO. The study of determinants affects the budget allocation on public expenditure for delivering public services to the community of TAOs. The study data are a panel data or pooled time series–cross sectional analysis that consists of retrospective data for five years from 2009 to 2013.

3.4 Variables and Operational Definition

Dynamic analysis of the expenditure budget of the TAO includes a literature review for creating the conceptual framework in order to measure the concrete variables. The operational definition of the variables according to the defined objectives is shown in Table 3.1.

Table 3.1 Variables and Operational Definition on the Determinants of the Budget Allocation on Public Expenditure for Delivering the Public Services of TAO

Name of Variables	**Symbols**	**Type of Variables**	**Level of Measurement**	**Definition and How to Measure**	**Data Collection**	**Unit of Measurement**
Educational expenditures per capita	edu	Dependent Variable	Ratio	Expenditure budget on education per capita students	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Public health expenditures per capita	ph	Dependent Variable	Ratio	Expenditure budget on public health per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Social welfare expenditures per capita	socw	Dependent Variable	Ratio	Expenditure budget on social welfare per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Infrastructure expenditures per capita	infra	Dependent Variable	Ratio	Expenditure budget on infrastructure per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Revenues collected by TAO per capita	rc_ TAO	Independent Variable	Ratio	Revenues are collected by TAO per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita

Table 3.1 (Continued)

Name of Variables	Symbols	Type of Variables	Level of Measurement	Definition and How to Measure	Data Collection	Unit of Measurement
Revenues allocated by government per capita	ra_gov	Independent Variable	Ratio	Revenues allocated by government per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Grants per capita	GRAT	Independent Variable	Ratio	Grant per capita per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Withdrawals from the reserved fund per capita	wrf	Independent Variable	Ratio	Withdraw from Reserved Fund per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Savings per capita.	savings	Independent Variable	Ratio	Savings of TAO per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
General grants per capita	g_grant	Independent Variable	Ratio	General grant per capita population	All these data are obtained by TAO and Department of Local Administration.	Baht per capita
Kindergarten children centers per	c_child	Independent Variable	Ratio	Kindergarten children center per	All these data are obtained by TAO and	

Table 3.1 (Continued)

Name of Variables	Symbols	Type of Variables	Level of Measurement	Definition and How to Measure	Data Collection	Unit of Measurement
capita				capita population	Department of Local Administration.	
students	studs	Independent Variable	Ratio	Students per capita population	All these data are obtained by TAO and Department of Local Administration.	
Teachers per capita population	teach	Independent Variable	Ratio	Teachers of kindergarten children center per capita population	All these data are obtained by TAO and Department of Local Administration.	
Old persons	old	Independent Variable	Ratio	Old persons per capita population	All these data are obtained by TAO and Department of Local Administration.	
Disable persons per capita	dis	Independent Variable	Ratio	Disable persons per capita population	All these data are obtained by TAO and Department of Local Administration.	
AIDS patients per capita	aid	Independent Variable	Ratio	AIDS patients per capita population	All these data are obtained by TAO and Department of Local Administration.	

Table 3.1 (Continued)

Name of Variables	Symbols	Type of Variables	Level of Measurement	Definition and How to Measure	Data Collection	Unit of Measurement
Roads per capita	rd	Independent Variable	Ratio	Road per capita population	All these data are obtained by TAO and Department of Local Administration.	
Bridges	bridge	Independent Variable	Ratio	Bridge per capita population	All these data are obtained by TAO and Department of Local Administration.	
Programs	program	Independent Variable	Ratio	Program per capita population	All these data are obtained by TAO and Department of Local Administration.	

3.5 Analysis of Research Data

Structural equation modeling (SEM) and multiple regressions are analyzed for investigating the relationships between dependent variables of the expenditures on education, public health, social welfare, and infrastructure. Analysis of the independent variables includes incremental budgeting, economic determinants, demographics, community and environmental determinants, governmental determinant, and political determinants using statistical analysis by the ordinary least square (OLS). This study is a panel data or pooled time series–cross sectional analysis. The analysis brings the cross-section and time-series data together with

retrospective data over five years from 2009 to 2013. In addition, we study whether the determinants affect the budget allocation on expenditures differently when delivering public services on education, public health, social welfare, and infrastructure. This makes for an increasing degree of freedom in reducing the problem of related independent variables, called multicollinearity. An increasingly efficient analysis of the econometric estimation is a result. Including the usage of the panel data also addresses the problem of analysis of social sciences and the testing of complex models when it is not enough to use only cross–sectional or time–series data. Therefore the set of equations is calculated appropriately and the estimation of the model uses the method of the ordinary least square (OLS) and an estimation technique using the fixed effect model, which is a diagonal intersection for explaining the average of all populations (Hamilton, 2013, p. 378). It is the model of applying constant principles fixed in every moment, but which are significantly different in each group of data in the model. It hypothesizes whether or not the differences in data will result in changes of the parameter or coefficient of each group. This study will determine whether the independent variables affect the budget allocation on expenditure for delivering the public services of TAOs as the dependent variable. Therefore, the independent variables include incremental budgeting measured by one year of lagged public expenditures of TAO. Economic determinants are measured by revenues collected by the TAO, revenues allocated by government, grant, withdrawals from the reserved funds, savings, and general grants. Demographic, community, and environmental determinants are measured by kindergarten children centers, students, teachers, old persons, disable persons, AIDS patients, roads, bridges, and programs for local development. The governmental determinant is measured by local staff. The political determinant is measured by interviews in the qualitative data.

3.6 Mathematical Model for the Study

The function of mathematical modeling is to test the relationship among the incremental budgeting, economic determinants, governmental determinant, demographics, community and environmental determinants, and political determinants affecting the public expenditures on education, public health, social welfare, and infrastructure. An equation of regression analysis is used to estimate the dependent variables. The basic assumptions are as follows. First, it must be a quantitative variable for measuring the interval scale or the ratio scale. Second, the relationship of the dependent variable and the independent variable is a linear relationship. Third, the independent variables must not have a relationship with each other in so-called high level multicollinearity. If the independent variables have a correlation with each other higher than 0.9, the consequence is inconsistent results of the F–test and t–test, making the regression coefficient opposite from what it should be. Fourth, the value of error must have a normal distribution. Fifth, in the case of the time series data, the value of error must not be related in the form of autocorrelation, if this problem is raised, it makes the regression coefficient lack validity. The standard error of regression coefficient on deviation in some cases may be much lower than it should be, it tests the statistical significance of the distortion variable. If the equation of regression analysis is used in the time series data, it requires a check on the basic assumption of several variables as to whether they are independent errors or not. It uses a Durbin–Watson test if it is approximately 2, denoting the value of the independent error. And sixth, the value of the error variance must be a constant variance of the independent variables, or heteroscedasticity (Gujarati & Porter, 2009; Kennedy, 2008, p. 119)

The equation model of the mathematical function can be written in the form of a multiple regression equation, as follows.

$$\begin{aligned} edu\_cap\_studs_{it} = a + b_1 l.edu\_cap\_studs_{it} + b_2 pop\_cap\_studs_{it} + \\ b_3 rc\_TAO\_cap\_studs_{it} + b_4 ra\_gov\_cap\_studs_{it} + \\ b_5 grant\_cap\_studs_{it} + b_6 wrf\_cap\_studs_{it} + \end{aligned}$$

$$b_7\text{savings\_cap\_studs}_{it} + b_8\text{g\_grant\_cap\_studs}_{it} + b_9\text{gd\_cap\_studs}_{it} + b_{10}\text{program\_cap\_studs}_{it} + b_{11}\text{c\_child\_cap\_studs}_{it} + b_{12}\text{teach\_cap\_studs}_{it} + e$$

$$\text{ph\_cap\_pop}_{it} = a + b_1\text{l.ph\_cap\_pop}_{it} + b_2\text{rc\_TAO\_cap\_pop}_{it} + b_3\text{ra\_gov\_cap\_pop}_{it} + b_4\text{grant\_cap\_pop}_{it} + b_5\text{wrf\_cap\_pop}_{it} + b_6\text{savings\_cap\_pop}_{it} + b_7\text{g\_grant\_cap\_pop}_{it} + b_8\text{gd\_cap\_pop}_{it} + b_9\text{program\_cap\_pop}_{it} + b_{10}\text{old\_cap\_pop}_{it} + b_{11}\text{dis\_cap\_pop}_{it} + b_{12}\text{aid\_cap\_pop}_{it} + e$$

$$\text{socw\_cap\_pop}_{it} = a + b_1\text{l.socw\_cap\_pop}_{it} + b_2\text{rc\_TAO\_cap\_pop}_{it} + b_3\text{ra\_gov\_cap\_pop}_{it} + b_4\text{grant\_cap\_pop}_{it} + b_5\text{wrf\_cap\_pop}_{it} + b_6\text{savings\_cap\_pop}_{it} + b_7\text{g\_grant\_cap\_pop}_{it} + b_8\text{gd\_cap\_pop}_{it} + b_9\text{program\_cap\_pop}_{it} + b_{10}\text{old\_cap\_pop}_{it} + b_{11}\text{dis\_cap\_pop}_{it} + b_{12}\text{aid\_cap\_pop}_{it} + e$$

$$\text{infra\_cap\_pop}_{it} = a + b_1\text{l.infra\_cap\_pop}_{it} + b_2\text{rc\_TAO\_cap\_pop}_{it} + b_3\text{ra\_gov\_cap\_pop}_{it} + b_4\text{grant\_cap\_pop}_{it} + b_5\text{wrf\_cap\_pop}_{it} + b_6\text{savings\_cap\_pop}_{it} + b_7\text{g\_grant\_cap\_pop}_{it} + b_8\text{gd\_cap\_pop}_{it} + b_9\text{program\_cap\_pop}_{it} + b_{10}\text{rd\_cap\_pop}_{it} + b_{11}\text{bridge\_cap\_pop}_{it} + e$$

$$\text{total\_pexp\_cap\_pop}_{it} = a + b_1\text{l.total\_cap\_pop}_{it} + b_2\text{rc\_TAO\_cap\_pop}_{it} + b_3\text{ra\_gov\_cap\_pop}_{it} + b_4\text{grant\_cap\_pop}_{it} + b_5\text{wrf\_cap\_pop}_{it} + b_6\text{savings\_cap\_pop}_{it} + b_7\text{g\_grant\_cap\_pop}_{it} + b_8\text{gd\_cap\_pop}_{it} + b_9\text{program\_cap\_pop}_{it} + b_{10}\text{studs\_cap\_pop}_{it} + b_{11}\text{teach\_cap\_pop}_{it} + b_{12}\text{c\_child\_cap\_pop}_{it} + b_{13}\text{old\_cap\_pop}_{it} + b_{14}\text{dis\_cap\_pop}_{it} + b_{15}\text{aid\_cap\_pop}_{it} + b_{16}\text{rd\_cap\_pop}_{it} + b_{17}\text{bridge\_cap\_pop}_{it} + e$$

Wherein:

a = Constant of Multiple Regression

$b_1 \ldots b_{17}$ = Regression Coefficient of Independent Variables

a	=	Constant of Multiple Regression
$b_1 \ldots b_{17}$	=	Regression Coefficient of Independent Variables
edu_cap_studs	=	educational expenditures per capita students
l.edu_cap_studs	=	one year lagged educational expenditures per capita students
ph_cap_ pop	=	public health expenditures per capita population
l.ph_cap_ pop	=	one year lagged public health expenditures per capita population
socw_cap_ pop	=	social welfare expenditures per capita population
l.socw_cap_ pop	=	one year lagged social welfare expenditures per capita population
infra_cap_ pop	=	infrastructure expenditures per capita population
l.infra_cap_ pop	=	one year lagged infrastructure expenditures per capita population
total_pexp_cap_ pop	=	total expenditures per capita population
l.total_cap_ pop	=	one year lagged total expenditures per capita population
rc_TAO_cap_ studs	=	revenues collected by TAO per capita population
ra_gov_cap_ studs	=	revenues allocated by government per capita population
grant_cap_ studs	=	grant per capita population
wrf_cap_ studs	=	withdraw from reserved fund per capita population
savings_cap_ studs	=	savings per capita population
g_grant_cap_ studs	=	general grant per capita population
pop cap_ studs	=	population per capita students
c_child_cap_studs	=	kindergarten children centers per capita students
teach_cap_studs	=	teachers per capita students
program_cap_ studs	=	programs per capita students
gd_cap_studs	=	governmental determinant per capita students

rc_TAO_cap_ pop	=	revenues collected by TAO per capita population
ra_gov_cap_ pop	=	revenues allocated by government per capita population
grant_cap_ pop	=	grant per capita population
wrf_cap_ pop	=	withdrawal from reserved fund per capita population
savings_cap_ pop	=	savings per capita population
g_grant_cap_ pop	=	general grant per capita population
c_child_cap_pop	=	kindergarten children centers per capita population
studs_cap_pop	=	students per capita population
teach_cap_pop	=	teachers per capita population
old_cap_pop	=	old persons per capita population
dis_cap_pop	=	disable persons per capita population
aid_cap_pop	=	AIDS patients per capita population
rd_cap_pop	=	roads per capita population
bridge_cap_pop	=	bridges per capita population
program_cap_ pop	=	programs per capita population
gd_cap_pop	=	governmental determinant measured by local staff per capita population

e = Residual

The *it* subscript is the *t* as data series of year, the *i* is data series of the number of Tambon Administrative Organizations (TAO)

CHAPTER 4

RESULTS OF DATA ANALYSIS

This analysis on the budget allocaton of public expenditure of Tambon Administrative Organizations (TAO) is a study on the multivariate analysis of relationships. According to statistical analysis of the quantitative data, it includes testing the normal distribution of data in order to determine the variable properties by using descriptive statistics. The normal distribution of data can be considered via the mean, standard deviation, maximum, minimum, skewness, and kurtosis, or it can be verified using a histogram, stem-and-leaf plot, and normal Q-Q plot. The problem with independent variables is multicollinearity. Testing to know whether the independent variables are highly correlated among themselves can be determined with Pearson's correlation coefficient, which explores the relationship among the independent variables. This can be seen when the R value is higher than 0.80, which shows that the dual independent variables have a high relationship called multicollinearity (Gujarati & Porter, 2009). As shown in Table 4.1, the matrices of the correlation coefficient among the independent variables show that they are not dual independent variables with a high relationship among themselves. The test of heteroscedasticity is a test of the variance of error, whether it is constant or not. The graph of distribution is between the regression standardized residual and the regression standardized estimated value, a statistical test called the Breusch Standardized Test is used, as follows.

H_0: $\beta_1 = \beta_2 = ... \beta_1 = 0$

H_1: $\beta \neq 0$

If the statistical test finds that it is not of statistical significance, it concludes

that the variance of error is fixed in every variable, and therefore not a problem of heteroscedasticity. The determinants are then analyzed for affecting the budget allocation of public expenditure of TAO using multiple regression analysis. In this study, the dummy variables are also studied, including the geograhic location of TAOs in the central, southern, northern, and northeastern regions of Thailand, TAOs of large, medium, and small sizes, the year for local election of the TAO, and good governance awards. This analysis is used in a random effect model if analysis of the fixed effect model causes the problem of omitting variables affecting the unit of the inconstant analysis. In addition, data are checked as to whether or not they are converted into a suitable form with the technique of multiple regression analysis. In practice, these units of analysis are appropriate for using the technique of multiple regression analysis. If they are compared with the independent variables, they must be over 50+8*m, wherein m is the independent variable for using analysis. The units of analysis should be not less than 186 units. In a dynamic analysis of the expenditure budget of TAOs, the independent and dummy variables are explained or studied as the dependent variables on the budget allocation of public expenditure of TAO with all of 18 variables (50+8*17 equals 986 units). There are more than 186 units after the missing values and outliers were cut out. There was no problem regarding the adequacy of the unit of analysis (Tabachnick & Fidell, 2007). This makes for a reliable unit of analysis. Results of the analysis are as follows.

Table 4.1 Matrices of Correlation Coefficient on Determinants of Dynamic Analysis on Expenditure Budget of TAO

	pop	rc_TAO	ra_gov	grant	wrf	savings	g_grant	gd_staff	c_child	studs	teach	old	dis	aid	program	rd	bridge
pop	1																
rc_TAO	0.4801*	1															
ra_gov	0.5999*	0.6366*	1														
grant	0.5992*	0.5097*	0.5354*	1													
wrf	0.3026*	0.0894*	0.1891*	0.2737*	1												
savings	0.4208*	0.2804*	0.4571*	0.3613*	0.5302*	1											
g_grant	0.6813*	0.2751*	0.3677*	0.4584*	0.2686*	0.3869*	1										
gd_staff	0.2892*	0.1305*	0.1410*	0.2057*	0.1067*	0.0903*	0.1580*	1									
c_child	0.3728*	0.0841*	0.2336*	0.2896*	0.039	0.2649*	0.4193*	-0.0607	1								
studs	0.4777*	0.1066*	0.2247*	0.2021*	0.1179*	0.2060*	0.4123*	0.1738*	0.4196*	1							
teach	0.5993*	0.1992*	0.2829*	0.4417*	0.2401*	0.3089*	0.5452*	0.2062*	0.6043*	0.5160*	1						
old	0.7730*	0.3710*	0.5269*	0.5682*	0.3036*	0.4173*	0.5805*	0.1993*	0.3912*	0.4033*	0.5963*	1					
dis	0.4956*	0.1034*	0.2356*	0.3302*	0.2123*	0.2458*	0.4364*	0.1097*	0.2990*	0.3313*	0.4587*	0.5509*	1				
aid	0.5173*	0.2556*	0.3928*	0.3301*	0.2200*	0.2223*	0.3255*	0.1790*	0.1405*	0.2610*	0.2931*	0.4418*	0.2934*	1			
program	-0.0163	0.0178	0.0445	-0.0413	-0.0266	0.0564	-0.0222	-0.0641*	0.1137*	-0.0373	0.0156	-0.039	-0.0941*	-0.0624*	1		
rd	0.0819*	0.0022	0.1024*	0.0455	0.0627*	0.1235*	-0.0169	0.0358	0.0305	-0.0325	0.0197	0.1445*	0.053	0.1254*	-0.0979*	1	
bridge	0.1538*	0.0289	0.0839*	0.1194*	0.1070*	0.0503	0.0999*	0.0636*	0.0800*	0.0780*	0.1799*	0.1164*	-0.0255	0.0933*	-0.0311	0.0217	1

Note: Statistical Significance * < 0.05, ** < 0.01, *** < 0.001

Table 4.2 Analysis of Descriptive Statistics on Mean, Standard Deviation, Minimum, Maximum, Skewness, and Kurtosis of Dynamic Analysis on Expenditure Budget of Tambon Administrative Organization (TAO)

Variables	Obs.	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
Educational Expenditures	1,000	4,969,544	1,839,189	1,340,765	14,700,000	1.32	5.82
Public Health Expenditures	1,000	4,371,143	1,629,901	1,471,917	12,900,000	1.38	6
Social Welfare Expenditures	1,000	4,871,618	1,816,515	1,640,435	14,400,000	1.38	6
Infrastructural Expenditures	1,000	6,869,082	2,561,321	2,313,013	20,200,000	1.38	6
Total Expenditure	1,000	21,100,000	7,820,952	7,107,557	62,200,000	1.35	5.89
Population (pop)	1,000	7,323.24	2,875.97	1,707	20,896	1.17	5.38
Revenues Collected by TAO (rc_TAO)	1,000	0.59	0.41	0.06	2.54	1.94	7.96
Revenues Allocated by Government (ra_gov)	1,000	13.20	5.03	5.19	38.91	1.75	7.47
Grants (grant)	1,000	14.76	8.23	1.03	51.48	1.24	4.79
Withdrawals from Reserved Fund (wrf)	1,000	1,863,049	843,403.40	111,926	6,278,288	1.15	5.37
Savings (savings)	1,000	4,976,031	2,557,727	325,824	16,400,000	1.13	4.57
General Grants (g_grant)	1,000	12,300,000	6,246,737	2,109,648	39,500,000	1.50	5.79

Table 4.2 (Continued)

Variables	Obs.	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
Staff (gd_staff)	1,000	39.54	13.01	13	93	0.77	3.99
Kindergarten Children Centers (c_child)	1,000	6.17	3.20	2	14	0.86	2.95
Students (studs)	1,000	143.48	79.36	14	490	1.16	4.88
Teachers (teach)	1,000	9.46	3.67	3	18	0.42	2.35
Old Persons (old)	1,000	739.87	287.15	104	1,537	0.42	2.63
Disable Persons (dis)	1,000	77.96	28.26	20	165	0.67	3.22
AIDS Patients (aid)	1,000	10	6.63	2	30	0.97	3.18
Programs (program)	1,000	132.24	19.42	89	181	0.23	2.34
Road Construction and Repairs (rd)	1,000	46.88	23.40	6	99	0.43	2.20
Bridge Construction and Repairs (bridge)	1,000	4.48	1.97	2	9	0.50	2.33

4.1 Analysis of Descriptive Statistics

An important statistical analysis of research is to describe a single variable statistic or descriptive analysis. This explains the characteristics of each variable that will be used in advanced analysis. The statistics that are used to describe a single variable are the mean, standard deviation, minimum, and maximum, as shown in Table 4.2. All of these are the descriptive statistics which make up the key elements to analyze the expenditures on education, public health, social welfare, and infrastructure. This research had 200 units of analysis of TAOs, with data collected in the northeastern provinces of Thailand, namely 61 units of TAO in Nakhon Phanom (30.55%), 54 units of TAO in Sakon Nakhon (27%), and 85 units of TAO in Udon Thani (42.5%). Concerning the data analysis, we used panel data or pooled data, with retrospective data collection over five years from 2552 to 2556, thus there are 1,000 observations (200 units of TAO multiplied by 5 years) as shown in Table 4.3. In addition, the study on expenditures per capita local population are divided into 7 groups: 3,000 (2%), 4,000 (5%), 5,000 (13.5%), 7,500 (39%), 10,000 (25%), 15,000 (13%), and 21,000 (2.5%), respectively. The results show that the top three groupings for population density were 7,500 (39%), 10,000 (25%), and 5,000 (13.5%), respectively. In considering the density of population, they are sorted by ascending order, with the lowest density of population being 3,000 persons (2%) and the highest density being 7,500 persons (39%), as shown in Table 4.4. In addition, population size is grouped per capita for 3,000 persons and classified by the expenditures on education, public health, social welfare, and infrastructure. These are sorted by descending order as follows. Most educational expenditures were 83,815.2 Baht, followed by infrastructure: 2,240.2 Baht, social welfare: 1,588.8 Baht, and public health: 1,425.6 Baht, respectively. These expenditures revealed that they do not reflect most of the population because the size distribution or population density are highest at 7,500 persons (39%), but local expenditures fall to 3,000 persons (2%). These showed that the expenditures of TAO on education, public health, social welfare, and infrastructure do not reflect the majority of the population of 7,500 pesons (39%), but only 3,000 persons (2%). There are still problems with inequalities and ineffective budgetary management, as shown in Table 4.5. In considering the

average revenues and expenditures of TAO per capita population, it was revealed that there are average revenues per capita population of 2,056.80 Baht. The average expenditures per capita population are 3,091.93 Baht, as shown in Table 4.6. Meanwhile, when grouping the population size by revenues and expenditures of TAO per 1,000 Baht, it was revealed that total revenue of TAO was 57,245.7 Baht per capita population of 21,000 persons (2.5%) and the number of the lowest population was 13,561 Baht per capita population of 3,000 persons (2%). The maximum total expenditure of TAO was 38,976.5 Baht per capita population of 21,000 persons (2.5%), and the minimum total expenditure of TAO was 14,666.2 Baht per capita population of 3,000 persons (2%), as shown in Table 4.7. A diagram analysis of Kernel density estimate of the population distribution in the area of TAOs is approximately 5,000 – 10,000 people, as shown in Figure 4.1.

Table 4.3 Random Sampling in the Study on Public Expenditures of TAO

Provinces	**Samplings**			**Observations**		
	Freq.	**Percent**	**Cum.**	**Freq.**	**Percent**	**Cum.**
Nakhon Phanom	61	30.5	30.5	305	30.5	30.5
Sakon Nakhon	54	27	57.5	270	27	57.5
Udon Thani	85	42.5	100	425	42.5	100
Total	**200**	**100**		**1,000**	**100**	

Table 4.4 Frequency and Percentage of Grouping Population Size in the Study

Group	**Freq.**	**Percent**	**Cum.**
3000	4	2	2
4000	10	5	7
5000	27	13.5	20.5
7500	78	39	59.5
10000	50	25	84.5
15000	26	13	97.5
21000	5	2.5	100
Total	**200**	**100**	

Table 4.5 Grouping Population Size by Expenditures on Education, Public Health, Social Welfare, and Infrastructure Per Capita Population

Group	cap_edu	cap_health	cap_socw	cap_infra
3000	83,815.2	1,425.6	1,588.8	2,240.2
4000	58,732.0	998.6	1,112.9	1,569.2
5000	50,064.8	721.0	803.5	1,132.9
7500	45,445.1	633.8	706.4	996.1
10000	39,648.5	544.5	606.8	855.6
15000	41,059.1	524.7	584.8	824.5
21000	46,367.5	473.2	527.4	743.6
Total	**45,580.6**	**641.8**	**715.3**	**1,008.6**

Table 4.6 The Average Revenues and Expenditures of TAO by Percentiles Per Capita Population

Variables	N	mean	p10	p25	p50	p75	p90
Revenues Per Capita Population	1,000	2,056.80	983.92	1,432.21	2,019.66	2,608.50	3,061.03
Expenditures Per Capita Population	1,000	3,091.93	1,922.22	2,351.34	2,911.02	3,554.04	4,331.02

Table 4.7 Grouping Population Size by Revenues and Expenditures of TAO Per 1,000 Baht

Group	Revenues 1000 Baht				Expenditures 1000 Baht				
	Revenues collected by TAO	**Revenues allocated by government**	**Grant**	**Total revenues**	**Education**	**Public health**	**Social welfare**	**Infrastructure**	**Total expenditures**
3000	274.5	7,854.5	5,432.0	13,561.0	3,191.3	3,113.2	3,469.6	4,892.1	14,666.2
4000	425.0	10,708.1	8,362.7	19,495.8	3,863.6	3,526.5	3,930.2	5,541.6	16,861.9
5000	359.5	10,099.8	9,650.3	20,109.7	3,779.4	3,307.0	3,685.6	5,196.7	15,968.6
7500	560.7	12,139.0	12,815.2	25,515.0	4,509.5	3,954.2	4,407.0	6,214.1	19,084.6
10000	648.5	14,272.5	17,648.0	32,569.0	5,388.1	4,706.6	5,245.4	7,396.1	22,736.2
15000	727.3	17,883.4	22,574.0	41,184.7	7,009.4	6,176.3	6,883.4	9,705.6	29,774.7
21000	1,791.4	25,301.0	30,153.3	57,245.7	9,127.9	8,098.0	9,025.1	12,725.5	38,976.5
Total	**587.4**	**13,204.4**	**14,762.5**	**28,554.3**	**4,969.5**	**4,371.1**	**4,871.6**	**6,869.1**	**21,081.4**

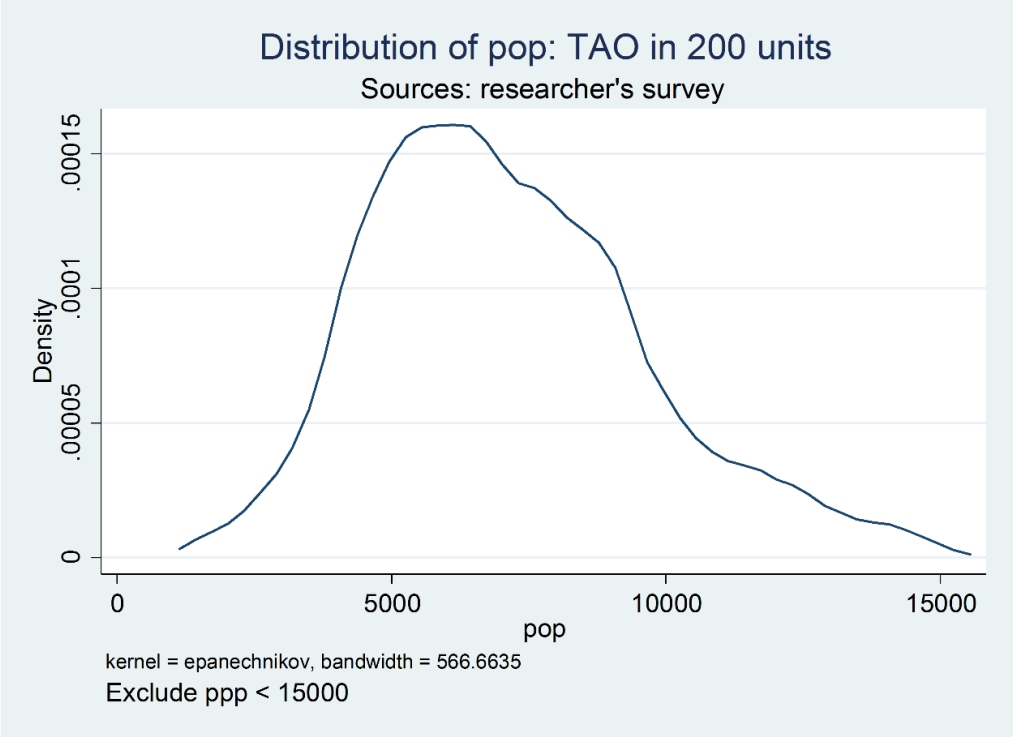


Figure 4.1 Analysis of Estimating Kernel Density on Distributing Population in Area of TAO

4.2 Determinant of the Budget Allocation on Public Expenditures for Delivering Public Services to the Community of TAO

An analysis of the incremental budgeting, economic determinants, governmental determinant, and demographic, community and enivronmental determinants has a significant effect on the budget allocation of public expenditures for delivering public serivices to the community of a TAO. The details are as follows.

4.2.1 Determinants of the Budget Allocation of Public Expenditures on Education of TAO

The analysis of the independent variables has a significant effect on the budget allocation of public expenditures on education of TAOs. Before data are analyzed, the researcher discriminates the relationship among the independent variables associating

with themselves. This is to avoid the problem of multicollinearity by using Pearson's correlation coefficient. The results show that the independent variables are not associated with themselves, as shown in Table 4.1. The equation of the model is studied as follows.

$$\begin{aligned} edu\_cap\_studs_{it} = a + b_1 l.edu\_cap\_studs_{it} + b_2 pop\_cap\_studs_{it} + \\ b_3 rc\_TAO\_cap\_studs_{it} + b_4 ra\_gov\_cap\_studs_{it} + \\ b_5 grant\_cap\_studs_{it} + b_6 wrf\_cap\_studs_{it} + \\ b_7 savings\_cap\_studs_{it} + b_8 g\_grant\_cap\_studs_{it} + \\ b_9 gd\_cap\_studs_{it} + b_{10} program\_cap\_studs_{it} + \\ b_{11} c\_child\_cap\_studs_{it} + b_{12} teach\_cap\_studs_{it} + e \end{aligned}$$

Table 4.8 Determinants of the Budget Allocation of Public Expenditures on Education of TAO

Random-effects GLS regression			Number of obs	=	800
R-sq:			Number of groups	=	200
within	=	0.7963			
between	=	0.8734	Wald chi2 (7)	=	3,979.65
overall	=	0.8420	Prob > chi2	=	0.0000

Independent Variables	Coef.	Std. Err.	t	P > | t |
Incremental Budgeting				
One-Year Lagged Public Expenditure on Education Per Capita Students	0.060***	0.016	3.770	0.000
Economic Determinants				
Revenues Collected by TAO Per Capita Students	-0.086	0.147	-0.590	0.557
Revenues Allocated by Government Per Capita Students	0.027*	0.013	2.070	0.038

Table 4.8 (Continued)

Independent Variables	Coef.	Std. Err.	t	P > | t |
Grants Per Capita Students	0.033***	0.007	4.840	0.000
Withdrawals from Reserved Fund Per Capita Students	0.019	0.066	0.290	0.768
Savings Per Capita Students	0.086***	0.025	3.510	0.000
General Grants Per Capita Students	0.118***	0.011	11.090	0.000
Governmental Determinant				
Staff Per Capita Students	1,122.290	3,531.034	0.320	0.751
Demographic, Community, and Environmental Determinants				
Population Per Capita Students	145.464***	29.857	4.870	0.000
Programs Per Capita Students	9,895.484***	1,376.019	7.190	0.000
Kindergarten Children Centers Per Capita Students	-34,790.780	27,555.170	-1.260	0.207
Teachers Per Capita Students	17,917.900	21,957.260	0.820	0.414
_cons	-3,522.283	1,211.017	-2.910	0.004
sigma_u	3,691.098			
sigma_e	10,979.887			
rho	0.102	(fraction of variance due to u_i)		

Note: Statistical Significance: * < 0.05, ** < 0.01, *** < 0.001

The results of analysis in Prob > chi2 = 0.000 are less than 0.05. This shows that the analysis of the equation is reasonable and reliable at R-square = 0.8420, which means that all independent variables can explain the dependent variables on educational expenditures (84.20%), while the remaining influence of other variables (15.80%) was not considered in this study. In addition, statistical consideration of the

analysis result finds that it is reasonable and reliable on statistics. The explanation for the analysis result of statistical significance at 0.05 finds that the change of all independent variables is in a positive direction of the dependent variables. It shows that the increase of all independent variables also affects the increase of the dependent variables on educational expenditures. The variables that affect educational expenditures are sorted in descending order, including the number of programs for local development per capita of students with a regression coefficient ($\beta = 9895.484$, $p = 0.000$), followed by local population per capita of students with regression coefficient ($\beta = 145.464$, $p = 0.000$), general grants per capita of students with regression coefficient ($\beta = 0.118$, $p = 0.000$), savings per capita of students with regression coefficient ($\beta = 0.086$, $p = 0.000$), incremental budgeting per capita of students with regression coefficient ($\beta = 0.060$, $p = 0.000$), grants per capita of students with regression coefficient ($\beta = 0.033$, $p = 0.000$), and revenues allocated by government per capita of students with regression coefficient ($\beta = 0.027$, $p = 0.038$) respectively, as shown in Table 4.8. The details of all these variables can be explained as follows. Demographic, community, and environmental determinants that affect educational expenditures (Figure 4.3 and Table 4.8) comprise the highest number of programs for local development. The results of the study showed that there is a positive relationship with educational expenditures. This means that as the number of programs for local development of TAO increases, it results in an increase in educational expenditures. These are the programs that TAOs use for local development. These programs are specified in the annual budget provisions and the three-year strategic plans, consisting of general administration plans, including general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another demographic is community and environmental determinants that affect educational expenditures (Figure 4.3 and Table 4.8), primarily population. The results of the study show that there is a positive relationship with educational expenditures. This means that if the number of local population of TAO increases, it then results in an increase in educational expenditures. This is

normal as population increases. The state or local government must allocate the budget for significant developments. Therefore, population is important for allocating local budgets. Because the budget allocation of governmental spending to the locality is an allocation per capita of persons, it is a budget allocation based on the population in that area. It will get more or less budget depending on the local population. And more importantly, when the population increases, it will result in an increase in the number of students, too. TAOs will implicitly have to allocate their budgets for local educational services. According to the results of a study, the determinants affecting public expenditures are population, population density, tax portion of voter, revenue of voter, percentage of black population, percentage of elder population, percentage of increasing population, percentage of people with homes of their own, and the ratio of employment per population (Bergstrom & Goodman, 1973). Next, an economic determinant that affects educational expenditures (Figure 4.3 and Table 4.8) is the general grant. This study indicates that there is a positive relationship with educational expenditures. This means that when the general grant of a TAO is increased, the result is an increase in educational expenditures, as well, because a general grant is part of the budget that government subsidizes to spend on local development. It spends for government purposes, such as subsidies to solve drug problems and for local restoration. As for education, it subsidizes for lunches, children development centers, preschool and compulsory educational management, milk for school children, and growth encouragement of children in standard criteria, according to the policy of transfer on educational mission of government. According to results of another study, Hwang (1987) investigated an analysis of local government expenditures in a developing country: the case of central Korea. The result revealed that the determinants affecting local government were governmental variables on central aid, financial capacity, service level, regulation level, and productivity level; socioeconomic variables were education, industrialization, population density, total tax burden, local tax burden, and financial market conditions. All of these determinants affect the spending of local government. Savings affect educational expenditures (Figure 4.3 and Table 4.8). Results of this study show that there is a positive relationship with educational expenditures. This means that when savings of TAO are increased, this results in an increase in educational expenditures,

too. It is a central statement that TAOs set aside 25% of the budget each year. This budget is used when necessary for emergencies or in the event of a disaster, such as flood, fire, or windstorm. These plagues are not possible to predict in advance as to when or whether they will happen at all. Therefore, there must be an accumulation of funds available to pay for unforeseen events, called a withdrawal from reserved funds. When spending, it must be approved by the local council of the TAO before the money will become available. According to results of a study, Gramlich (1968) investigated alternative federal politics for stimulating state and local expenditures and a comparison of their effects. The result revealed that a governmental grant affects the public expenditure of local government, including unconditional subsidy, conditional subsidy, revenue, and interest rates. Grants affect local educational expenditures as well (Figure 4.3 and Table 4.8). The study found that there is a positive correlation with educational expenditures. This means that as a grant of a TAO is increased, this results in an increase in educational expenditures. This is in accordance with governmental policy and according to the Decentralization Plan and Procedure Act B.E. 2542 (1999) to the local administrative organization, as amended in tax and duty allocation, grants, and other revenues to local government organizations. This context complies appropriately with the authority and duty of each local government organization. Since fiscal year 2007, local government organizations have revenues in ratio to the government's net revenues of not less than 25% (Beureau of the Budget, 2016). Therefore, the grant pays for spending on maintenance, assisting and supporting the operation of constitutional non-government organizations, governmental agencies which are not a central service under the Administration Act, state-run agencies, public organizations, state enterprises, local administrative organizations, sub-district councils, international organizations, corporations, private entities or public benefit organizations, subsidies, monarch statements, and religious contributions. There are two types of grant that consist of a general grant. This means that a subsidy is paid for the purpose of the transaction, such as maintenance fees for membership in the World Meteorological Organization and Asian Broadcasting Union, subsidies for solving drug problems, subsidies for local renovations, and so on. A special-purpose grant is for funds to spend on programs with the details provided by the bureau of budget, such as durable articles

and construction items. So, this grant is supported by the educational mission of TAOs for promoting lunches, children development centers, preschool education, compulsory education, and milk for school children. These promote quality of life for children, as mentioned above. Due to the mission transfer policy, local governmental organizations are promoted for the local government's autonomy in providing public services to meet with the demands of people in the area, budget spending optimization and public service delivery to people. This covers missions under the authority of local government organizations and transfer missions on infrastructure, society, and the environment. It includes capacity building and efficiency acceleration in collecting the revenues of local government organizations and decreasing fiscal disparity by allocating additional subsidy to local government organizations with low revenues in order to have reasonable revenues to carry out their authority. According to results of the study, it found that the factors that influence the allocation on public budget of expenditures of state and local government include subsidies by central government, grants of contribution, unconditional grants, income, and interest rates (Gramlich, 1968). Lastly, revenues allocated by government affect local educational expenditures (Figure 4.3 and Table 4.8). The results show that there is a positive correlation with educational expenditures. This means that as revenues allocated by the government of TAO are increased, educational expenditures increase, too. Revenues that government allocates to these local governments are collected by the government and allocated to the TAO. This includes value added tax under the Income Tax Act on allocation, specific business tax for local government B.E 2534 (1991), value added tax under the Provincial Administrative Organization Act B.E. 2540 (1997), alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, registration and legal fees, mineral and petroleum fees, forest and royalty fees, and income under the law of national parks and gambling tax. In addition, revenues that government allocates for local government include value added tax for local administrative organization under the decentralization plan and procedure Act B.E. 2542 (1999). According to results of his study, Hwang (1987) investigated the factors that affected local expenditure and found total tax burden, local tax burden, and financial market conditions. All of these determinants affected local government expenditure. Another variable that affects educational expenditures (Figure 4.3 and

Table 4.8) is incremental budgeting. There is a positive correlation with educational expenditures, which means that budgeting in the previous year affects the budgeting of educational expenditures in the current year. The budgeting of local educational expenditures is a budgeting style based on the spending variables of education in the previous year. This reflects on the fact that a TAO allocates the expenditure budget on education for conducting activities or projects by using experience from the past year (Porntip Kanjananont, 2010). The reason is this budgeting avoids risk and fosters compromising between interest groups, especially public servants and politicians. As well, it tries to keep the original status as seen from the budget allocation of government agencies with gradual and slight increases (Darunwan Somjai, 2009). Thus, it can be concluded that the determinants of educational expenditures include incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on educational expenditures. Considering the economy of scale in unit costs on the educational expenditures to the local population, it was revealed that unit costs on educational expenditures have decreased or were the same allocation, approximately 500-1,500 Baht, the result of an expansion on the economy of scale due to an increasing population to approximately 5,000-10,000 persons, as shown in Figure 4.2.

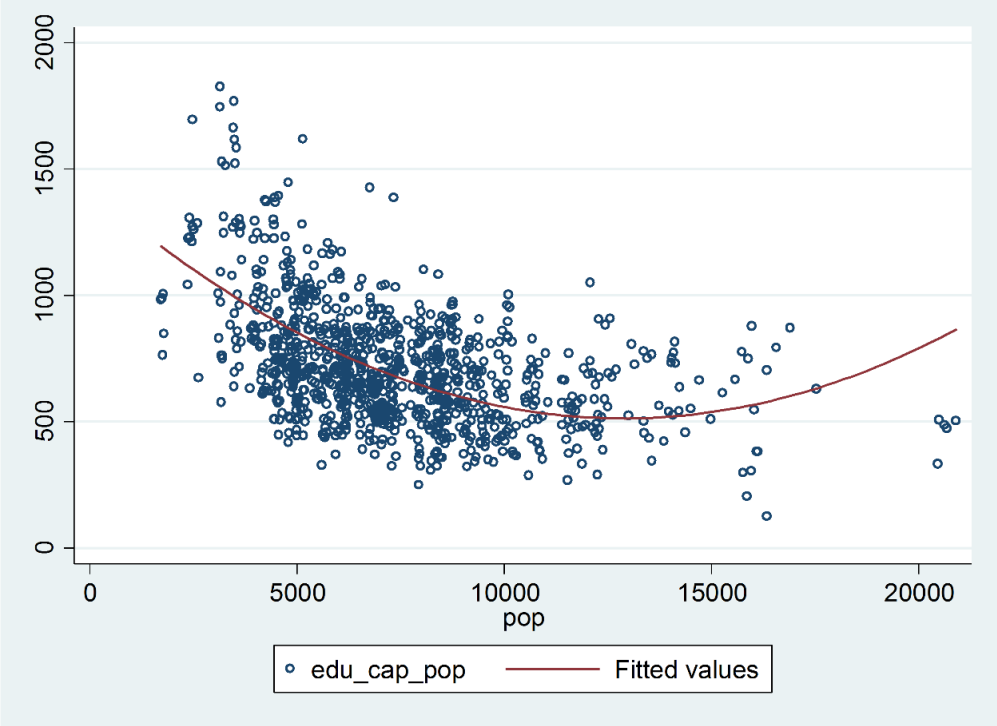


Figure 4.2 Economy of Scale in Unit Costs on Educational Expenditures Decreasing or the Same Allocation to an Increasing Population

In-depth interviews on local educational expenditures found that a TAO spends its expenditure budget on education for the following missions. Management and procurement on teaching and learning media, includes the provision of educational equipment for local children. Budget administration in this area covers the budget for the administration of academic affairs, educational supervision, educational technology, Boy Scouts and Red Cross youth. These activities are important to the potential development of students in the community in order to give them the capacity to learn and grow together with moral principles. Preschool and elementary children development and care, in which the TAO spends its budget for children center development and construction, keeping school buildings in good condition, supporting lunches and supplementary food, encouraging and supporting the sport budget for elementary school children, early childhood and youth development, and scholarships for poor children with good grades. TAOs have an

educational mission at the preschool and primary level and need to allocate their budgets to enhance educational potentiality. Supporting and spending for lunches for the development of educational institutions is in the mission school and children development centers, especially the construction of new children's centers which are subsidized by the government budget. This is consistent with the result of studies that show that general grants affect the educational expenditures of TAOs. The construction of some children centers replaces the existing children's centers that are located in the operational areas of temples. In addition, the budget is allocated to develop and improve children's centers to keep them in better condition to be used effectively. In the past, there were some children's centers in various temples with narrow characteristics that couldn't be fully utilized. Because the government currently has a policy to promote the development of quality of life for children and promote sports for primary school children, a local policy must be implemented to promote the quality of life for the community, especially with children's development centers. In addition, current policy promotes the development of children's learning. It can also help to alleviate the burden of parents who leave their children at a nursery while hey pursue harvesting, farming, and gardening. On the development of educational personnel, a TAO allocates funds for the knowledge development of local educational personnel in order to have professional skills and knowledge. These personnel are trained and developed to enhance their professional skills, including teaching skills and the use of English for communication. This prepares them for the ASEAN Economic Community (AEC). Knowledge development of local education personnel is part of the development of human resources to support the AEC in order to adapt to globalization and other changes in the present age. In this section, the TAO allocates their budget to support projects of the arts and cultural preservation, especially the preservation of Buddhism and important traditions in Buddhism, including the Buddhist candle parade, the bee castle parade and other activities each year that the TAO allocates funds to support. This point causes problems of transparency and governance in localities if the Office of the Auditor General of Thailand comes to inspect and points out that the local money was used wrongly, especially TAOs that contribute to bee castle making in their area, resulting in a required refund for the government agency. Therefore, the budget allocation for

educational expenditures is a result of the policy for the mission transfer of the local government organization as follows: 1) pre-school or early childhood education (kindergarten age 4 – 6 years), 2) basic education, 3) transfer program for pre-primary education (educational materials), 4) the transfer of supplementary food activities (milk), 5) subsidies for supplementary food (milk) in the development program for special education, educational programs for disabled persons, and aid for educational management, 6) transfer program for lunch, 7) transfer program for pre-school education training centers, 8) educational programs for hill tribes and populations with distant public transportation, and 8) the preparation for village book readings and public libraries. Therefore, in order to make the mission transfer efficient, the TAO has prepared an annual budget provision and their educational program which is defined as follows: general administration of education, and preschool and elementary education. The mission is the management of children development centers, purchasing educational materials, providing services for lunches and supplementary food (milk), providing training to increase knowledge and experience for students, supporting temporary teachers and teaching equipment, and supporting general education. The strategy is formulated for promoting education, learning, and information as follows: 1) the development of educational resources, both in the system and out of the system at all levels, supplying educational materials, scholarships, and lunches, 2) development of educational personnel potentiality, 3) constructing public libraries and mobile libraries, 4) locational arrangements for newspaper readings, magazines, and village and community news, and 5) establishing information centers, news towers, and community learning centers.

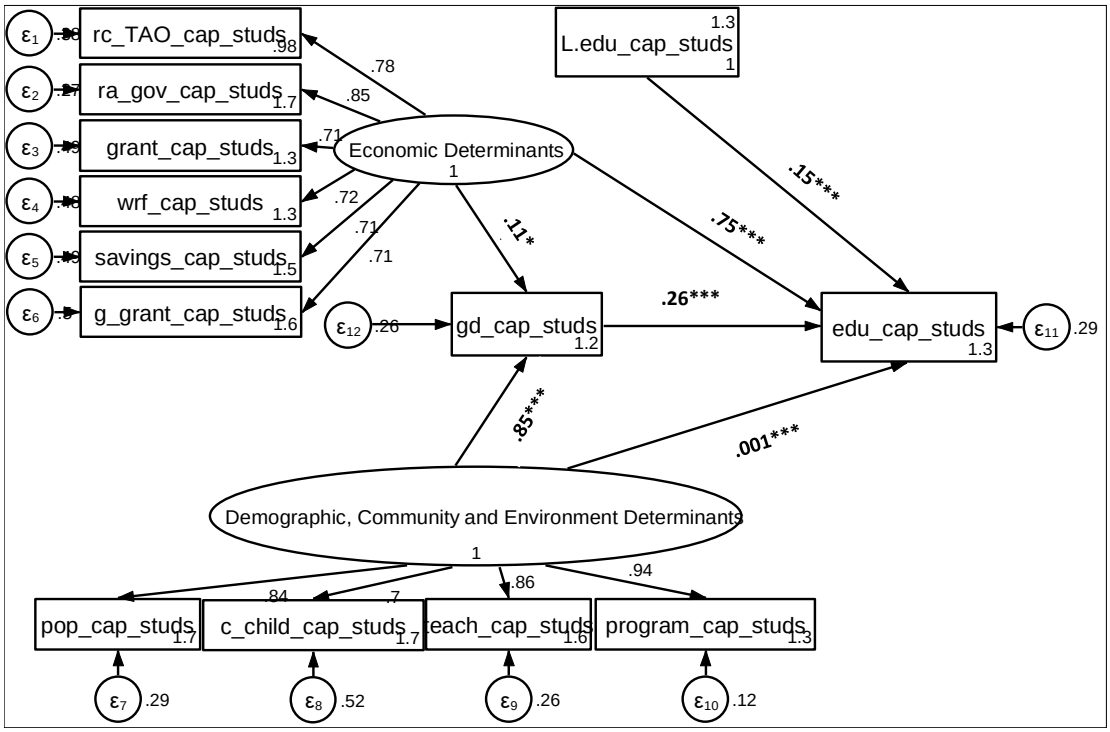


Figure 4.3 Incremental Budgeting, Economic Determinants, Governmental Determinant, and Demographic, Community, and Environment Determinants Affecting Educational Expenditures

Notes:

Statistical Significance	=	* p < 0.05, ** p < 0.01, *** p < 0.001
rc_TAO_cap_ studs	=	revenues collected by TAO per capita population
ra_gov_cap_ studs	=	revenues allocated by government per capita population
grant_cap_ studs	=	grants per capita population
wrf_cap_ studs	=	withdrawals from reserved fund per capita population
savings_cap_ studs	=	savings per capita population
g_grant_cap_ studs	=	general grants per capita population
pop cap_ studs	=	population per capita students
c_child_cap_studs	=	kindergarten children centers per capita students
teach_cap_studs	=	teachers per capita students

program_cap_ studs	=	programs per capita students
L.edu_cap_studs	=	one-year lagged educational expenditures per capita students
gd_cap_studs	=	governmental determinant measured by local staff per capita students
edu_cap_studs	=	educational expenditures per capita students

The results of the model analysis show that the independent variables are incremental budgeting, and economic, demographic, community and environmental determinants. The mediator variable is the governmental determinant. All these determinants explain the dependent variables on educational expenditures with R-square=.21. These show that all independent variables can explain the educational expenditures (21%), while the remaining influence of other variables (79%) was not considered in this study. Therefore, consideration of each determinant directly and indirectly affects educational expenditures. The result of the study found that the most direct variables influencing educational expenditures were demographic, community, and environmental determinants. These determinants directly affected the governmental determinant with a regression coefficient (β = .85, p = 0.000). Economic determinants directly affected educational expenditures with a regression coefficient (β = .75, p = 0.000). Governmental determinants directly affected educational expenditures with a regression coefficient (β = .26, p = 0.017). Incremental budgeting had a direct effect on educational expenditures with a regression coefficient (β = .15, p = 0.000). In addition, economic determinants directly affected the governmental determinant with a regression coefficient (β = .11, p = 0.027). Meanwhile, demographic, community, and environmental determinants affected educational expenditures with a regression coefficient (β = .001, p = 0.000). The determinants that indirectly affected educational expenditures were economic determinants and demographic, community, and environmental determinants. These determinants indirectly affected educational expenditures through the governmental determinant (Figure 4.3). These determinants explain the variables that are measured as follows. Incremental budgeting that directly affected the educational expenditures of TAO as measured from the previous year's educational expenditures. This is five-

years of retrospective data from 2009 to 2013. Because incremental budgeting is a budget allocation based on the original program or experience in a slightly changed manner from the previous base year, this type of budgeting is the model that has been used most. It is easy to implement because it is not complicated. It is a gradual choice because it is a slight change from the original and it is an alternative that it can easily be put into practice. This is not the best option, however, as this type of budgeting rarely responds to the demands of society much. It is a theory that governments in today's world popularly use to allocate their budgets for the country's administration each year. It involves small changes from the original baseline budget (Dye, 2011, 2013; Ponlapat Buracom, 2011b, p. 131). Economic determinants that affect educational expenditures are measured by revenues collected by the TAO, revenues allocated by government, grants, withdrawals from the reserved funds, savings, and general grants. All these revenues are considered in the budget as important to the development of local education. Demographic, community, and environmental determinants that affect educational expenditures are measured by the population, kindergarten children centers, teachers who care for children, and the number of programs for local development. In addition, governmental determinants that affect educational expenditures are measured by the number of staff in local agencies, namely the office of the permanent secretary, the financial section, civil engineering section, educational section, religious and cultural promotion section, public health and environment section, social welfare section, and agricultural section. In considering the density estimation of the educational distribution on expenditures by Kernel density estimation, it estimated that the budget allocation of educational expenditures per capita students is approximately 20,000-60,000 Baht, as shown in Figure 4.4.

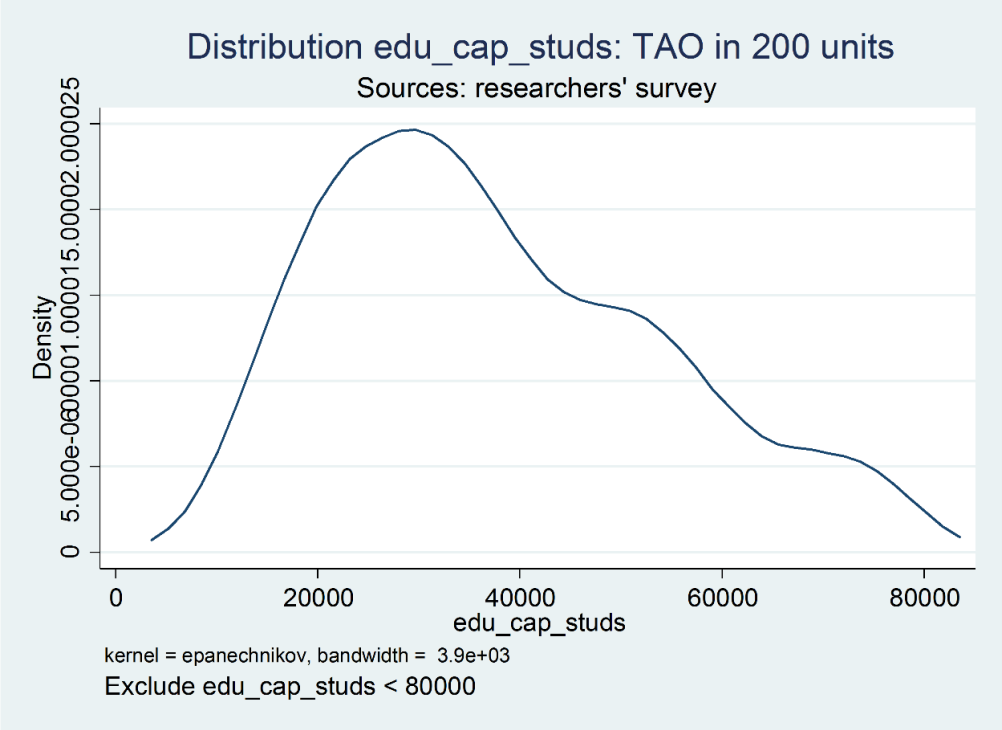


Figure 4.4 Analysis of Estimating Kernel Density on Allocating Educational Expenditures of TAO

4.2.2 Determinants of the Budget Allocation of Public Expenditures on Public Health of TAO

The analysis of the independent variables has a significant effect on the budget allocation of public expenditures on public health of TAOs. Before the data are analyzed, the researcher discriminates the relationship among the independent variables associating with themselves. This is to avoid the problem of multicollinearity by using Pearson's correlation coefficient. The results show that the independent variables are not associated with themselves, as shown in Table 4.1. The equation of the model is studied as follows.

$$ph\_cap\_pop_{it} = a + b_1 l.ph\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it}$$

$+ b_9 program\_cap\_popit + b_{10} old\_cap\_pop_{it} + b_{11} dis\_cap\_pop_{it} + b_{12} aid\_cap\_pop_{it} + e$

Table 4.9 Determinants of the Budget Allocation of Public Expenditures on Public Health of TAO

Random-effects GLS regression			Number of obs	=	800
R-sq:			Number of groups	=	200
within	=	0.0136			
between	=	0.8505	Wald chi2 (7)	=	1,046.44
overall	=	0.5708	Prob > chi2	=	0.0000

Independent Variables	Coef.	Std. Err.	t	P > | t |
Incremental Budgeting				
One-Year Lagged Public Expenditures on Public Health Per Capita Population	0.393***	0.031	12.740	0.000
Economic Determinants				
Revenues Collected by TAO Per Capita Population	0.026	0.133	0.190	0.846
Revenues Allocated by Government Per Capita Population	0.023*	0.011	2.130	0.033
Grants Per Capita Population	0.003	0.007	0.460	0.645
Withdrawals from Reserved Fund Per Capita Population	0.131*	0.056	2.330	0.020
Savings Per Capita Population	0.068**	0.021	3.300	0.001
General Grants Per Capita Population	0.043***	0.009	4.750	0.000
Governmental Determinant				
Staff Per Capita Population	10339.110***	2848.445	3.630	0.000

Table 4.9 (Continued)

Independent Variables	Coef.	Std. Err.	t	P > | t |
Demographic, Community, and Environmental Determinants				
Programs Per Capita Population	3168.702**	1131.916	2.800	0.005
Old Persons per capita Population	383.514	239.452	1.600	0.109
Disable Persons Per Capita Population	200.253	1658.659	0.120	0.904
AIDS Patients Per Capita Population	-2042.002	7600.638	-0.270	0.788
_cons	7.289	30.687	0.240	0.812
sigma_u	0			
sigma_e	145.099			
rho	0	(fraction of variance due to u_i)		

Note: Statistical Significance: * < 0.05, ** < 0.01, *** < 0.001

The results of analysis in Prob > chi2 = 0.000 are less than 0.05. It shows that the analysis of the equation is reasonable and reliable at R-square = 0.5708. It means that all independent variables can explain the dependent variables on public health expenditures (57.08%), while the remaining influence of other variables (42.92%) was not considered in this study. In addition, a statistical consideration of analysis finds that it is reasonable and reliable on statistics. The explanation for the analysis result showing statistical significance of 0.05 finds that the change of all independent variables is in a positive direction of the dependent variables. It shows that the increase of all independent variables affects the increase of the dependent variables on public health expenditures. The variables that affect public health expenditures are sorted in descending order, including local staff per capita population with a

regression coefficient (β = 10339.110, p = 0.000), followed by the number of programs for local development per capita population with a regression coefficient (β = 3168.702, p = 0.005), incremental budgeting per capita population with a regression coefficient (β = .393, p = 0.000), withdrawals from reserved funds per capita population with a regression coefficient (β = .131, p = 0.020), savings per capita population with a regression coefficient (β = .068, p = 0.001), general grants per capita population with a regression coefficient (β = .043, p = 0.000), and revenues allocated by government per capita population with a regression coefficient (β = .023, p = 0.033) respectively, as shown in Table 4.9. The details of all these variables can be explained as follows. Governmental determinants that affect public expenditures on public health of TAOs (Figure 4.6 and Table 4.9) are primarily the number of local staff. Results of the study indicated that there is a positive relationship with the expenditures on public health. This means that when the number of local staff of TAO is increased, it results in an increase in expenditures on public health. A TAO allocates 30% to 40% of expenditures on all local staff. The local staff consists of staff in various subdivisions, namely, office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of the development of local community health for a better quality of life. According to the results of the study, it was revealed that governmental factors considered by bureaucrats or local staff affected the Bangkok District public expenditure (Pichit Ratchatapibhunphob, 2012). In addition, demographic, community, and environmental determinants that affect public expenditures on public health of TAO (Figure 4.6 and Table 4.9) are mostly the number of programs for local development. The results of the study indicated that there is a positive relationship with the expenditures on public health. This means that as the number of programs for local development of TAO is increased, it results also in an increase in expenditures on public health. These are the programs that a TAO uses for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and

community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects public expenditures on public health of TAO (Figure 4.6 and Table 4.9) is incremental budgeting. There is a positive relationship with the expenditures on public health. This means that budgeting is made in the previous year. This affects the budgeting of the expenditures on public health in the current year. This indicates that the TAO allocates its budget for the expenditures on public health to carry out activities and projects. It is an inherent characteristic of doing activities and projects that carries over from previous years. If there are no new activities or projects different from previous years it's a bit of a budgeting style of allocation for a slight increase or decrease. According to the results of the study, there are deciding factors in the organization that influence the allocation on public budget of expenditures in the municipality (Porntip Kanjananont, 2010). Economic determinants that affect the expenditures on public health (Figure 4.6 and Table 4.9) are withdrawals from reserved funds and savings. The study indicated that withdrawals from reserved funds and savings are positively correlated with the expenditures on public health. This means that when withdrawals from the reserved fund and savings of the TAO increase, it results also in an increase in the expenditures on public health. These savings are a central statement that the TAO accumulates by deducting 25% of the budget each year. This budget is used when it is necessary for an emergency or in the event of disaster, such as pestilence, the spread of contacting viruses, etc. These disasters are not possible to predict in advance so the TAO cannot make a budget plan in advance. Therefore, there must be an accumulation of funds available to pay, called a withdrawal from the reserved fund. By spending, it must be approved by the local council of TAO. In the case that the budget is spent in each area according to the activities and projects specified in the plan, but disbursement is delayed and cannot be spent in due time, the TAO can borrow money accumulated in this section to spend first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of this study, the determinants that influence the public expenditure of local government includes

governmental subsidy, income, and population (Henderson, 1968). Another economic determinant that affects the expenditures on public health (Figure 4.6 and Table 4.9) is the general grant. This study indicates that there is a positive relationship with these and expenditures on public health. This means that when general grants of TAOs are increased, an increase also results in the expenditures on public health. This subsidy is money that is spent for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the part of the budget that government subsidizes for the local government for spending on local development. The government allocates this budget for delivering public health services on the subsistence pensions of old persons, disabled persons, AIDS patients, social service centers, and old people's homes. According to the results of the study, the factors that influence the allocation on public budget of expenditure for health care of the municipality include the income level of the population, state subsidies, efficient allocation, performance of service providers, and demand for delivering services (Häkkinen & Kaleviluoma, 1995). Finally, the economic determinant that affects the expenditures on local public health (Figure 4.6 and Table 4.9) is revenue allocated by the government. The result shows that there is a positive correlation with the expenditures on public health. This means that when revenues allocated by the government to TAOs are increased, it results in an increase in the expenditures on public health. Revenues that the government allocates to these local governments are collected by the government and allocating to the locality. This includes value added tax under the Income Tax Act on allocation, specific business taxes for local government B.E 2534 (1991), value added tax under the Provincial Administrative Organization Act B.E. 2540 (1997), alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, registration and legal fees, mineral and petroleum fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that the government allocates to local governments are value added taxes for local administrative organizations under the Decentralization Plan and Procedure Act B.E. 2542 (1999). According to the results of a study, factors that have a significant effect on the public expenditure of local government include socioeconomic variables on education, industrialization, population density, total tax burden, local tax burden, road conditions, motor vehicles, commercial market conditions, financial market

conditions, housing conditions, health conditions, and cultural environments (Hwang, 1987). Thus, it concludes that the determinants of public health expenditures are incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on public health expenditures. Considering the economy of scale in unit costs on public health expenditures to the number of the local population, it revealed that unit costs on public health expenditures have decreased or the same allocation, approximately 500-1,500 Baht, the result of an expansion on economy of scale with the population increasing to approximately 5,000-10,000 persons, as shown in Figure 4.5.

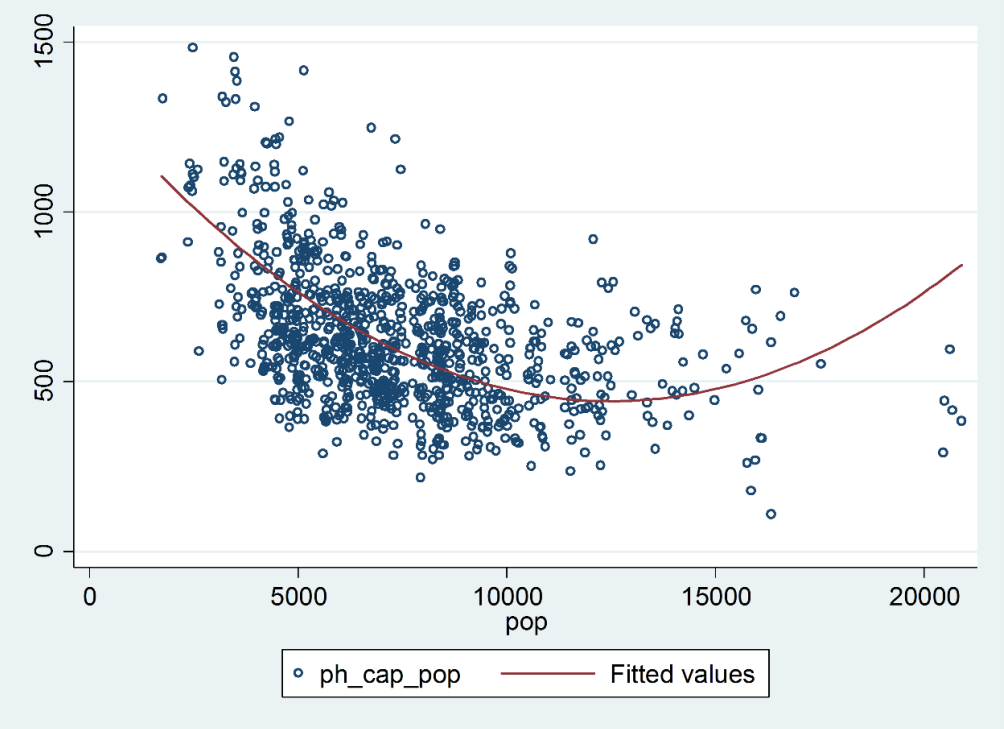


Figure 4.5 Economy of Scale in Unit Costs on Public Health Expenditures Decreasing or at the Same Allocation to Number of Increasing Population

During in-depth interviews on the expenditures on local public health, the result revealed that TAOs spend their budget on public health in the following areas. Prevention and control of pandemic disease, the TAO has a budget to prevent outbreaks of dengue fever in the community, providing sandbags to prevent mosquitoes, and checking vaccination areas for people in the villages. There is a campaign to educate people on contagious diseases and good environmental management within the community. In addition, the TAO also provides financial support to community public health agencies, such as supporting village health volunteers, promoting sub-district health hospitals, and providing health insurance. TAOs collaborate closely with all these agencies to promote good health in the community. There is a campaign to prevent contagious diseases and epidemics within the community, because TAOs have the manpower but doctors are lacking to take care of the health of the community, which includes elderly people, disabled persons, disadvantaged people, and AIDS patients. There is coordination of hospitals in the health care of the community. In addition, hot weather is a risk factor for rabies. Therefore, the TAO has to be careful monitoring the spread of disease. There is a vaccination against mad dog disease, dengue, and the elimination of breeding mosquitoes. Public relations people inform the public about how to prevent the spread of disease. The villagers recognize and cooperate very well. This includes garbage disposal, sorting of garbage, and recycling. However, everything that happens will be a cooperation of all sectors to help each other, whether the public or private sector. And most importantly, everything must start from our own locality first. In addition, the TAO supports projects for dog and cat family planning, rabies vaccinations, and people's health care. The project is supported by the budget for the establishment of a chronic patient center. A fitness project is for fostering good health in the population, the prevention of epidemics, and the spread of viral infections. Activities on public health for the development of quality of life show that the TAO has community assistance for the projects of dengue prevention, rabies, and garbage collection to keep a clean environment for the community, keeping it a pleasant place to live. In addition, the TAO has a health check-up program for people aged 35 and older every year. Beverages and supplementary food are delivered to elderly people and disabled persons every month. Eggs are given to pregnant women. A handbook for local

residents is available from the public health clinic or hospital. Especially newborns, who require vaccination against disease, the TAO serves the vaccinations until they have received the full range of vaccination, as well, milk is given out for supplementary food. School-aged children that pass the standard criterion to attend school must be equally developed. Elderly people must get health care, especially the patients in bed who are taken care of by the public health officers who visit regularly.

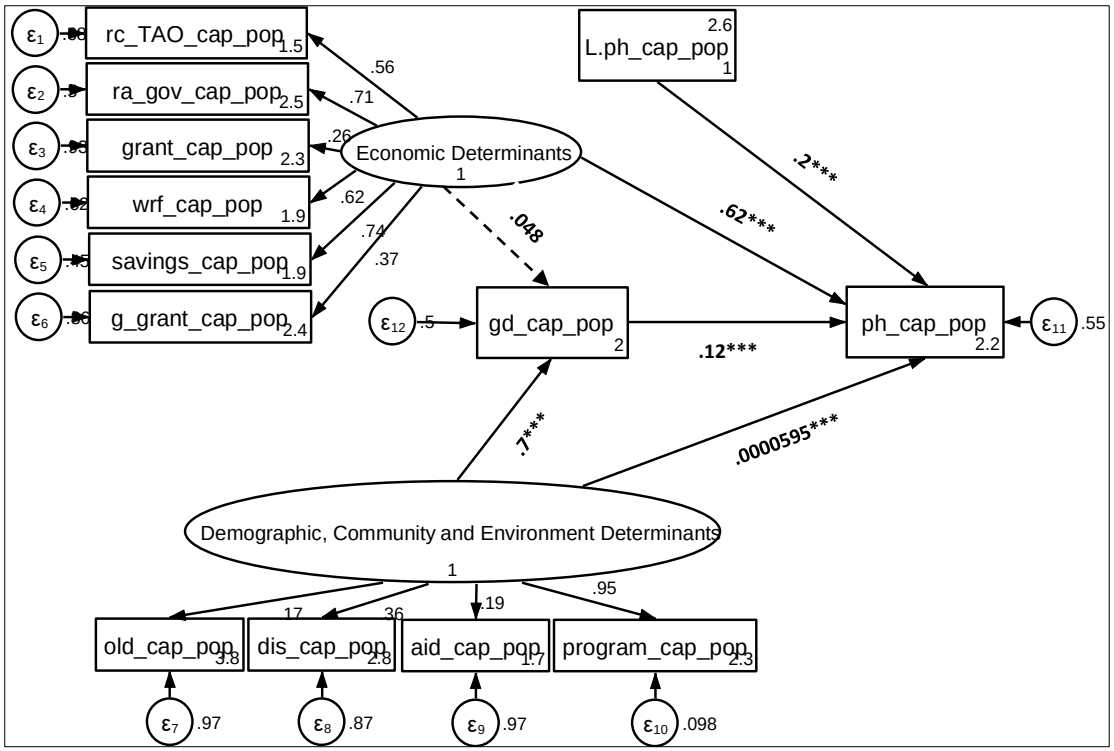


Figure 4.6 Incremental Budgeting, Economic Determinants, Governmental Determinant, and Demographic, Community, and Environment Determinants Affecting Public Health Expenditures

Notes:

Statistical Significance	=	* p < 0.05, ** p < 0.01, *** p < 0.001
rc_TAO_cap_ pop	=	revenues collected by TAO per capita population
ra_gov_cap_ pop	=	revenues allocated by government per capita population
grant_cap_ pop	=	grants per capita population

wrf_cap_ pop	=	withdrawals from reserved fund per capita population
savings_cap_ pop	=	savings per capita population
g_grant_cap_ pop	=	general grants per capita population
old_cap_pop	=	old persons per capita population
dis_cap_pop	=	disable persons per capita population
aid_cap_ pop	=	AIDS patients per capita population
program_cap_ pop	=	programs per capita population
L.ph_cap_ pop	=	one-year lagged public health expenditures per capita population
gd_cap_pop	=	governmental determinant measured by local staff per capita population
ph_cap_ pop	=	public health expenditures per capita population

The results of the model analysis show that the independent variables include incremental budgeting, and economic, demographic, community and environmental determinants. The mediator variable is the governmental determinant. All these determinants explain the dependent variables on public health expenditures with R-square=.55. These show that all independent variables can explain the educational expenditures (55%), while the remaining influence of other variables (45%) was not considered in this study. Therefore, consideration of each determinant affects, directly and indirectly, public health expenditures. The result of the study found that the most direct variables influencing public health expenditures were demographic, community, and environmental determinants. These determinants directly affected the governmental determinant with regression coefficient (β = .70, p = 0.000). The economic determinant directly affected public health expenditures with regression coefficient (β = .62, p = 0.000). Incremental budgeting has a direct effect on public health expenditures with regression coefficient (β = .20, p = 0.000). And the governmental determinant directly affects public health expenditures with regression coefficient (β = .12, p = 0.001). Demographic, community, and environmental determinants affect public health expenditures with regression coefficient (β = 0000595, p = 0.000). In addition, the determinants that indirectly affected public health expenditures were demographic, community, and environmental determinants.

These determinants indirectly affected public health expenditures through the governmental determinant (Figure 4.6). These determinants explain the variables that are measured as follows. Incremental budgeting that directly affects the public health expenditures of the TAO is measured from one-year of lagged public health expenditures. This is five-years of retrospective data from 2009 to 2013. Incremental budgeting is an important form of budgeting, as follows. In the decision making process, the chosen option may not necessarily be the best choice or offer the most return, but it is an option that the practitioner can implement. In the case where the old choice is not satisfactory, a new option is often not different from the old one. The incremental model is still viewed as a decision of compromise among different interest groups associated with each other. (Dye, 2011, 2013; Ponlapat Buracom, 2011b, p. 131). The economic determinants that affect public health expenditures are measured by the revenues collected by the TAO, revenues allocated by the government, grants, withdrawals from the reserved funds, savings, and general grants. The revenues collected by the TAO consist of taxes and duties collected by the locality, such as house and land tax, local tax, label tax, animal slaughter duty, and swallow nest duty. Non-tax revenues include fees, fines, license fees, property income, utilities income, and miscellaneous income. Revenues that are allocated by the government can be collected from value added tax, specific business taxes, alcohol tax, excise tax, fees for right registration and legal acts, gambling tax, mineral royalty fees, petroleum royalty fees, and value added tax under determining plan and procedures for decentralization to local government organization Act B.E 1999. These subsidies are expenditures that are spent for maintenance or enhancing the operation of constitutional independent agencies, including general subsidies and specific ones. All these revenues are considered in the budget to be important for the development of local public health. Demographic, community, and environmental determinants that affect public health expenditures are measured by the number of old persons, disable people, AIDS patients, and programs for local development. In addition, governmental determinants that affect public health expenditures are measured by the number of staff in local agencies in the office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural promotion section, public health and environment section, social welfare section, and

agricultural section. In considering the density estimation of expenditure distribution on public health using Kernel density estimation, it is estimated that the budget allocation of public health expenditures per capita population is approximately 500–1,000 Baht, as shown in Figure 4.7.

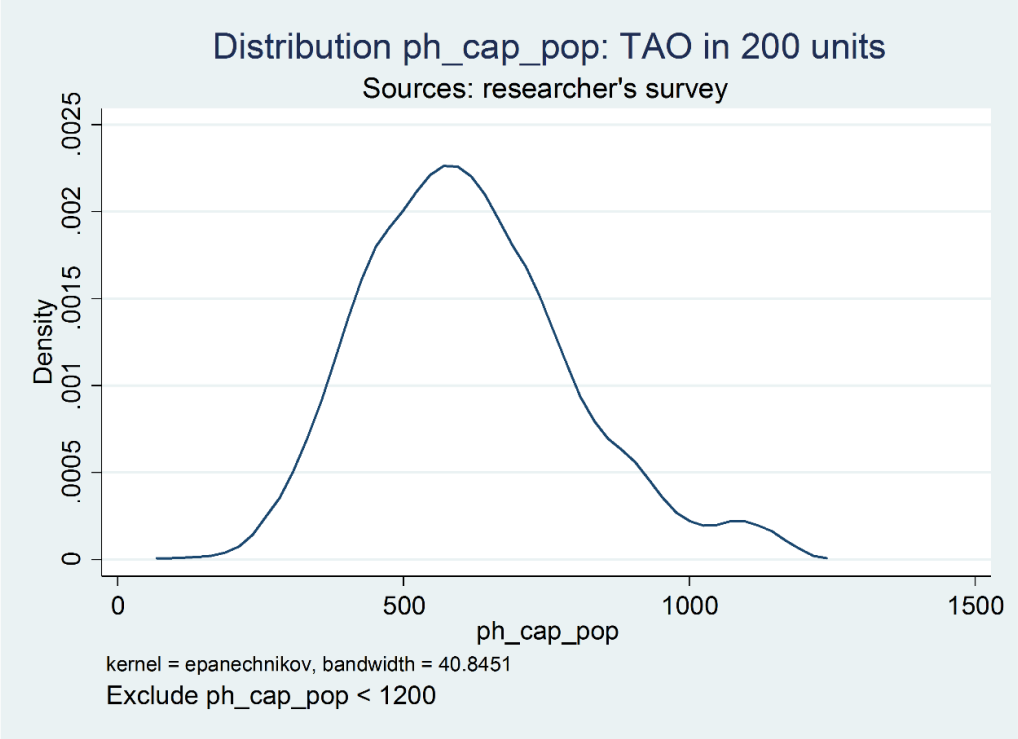


Figure 4.7 Analysis of Estimating Kernel Density on Allocating Public Health Expenditures of TAO

4.2.3 Determinants of the Budget Allocation of Public Expenditure on Social Welfare of TAO

Analysis of the independent variables has a significnt effect on the budget allocation of public expenditures on social welfare of TAOs. Before the data are analyzed, the researcher first discriminates any associated relationships among the independent variables. This is to avoid the problem of multicollinearity by using Pearson's correlation coefficient. The results reveal that the independent variables are

not associated with themselves, as shown in Table 4.1. The equation of the model is studied as follows.

$$socw\_cap\_pop_{it} = a + b_1 l.socw\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} + b_9 program\_cap\_popit + b_{10} old\_cap\_pop_{it} + b_{11} dis\_cap\_pop_{it} + b_{12} aid\_cap\_pop_{it} + e$$

Table 4.10 Determinants of the Budget Allocation of Public Expenditures on Social Welfare of TAO

Random-effects GLS regression			Number of obs	=	800
R-sq:			Number of groups	=	200
within	=	0.0137			
between	=	0.8505	Wald chi2 (7)	=	1046.65
overall	=	0.5708	Prob > chi2	=	0.0000

Independent Variables	Coef.	Std. Err.	t	P > | t |
Incremental Budgeting				
One-Year Lagged Public Expenditures on Social Welfare Per Capita Population	0.393***	0.031	12.750	0.000
Economic Determinants				
Revenues Collected by TAO Per Capita Population	0.029	0.148	0.190	0.846
Revenues Allocated by Government Per Capita Population	0.026*	0.012	2.130	0.033
Grants Per Capita Population	0.004	0.008	0.460	0.645
Withdrawals from Reserved Funds Per Capita Population	0.145*	0.062	2.330	0.020
Savings Per Capita Population	0.076**	0.023	3.300	0.001

Table 4.10 (Continued)

Independent Variables	Coef.	Std. Err.	t	P > | t |
General Grants Per Capita Population	0.048***	0.010	4.750	0.000
Governmental Determinant				
Staff Per Capita Population	11521.840***	3174.396	3.630	0.000
Demographic, Community, and Environmental Determinants				
Programs Per Capita Population	3530.286**	1261.436	2.800	0.005
Old Persons per capita Population	427.384	266.853	1.600	0.109
Disable Persons Per Capita Population	223.011	1848.463	0.120	0.904
AIDS Patients Per Capita Population	-2274.737	8470.399	-0.270	0.788
_cons	8.096	34.198	0.240	0.813
sigma_u	0			
sigma_e	161.564			
rho	0	(fraction of variance due to u_i)		

Note: Statistical Significance: * < 0.05, ** < 0.01, *** < 0.001

Results of the analysis in Prob > chi2 = 0.000 are less than 0.05. It shows that the analysis of the equation is reasonable and reliable at R-square = 0.5708. This means that all independent variables can explain the dependent variables on social welfare expenditures (57.08%), while the remaining influence of other variables (42.92%) was not considered in this study. In addition, statistical consideration of the analysis result finds that it is reasonable and reliable in statistics. The explanation for analysis results in a statistical significance of 0.05, which finds that the change of all

independent variables is in a positive direction with the dependent variables. It shows that the increase of all independent variables also affects an increase of the dependent variables on social welfare expenditures. The variables that affect social welfare expenditures are sorted in descending order, including local staff per capita population with regression coefficient (β = 11521.84, p = 0.000), followed by the number of programs for local development per capita population with regression coefficient (β = 3530.286, p = 0.005), next, incremental budgeting per capita population with regression coefficient (β = .393, p = 0.000), withdrawals from reserved fund per capita population with regression coefficient (β = .145, p = 0.020), savings per capita population with regression coefficient (β = .076, p = 0.001), general grants per capita population with regression coefficient (β = .048, p = 0.000), and revenues allocated by government per capita population with regression coefficient (β = .026, p = 0.033) respectively, as shown in Table 4.10. The details of all these variables can be explained as follows. The governmental determinant that affects public expenditures on social welfare of TAOs (Figure 4.9 and Table 4.10) is mostly the number of local staff. The results of the study indicated that there is a positive relationship with expenditures on social welfare. This means that as the number of local staff of a TAO is increased, social welfare expenditures also increase. This is the budget administration of 30% to 40% that the TAO has allocated for expenditures on all local staff. The local staff consists of staff in various subdivisions, namely, office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of local social welfare development for a better quality of life. According to the result of a previous study, it was found that certain factors have a significant effect on the public expenditure of local government, including governmental variables on government aid, financial capacity, level of delivering public services, regulation level, and production level (Hwang, 1987). In addition, demographic, community, and environmental determinants that affect public expenditures on the social welfare of TAOs (Figure 4.9 and Table 4.10) are primarily the number of programs for local development. The results of the study indicated that there is a positive relationship with expenditures on social welfare. This means that as the

number of programs for local development of TAOs is increased, it results also in an increase in the expenditures on social welfare. These are the programs that TAOs use for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects the expenditures on social welfare of TAOs (Figure 4.9 and Table 4.10) is incremental budgeting. There is a positive relationship with the expenditures on social welfare. This means that budgeting from the previous year affects the budgeting of the expenditures on social welfare in the current year. This indicates that TAOs allocate the budget of their expenditures on social welfare to carry out activities and projects. It is an inherent characteristic of doing activities and projects that existed in previous years. There are no new activities and projects different from previous years. The reason for incremental budgeting is because 1) government does not have time, no information, or enough budget to consider an alternative policy. 2) Policy makers are justified in the existing policy so they avoid the risk of uncertainty in a new policy. 3) Because of the investment in a mega project, the government needs to continue the policy of the existing one in order to compromise the benefits and maintain the status of the budget reviewers and avoid severe consequences. 4) For political convenience incremental budgeting makes it easy for policy-makers to allocate budgets to ongoing programs whether they need a little increase, a little decrease, or the same aspects, and 5) if there is no agreement on values and social goals, the pluralist society will operate an existing program. It is easy to plan an all new policy (Dye, 1995, pp. 31-32; 2011, 2013; Ponlapat Buracom, 2011b; Sombat Thamrongthanyawong, 2011, pp. 242-244). According to the result of the study, it revealed that the deciding factors in the organization that influence the allocation of public expenditure on society are education, public health, and social welfare (Worrapong Trakarnsirinont, 2010). This theory is one of the deciding theories within the organization. If the government does not have the time and complete information, the decision for the preparation of a

public budget of expenditures will change only slightly from the original. This is to minimize disputes among agencies, for political convenience, and it makes it easier to set up new policies and programs. The economic determinants that affect the expenditures on social welfare (Figure 4.9 and Table 4.10) are withdrawals from the reserved fund and savings. The study indicates that withdrawal from the reserved fund and savings are positively correlated with expenditures on social welfare. This means that if withdrawals from the reserved fund and savings of the TAO are increased, an increase in expenditures on social welfare results. These savings are a central statement that the TAO accumulates by deducting 25% of the budget each year. This budget is used when it is necessary for emergencies or in the event of disasters. In the case that the budget is spent in each area according to the activities and projects specified in the plan, but disbursement is delayed and it cannot pay in due time, the TAO can borrow the accumulated funds in this section to use first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of a previous study, it was found that the determinants have an effect on social welfare services, including revenues (per capita), grants/subsidies (per capita), population, and annual growth rate of expenditures (per capita) (M. R. Holman, 2013; The Universtiy of Mississippi, 2009). Another economic determinant that affects the expenditures on social welfare (Figure 4.9 and Table 4.10) is a general grant. The study indicates that there is a positive relationship with the expenditures on social welfare. This means that if the general grant of a TAO is increased, it results also in an increase in expenditures on social welfare. This subsidy is money for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the budget that government subsidizes for local government for local development. Government allocates its budget for delivering public health services on the subsistence pensions of old persons, disable persons, AIDS patients, social service centers, and old people’s homes. According to the result of a study, expenditure decentralization has a significant effect in a positive direction on public spending for education, social security subsidy, administration, and capital construction (Jia et al., 2014). Finally, the economic determinant that affects the expenditures on local social welfare (Figure 4.9 and Table 4.10) is revenue allocated

by the government. The result shows that there is a positive correlation with the expenditures on social welfare, which means that when revenues allocated by government of TAO are increased, it results in an increase in expenditures on social welfare. Revenues that government allocates to these local governments are collected by the government and allocated to the locality. This includes value added tax under the income tax Act on allocation, specific business taxes for local government B.E 2534 (1991), value added tax under the Provincial Administrative Organization Act B.E. 2540 (1997), specific business taxes, alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, right registration and legal fees, mineral and petroleum royalty fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that the government allocates to local government are the value added tax for local administrative organizations under the decentralization plan and procedure Act B.E. 2542 (1999). According to the result of a study, factors that have an effect on the allocation of public expenditure on police, include the tax base, compensation, debt service, population, and crime (Beaton, 1974). Thus, it concludes that the determinants of social welfare expenditures include incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on social welfare expenditures. Considering on economy of scale in unit costs on social welfare expenditures to the number of local population, it reveals that unit costs on social welfare expenditures decrease or remain at the same allocation, approximately 500-1,500 Baht, the result of an expansion on the economy of scale as population increases to approximately 5,000-10,000 persons, as shown in Figure 4.8.

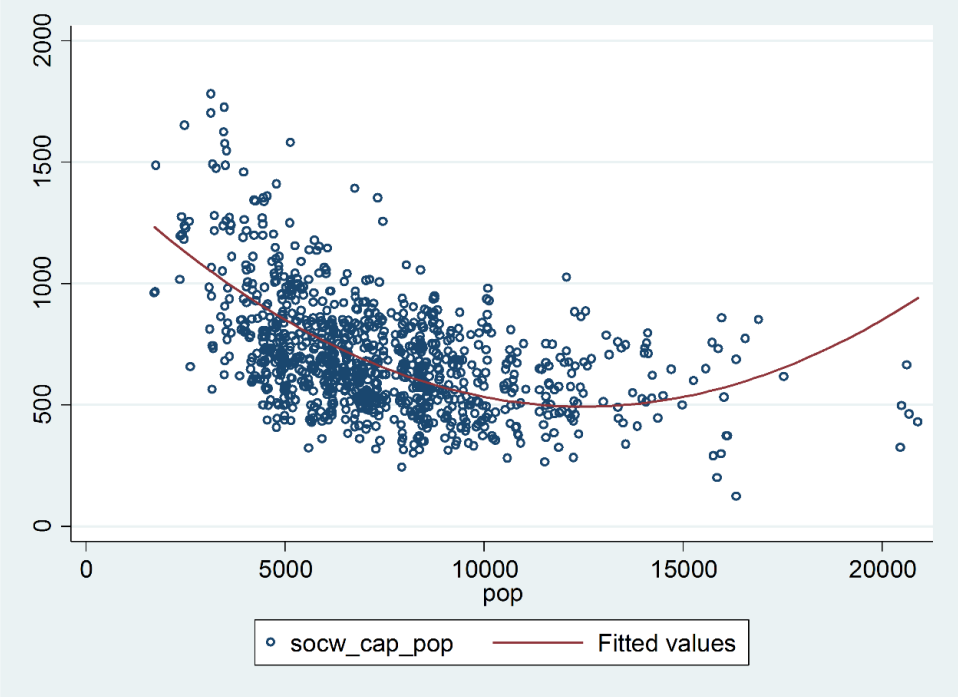


Figure 4.8 Economy of Scale in Unit Costs on Social Welfare Expenditures Decreasing or the Same Allocation to Increasing Population

During in-depth interviews on the expenditures on social welfare, it was revealed that TAOs spend their budget on social welfare on assistance for elderly persons, disabled persons, underprivileged persons, and AIDS patients. TAOs spend their budget to improve the quality of life in the community. In helping elderly persons, children, the underprivileged and disaster victims, all these are in accordance with legal regulations. Most importantly, it supports help in the form of activities and programs, including home visits for disabled persons, elderly persons, underprivileged persons, the homeless, and AIDS patients, projects for the quality of life and development of elderly persons and disabled persons, traditional and cultural heritage projects, the tradition for watering and blessings from elderly people, and a project for providing Ovaltine supplementary food to the elderly. This improves the quality of life for elderly people, to get a good quality of life and not be a burden to descendants and society. In some cases where elderly people or bedridden patients are unable to function on their own, the TAO has allocated its budget to buy wheelchairs and

walking sticks, or asked for donations from people. The wheelchair project for the elderly is a temporary lending feature. When those recipients are gone, the issue comes back because the TAO will have to help the next patients. The welfare of helping the elderly, disabled persons, and AIDS patients is in the form of salaries subsidized by the government to local governments in order to provide welfare benefits to these people. In addition, TAOs support their budget for children and women's development in order for all people in society to have access to basic public services, including the creation of housing for underprivileged people. The creation of housing for those who want it is under the program "the creation of housing for honor to the King". This project has been implemented regularly every year. TAOs have also allocated funds to support the vocational training of mushroom farming in the area. Another group considered to be the strongest includes a peanut production group, a beef cattle group of Phon Yang Kham , and a long drum group. These three groups provide an income for people in the community after farming, as well as creating a strong conscious mind of community, love, harmony, and helping each other in the community. So, whatever the community would like to do, the TAO will help and support the budget as much as possible and be a mentor to help. In addition, TAOs support a budget for health insurance. Training is provided to the community for the development of women's professional groups and the well-being of the community. They provide knowledge about drug problems and surveillance to prevent youth from tampering with drugs. In addition, they purchase equipment to assist elderly persons, disabled persons, and underprivileged persons. Because the budgets are spent for developing children, women, the disabled persons, and underprivileged persons, the purpose is to have everyone in society to have access to the public utilities of the state. This is to help and improve the quality of life for all. In addition, in strengthening the community, TAOs provide grants every year to the community to build sustainable careers for the strength of the community and the prevention of drug problems. This project has various training activities to improve the quality of life for youth. This strengthens the community in that it focuses on the prevention of drug abuse and the promotion of sports, such as futsal, and youth sport in the community.

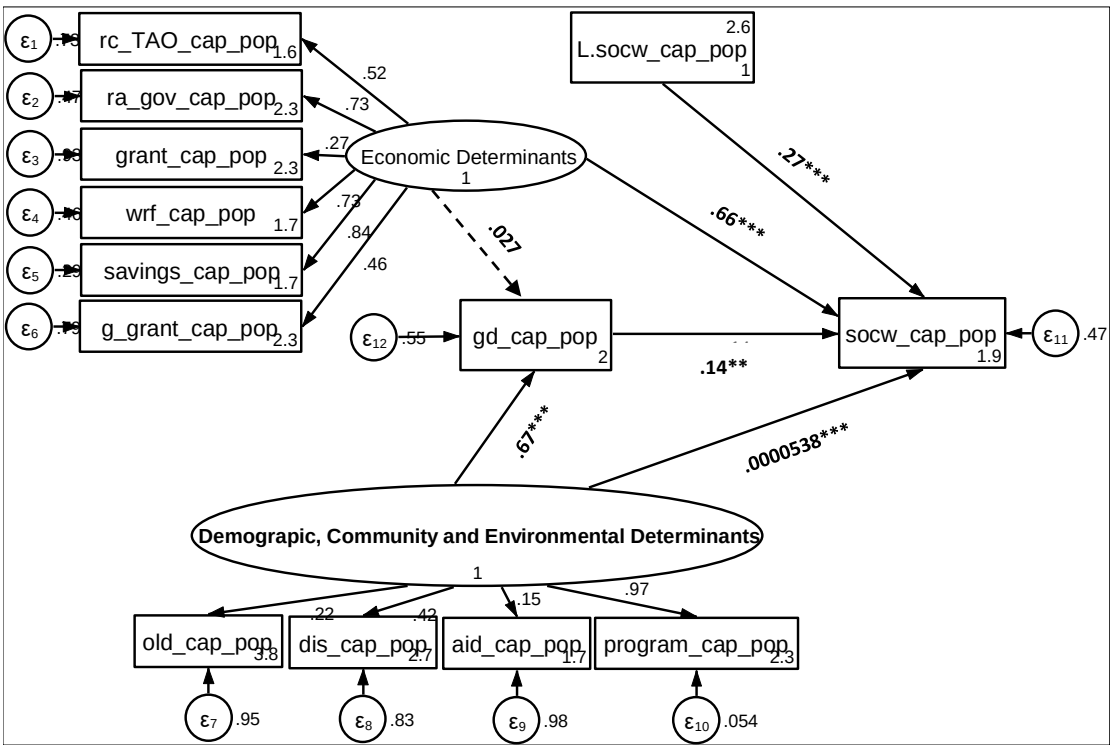


Figure 4.9 Incremental Budgeting, Economic Determinants, Governmental Determinant, and Demographic, Community, and Environmental Determinants Affecting Social Welfare Expenditures

Notes:

Statistical Significance	=	* p < 0.05, ** p < 0.01, *** p < 0.001
rc_TAO_cap_ pop	=	revenues collected by TAO per capita population
ra_gov_cap_ pop	=	revenues allocated by government per capita population
grant_cap_ pop	=	grants per capita population
wrf_cap_ pop	=	withdrawals from reserved fund per capita population
savings_cap_ pop	=	savings per capita population
g_grant_cap_ pop	=	general grants per capita population
old_cap_pop	=	old persons per capita population
dis_cap_pop	=	disable persons per capita population
aid_cap_ pop	=	AIDS patients per capita population

program_cap_ pop	=	programs per capita population
L.socw_cap_ pop	=	one-year lagged social welfare expenditures per capita population
gd_cap_pop	=	governmental determinant measured by local staff per capita population
socw_cap_ pop	=	social welfare expenditures per capita population

The results of the model analysis show that the independent variables include incremental budgeting, economic determinants, and demographic, community and environmental determinants. The mediator variable is the governmental determinant. All these determinants explain the dependent variables on social welfare expenditures with R-square=.47. These show that all the independent variables can explain the social welfare expenditures (47%), while the remaining influence of other variables (53%) was not considered in this study. Therefore, consideration of each determinant directly and indirectly affects social welfare expenditures. Results of the study reveal that the most direct variables influencing social welfare expenditures are demographic, community and environmental determinants. These determinants directly affect the governmental determinant with regression coefficient ($\beta = .67$, $p = 0.000$). The economic determinant directly affects public health expenditures with regression coefficient ($\beta = .66$, $p = 0.000$). Incremental budgeting has a direct effect on public health expenditures with regression coefficient ($\beta = .27$, $p = 0.000$), and the governmental determinant directly affected public health expenditures with regression coefficient ($\beta = .14$, $p = 0.000$). Meanwhile, demographic, community, and environmental determinants affected public health expenditures with regression coefficient ($\beta = 0000538$, $p = 0.000$). In addition, the determinants that indirectly affected public health expenditures were demographic, community, and environmental determinants. These determinants indirectly affected social welfare expenditures through the governmental determinant (Figure 4.9). These determinants explain the variables that are measured as follows. Incremental budgeting that directly affected social welfare expenditures of the TAO were measured from one-year lagged social welfare expenditures. This is five-years of retrospective data from 2009 to 2013. This is budgeting that is based on the original or previous experience from the

past years as being important to not be changed, because if changes occur, especially a change in an opposite direction, it may have some impact on the interests of some people or groups. This results in dissatisfaction or resistance. The decision makers always try to keep the status quo without changing a lot (Dye, 2011, 2013; Ponlapat Buracom, 2011b, p. 131). Economic determinants that affect social welfare expenditures are measured by revenues collected by the TAO, revenues allocated by government, grants, withdrawals from the reserved fund, savings, and general grants. Demographic, community, and environmental determinants that affect social welfare expenditures are the number of old persons, disable persons, AIDS patients, and the number of programs for local development. Meanwhile, the governmental determinant that affects social welfare expenditures is measured by the number of local staff. In considering the density estimation of expenditure distribution on social welfare by Kernel density estimation, it is estimated that the budget allocation of social welfare expenditures per capita population is approximately 500–1,000 Baht, as shown in Figure 4.10.

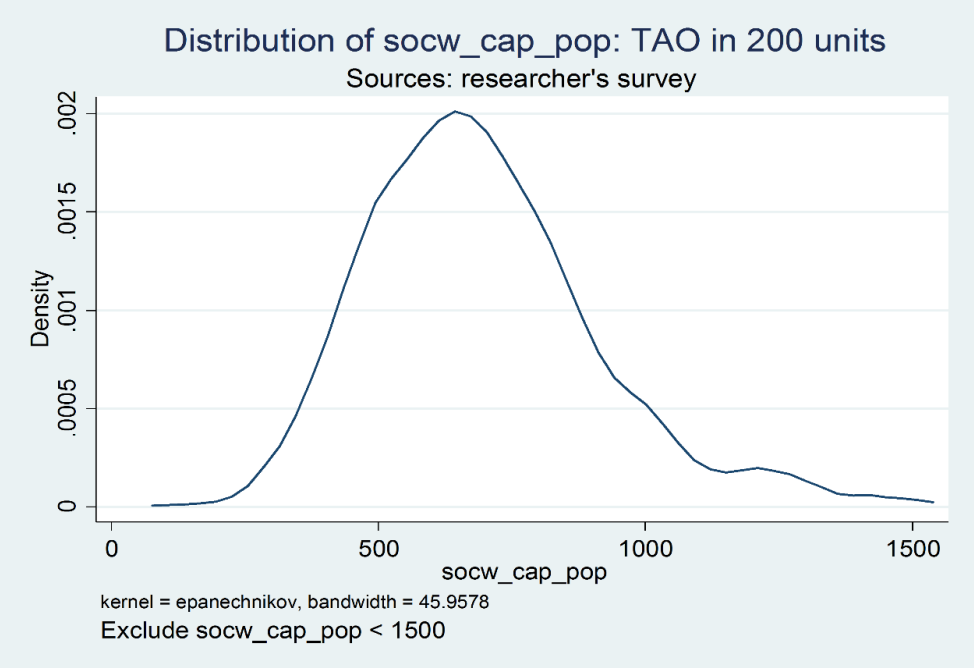


Figure 4.10 Analysis of Estimating Kernel Density on Allocating Social Welfare Expenditures of TAO

4.2.4 Determinant of the Budget Allocation of Public Expenditure on Infrastructure of TAO

Analysis of the independent variables has a significant effect on the budget allocation of public expenditure on infrastructure for TAOs. Before the data are analyzed, the researcher discriminates the relationship among the independent variables. This is to avoid the problem of multicollinearity by using Pearson's correlation coefficient. The results show that the independent variables are not associated with themselves, as shown in Table 4.1. The equation of the model is studied as follows.

$$\begin{aligned} infra\_cap\_pop_{it} = a + b_1 l.infra\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + \\ b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + \\ b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} \\ + b_9 program\_cap\_pop_{it} + b_{10} rd\_cap\_pop_{it} + \\ b_{11} bridge\_cap\_pop_{it} + e \end{aligned}$$

Table 4.11 Determinants of the Budget Allocation of Public Expenditures on Infrastructure of TAO

Random-effects GLS regression			Number of obs	=	800
R-sq:			Number of groups	=	200
within	=	0.0135			
between	=	0.8490	Wald chi2 (7)	=	1046.58
overall	=	0.5705	Prob > chi2	=	0.0000

Independent Variables	Coef.	Std. Err.	t	P > | t |
Incremental Budgeting				
One-Year Lagged Public Expenditures on Infrastructure Per Capita Population	0.391***	0.031	12.630	0.000

Table 4.11 (Continued)

Independent Variables	Coef.	Std. Err.	t	P > | t |
Economic Determinants				
Revenues Collected by TAO Per Capita Population	0.069	0.210	0.330	0.743
Revenues Allocated by Government Per Capita Population	0.033*	0.017	1.990	0.047
Grants Per Capita Population	0.007	0.011	0.670	0.503
Withdrawals from Reserved Fund Per Capita Population	0.186*	0.089	2.100	0.036
Savings Per Capita Population	0.113**	0.033	3.450	0.001
General Grant Per Capita Population	0.072***	0.015	4.990	0.000
Governmental Determinant				
Staff Per Capita Population	13859.350**	4488.260	3.090	0.002
Demographic, Community, and Environmental Determinants				
Programs Per Capita Population	4602.668**	1768.353	2.600	0.009
Road Construction and Repairs	1437.216	2396.672	0.600	0.549
Bridge Construction and Repairs	40040.020	29222.140	1.370	0.171
_cons	52.395	37.089	1.410	0.158
sigma_u	0			
sigma_e	227.592			
rho	0	(fraction of variance due to u_i)		

Note: Statistical Significance: * < 0.05, ** < 0.01, *** < 0.001

The results of analysis in Prob > chi2 = 0.000 are less than 0.05. It shows that the analysis of the equation is reasonable and reliable at R-square = 0.5705. It means that all independent variables can explain the dependent variables on infrastructure expenditures (57.05%), while the remaining influence of other variables (24.95%) was not considered in this study. In addition, statistical consideration of the analysis result finds that it is reasonable and reliable on statistics. The explanation for analysis resulted in a statistical significance of 0.05, which finds that the change of all independent variables is in a positive direction of the dependent variables. It shows that the increase of all independent variables also affects an increase of the dependent variables on infrastructure expenditures. The variables that affect infrastructure expenditures are sorted in descending order, including local staff per capita population with regression coefficient (β = 13859.35, p = 0.002), followed by the number of programs for local development per capita population with regression coefficient (β = 4602.668, p = 0.008), next, incremental budgeting per capita population with regression coefficient (β = .391, p = 0.000), withdrawals from reserved funds per capita population with regression coefficient (β = .186, p = 0.036), savings per capita population with regression coefficient (β = .113, p = 0.001), general grants per capita population with regression coefficient (β = .072, p = 0.000), and revenues allocated by government per capita population with regression coefficient (β = .033, p = 0.047) respectively, as shown in Table 4.11. The details of all these variables can be explained as follows. The governmental determinant that affects public expenditures on infrastructure of TAO (Figure 4.12 and Table 4.11) is the number of local staff. The results of the study indicate that there is a positive relationship with expenditures on infrastructure. This means that as the number of local staff of TAO is increased, it results in an increase in social welfare expenditures. The budget administration of the TAO allocates 30% to 40% of expenditures on all local staff. The local staff consists of staff in various subdivisions, namely, the office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of local infrastructure development in the community. According to the result of a study, it found that governmental variables have an influence on the allocation on public

budget of expenditures for local government, including government services, financial capacity, and intergovernmental finance relations (Sudasinghe, 2010). In addition, demographic, community, and environmental determinants that affect public expenditures on infrastructure of TAO (Figure 4.12 and Table 4.11) include the number of programs for local development. The results of this study indicate that there is a positive relationship with expenditures on infrastructure. This means that if the number of programs for local development of TAO is increased, it results in an increase in the expenditures on infrastructure. These are the programs that TAOs use for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects public expenditures on infrastructure of TAO (Figure 4.12 and Table 4.11) is incremental budgeting. It has a positive relationship with the expenditures on infrastructure. This means that the budget is made in the previous year. This affects the budgeting of the expenditures on infrastructure in the current year. This indicates that TAOs allocate their budget of the expenditures on infrastructure to carry out activities and projects. It is an inherent characteristic of doing activities and projects that existed in previous years. If there are no new activities and projects different from previous years, it's a bit of a budgeting style of allocation that includes a slight increase or decrease. According to the result of a study, it was revealed that deciding factors have a direct and indirect influence on the allocation on public expenditures for Bangkok (Pichit Ratchatapibhunphob, 2012). Economic determinants that affect the expenditures on infrastructure (Figure 4.12 and Table 4.11) are withdrawals from reserved funds and savings. The study indicates that withdrawals from reserved funds and savings are positively correlated with the expenditures on infrastructure. This means that if withdrawals from reserved funds and savings of the TAO are increased, it results in an increase in expenditures on infrastructure. These savings are a central statement which the TAO accumulates by deducting 25% from the budget each year. This

budget is used when it is necessary or emergencies or in the event of disasters. In the case that the budget is already spent in each area according to the activities and projects specified in the plan, but disbursement is delayed and it cannot pay in due time, the TAO can borrow the accumulated funds in this section to spend first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of a study, it revealed that the determinants that have influence over the government allocation on public budget of expenditure include population, population density, tax portion of voter, revenue of voter, percentage of black population, percentage of elder population, percentage of increasing population, percentage of people with homes of their own, and the ratio of employment per population (Bergstrom & Goodman, 1973). Another economic determinant that affects the expenditures on infrastructure (Figure 4.12 and Table 4.11) is the general grant. The study indicated that there is a positive relationship with the expenditures on infrastructure. This means that if the general grant of a TAO is increased, it results in an increase in expenditures on infrastructure. This subsidy is money for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the budget that government subsidizes for local governments for spending on local development while the budget of infrastructure is allocated by government. According to the result of a study, it found that the following determinants have a significant effect on the public expenditure of local government. First, the socioeconomic variables of education, industrialization, population density, total tax burden, local tax burden, road conditions, motor vehicles, commercial market conditions, financial market conditions, housing conditions, health conditions, and cultural environments. Second, governmental variables include government aid, financial capacity, level of delivering public services, regulation level, and production level (Hwang, 1987). Lastly, the economic determinant that affects expenditures on infrastructure (Figure 4.12 and Table 4.11) is revenue allocated by the government. The result showed that there is a positive correlation with expenditures on infrastructure. This means that when revenues allocated by the government to the TAO are increased, there results an increase in expenditures on infrastructure. Revenues that government allocates to these local governments are collected by the

government and allocated to the locality. It includes value added tax under the income tax Act on allocation, specific business tax for local government B.E 2534 (1991), value added tax under the Provincial Administrative Organization Act B.E. 2540 (1997), specific business taxes, alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, right registration and legal fees, mineral and petroleum royalty fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that the government allocates for local government are value added tax for local administrative organization under the decentralization plan and procedure Act B.E. 2542 (1999). According to the result of a study, it was revealed that the determinants that affect spending on social welfare, include revenue (per capita), grants/subsidies (per capita), and population (F. Bastida, M. D. Guillamon, & B. Benito, 2013). Thus, it concludes that the determinants for infrastructure expenditures are incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on infrastructure expenditures. Considering the economy of scale in unit costs on infrastructure expenditures to the number of the local population, it revealed that unit costs on infrastructure expenditures have decreased or are at the same allocation, approximately 500-1,500 Baht, when there is an expansion in population up to approximately 5,000-10,000 persons, as shown in Figure 4.11.

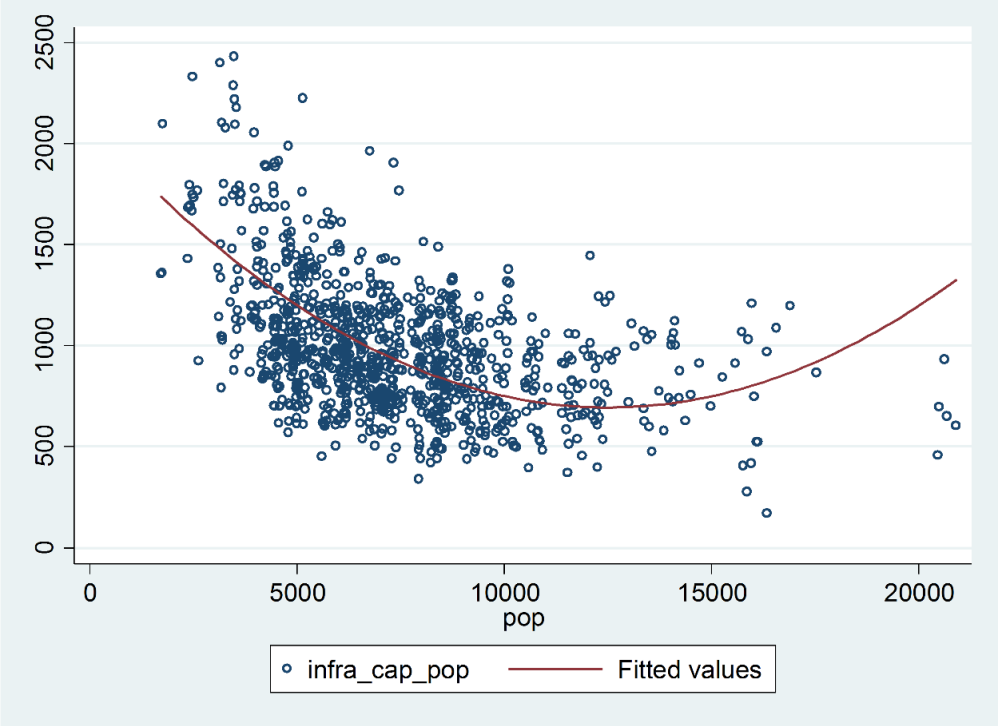


Figure 4.11 Economy of Scale in Unit Costs on Infrastructure Expenditures Decreasing or at the Same Allocation to an Increasing Population

During in-depth interviews on infrastructure expenditures it was revealed that TAOs spend their budgets on infrastructure as follows. The TAO has allocated its budget to enhance the landscape within the community by constructing and repairing residential housing, constructing relative buildings, and renovation of the learning centers in sub-districts. This is a place where villagers come together. It is used as a common meeting place. In addition, TAOs allocate their budget for the projects of traffic light procurement, water supply drainage, reinforced concrete road construction, dam construction in canals, and the landscape improvement of roads. It includes solid waste and sewage disposal. The budget is spent to pay the wages of permanent employees on sewer projects. There is a project for waste trash procurement, electrical works on roads in public parks, and water supply affairs. Motor vehicles are purchased for creating traffic marks on roads in the community. Projects exist to move the pavilion of the community, road development, electricity,

water supply, and dredging of water sources for agriculture, because public utility is not adequate or the community is lacking water for agriculture. Main street construction and repairs provide electricity to dark corners in order to have enough light to roam around in safety. In addition, the development of infrastructure on housing and community focuses on road construction and community halls in various villages. The budget is allocated for constructing corpse crematoriums for the village. Therefore, infrastructure development will be for road construction, electricity, and water supply. There are projects for the development and improvement of damaged parts, such as for electricity, water supply, and roads or communication, for expanding into rural areas to cover all the areas that the TAO is responsible for. Due to the growth of population, the demand for electricity has increased. In order to satisfy the demand for people traveling comfortably, the TAO supplies electricity to illuminate all areas and dark spots to prevent the occurrence of accidents or violence in the community. In the construction of roads and water supply, because most of the area is in agriculture, many people need to roam and transport agricultural products. Due to the long drought and demands on water supply for consumption, the TAO emphasizes the development of water resources and the construction of transport routes based on the environment in each area. If there are roads to the fields and gardens with sufficient electricity and water supply, it results in increases in the agricultural product. The important point is to focus on the development of electricity, water supply and roads, because all these are necessary in daily life. Roads are a major factor in this development because the roads are not enough to meet the demands of the community for the purpose of traveling or the transport of agricultural products. The TAO has essentially focused on water supply and electricity. The rest is roads, because there are not enough for the needs of the community. Water supply is urgently required in every village. Electricity is also required for all homes. There is still no electricity at present in some areas. But electricity and water supply are increasingly expanding to more villages. Regional water supply mainly focuses on water quality, because it is often not very clean, yet the villagers still use it for consumption. TAOs must have the duty to supervise and control the quality of water at a safe and standard level. However, most villagers want TAOs to develop roads. TAOs respond to the demands of the community, therefore, the TAO focuses on the

development of electricity as much as possible because people have an interest in electricity first. So, infrastructure development must respond the needs of the community and sufficiently respond to the demands of all aspects in order to provide comfort to the local people. Because there is not enough infrastructure in rural areas, TAOs develop it continuously. It includes the promotion of quality of life, the environment, and good hygiene in the community. Therefore, the development of infrastructure and the quality of life needs to be developed simultaneously according to the slogan of flowing water, bright light, good way, and good health. Although the infrastructure is good, the quality of life in the community is not so good, so TAOs have been working on basic projects such as water supply and electricity to cover all households and roads. The development of human resources and infrastructure must be developed together. However, the construction of anything that has to do with concrete objects has a political impact. If the quality of life is improved alone, but there are no works with concrete objects, it will be seen that the TAO does not do anything, the works are not tangible. The community will look at what the TAO does not do. This will affect the politics in the future and the next election. Villagers really overlook the developments on their quality of life, but they go back to focusing on infrastructure because they see only clear pictures like building roads. If there are roads for travelling, a water supply system for consumption, and bright electricity on the street that is clearly visible, all these affect the political vote in the future. The TAO development strategy must be fully developed in all aspects and gradually developed according to the needs of community until it covers all those aspects and needs. Especially considering the water supply system, the TAO has to focus very seriously. Because our region is in the tropical zone, we must prepare to deal with drought problems. Villagers are accustomed to using tap water that the TAO provides because of the cheaper cost compared to the plumbing systems in the private sector. The budget of a TAO right now focuses on infrastructure because it is the policy of the executive to emphasize flowing water, bright lights and development in all aspects but it also depends on the budget. And most importantly, development must be done together with both infrastructure and quality of life, to provide public services covering all areas that the TAO is responsible for.

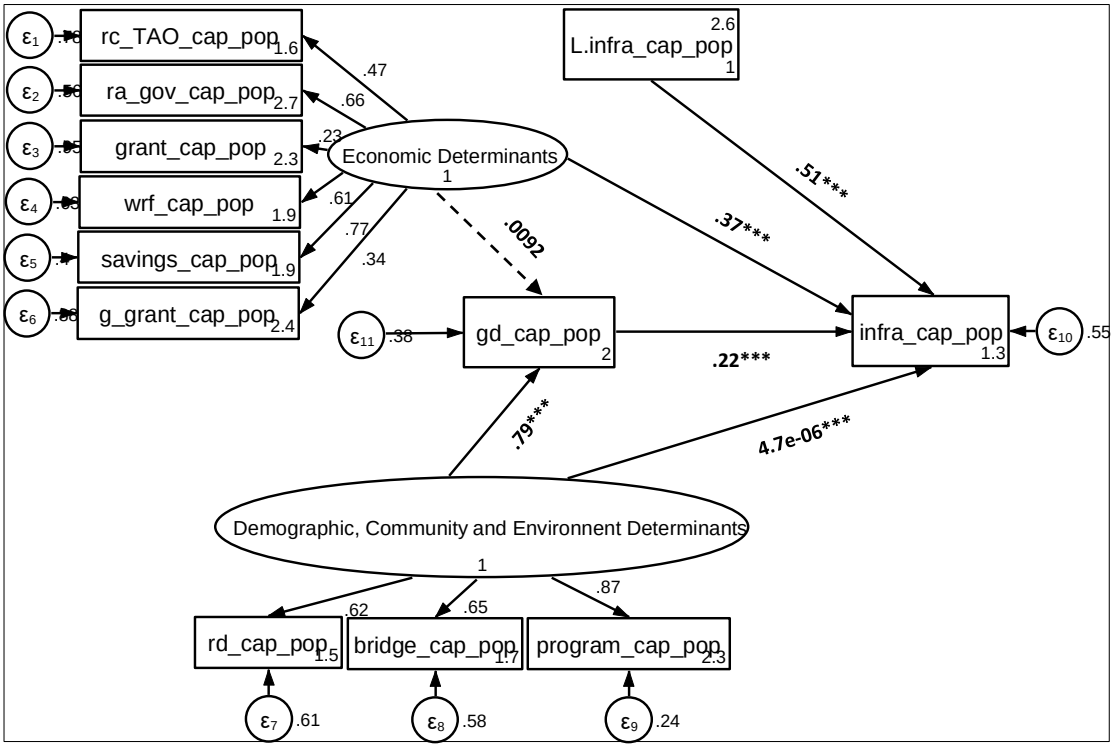


Figure 4.12 Incremental Budgeting, Economic Determinants, Governmental Determinant, and Demographic, Community, and Environment Determinants Affecting Infrastructure Expenditures

Notes:

Statistical Significance	=	* p < 0.05, ** p < 0.01, *** p < 0.001
rc_TAO_cap_ pop	=	revenues collected by TAO per capita population
ra_gov_cap_ pop	=	revenues allocated by government per capita population
grant_cap_ pop	=	grants per capita population
wrf_cap_ pop	=	withdrawals from reserved fund per capita population
savings_cap_ pop	=	savings per capita population
g_grant_cap_ pop	=	general grants per capita population
rd_cap_pop	=	roads per capita population
bridge_cap_pop	=	bridges per capita population
program_cap_ pop	=	programs per capita population

L.infra_cap_ pop	=	one-year lagged infrastructure expenditures per capita population
gd_cap_pop	=	governmental determinant measured by local staff per capita population
infra_cap_ pop	=	infrastructure expenditures per capita population

The results of the model analysis show that the independent variables include incremental budgeting, economic determinants, and demographic, community and environmental determinants. The mediator variable is the governmental determinant. All these determinants explain the dependent variables on infrastructure expenditures with R-square=.55. These show that all independent variables can explain infrastructure expenditures (55%), while the remaining influence of other variables (45%) was not considered in this study. Therefore, consideration of each determinant directly and indirectly affects infrastructure expenditures. The result of the study revealed that the most direct variables influencing infrastructure expenditures were demographic, community and environmental determinants. These determinants directly affected the governmental determinant with regression coefficient ($\beta = .79$, $p = 0.000$). Incremental budgeting has a direct effect on infrastructure expenditures with regression coefficient ($\beta = .51$, $p = 0.000$). The economic determinant directly affected infrastructure expenditures with regression coefficient ($\beta = .37$, $p = 0.000$). And the governmental determinant directly affected infrastructure expenditures with regression coefficient ($\beta = .22$, $p = 0.000$). Meanwhile, demographic, community, and environmental determinants affected infrastructure expenditures with regression coefficient ($\beta = 4.7e\text{-}06$, $p = 0.000$). In addition, the determinants that indirectly affected infrastructure expenditures were demographic, community, and environmental determinants. These determinants indirectly affected infrastructure expenditures through the governmental determinant (Figure 4.12). These determinants explain the variables that are measured as follows. Incremental budgeting that directly affects infrastructure expenditures of the TAO is measured from one-year lagged infrastructure expenditures. This is five-years of retrospective data from 2009 to 2013. Economic determinants that affect infrastructure expenditures are measured by revenues collected by the TAO, revenues allocated by government, grants,

withdrawals from the reserved fund, savings, and general grants. In addition, the demographic, community, and environmental determinants that affect infrastructure expenditures are the number of roads, bridges, and number of programs for local development. Meanwhile, the governmental determinant that affects infrastructure expenditures is measured by the number of local staff. In considering the density estimation of expenditure distribution on infrastructure by Kernel density estimation, it is estimated that the budget allocation of infrastructure expenditures per capita population is approximately 500–1,500 Baht, as shown in Figure 4.13.

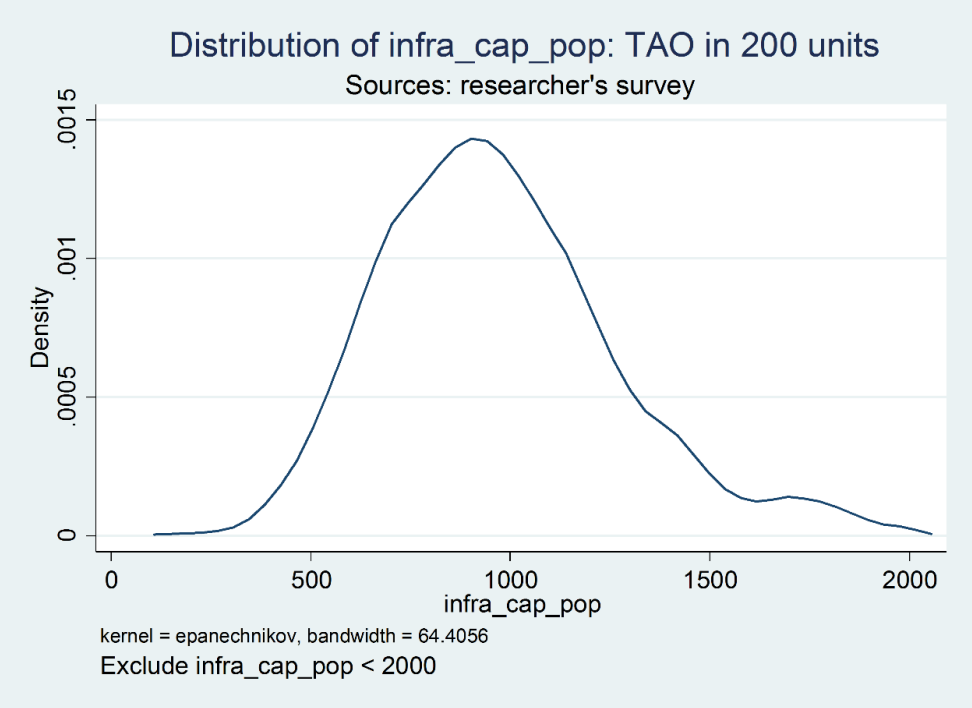


Figure 4.13 Analysis of Estimating Kernel Density on Allocating Infrastructure Expenditures of TAO

4.2.5 Determinants of the Budget Allocation of Total Expenditure of TAO

Analysis of the independent variables has a significant effect on the budget allocation of public expenditure on total expenditure of TAOs. Before the data are analyzed, the researcher discriminates the relationship among the independent

variables. This is to avoid the problem of multicollinearity by using Pearson's correlation coefficient. The results show that the independent variables are not associated with themselves, as shown in Table 4.1. The equation of the model is studied as follows.

$$\begin{aligned} total\_cap\_pop_{it} = a + b_1 l.total\_cap\_pop_{it} + b_2 rc\_TAO\_cap\_pop_{it} + \\ b_3 ra\_gov\_cap\_pop_{it} + b_4 grant\_cap\_pop_{it} + b_5 wrf\_cap\_pop_{it} + \\ b_6 savings\_cap\_pop_{it} + b_7 g\_grant\_cap\_pop_{it} + b_8 gd\_cap\_pop_{it} \\ + b_9 program\_cap\_pop_{it} + b_{10} studs\_cap\_pop_{it} + \\ b_{11} teach\_cap\_pop_{it} + b_{12} c\_child\_cap\_pop_{it} + \\ b_{13} old\_cap\_pop_{it} + b_{14} dis\_cap\_pop_{it} + b_{15} aid\_cap\_pop_{it} + \\ b_{16} rd\_cap\_pop_{it} + b_{17} bridge\_cap\_pop_{it} + e \end{aligned}$$

Table 4.12 Determinants of the Budget Allocation of Total Expenditures of TAO

Random-effects GLS regression			Number of obs	=	800
R-sq:			Number of groups	=	200
within	=	0.0123			
between	=	0.8558	Wald chi2 (7)	=	1070.81
overall	=	0.5779	Prob > chi2	=	0.0000

Independent Variables	Coef.	Std. Err.	t	P > | t |
Incremental Budgeting				
One-Year Lagged Total Expenditures Per Capita Population	0.408***	0.031	13.340	0.000
Economic Determinants				
Revenues Collected by TAO Per Capita Population	0.145	0.625	0.230	0.816
Revenues Allocated by Government Per Capita Population	0.088	0.051	1.730	0.083

Table 4.12 (Continued)

Independent Variables	Coef.	Std. Err.	t	P > | t |
Grants Per Capita Population	0.018	0.033	0.550	0.584
Withdrawals from Reserved Fund Per Capita Population	0.421	0.270	1.560	0.118
Savings Per Capita Population	0.360***	0.098	3.680	0.000
General Grants Per Capita Population	0.215***	0.044	4.880	0.000
Savings Per Capita Population	0.360***	0.098	3.680	0.000
General Grants Per Capita Population	0.215***	0.044	4.880	0.000
Governmental Determinant				
Staff Per Capita Population	36497.120**	14136.930	2.580	0.010
Demographic, Community, and Environmental Determinants				
Programs Per Capita Population	15026.410**	5683.917	2.640	0.008
Students Per Capita Population	-607.217	3142.760	-0.190	0.847
Teachers Per Capita Population	-53753.300	85050.660	-0.630	0.527
Kindergarten Children Center Per Capita Population	-23606.210	92606.400	-0.250	0.799
Old Persons Per Capita Population	1774.671	1123.271	1.580	0.114
Disabled Persons Per Capita Population	3606.984	7737.033	0.470	0.641
AIDS Patients Per Capita Population	-18201.190	35479.280	-0.510	0.608
Road Construction and Repairs	3480.445	7180.659	0.480	0.628
Bridge Construction and Repairs	113631.100	86755.680	1.310	0.190

Table 4.12 (Continued)

Independent Variables	Coef.	Std. Err.	t	P > | t |
_cons	129.302	153.785	0.840	0.400
sigma_u	0			
sigma_e	666.036			
rho	0	(fraction of variance due to u_i)		

Note: Statistical Significance: * < 0.05, ** < 0.01, *** < 0.001

The results of analysis in Prob > chi2 = 0.000 are less than 0.05. This shows that the analysis of the equation is reasonable and reliable at R-square = 0.5779. It means that all independent variables can explain the dependent variables on total expenditures (57.79%), while the remaining influence of other variables (42.21%) was not considered in this study. In addition, the statistical consideration of analysis result finds that it is reasonable and reliable on statistics. The explanation for analysis resulting in statistical significance 0.05 finds that the change of all independent variables is in a positive direction of the dependent variables. It shows that the increase of all independent variables also affects the increase of the dependent variables on total expenditures. The variables that affect total expenditures are sorted in descending order, including local staff per capita population with regression coefficient (β = 36497.12, p = 0.010), followed by the number of programs for local development per capita population with regression coefficient (β = 15026.41, p = 0.008), incremental budgeting per capita population with regression coefficient (β = .408, p = 0.000), savings per capita population with regression coefficient (β = .360, p = 0.000), and general grants per capita population with regression coefficient (β = .215, p = 0.000) respectively, as shown in Table 4.12. The details of all these variables can be explained as follows. The governmental determinant that affects public expenditures on total expenditures of TAO (Figure 4.15 and Table 4.12) is the number of local staff. The results of the study indicate that there is a positive relationship with total expenditures. This means that if the number of local staff of

TAO is increased, there is also an increase in total expenditures. The budget administration for TAO allocates 30% to 40% of expenditures on all local staff. The local staff consists of staff in various subdivisions, namely, office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of local community development for a good quality of life. According to the result of a study, the determinants that affect the public expenditure of local government includes governmental variables measuring government aid, financial capacity, delivering public services, regulation level, production level, government services, financial capacity, and intergovernmental finance relations (Hwang, 1987; Sudasinghe, 2010). In addition, demographic, community, and environmental determinants that affect total expenditures of TAOs (Figure 4.15 and Table 4.12) are the number of programs for local development. The results of the study indicated that there is a positive relationship with total expenditures, which means that if the number of programs for local development of the TAO is increased, it results in an increase of total expenditures of TAO. These are the programs that TAOs use for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects total expenditures of the TAO (Figure 4.15 and Table 4.12) is incremental budgeting, which has a positive relationship with total expenditures. This means that budgeting is made in the previous year. This affects the budgeting of the expenditures on total expenditures in the current year. This indicates how TAOs allocate their budgets of total expenditure to carry out activities and projects. It is an inherent characteristic of doing activities and projects that existed in previous years. If are no new activities and projects different from previous years it's a bit of a budgeting style of allocation focusing on a slight increase or decrease. According to the result of a study, it was revealed that the

deciding factors in the organization that influence the allocation on public budget of expenditure in the municipality and locality include, education, public health, and social welfare (Pichit Ratchatapibhunphob, 2012; Porntip Kanjananont, 2010; Worrapong Trakarnsirinont, 2010). The economic determinant that affects total expenditures (Figure 4.15 and Table 4.12) is savings. The study indicated that savings are positively correlated with total expenditures of TAO. This means that if savings of the TAO are increased, it results in an increase in expenditures on total expenditures. These savings are a central statement where the TAO deducts 25% of its budget each year. This budget is used when it is necessary for emergencies or in the event of disasters. In the case that the budget is spent in each area according to the activities and programs specified in the plan but disbursement is delayed and it cannot pay in due time, the TAO can borrow the accumulated funds in this section to be spent first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of a study, it found that the factors that influence the allocation on public budget of expenditure of state and local government include subsidy by the central government, grants of contribution, unconditional grants, income, population, interest rates, state subsidy, efficient allocations, performance of service providers, and demand for delivering services (Gramlich, 1968; Häkkinen & Kaleviluoma, 1995; Henderson, 1968). Another economic determinant that affects total expenditures (Figure 4.15 and Table 4.12) is the general grant. The study indicated that they have a positive relationship with total expenditures. This means that if the general grant of a TAO is increased, it results in an increase in total expenditures. This subsidy is for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the budget that the government subsidizes local government, for spending on local development. According to the result of a study, it revealed that the determinants that affect local spending on revenue include grants/subsidies, population, annual growth rate of expenditure per capita, education, social security subsidy, administration, and capital construction (M. R. Holman, 2013; Jia et al., 2014; The Universtiy of Mississippi, 2009). Thus, it concludes that the determinants of total expenditures are incremental budgeting, economic determinants, and environmental, community and demographic

determinants. All these determinants have a positive influence on total expenditures. Considering the economy of scale in unit costs on total expenditures to the number of local population, it revealed that unit costs on total expenditures have decreased or remained at the same allocation, approximately 2,000–6,000 Baht, the result of an expansion of the economy of scale with an increasing population, to approximately 5,000-10,000 persons, as shown in Figure 4.14.

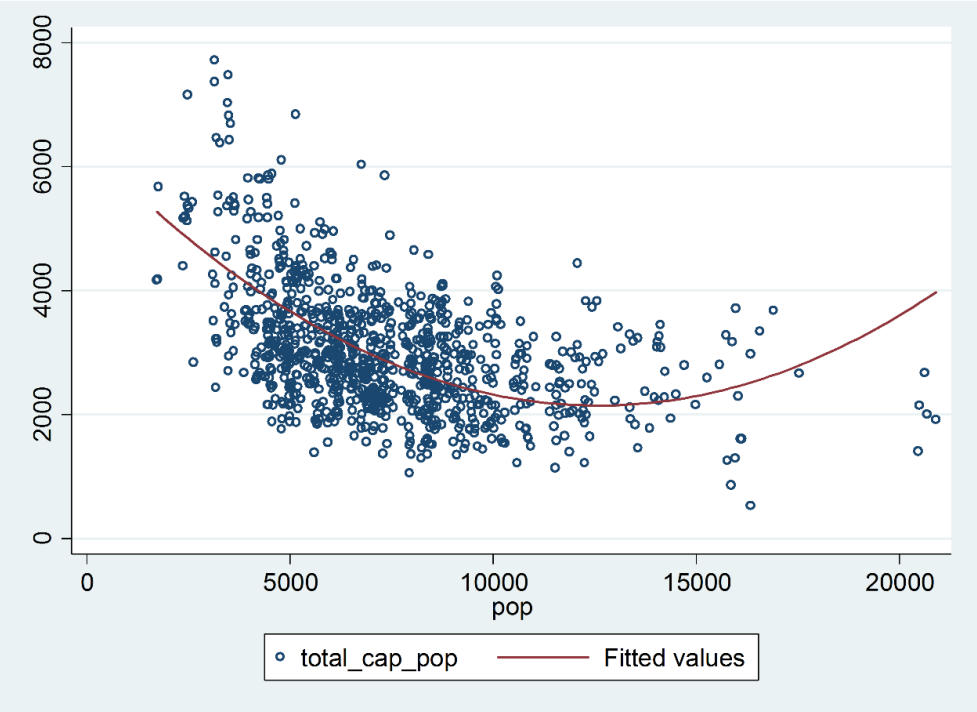


Figure 4.14 Economy of Scale in Unit Costs on Total Expenditures Decreasing or Remaining the Same Allocation in an Increasing Population

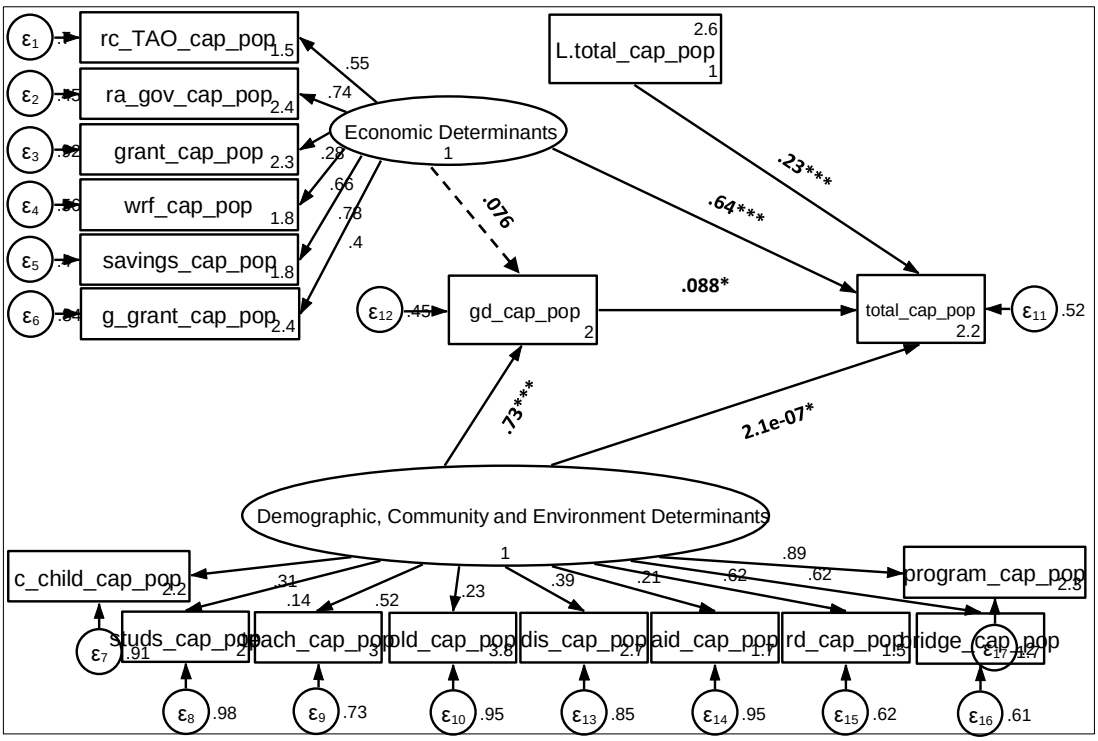


Figure 4.15 Incremental Budgeting, Economic Determinants, Governmental Determinant, and Demographic, Community, and Environment Determinants Affecting Total Expenditures

Notes:

Statistical Significance	=	* p < 0.05, ** p < 0.01, *** p < 0.001
rc_TAO_cap_ pop	=	revenues collected by TAO per capita population
ra_gov_cap_ pop	=	revenues allocated by government per capita population
grant_cap_ pop	=	grants per capita population
wrf_cap_ pop	=	withdrawals from reserved fund per capita population
savings_cap_ pop	=	savings per capita population
g_grant_cap_ pop	=	general grants per capita population
c_child_cap_pop	=	kindergarten children center per capita population
studs_cap_pop	=	students per capita population
teach_cap_pop	=	teachers per capita population
old_cap_pop	=	old persons per capita population

dis_cap_pop	=	disable persons per capita population
aid_cap_pop	=	AIDS patients per capita population
rd_cap_pop	=	roads per capita population
bridge_cap_pop	=	bridges per capita population
program_cap_ pop	=	programs per capita population
L.total_cap_ pop	=	one year lagged total expenditures per capita population
gd_cap_pop	=	governmental determinant measured by local staff per capita population
total_cap_ pop	=	total expenditures on education, public health, social welfare, and infrastructures of TAO per capita population

The results of the model analysis show that the independent variables are incremental budgeting, economic determinants, and demographic, community and environmental determinants. The mediator variable is the governmental determinant. All these determinants explain the dependent variables on total expenditures with R-square=.52. These show that all independent variables can explain of total expenditures (52%), while the remaining influence of other variables (48%) was not considered in this study. Therefore, consideration of each determinant directly and indirectly affects total expenditures. The result of the study reveals that the most direct variables influencing total expenditures were demographic, community and environmental determinants. These determinants directly affected the governmental determinant with regression coefficient (β = .73, p = 0.000). The economic determinant directly affected total expenditures with regression coefficient (β = .64, p = 0.000). Incremental budgeting has a direct effect on total expenditures with regression coefficient (β = .23, p = 0.000), and the governmental determinant directly affected total expenditures with regression coefficient (β = .088, p = 0.012). Meanwhile, demographic, community, and environmental determinants affected infrastructure expenditures with regression coefficient (β = 2.1e-07, p = 0.015). In addition, the determinants that indirectly affected total expenditures were demographic, community, and environmental determinants. These determinants

indirectly affected total expenditures through the governmental determinant (Figure 4.15). These determinants explain the variables that are measured as follows. Incremental budgeting that directly affects total expenditures of the TAO is measured from one-year lagged total expenditures. This is five-years of retrospective data from 2009 to 2013. Economic determinants that affect total expenditures are measured by revenues collected by the TAO, revenues allocated by government, grants, withdrawals from the reserved fund, savings, and general grants. Meanwhile, demographic, community, and environmental determinants that affect total expenditures include the number of kindergarten children centers, students, teachers, old persons, disable persons, AIDS patients, roads, bridges, and number of programs for local development. Meanwhile, the governmental determinant that affects total expenditures is measured by the number of local staff. In considering the density estimation of expenditure distribution on total expenditures of TAO by Kernel density estimation, it estimated that the budget allocation of total expenditures per capita population is approximately 2000–4,000 Baht, as shown in Figure 4.16.

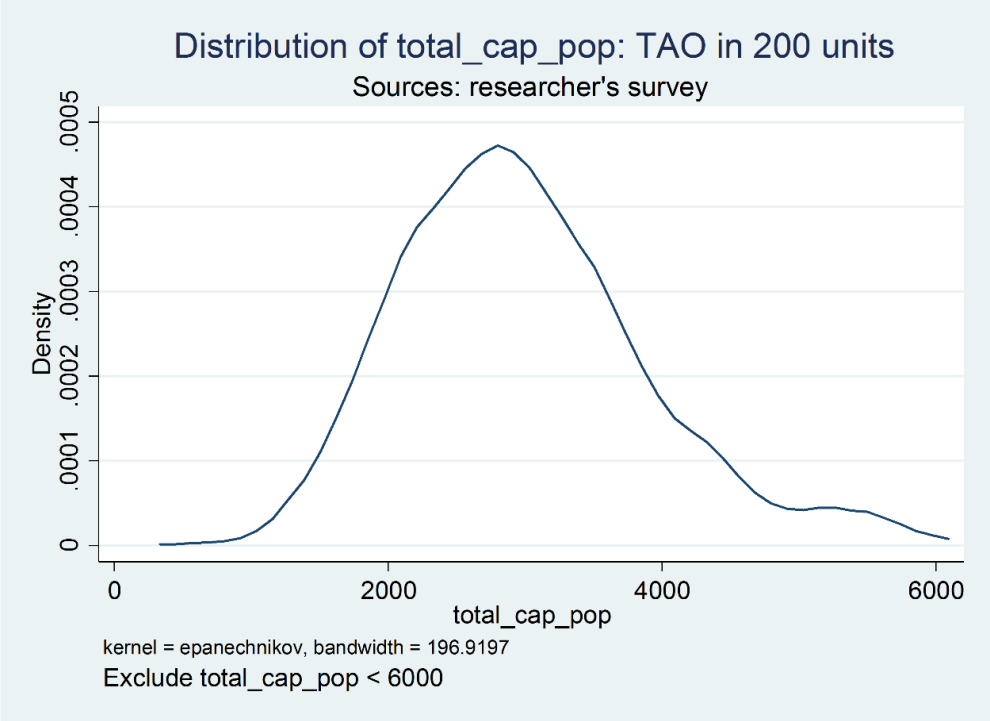


Figure 4.16 Analysis of Estimating Kernel Density on Allocating Total Expenditures of TAO

4.2.6 Political Determinant of the Budgetary Allocation of Public Expenditures of TAO

Institutional or political impacts in each area influence the budgetary allocation of local expenditures of TAOs. Local politicians are motivated to allocate budgets for political votes. Our interviews showed that political influence is implicitly unavoidable at some level but it does not appear in the form of direct vote buying. But they are blatant in the form of activities or programs for local development the politicians can use in their election campaigns. However these activities are implemented, it is up to the approval of the local council so the political benefits come into play to seek political votes on both sides. Politicians and voters are mutually beneficial to each other, they have to support each other. Therefore, the maximum benefit a politician wants is the suffrage of voters. These results can affect themselves as well as government. Meanwhile, voters will vote for the candidates that can respond mostly to their needs. When politicians are elected, they will propose essentially the policy or program that responds to the needs and satisfaction of voters. If it benefits both parties it's called a win–win (Black, 1958, 1987; Bowen, 1943; Downs, 1957). The model of scholars has explained that that's why public expenditure on society includes education, public health, and others. It is high up. This is because the purpose of median voters is to acquire votes for forming the government. The majority are from the poor who are entitled the vote. While politicians want those votes, they submit their policies for the benefit of their votes. The voters who vote for these politicians need good welfare, such as good education, medical care, etc. (Meltzer & Richard, 1981, 1983; Mueller, 1997; Peltzman, 1980). The democratic electoral system requires votes from people, so politicians who carry out any policy must pay attention to the satisfaction of the voters, but those policies must also comply with government policy. Therefore, the budget of a TAO in each area has a political influence that is involved in the form of visiting local communities and then a development plan is formulated for a three–year strategic plan. Each plan consists of activities or programs and a clear budget. The programs that are formulated in the plan are obtained from a survey of the demands of the community to inquire on the needs of the people, as to what people want most for the TAO to

develop between infrastructure and quality of life in the community. Then it is prioritized, what will be developed first, and a secondary order. However, budgeting based on activities or programs is mainly very important, because it is effectively budgetary management, the phenomenon of local budgeting in a way that would be most beneficial to the community. Meanwhile, it will have an institutional or political impact when politicians implement this policy to win election results. Most of the policy makers for local development are politicians, therefore, local politicians have to present concrete programs or policies that are tangible and the results show clearly. And most importantly, the villagers can see and use the benefit immediately. Especially infrastructure programs for constructing roads and buildings that occur in the locality, because these buildings are concrete. The villagers can easily see and the politicians can lead public relations to get political votes.

4.2.7 Governance on Budgetary Administration of TAO

Good governance and local budgetary administration is revealed when the TAO is interviewed on the issue of whether the Office of the Auditor General of Thailand (OAG) has come to inspect any disputes on if the budget is wrongly spent or not. The OAG inspects for transparency on spending. They primarily look for budgetary disputation in three important areas, as follows: bonus giving, supporting educational scholarships for personnel, and welfare for house rent. If the OAG opposes a disbursement of the budget as not correct, it will notify for a refund. The details of giving bonuses at TAOs are local policy for motivation and the morale of local employees. The rules of the bonus disbursement are in accordance with the regulations of the Ministry of Interior on the determination of special remuneration in the form of annual prize money to local employees for other expenses of the local government organization in B.E. 2557 (2014). In addition, there are guidelines on bonus disbursement as follows. First, other special benefits serve government officials or local employees B.E. 2552 (2009). Second, the regulation of the Ministry of Interior is implemented on the determination of other special remuneration in the form of annual prize money to local employees for other expenses of the local government organization in B.E. 2557 (2014). Third, there is another way to pay for special benefits in the form of the annual awards to local employees in B.E. 2557 (2014). And

fourth, there are general standards on criteria, conditions, and procedures for determining special remuneration in the form of annual awards for the local employees of local government organizations B.E. 2558 (2015) (Thai Local Law, 2017c). Supporting educational scholarships for local employees is an efficient and professional policy of the TAO to develop agency personnel. Therefore, there is support for undergraduate and master scholarships to local personnel. This is in accordance with the announcement of the Ministry of Interior on the criteria for budgeting for the scholarship of the local government organization B.E. 2552 (2009) and the letter on the disbursement of educational scholarships of local government organizations B.E. 2559 (2016). The Department of Local Administration (DLA) notifies the disbursement of educational scholarships of local government organization that the Ministry of Interior has designated the local government organization for budgeting undergraduate and master scholarships for the personnel of local governmental organization. However, if OAG checks it later and returns the money back to the local government organization, the local government organization does the following procedures. First, in the case of OAG being notified, the local administrative organization shall comply with the regulations and mandate book of the Ministry of Interior. And second, the Department of Local Administration shall propose a draft of regulation by designating the educational scholarship on the type of expenditure that is currently under consideration by the Ministry of Interior (Thai Local Law, 2017b). The welfare on house rent for local employees covers some related laws and regulations as follows: regulation of Ministry of Interior on house rent of the governmental officials in locality B.E. 2548 (2005) and amended to (No. 3) B.E. 2559 (2016), the book of Ministry of Interior specifies the rules and procedures for the disbursement on house rent of local government officials B.E. 2556 (2013), rules and procedures for local government officials to stay at the accommodation of the local administrative organization B.E. 2550 (2007), determining rules and procedures for the disbursement on house rent for flood disaster B.E. 2553 (2010), and rules and procedures for the disbursement on house rent of local government officials B.E. 2556 (2010) (Thai Local Law, 2017a).

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Study

This dynamic analysis on the expenditure budgets of Tambon Administrative Organizations (TAO) is a study of secondary data and the analysis of panel data. It is a mixture of cross sectional and time series retrospective data covering five years from 2552 to 2556 (2009–2013). There are two objectives of this study, as follows: 1) to study the determinants influencing the budget allocation of local expenditures, including local demand affecting budget spending, and 2) to study the institutional or political impacts in each area influencing the budget allocation of local expenditures. Therefore, to answer the objectives of the study, the researcher reviewed the relevant literature, including the decision theory on incremental budgeting, economic determinants, demographics, community and environmental determinants, governmental determinant, and political determinants. All these determinants are then put into a conceptual framework of education that consists of five parts as follows. First, a conceptual framework on incremental budgeting that influences the expenditures on education, public health, social welfare, and infrastructure. Second, a conceptual framework on economic determinants influences the expenditures on education, public health, social welfare, and infrastructure. Third, a conceptual framework on demographic, community, and environmental determinants influences the expenditures on education, public health, social welfare, and infrastructure. Fourth, a conceptual framework on the governmental determinant influences the expenditures on education, public health, social welfare, and infrastructure. And fifth, a conceptual framework on the political determinant influences the expenditures of TAOs. This political determinant is a study of the qualitative data using interviews. The result of the study found that the determinants that directly affect local

expenditures include incremental budgeting, economic determinants, the governmental determinant, and demographic, community and environmental determinants. All these determinants directly affect local expenditures on education, public health, social welfare, and infrastructure. In addition, demographic, community and environmental determinants directly affect the governmental determinant and indirectly affects local expenditures through the variable of local staff. Meanwhile, budgeting for local expenditures on education, public health, social welfare, and infrastructure are all primarily budgeted based on the previous year's experience, which is usually not different from the original, or only slightly changed.

5.2 Findings

Budgetary dynamic analysis of the TAO has the following findings of the study, and can answer the research questions as follows.

5.2.1 What are the key determinants influencing the budget allocation of local expenditures? And how do the budget allocations of expenditures respond to the local demands in each area of TAO?

This study on the determinants affecting the budget allocation of local expenditures on education, public health, social welfare, and infrastructure reveal the research findings as follows.

5.2.1.1 The Result of Study on the Determinants Affecting Local Expenditures on Education of TAO

1) The Determinants Affecting Educational Expenditures

In consideration of each determinant directly and indirectly affecting educational expenditures, the result of the study found that the variables most directly affecting educational expenditures were demographic, community, and environmental determinants. These determinants directly affected the governmental determinant. Economic determinants directly affected educational expenditures. The governmental determinant directly affected educational expenditures. Incremental budgeting directly affected educational expenditures. In addition, the economic

determinant directly affected the governmental determinant. Meanwhile, demographic, community, and environmental determinants affected educational expenditures. The determinants that indirectly affected educational expenditures were economic determinants and demographic, community, and environmental determinants. These determinants indirectly affected educational expenditures through the governmental determinant. These determinants that affected educational expenditures include the following details. Demographic, community, and environmental determinants that most affected local expenditures on education were the number of programs for local development. The results of the study show that there is a positive relationship with educational expenditures. This means that as the number of programs for local development of TAO is increased, it results in an increase in educational expenditures. These are the programs that TAO uses for local development. These programs specify the annual budget provisions and the three-year strategic plans, which consist of general administration plans, including general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. A number of populations are affected by local expenditures on education. The results of this study show that there is a positive relationship with educational expenditures. This means that as the local population of a TAO increases, the result is an increase of educational expenditures, too. This is normal as population increases. The state or local government must allocate the budget for significant development. Therefore, population is important for allocating local budgets. Because the budget allocation of governmental spending to the locality is the allocation per capita of persons, it is a budget allocation based on the population in that area. It will get more or less budget depending on the local population. And more importantly, when the population is increased, it will result in an increase in the number of students, as well. The TAO will implicitly have to allocate the budget for local education services. According to the results of this study, it revealed that the determinants affecting public expenditures include population, population density, tax portion of voter, revenue of voter, percentage of black population, percentage of elder

population, percentage of increasing population, percentage of people with homes of their own, and ratio of employment per population (Bergstrom & Goodman, 1973). In addition, the economic determinant that affects local expenditures on education is the general grant. The study indicated that there is a positive relationship with educational expenditures. This means that as the general grant of a TAO is increased, it results in an increase in educational expenditures. Because the general grant is the part of the budget that government subsidizes to spend on local development, it spends for government purposes, such as subsidies to solve drug problems and for local restoration. Other portions for education include a subsidy for lunches, children's development centers, preschool and compulsory educational management, milk for school children, and the growth encouragement of children in standard criteria, according to the policy of transfer on the educational mission of the government. According to the result of his study, Hwang (1987) investigated an analysis of local government expenditures in a developing country: the case of central Korea. The result revealed that the determinants affecting local government are governmental variables on central aid, financial capacity, service level, regulation level, and productivity level. Socioeconomic variables included education, industrialization, population density, total tax burden, local tax burden, and financial market conditions. All of these determinants affected the spending of local government. Savings affected local expenditures on education. The results of this study show that there is a positive relationship with educational expenditures. This means that as savings of the TAO is increased, it results in an increase in educational expenditures. It is a central statement that TAOs deduct 25% of their budget each year. This budget is used when it is necessary or emergencies, in the event of disasters, such as flood, fire, or windstorm. These plagues are not possible to predict in advance, making it impossible to make a budget plan for them. Therefore, there must be an accumulation of funds available to pay, called a withdrawal from reserved funds. For spending this, it must be approved by the local council of TAO. Only then will the money be available. According to the result of a study, Gramlich (1968) investigated alternative federal politics for stimulating state and local expenditures. A comparison of their effects revealed that governmental grants affect the public expenditure of local government, including unconditional subsidy, conditional subsidy, revenue, and interest rates. Grants affect

the local expenditures on education. The study found that there is a positive correlation with educational expenditures. This means that if the grant of a TAO is increased, it results in an increase in educational expenditures. This is in accordance with governmental policy and according to the Decentralization Plan and Procedure Act B.E. 2542 (1999) to the local administrative organization, as amended in tax and duty allocation, grants, and other revenues to local government organizations. This context complies appropriately with the authority and duty of each local government organization. From fiscal year 2007 onwards, local government organizations have had revenues in ratio to the government's net revenues of not less than 25% (Beureau of the Budget, 2016). Therefore, the grant pays for spending on maintenance, assisting and supporting the operation of constitutional non-governmental organizations, governmental agencies which are not considered central service under the Administration Act, state-run agencies, public organizations, state enterprises, local administrative organizations, sub-district councils, international organizations, corporations, private entities or public benefit organizations, subsidies, monarch statements, and religious contributions. These are expenditures that the bureau of budget requires to be spent in this budget. There are two types of grant that comprise the general grant. This means that the subsidy pays for such purposes as maintenance fees for membership in the World Meteorological Organization and Asian Broadcasting Union, subsidies for solving drug problems, subsidies for local renovations, and so on. Special-purpose grants provide the funds that are to be spent for the purpose of programs and their details provided by the bureau of budget, including for durable articles and construction items. This grant supports the educational mission of TAOs on promoting lunches, children’s development centers, preschool education, compulsory education, and milk for school children. These promote the quality of life of children to have a good quality of life as mentioned above. Due to their mission transfer policy, local governmental organizations are promoted for the local government's autonomy in providing public services to meet the demands of people in the area, budget spending optimization and the delivery of public services to people. This covers the mission under the authority of local government organizations and the transfer of missions on infrastructure, society, and environment. It includes capacity building and efficiency acceleration in collecting

revenues of local government organizations and decreasing fiscal disparity by allocating additional subsidies to local government organizations with low revenues in order for them to have reasonable revenues to carry out their authority. According to the results of a study, the factors that influence the allocation on public budget of expenditure for state and local government include subsidies by central government, grants of contribution, unconditional grants, income, and interest rates (Gramlich, 1968). Revenues allocated by the government affect local expenditures on education. The result shows that there is a positive correlation with educational expenditures. This means that as revenues allocated by the government for a TAO are increased, it results in an increase in educational expenditures, too. Revenues that government allocates to these local governments are collected by the government and allocated to the TAO. This includes value added tax under the income tax Act on allocation, specific business taxes for local government B.E 2534 (1991), value added tax under the Provincial Administrative Organization Act B.E. 2540 (1997), alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, registration and legal fees, mineral and petroleum fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that government allocates to local government include value added tax for local administrative organizations under the decentralization plan and procedure Act B.E. 2542 (1999). According to the result of a study, Hwang (1987) investigated the factors that affect local expenditures and found total tax burden, local tax burden, and financial market conditions. All of these determinants affect local government expenditure. Lastly, another variable that affects local expenditures on education is incremental budgeting, which has a positive correlation with educational expenditures. This means that budgeting in the previous year affects the budgeting of educational expenditures in the current year. The budgeting of local educational expenditures is a budgeting style based on the spending variables of education in the previous year. This reflects on the fact that a TAO allocates its expenditure budget on education for conducting activities or projects by using their experience from the past year (Porntip Kanjananont, 2010). If it is not different from the original, the current budget for educational expenditure of the TAO changes just a little from the original base. The reason being this type of budgeting avoids risk and is a compromise between interest groups, especially public servants

and politicians, as it tries to keep its original status as seen from the budget allocation of government agencies, with gradual and slight increases (Darunwan Somjai, 2009). Thus, it can be concluded that the determinants of educational expenditures are incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on educational expenditures.

2) The Budget Allocations of Expenditures on Education Respond to the Local Demands in Each Area of TAO

During in-depth interviews on local educational expenditures, the result found that TAOs spend their expenditure budget on education for the following missions. Management and procurement on teaching and learning media, include the provision of educational equipment for local children. The budget for administration in this area is for the administration of academic affairs, educational supervision, educational technology, Boy Scouts and Red Cross youth. These activities are important for the potential development of students in the community, to give them the capacity to learn and grow together with moral principles. TAOs spend their budgets for preschool and elementary child development and care with children's center development and the construction of children's centers, improving school buildings, supporting lunches and supplementary food, encouraging and supporting the sports budget of elementary school children, early childhood and youth development, and scholarships for poor children with good grades. TAOs have an educational mission at the preschool and primary level, and need to allocate a budget to enhance educational potentiality. Supporting lunches and spending for the development of educational institutions is in the affiliation of schools and children's development centers, especially with the construction of new children's centers which are subsidized by the government budget. This is consistent with the results of this study, finding that general grants affect the educational expenditures of TAOs. The construction of these children's centers replaces existing children's centers that are located within the operational areas of temples. In addition, the budget is allocated to develop and improve children's centers in better condition so that they can be used more effectively. In the past, there were some children's centers in various temples with narrow characteristics that couldn't be fully utilized. Because the government

currently has a policy to promote the development of the quality of life for children and promote sports for primary school children, a local policy must be implemented to promote the quality of life in the community, especially with children's development centers. In addition, there is the promotion of development of children's learning. It can also help to alleviate the burden of parents who leave their children at the nursery for pursuing harvesting, farming, and gardening. On the development of educational personnel, the TAO allocates funds for the knowledge development of local educational personnel so they will have professional skills and knowledge. By promoting and supporting the budget, these personnel are trained and developed to enhance their professional skills, including teaching skills and the use of English for communication. This prepares them for the ASEAN Economic Community (AEC). Knowledge development of the local educational personnel is part of the development of human resources to support the AEC, globalization, and other changes in the present age. In this section, the TAO allocates its budget to support the project of arts and cultural preservation, especially the preservation of Buddhism and important traditions in Buddhism, including the Buddhist candle parade and the bee castle parade in each year that TAO allocates funds to support these activities and traditions. This point causes problems of transparency and governance in localities where the Office of the Auditor General of Thailand has come to inspect and pointed out that local money was used wrongly. This is especially the case for TAOs that contribute to the support of bee castle making in their area. In those cases, a refund is required for the government agency. The budget allocation of educational expenditures is the result of a policy for the mission transfer of the local government organization as follows: 1) pre-school or early childhood education (kindergarten age 4–6 years), 2) basic education, 3) transfer programs for pre-primary education (educational materials), 4) the transfer of supplementary food activities (milk), 5) subsidies for supplementary food (milk) in development programs for special education, educational programs for disabled persons, and aid for educational management, 6) transfer programs for lunches, 7) transfer programs for pre-school educational training centers, 8) educational programs for hill tribes and populations with distant public transportation, and 9) preparations for village book readings and public libraries. Therefore, in order to make their mission transfers efficient, TAOs prepare their

annual budget provision and educational programs under the following definition: general administration of education, and preschool and elementary education. The mission is management of children's development centers, purchasing educational materials, providing services for lunches and supplementary food (milk), providing training to increase the knowledge and experience of students, supporting temporary teachers and teaching equipment, and supporting general education. The strategy for formulating and promoting education, learning, and information is as follows: 1) the development of educational resources both in the system and out of the system at all levels, supplying educational materials, scholarships, and lunches, 2) development of educational personnel potentiality, 3) constructing public libraries and mobile libraries, 4) locational arrangements for newspaper readings, magazines, and village and community news, and 5) establishing information centers, news towers, and community learning centers.

5.2.1.2 The Result of Study on the Determinants Affecting Local Expenditures on Public Health of TAO

1) The Determinants Affecting Expenditures on Public Health

The consideration of each determinant directly and indirectly affects public health expenditures. The result of the study found that the variables that most directly affected expenditures on public health were demographic, community, and environmental determinants. These determinants directly affected the governmental determinant. The economic determinant directly affected public health expenditures. Incremental budgeting has a direct effect on public health expenditures, and the governmental determinant directly affected public health expenditures. Demographic, community, and environmental determinants affected public health expenditures. In addition, the determinants that indirectly affected public health expenditures were demographic, community, and environmental determinants. These determinants indirectly affected public health expenditures through the governmental determinant. These determinants that affected the expenditures on education are detailed as follows. The governmental determinant that affected expenditures on public health of the TAO was primarily the number of local staff. The results of the study indicate that there is a positive relationship with the expenditures on public health. This means that as the number of local staff of a TAO is increased, it results in

an increase in the expenditures on public health. The budget administration of the TAO allocates 30% to 40% of expenditures on its local staff. The local staff consists of staff in various subdivisions, namely, the office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of the development of local community health for a better quality of life. According to the result of the study, it revealed that governmental factors considered by bureaucrats or local staff affected the Bangkok District public expenditure (Pichit Ratchatapibhunphob, 2012). In addition, demographic, community, and environmental determinants that affect expenditures on public health of TAOs were mostly the number of programs for local development. The results of the study indicated that there is a positive relationship with the expenditures on public health. This means that as the number of programs for local development of a TAO is increased, this results in an increase in the expenditures on public health. These are the programs that TAOs use for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects expenditures on public health of the TAO is incremental budgeting. There is a positive relationship with the expenditures on public health. This means that budgeting is made in the previous year. This affects the budgeting of the expenditures on public health in the current year. This indicates that TAOs allocate their budget of the expenditures on public health to carry out activities and projects. It is an inherent characteristic of doing activities and projects that existed in previous years. If there are no new activities and projects different from previous years, it's a bit of a budgeting style of allocation with a slight increase or decrease. According to the result of a study, it found that the deciding factor is the organization that influences the allocation on public budget of expenditure in the municipality

(Porntip Kanjananont, 2010). Meanwhile, economic determinants that affect expenditures on public health were withdrawals from reserved funds and savings. The study indicated that withdrawals from reserved funds and savings are positively correlated with the expenditures on public health. This means that as withdrawals from reserved funds and savings of TAOs are increased, these then result in an increase in the expenditures on public health. These savings are a central statement that TAOs deduct 25% of their budget each year. This budget is used when it is necessary or emergencies, in the event of disaster, such as pestilence or the spread of contacting viruses, etc. These disasters are not possible to predict in advance so they cannot make a budget plan in advance. Therefore, there must be an accumulation of funds available to pay, called a withdrawal from the reserved fund. Before spending, it must be approved by the local council of the TAO, only then is the budget available. In the case that the budget is already spent in each area according to the activities and projects specified in the plan, but disbursement is delayed and they cannot pay in due time, the TAO can borrow money accumulated in this section to spend first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of a study, it revealed that the determinants that influence the public expenditure of local government include governmental subsidy, income, and population (Henderson, 1968). General grants affect the expenditures on public health. The study indicated that there is a positive relationship with the expenditures on public health. This means that if the general grant of a TAO is increased, it results in an increase of the expenditures on public health. This subsidy is money that is spent for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the part of the budget that government subsidizes the local government for spending on local development. Government has allocated the budget for delivering public health services on the subsistence pensions of old persons, disabled persons, AIDS patients, social service centers, and old people's homes. According to the result of a study, it found that the factors that influence the allocation on the public budget of expenditures on health care of the municipality include the income level of the population, state subsidies, efficient allocation, performance of service providers, and demand for delivering services (Häkkinen &

Kaleviluoma, 1995). Lastly, revenues allocated by the government affect the expenditures on local public health. The result shows that there is a positive correlation with the expenditures on public health. This means that as revenues allocated by government of a TAO are increased, it results in an increase in the expenditures on public health. Revenues that government allocates to these local governments are collected by the government and allocated to the locality. This includes value added tax under the income tax Act on allocation, specific business taxes for local government B.E 2534 (1991), value added tax under the Provincial Administrative Organization Act B.E. 2540 (1997), alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, registration and legal fees, mineral and petroleum fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that government allocates to local government are value added tax for local administrative organization under the decentralization plan and procedure Act B.E. 2542 (1999). According to the result of a study, it revealed that factors that have a significant effect on the public expenditure of local government include the socioeconomic variables on education, industrialization, population density, total tax burden, local tax burden, road conditions, motor vehicles, commercial market conditions, financial market conditions, housing conditions, health conditions, and cultural environments (Hwang, 1987). Thus, it can be concluded that the determinants of public health expenditures are incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on public health expenditures.

2) The Budget Allocations of Expenditures on Public Health Respond to Local Demands in Each Area of TAO

In-depth interviews on the expenditures on local public health revealed that TAOs spend their budget on public health in the following areas. Prevention and control of pandemic disease, the TAO has a budget to prevent outbreaks by checking for dengue fever in the community, providing sandbags to prevent mosquitoes, and checking vaccination areas for people in the villages. There is a campaign to educate people on contagious diseases and good environmental management within the community. In addition, the TAO also provides financial support to community public health agencies, such as village health volunteers, sub-

district health promotion hospitals, and health insurance. TAOs collaborate closely with all these agencies to promote good health within the community. They have a campaign to prevent contagious diseases and epidemics within the community because the TAO has manpower but doctors are lacking to serve as mentors to take care of the health of the community, this includes elderly people, disabled persons, disadvantaged people, and AIDS patients. There is coordination between the hospitals in the community. In addition, hot weather is a risk factor for rabies. Therefore, a TAO has to be careful about the spread of disease. There is a vaccination against mad dog disease, dengue, and the elimination of mosquito breeding. Home cleaning by public relations people who are informed helps prevent the spread of disease. The villagers recognize this and cooperate very well. This includes garbage disposal, sorting of garbage, and recycling. However, everything that happens involves cooperation in all sectors to help each other, whether the public or private sector. And most importantly, everything must start from our own locality first. In addition, TAOs support projects for dog and cat family planning, rabies vaccination, and people's health care. The project supports a budget for the establishment of a chronic patient center. A fitness project is to promote good health of the population, they help in the prevention of epidemics and the spread of viral infections. These activities on public health for the development of life quality show that the TAO has the community's assistance on projects for dengue prevention, rabies, and garbage collection to keep a clean environment within the community and keep it a pleasant place to live. In addition, TAOs have a health check-up program for people aged 35 and higher every year. Beverages of supplementary food are delivered to elderly people and disabled persons every month. Eggs are given to pregnant women. A handbook for local residents is available from public health or the hospital. Newborns who require them get vaccinated against disease. The TAO serves the vaccinations, they receive the full range of vaccinations and milk is given for supplementary food. School-aged children that pass the criterion of standard to attend school must be equally developed. The elderly people must get health care, especially the patients in bed who are taken care of by public health officers who visit regularly.

5.2.1.3 The Result of Study on the Determinants Affecting Local Expenditures on Social Welfare of TAO

1) The Determinants Affecting Expenditures on Public Health

In consideration of each determinant that directly and indirectly affects social welfare expenditures, the result of this study revealed that the direct variables most influencing social welfare expenditures were demographic, community and environmental determinants. These determinants directly affected the governmental determinant. The economic determinant directly affected public health expenditures. Incremental budgeting has a direct effect on public health expenditures, and the governmental determinant directly affected public health expenditures. Meanwhile, demographic, community, and environmental determinants affected public health expenditures. In addition, the determinants that indirectly affected public health expenditures were demographic, community, and environmental determinants. These determinants indirectly affected social welfare expenditures through the governmental determinant. Details of these determinants that affected the expenditures on social welfare are as follows. The Governmental determinant that most affected public expenditures on social welfare of TAO was the number of local staff. The results of the study indicated that there is a positive relationship with expenditures on social welfare. This means that as the number of local staff of a TAO is increased, this results also in an increase in social welfare expenditures. The budget administration for TAOs allocates 30% to 40% of expenditures on all local staff. The local staff consists of staff in various subdivisions, namely, office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of local social welfare development for a better quality of life. According to the result of a study, it was found that the factors that have a significant effect on the public expenditure of local government includes governmental variables on government aid, financial capacity, level of delivering public services, regulation level, and production level (Hwang, 1987). In addition, the demographic, community, and environmental determinants that most affected public expenditures on social welfare of TAOs were the number of programs for local development. The results of

the study indicate that there is a positive relationship with the expenditures on social welfare. This means that as the number of programs for local development of a TAO is increased, it results in an increase in the expenditures on social welfare. These are the programs that TAOs use for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects the expenditures on social welfare of TAOs is incremental budgeting, which has a positive relationship with the expenditures on social welfare. This means that the budgeting that was made in the previous year affects the budgeting of expenditures on social welfare in the current year. This indicates that TAOs allocate their budgets of the expenditures on social welfare to carry out activities and projects. It is an inherent characteristic of doing activities and projects that existed in previous years. The reason for incremental budgeting is because 1) government does not have the time, information, or budget to consider an alternative policy. 2) Policy makers are justified in existing policy so they avoid the risk of uncertainty in a new policy. 3) Because of its investment in a mega project, the government needs to continue the policy of the existing one in order to compromise the benefits and maintain the status of the budget reviewers and avoid severe consequences. 4) For political convenience, because incremental budgeting makes it easy for policy-makers to allocate budgets to ongoing programs whether it be a little increase, a little decrease, or the same aspects. 5) Because there is no agreement on values and social goals, thus the pluralist society operates with an existing program. It is easy to plan an all new policy (Dye, 1995, pp. 31-32; 2011, 2013; Ponlapat Buracom, 2011b; Sombat Thamrongthanyawong, 2011, pp. 242-244). According to the result of a study, it was revealed that the deciding factors in the organization that influence the allocation of public expenditure on society are education, public health, and social welfare (Worrapong Trakarnsirinont, 2010). If the government does not have the time and the complete information, the decision for the preparation of a

public budget of expenditure changes only slightly from the original. This helps to minimize disputes among agencies, it's for political convenience, and it's easier to set up new policies and programs. In addition, the economic determinants that affected the expenditures on social welfare were withdrawals from the reserved fund and savings. The study indicated that withdrawals from the reserved fund and savings are positively correlated with the expenditures on social welfare. This means that as withdrawals from reserved funds and savings of TAOs increase, it results in an increase in the expenditures on social welfare. These savings are a central statement of the TAO that they deduct 25% of the budget each year. This budget is used when it is necessary for emergencies or in the event of disasters. In the case that the budget is spent in each area according to the activities and projects specified in the plan but disbursement is delayed and it cannot pay in due time, the TAO can borrow the accumulated funds from this section to spend first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of a study, it found that the determinants that affect social welfare services, include revenue (per capita), grants/subsidies (per capita), population, and annual growth rate of expenditure (per capita) (M. R. Holman, 2013; The Universtiy of Mississippi, 2009). General grants also affect expenditures on social welfare. The study indicated that there is a positive relationship with the expenditures on social welfare. This means that as the general grant of a TAO is increased, this results in an increase in expenditures on social welfare. This subsidy is money that is spent for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the budget that government subsidizes for local government, for spending on local development. Government has allocated the budget for delivering public health services on the subsistence pensions of old persons, disable persons, AIDS patients, social service centers, and old people's homes. According to the result of a study, it revealed that expenditure decentralization had a significant effect in a positive direction of public spending on education, social security subsidy, administration, and capital construction (Jia et al., 2014). Lastly, revenues allocated by government affect the expenditures on local social welfare. The result shows that there is a positive correlation with the expenditures on social welfare. This means that

as revenues allocated by the government for a TAO are increased, it results in an increase in expenditures on social welfare. Revenues that the government allocates to these local governments are collected by the government and allocated to the locality. This includes value added tax under income tax Act on allocation, specific business tax for local government B.E 2534 (1991), value added tax under Provincial Administrative Organization Act B.E. 2540 (1997), specific business taxes, alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, right registration and legal fees, mineral and petroleum royalty fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that government allocates to local government include value added tax for local administrative organization under the decentralization plan and procedure Act B.E. 2542 (1999). According to the result of a study, it revealed that the factors that affect the allocation of public expenditure on police include the tax base, compensation, debt service, population, and crime (Beaton, 1974). Thus, it can be concluded that the determinants of social welfare expenditures include incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on social welfare expenditures.

2) The Budget Allocations of Expenditures on Public Health Respond to the Local Demands in Each Area of TAO

In-depth interviews on the expenditures on social welfare revealed that TAOs spend their budgets on social welfare as follows. There is assistance to elderly persons, disabled persons, underprivileged persons, and AIDS patients. TAOs spend their budget to improve the quality of life in the community. In helping elderly persons, children, underprivileged persons, and disaster victims, all these are in accordance with legal regulations. And most importantly, it supports activities and programs, including home visitation for disabled persons, elderly persons, underprivileged persons, the homeless, and AIDS patients, projects for the life quality development of elderly persons and disabled persons, traditional and cultural heritage projects, traditions for watering and blessings from the elderly, and a project for providing Ovaltine supplementary food to the elderly. This improves the quality of life for elderly people, to get a good quality of life and not be a burden on descendants and society. In some cases, for elderly people or patients in bed who are

unable help themselves the TAO has allocated the budget to buy wheelchairs and walking sticks or ask for donations from people who are faithful. The wheelchair project for elderly people or patients is a temporary lending feature. When they are gone, the assets come back because the TAO will have to help the next patients. The welfare of helping the elderly, the disabled, and AIDS patients is in the form of salaries subsidized by the government to local governments to provide welfare benefits to these people. In addition, the TAO supports a budget for children and women development, in order for all people in society to be developed and have access to basic public services, including the creation of housing for underprivileged people. The creation of housing for those who want it is under the program "the creation of housing for honor to the King". This project has been implemented regularly every year. The TAO allocates funds to support vocational training on mushroom farming in the area. The group considered to be the strongest group is the peanut production group, beef cattle group of Phon Yang Kham, and the long drum group. These three groups provide an income for people in the community after farming, as well as creating a strong conscious mind of community, love, harmony, and helping each other in the community. So, whatever the community will do, the TAO will help and support the budget as much as possible and be a mentor to help. In addition, the TAO supports a budget for health insurance. Training is provided to the community for the development of women's professional groups and the well-being of the community. They provide knowledge about drug problems and surveillance to prevent youth from tampering with drugs. In addition, they purchase equipment to assist the elderly, disabled persons, and the underprivileged. Because the budgets are spent for developing children, women, the disabled, and underprivileged persons, the purpose is to want everyone in society to be developed and have access to the public utilities of the state. This is to help and improve the quality of life for elderly persons, children, and underprivileged persons. In addition, for strengthening the community it has provided grants every year to the community to build sustainable careers for the strength of the community and the prevention of drug problems. This project has various training activities to improve the quality of life for youth. This strengthens the community in that it focuses on the prevention of drug abuse and the promotion of sports, such as futsal, and youth sports within the community.

5.2.1.4 The Result of Study on the Determinants Affecting Local Expenditures on Infrastructure of TAO

1) The Determinants Affecting Expenditures on Infrastructure

In consideration of each determinant which directly and indirectly affects infrastructure expenditures, the result of the study revealed that the variables that most directly influenced infrastructure expenditures were demographic, community and environmental determinants. These determinants directly affected the governmental determinant. Incremental budgeting has a direct effect on infrastructure expenditures. The economic determinant directly affected infrastructure expenditures, and the governmental determinant directly affected infrastructure expenditures. In addition, demographic, community, and environmental determinants affected infrastructure expenditures. As well, the determinants that indirectly affected infrastructure expenditures were demographic, community, and environmental determinants. These determinants indirectly affected infrastructure expenditures through the governmental determinant. These determinants that affected expenditures on infrastructure are detailed as follows. The governmental determinant that most affected public expenditures on infrastructure of TAOs was the number of local staff. The results of the study indicated that there is a positive relationship with expenditures on infrastructure. This means that as the number of local staff of a TAO is increased, it results in an increase in social welfare expenditures. The budget administration for TAOs allocates 30% to 40% of expenditures on all local staff. The local staff consists of staff in various subdivisions, namely, office of the permanent secretary, financial section, civil engineering section, educational section, religious and cultural section, public health and environment section, social welfare section, and agricultural promotion section. These staffs are very important in driving the success of local infrastructure development. According to the result of a study, it was found that the governmental variables that have influence over the allocation on public budget of expenditure of local government include government services, financial capacity, and intergovernmental finance relations (Sudasinghe, 2010). The demographic, community, and environmental determinants that most affected public expenditures on infrastructure of TAOs were the number of programs for local development. The results of the study indicated that there is a positive relationship

with the expenditures on infrastructure. This means that as the number of programs for local development of TAOs increase, there is an increase in expenditures on infrastructure. These are the programs that TAOs use for local development. These programs indicated in the annual budget provisions and the three-year strategic plans consist of general administration plans, namely general management plans, and plans for keeping peace within the community. The plans for delivering society and community services include education, public health, social welfare, housing and community, strengthening the community, recreation, culture and religion. Economic affairs include industry and tourism, public works, agriculture, and commerce. Another variable that affects public expenditures on infrastructure of TAO is incremental budgeting. There is a positive relationship with the expenditures on infrastructure. This means that budgeting is made in the previous year, which affects the budgeting of the expenditures on infrastructure in the current year. This indicates that TAOs allocate their budgets of the expenditures on infrastructure to carry out activities and programs. It is an inherent characteristic of doing activities and programs that existed in previous years. If there are no new activities and projects different from previous years it's a bit of a budgeting style of allocation with only a slight increase or decrease. According to the result of a study, it was revealed that the deciding factors directly and indirectly influenced the allocation on public expenditure of Bangkok (Pichit Ratchatapibhunphob, 2012). In addition, economic determinants that affected the expenditures on infrastructure were withdrawals from reserved funds and savings. The study indicated that withdrawals from reserved funds and savings are positively correlated with the expenditures on infrastructure. This means that as withdrawals from reserved funds and savings of TAOs increase, the result is an increase in expenditures on infrastructure. These savings are a central statement of the TAO, that they deduct 25% of their budget each year. This budget is used when it is necessary for emergencies or in the event of disasters. In the case that the budget is spent in each area according to the activities and projects specified in the plan but disbursement is delayed and it cannot pay in due time, TAOs can borrow the accumulated funds in this section to spend first. When this budget of subsidy arrives, it must be returned to the accumulated funds. Money that is brought in for advance spending must be approved by the local council as well. According to the result of a

study, it revealed that the determinants that influence the government allocation on public budget of expenditure includes population, population density, tax portion of voter, revenue of voter, percentage of black population, percentage of elder population, percentage of increasing population, percentage of people with homes of their own, and ratio of employment per population (Bergstrom & Goodman, 1973). General grants also affect expenditures on infrastructure. The study indicated that there is a positive relationship with the expenditures on infrastructure. This means that as the general grant of a TAO is increased, it results in an increase in expenditures on infrastructure. This subsidy is money that it spends for governmental purposes, such as subsidies to solve drug problems, local renovations, etc. This subsidy is the budget that government subsidizes for local governments for spending on local development, while the budget of infrastructure is allocated by government. According to the result of a study, determinants have a significant effect on the public expenditure of local government as follows. First, the socioeconomic variables include education, industrialization, population density, total tax burden, local tax burden, road conditions, motor vehicles, commercial market conditions, financial market conditions, housing conditions, health conditions, and cultural environments. Second, governmental variables include government aid, financial capacity, level of delivering public services, regulation level, and production level (Hwang, 1987). Lastly, revenues allocated by government affect the expenditures on infrastructure. The result shows that there is a positive correlation with the expenditures on infrastructure. This means that as revenues allocated by the government to a TAO are increased, it results in an increase in expenditures on infrastructure. Revenues that the government allocates to these local governments are collected by government and allocated to the locality. It includes value added tax under income tax Act on allocation, specific business tax for local government B.E 2534 (1991), value added tax under Provincial Administrative Organization Act B.E. 2540 (1997), specific business taxes, alcohol tax, excise tax, taxes and fees for cars and wheeled vehicles, right registration and legal fees, mineral and petroleum royalty fees, forest and royalty fees, income under the law of national parks and gambling tax. In addition, revenues that the government allocates to local government include a value added tax for local administrative organization under the decentralization plan and procedure Act B.E. 2542 (1999).

According to the result of a study, the determinants that affect spending on social welfare are revenue (per capita), grants/subsidies (per capita), and population (F Bastida et al., 2013). Thus, it can be concluded that the determinants of infrastructure expenditures include incremental budgeting, economic determinants, and environmental, community and demographic determinants. All these determinants have a positive influence on infrastructure expenditures.

2) The Budget Allocations of Expenditures on Infrastructure Responds to the Local Demands in Each Area of TAO

In-depth interviews on infrastructure expenditures revealed that TAOs spend their budget on infrastructure as follows. TAOs allocate their budgets to enhance the landscape within the community, on projects for constructing and repairing residential housing, constructing relative buildings, and the renovation of the learning centers in the sub-districts. It is a place that villagers use together, a common meeting place. In addition, the TAO allocates its budget for projects of traffic light procurement, water supply drainage, reinforced concrete road construction, dam construction in canals and the landscape improvement of roads. It includes solid waste and sewage disposal. The budget is spent to pay the wages of permanent employees on sewer projects. There is a project for waste trash procurement, electrical works on roads in public parks, and water supply affairs. Motor vehicles are purchased for creating the traffic marks on roads in the community. There are projects to move the pavilion of the community, road development, electricity, water supply, and dredging water sources for agriculture, because public utilities and water for agriculture are lacking. In addition, the development of infrastructure on housing and community focuses on road construction and the community hall in various villages. The budget also covers the construction of corpse crematoriums for the village. Therefore, infrastructure development comes in the form of road construction, electricity, and water supply. This also includes improvement in damaged parts, such as for electricity, the water supply, and roads or communication, and continual expansion into rural areas to cover all areas that the TAO is responsible for concerning infrastructure development. Due to the growth in population, the demand for electricity has increased. In order to meet the demands of people traveling comfortably and harmlessly, TAOs work to illuminate all areas from dark spots to

prevent the occurrence of accidents or violence in the community. In the construction of roads and water supply, because most of the area is in agriculture, many people need to roam and transport agricultural products. Due to the long drought, and demands for water for consumption, the TAO emphasizes the development of water resources and the construction of transport routes based on the environment in each area. If there are roads to the fields and gardens, with sufficient electricity and water supply, it can make it possible for people to sleep at their fields or gardens to monitor agricultural products. This results in increasing the agricultural product. The important cause is to focus the development on electricity, water supply, and roads because all these are necessary in daily life. Roads are a major factor because there are not enough to meet the demands of the community for the purposes of traveling or even the transport of agricultural product. Water supply is required urgently in every village. Electricity is also required for all homes, but there is still no electricity at present in some areas. Electricity and water supply are increasingly being expanded to the villages. Regional water supply mainly focuses on water quality, because it is not very clean, even though the villagers still use it for consumption. TAOs must have the duty to supervise and control the quality of water, to keep a safe and standard level. However, most villagers want the TAO to develop roads. Because there is not enough infrastructure in rural areas, TAOs develop it continuously. It includes the promotion of quality of life, the environment, and good hygiene in the community. Therefore, the development of infrastructure and the quality of life needs to be developed side by side according to the slogan of flowing water, bright light, good way, and good health. The development of human resources and infrastructure must be developed side by side. However, the construction of anything that resembles a concrete object has a political impact. If the quality of life is improved alone, and there are no other works considered to be a concrete object, it will appear that the TAO has not done anything. Its works are not clear. The community will look at what TAO does not do. It will affect the politics in the future and the next election. Villagers really overlook the developments on their quality of life but they come back to focus on the infrastructure because they see the clear picture of things like roads. If there are roads for travelling, water supply systems for consumption, and bright electricity on the streets, that is clearly visible. All these affect the political vote in the future. TAOs are trying to

share development in every strategic aspect. The development strategy must be fully developed in all aspects and gradually developed according to the needs of the community until it covers all aspects and needs of the community. Especially concerning the water supply system, TAOs have to focus very seriously, because our region is in a tropical zone with occasional droughts. Villagers are accustomed to using tap water that the TAO provides because of the cheaper cost compared to the plumbing systems of the private sector. For this reason, the TAO focuses essentially on infrastructure because the development of quality of life is subsidized by the government more than by using the local budget.

5.2.2 Do the institutional or political impacts in each area influence the budget allocation of local expenditures? And how are local politicians motivated to allocate budgets for political votes?

5.2.2.1 Political Determinant of the Budgetary Allocation of Public Expenditures of TAO

Institutional or political impacts in each area influence the budgetary allocation of local expenditures of TAOs. Local politicians are motivated to allocate budgets for political votes. Our interviews showed that political influence is implicitly unavoidable at some level but it does not appear in the form of direct vote buying. But they are blatant in the form of activities or programs for local development that politicians use as instrumental in their election campaigns. However these activities are implemented, it is up to the approval of the local council to make sure political benefits come into play for political votes on both sides. Politicians and voters are mutually beneficial, they have to support each other. Therefore, the maximum benefit that politicians mostly want is the suffrage of voters. These results can affect themselves as well as government. Meanwhile, voters will vote for the candidates who can respond mostly to their needs. When politicians are elected, they will propose essentially the policies or programs that respond to the needs and satisfaction of the voters. If it benefits both parties, it's called a win–win (Black, 1958, 1987; Bowen, 1943; Downs, 1957). A model of scholars has explained why public expenditure on society includes education, public health, and others. It is high up. This is because the purpose of the median voter is to acquire votes for forming the

government. The majority is made up of the poor who are entitled the vote. While politicians want those votes, they submit their policies for the benefit of those votes. The voters who vote for these politician need good welfare, such as a good education and medical care, etc. (Meltzer & Richard, 1981, 1983; Mueller, 1997; Peltzman, 1980). The democratic electoral system requires votes from people, so politicians who carry out any policy must pay attention to the satisfaction of their voters, but those policies must also comply with government policy. Therefore, the budgeting of TAOs in each area has political influence. A development plan is formulated for a three–year strategic plan. Each plan consists of activities or programs and a clear budget. The programs that are formulated in the plan are obtained from the survey of the demands of the community by inquiring on the needs of the people and what people want most for the TAO to develop between infrastructure and quality of life issues in the community. Then it is prioritized as to what will be developed as the first or secondary order. It will have an institutional or political impact because politicians will implement this policy to win election results. Most of the policy makers for local development are politicians, so the local community is linked to the outcome of the political vote. Therefore, local politicians often present concrete programs or policies that are tangible and the results clearly shown. And most importantly, the villagers can see and use the benefit immediately. Infrastructure programs for constructing roads and buildings occur in localities because these buildings are concrete. The villagers can easily see them and politicians can lead public relations to get political votes.

5.2.2.2 Governance on Budgetary Administration of TAO

Regarding good governance and local budgetary administrations, TAOs were interviewed on the issue of whether the Office of the Auditor General of Thailand (OAG) has come to inspect, and settle disputes on whether the budget is wrongly spent or not. It revealed that the OAG inspects for transparency and spending of the wrong kind in three important issues as follows: bonus giving, supporting educational scholarships for personnel, and welfare for house rent. The details of giving bonuses in the TAO are a local policy to motivate and boost the morale of local employees to work more effectively. The rules of the bonus disbursement are in accordance with the regulation of the Ministry of Interior on the determination of

special remuneration in the form of annual prize money to local employees for other expenses of the local government organization in B.E. 2557 (2014). In addition, the guidelines on bonus disbursement are as follows. First, other special benefits serve for the government officials or local employees B.E. 2552 (2009). Second, the regulation of the Ministry of Interior is implemented on the determination of other special remuneration in the form of annual prize money to local employees for other expenses of the local government organization in B.E. 2557 (2014). Third, there is another way to pay for special benefits in the form of the annual awards to local employees in B.E. 2557 (2014). And fourth, there are general standards on criteria, conditions, and procedures for determining special remuneration in the form of annual awards for the local employees of local government organizations B.E. 2558 (2015) (Thai Local Law, 2017c). Supporting educational scholarship for local employees is an efficient and professional policy of the TAO to develop agency personnel. Therefore, there is support for undergraduate and master scholarships to local personnel. This is in accordance with the announcement of the Ministry of Interior on the criteria for budgeting for the scholarship of local government organizations B.E. 2552 (2009) and the letter on the disbursement of educational scholarships of local government organizations B.E. 2559 (2016). Department of Local Administration (DLA) notifies the disbursement of educational scholarships of the local government organization that the Ministry of Interior has designated the local government organization for budgeting undergraduate and master scholarships for the personnel of local governmental organization, but OAG has checked it later and returned the money back to the local government organization. DLA has considered that it should be in the same way. Therefore, the local government organization does the following procedures. First, in the case of OAG being notified, the local administrative organization shall comply with the regulations and mandated book of the Ministry of Interior. And second, the department of local administration shall propose the draft of regulation by designating the educational scholarship on the type of expenditure that is currently under consideration by the Ministry of Interior (Thai Local Law, 2017b). Regarding welfare on house rent for local employees, there are some related laws and regulations as follows: regulation of Ministry of Interior on house rent of the governmental officials in locality B.E. 2548 (2005) and amended to (No. 3) B.E. 2559

(2016), the book of Ministry of Interior specifies the rules and procedures for the disbursement on house rent of local government officials B.E. 2556 (2013), rules and procedures for local government officials to stay at the accommodation of the local administrative organization B.E. 2550 (2007), determining rules and procedures for the disbursement on house rent for flood disaster B.E. 2553 (2010), and rules and procedures for the disbursement on house rent of local government officials B.E. 2556 (2010).

5.3 Recommendations for the Administrative Policy

The following policy recommendations are to improve the budget allocation policy of TAOs in order to promote fairness and equality in society. Overall, it found that the context of a TAO's expenditures on education, public health, social welfare, and infrastructure are driven by economic determinants that are measured by revenues collected by the TAO, revenues allocated by government, grants, withdrawals from the reserved fund, savings, and general grants. Demographic, community, and environmental determinants that affect public expenditures of a TAO are measured by the number of programs for local development, students, teachers, kindergarten children centers, old persons, disabled persons, AIDS patients, roads, and bridges. The governmental determinant affects public expenditures of the TAO as measured by the number of local staff. This is a mediator variable to the study. The results of this study revealed that economic determinants, demographic, community, and environmental determinants, and governmental determinant all affect public expenditures on education, public health, social welfare, and infrastructure. Any change in these expenditures will be gradual, with just a little change. It is budgeting based on the previous year’s experience. Therefore, suggestions on the policy of budgetary allocation of TAOs are as follows.

1. Due to the policy of local income distribution, it is a universal budgetary allocation for every career whether people are rich or poor. If they are in the local population, they will benefit from this policy. This implies social inequality because the policy is implemented and local budgets are allocated in this way to give the rich a

better advantage or benefit than the poor or the underprivileged. Therefore, it is necessary to adjust the policy of new budget allocation on education, public health, social welfare, and infrastructure. It is a new allocation for equality and to be clear it should be adapted to local spending guidelines by setting a target group of operations. In particular, the target groups are the poor or the underprivileged in society. Instead of implementing a policy and allocating a local budget, it is the nature of the assistance to all income groups to be equal. This is because the implementation of the policy for local budget allocation in this way will create greater social equality. Therefore, the budgetary allocation of local expenditures that is the universal nature of all people is equally shared. It is equally allocating the same budget per capita. The budget allocation in this way may not be meant for the rich but it is important for the poor. Therefore, the state should clearly have an income survey of people per capita population, and separate the rich and the poor people as databases. After that, the budget is allocated to the poor more than the rich in order to raise the poor to a more equal opportunity with the rich. This is to eliminate the inequality between the line of richness and poorness if it is not too far apart.

2. It should have formulated policy, laws, and regulations on the budgetary disbursement that should be set in the same way, because the result of the interviews found that this issue has become a problem between the Office of the Auditor General of Thailand (OAG) and the local authorities regarding the provision of bonuses, supporting educational scholarship for personnel, and welfare of house rent for local staff. OAG protested that the budgetary disbursement is not correct and refunded to them, while TAO clarified that the budgetary disbursement is correctly in accordance with the regulations of the Ministry of Interior. This becomes a confusing issue as to which practices are used between the protest of OAG, that the budgetary disbursement is incorrect and a refund is made, or the regulation of Ministry of Interior that determines the budgetary disbursement is correct.

3. In the development of infrastructure and buildings, they are beneficial to the locality but these are less sustainable than the development on the quality of life for the community, yet they are prioritized for its development first because when the infrastructure and buildings are developed it reflects the political popularity that affects future elections. Therefore, the politicians pay attention to the development on

infrastructure and buildings first because these programs are tangible with clear workings that the politicians can easily claim for their campaigns more than other programs. It takes time and is difficult to touch, especially the programs for improving the quality of life. Therefore, it should formulate the policies of sustainable development by issuing laws or regulations to determine the percentages of spending on local budgets, whether the quality of life should be improved more than or less than infrastructure. If there are laws and regulations that are strictly enforced, for those who are considered guilty there is a clear penalty.

4. There should be a formulated policy to monitor the standards of auditing, budgetary administration, and effective human resource management. Because the budget is allocated for TAO, it is divided by size into large, medium and small areas as required by law. If large areas get a lot of budget but the budget administrator is inefficient, it should be revised and it should have a policy to monitor it effectively. Therefore, it should be evaluated and monitored by local budget management for effective budget disbursement. There should be strict measures to prevent corruption and a system to detect the offender and punish them immediately, whether or not that person is a politician or a local employee.

5. The size of local staff should be reduced and changed to outsourcing in order to provide effective budget management. It is a budget saving that can be spent for developing a better quality of life in other areas in order to create prosperity and improve local quality of life. In the interview, it found that TAOs hired local staff with more than 30–40% of the total budget. This makes for inefficient budget management because the budget is spent for hiring staff rather than other development.

6. Due to local budget administration, most statements are spent for hiring local personnel. Therefore, for the budget to be effectively managed it should reduce the size of local agencies by collapsing or merging together the Provincial Administrative Organization (PAO), Municipality, and Tambon Administrative Organization (TAO). The remaining municipality would only consist of the city municipality substituting for the PAO and care at the provincial level, town municipality substituting for the TAO and care at the district level, sub-district municipality substituting for the TAO and care at the sub-district and village level.

5.4 Suggestions for Study in the Future

1. This study is an analysis of panel data which is a mixed method of quantitative and qualitative research. Therefore, further study should examine the qualitative research with deep interviews on the budget allocation of public expenditure, institutional or political impacts, and governance and transparency in budgetary spending of the TAO.

2. This study is only on the determinants of the budget allocation of public expenditures of TAO. In further study, research should examine the effect of fiscal spending of TAO affecting the quality of life in the community, especially the result of the budget allocation of public expenditure on general administration, housing and community, strengthening the community, recreation, culture and religion.

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APPENDICES

Appendix A

Questionnaires for Data Collection on Quantitative Approach

1. Secondary Data Collection on Number of Local Staff of TAO in Fiscal Year B.E. 2552-2556 (2009-2013)

Details	2552	2553	2554	2555	2556
1. Number of Local Staff					

2. Secondary Data Collection on the Revenue Budget of TAO in Fiscal Year B.E. 2552-2556 (2009-2013)

Details	2552	2553	2554	2555	2556
1. Revenues Collected by TAO					
2. Revenues Allocated by Government					
3. Grants					
4. Withdrawals from the Reserved Fund					
5. Savings					
6. General Grants					

3. Secondary Data Collection on Education of TAO in Fiscal Year B.E. 2552-2556 (2009-2013)

Details	2552	2553	2554	2555	2556
1. Number of Kindergarten Children Centers					
2. Number of Students					
3. Number of Teachers					

4. Secondary Data Collection on Public Health of TAO in Fiscal Year B.E. 2552-2556 (2009-2013)

Details	2552	2553	2554	2555	2556
1. Number of Old Persons					
2. Number of Disable Persons					
3. Number of AIDS Patients					

5. Secondary Data Collection on Infrastructure of TAO in Fiscal Year B.E. 2552-2556 (2009-2013)

Details	2552	2553	2554	2555	2556
1. Number of Programs for Local Development					
2. Number of Local Roads					
3. Number of Local Bridges					

6. Secondary Data Collection on Expenditure Budget of TAO in Fiscal Year B.E. 2552-2556 (2009-2013)

Details	2552	2553	2554	2555	2556
1. Educational Expenditures					
2. Public Health Expenditures					
3. Social Welfare Expenditures					
4. Infrastructure Expenditures					

Appendix B

Interview for Data Collection on Qualitative Approach

1. What are you the basic problems in developing your locality? How do you solve those problems? And how does your development of TAO respond to local demands?

2. What is the infrastructure development for constructing road, water supply, electricity, and other utilities? What do you mainly focus on infrastructure development? And how does your development on infrastructure of TAO respond to local demands?

3. What is the budgetary spending used for educational development? And how is your development on education of TAO to respond to local demands?

4. What is the budgetary spending used for public health development? And how does your development on public health of TAO respond to local demands?

5. What is the budgetary spending used for social welfare development? And how does your development on social welfare of TAO respond to local demands?

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