

**FACTORS AFFECTING MUNICIPAL FISCAL CAPACITY
IN THAILAND**


Wisuttinee Taneerat

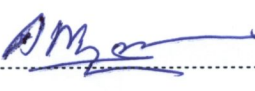
**A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Public Administration
School of Public Administration
National Institute of Development Administration
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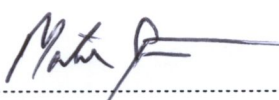
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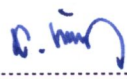
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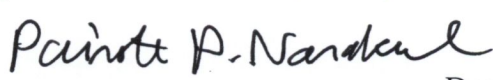
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ABSTRACT

Title of Dissertation	Factors Affecting Municipal Fiscal Capacity in Thailand
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The purpose of this research is to 1) study various characters on the development of revenue structures and fiscal capacity of municipalities in Thailand, 2) investigate the relationship among factors affecting the municipal fiscal capacity, and 3) propose policy recommendations regarding improving and heightening the municipal fiscal capacity to different concerned agencies.

Initially, conduct the part of the literature review, which led to the scope of the study and the quantitative research, which was employed. Annual secondary data of 2,441, which were in a form of pooled cross-section data from 2012-2015, were used along with the analysis on the operating ratio and ordinal logistic regression analysis.

The findings on the municipal revenue structure during the past four years reveals that revenues of most municipalities are from government allocations and grants, as high of a proportion as 88.95% whereas their local levied taxes are comparably small. In addition, the analytical results also show that overall municipalities possess fiscal capacity at a low level, especially the larger ones, as the larger they are, the lesser their fiscal capacity since they need to provide broader public services.

The empirical theoretical test discloses that 1) organizational resource theory on an issue of socio-economic factors is both an internal factor of availability within municipalities and an external factor which provides additional advantages over others and that the socio-economic factors play an important role in municipal fiscal

capacity. 2) Having an institutional model is the result from formats and attributes set by the Municipal Act which makes municipalities possess a similar character. 3) The relationship built on years of election is due to the trends of decentralization and governance being globally popular that further results in the maximum utilization of resources to cope with more demand of public services, which in turn is consistent with the theory of political business cycles. 4) There is a non-existent relationship between intergovernmental transferring of funds through nonexistence, which is an important measurement in closing fiscal gaps while enhancing municipalities in organizing public services, which helps, create equality among regions and locals of differences in fiscal capacity.

The policy recommendations include 1) the government should focus more on area development contexts in order to minimize fiscal structure stress which is the primary problem occurring from basic character of community faults. 2) The government should modernize some legislation policies especially the ones related to municipal levied tax in order to clearly guide municipalities to set a more suitable method of tax collection. 3) The government should encourage municipalities especially the sub-district to work proactively on the issues of revenue collecting and raising to lessen its dependence on government grants and allocations as well as efficiently and effectively improve its expenditure administration.

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CHAPTER 1

INTRODUCTION

1.1 Statement and Significance of the Study

The constitution of the Kingdom of Thailand B.E. 2540 has been dignified as an important legislation in introducing the perception of ‘Decentralization’. Since then, the public has been allowed to participate in the country’s administrations aiming mainly to let local communities efficiently organize their own public services. This is because the country’s former crucial economic crisis has made various concerned agencies reconsider their previous performances and efficiencies (Institute for Good Governance Promotion, 2000). This effective decentralization has been continued through the constitution of the Kingdom of Thailand B.E. 2550 and 2560 where the policy of people participation exists on different aspects of socio-economic setting and planning development at both local and national levels along with political decisions, public service management, or even the monitoring of state authorities at all levels.

However, decentralization is one of the measures that need to be reviewed on its performances during the past 20 years especially considering various aspects of local administrative organizations which are the main mechanism in receiving the policy and conducting the actual performance. On the contrary, these organizations can also be the ones that formulate the policy and become important agencies in different dimensions of the economy, society, as well as politics.

Manor (1998 quoted in Achakorn Wongpreedee, 2011a: 5) state that formal decentralization can be categorized into 3 forms 1) Administrative decentralization: an occurrence during the transmission of authority to local authorities 2) Political decentralization: an establishment of legislative bodies in order to promulgate and organize elections of local administrations 3) Fiscal decentralization: an authority

given to the local authorities in levied tax which is a significant act of the substantial decentralization system. Upon researching and comparing most of the international local administrations especially in developed countries, it is discovered that they have broader missions and jurisdictions which are the result from their related acts on such missions and functions to impose more major roles and, at the same time, possess sufficient revenues to do so. For instance, Japan is considered the best example in that it reflects the broad functions of local administrative organizations, which can be a province or municipality, as these organizations are enabled to arrange their own essential missions such as an aspect of education where the municipality can perform an important obligation to manage and upgrade its universities to be at the same level as the state universities run by the federal government. They are also able to partake in aspects of mega construction projects such as Kansai International Airport where the Japanese local administrative organizations are able to arrange various public services. Hence, this is not only about the related legislation but also about the linkage of sufficient resources and revenues (Supasawad Chardchawarn and Pinitbhand Paribatra, M. L., 2005).

In the case of Thailand, these systems can be seen more clearly from the royal act B.E. 2542 and 2549 on the plans and phases of decentralization to local administrative organizations along with the constitution of the Kingdom of Thailand B.E. 2550. The number of local administrative organizations (Department of Local Administration, 2016), as of 15 March 2016, is currently 7,853 which clearly shows an expansion of practical decentralization at the community level. These local administrative organizations are very important as they exist within communities and are aware of the local problems within the communities and simultaneously they can perform a function of imposing policies that directly respond to the needs of the communities.

Table 1.1 The Number of Local Administrative Organizations in Thailand

Scheme	Amounts
Provincial Administrative Organizations	76
Municipalities	2,440
City Municipalities	30
Town Municipalities	178
Sub-district Municipalities	2,232
Sub-district Administrative Organizations	5,335
Metropolitan Administrations (Bangkok and Pattaya)	2
Total	7,853

Sources: Department of Local Administration, 2016.

Nevertheless, on decentralizing to locals, fiscal decentralization is the most important factor of focus; there are these two following main problems of local fiscal decentralization (United Nations Development Program in Thailand, 2010).

The first problem is a fiscal administrative structure which is comprised of 1) autonomous revenue assignment in which the organizations are unable to have a complete authority in revenue collection, 2) Inadequate personnel administration systems on fiscal and local revenues along with insufficient operational skills while showing less interest in revenue collection as well as in revenue expansion for local administrative organizations, 3) Less ability and readiness for transmission of assignments, which affects a budget management system of both the original government agencies and the local budget administrative system, and 4) Insufficient studies and information on equality between macro fiscal policy management and local management.

The second problem is revenue allocation by local administrative organizations which includes 1) difficulty in determining the proper tax categories to suit the types of local administrative organizations as various conditions of being urbanized must be scrutinized and properly categorized 2) the allocation measure might not be in accordance with original objectives as the budget allocation neither properly reflects missions within an area nor the organizational size whereas political interference might also occur 3) the current tax rate and tax base does not express efficiency in different tax collection methods, at both national and local levels 4) certain types of tax that should be a function of local administrative organizations are not yet in actual practice such as a tax base collected from the use of property in the area 5) the issues on tax collection from government agencies in which local administrative organizations are unable to collect any revenues from government agencies or state enterprises.

A municipality is considered to be a form of local administrative organization with an establishment that has been ongoing for a long period of time. However, upon focusing on its fiscal capacity, it is found that such capacity is still a major problem.

Although decentralization has been practically performed in Thailand for more than 2 decades, the local fiscal capacity is still an important issue that a study on 'Factors affecting municipal fiscal capacity in Thailand' has become a significant issue in order to know the revenue structure development as well as to conduct an analysis on factors involved which can be a guideline for the future development of the country's local administrative organizations.

1.2 Questions of the Study

- 1) How does a municipality develop its revenue structure and fiscal capacity?
- 2) What are the factors affecting municipal fiscal capacity and why?

1.3 Objectives of the Study

1) To study characters of the revenue structure and the fiscal capacity of municipalities in Thailand, or other divisions, and to learn what they are.

2) To investigate the relationship of factors affecting the municipal fiscal capacity and to see what factors permit to have an effect on the municipal fiscal status in order to create a guideline in managing such factors for the benefit of future local development.

3) To propose policy recommendations to concerned agencies so that the municipal fiscal capacity can be improved and upgraded accordingly.

1.4 Scope and Limitations of the Study

In conducting research on 'Factors affecting municipal fiscal capacity in Thailand' the researcher has established the following study areas.

1) Revenue structure and fiscal capacity which will be in a form of the characters of municipal revenue structure and its fiscal capacity.

2) Factors affecting municipal fiscal capacity which will be focused on both internal and external components of local administrations that subsequently affect the factors of local fiscal assignments which becomes essential for financial administration.

The major limitation of this study is the data, as it is derived from only 2012 and 2015 whereas the financial research technique for analysis is an operating ratio which is an index used for the measurement of solely one dimension.

1.5 Expected Benefits of the Study

1) Creating knowledge and understanding on characters of municipal revenue structure and its fiscal capacity.

2) Constructing various perspectives on factors affecting municipal fiscal capacity that may lead to the highest point of efficiency and effectiveness.

3) Enabling to propose policy recommendations to the government and concerned agencies in order to improve and upgrade the municipal fiscal capacity to be in line with actual practices in order to become developing and problem-solving tools as well as to expand real public services to societies.

CHAPTER 2

LITERATURE REVIEW

Various literature is reviewed for the study of ‘Factors affecting municipal fiscal capacity in Thailand’ and the perceptions are categorized into 7 theories 1) local administrative organization, a municipal model 2) fiscal capacity 3) fiscal capacity analysis 4) organizational resource theory 5) political business cycle theory 6) institutional theory, and 7) intergovernmental transfer. In addition, eight related types of research are reviewed, with the following details.

2.1 Local Administrative Organizations, a Municipal Model

The municipality is one of the four local administrative organizations, which are 1) provincial administrative organization (PAO); 2) municipality (sub-district municipality, town municipality, city municipality); 3) sub-district administrative organization (SAO); 4) metropolitan administration (Bangkok and Pattaya). Clearly, in every area, there must be at least one type of local administrative organization performing its administrative functions and providing services on public utilities to people residing within an area.

Weidner (1970 quoted in Chuwong Chayabut, 1996) states that local administration and development always link, that is, the development occurs from a planning process aiming for the growth of modernization, nation-building and socio-economic progress. At the same time, there must be an alteration of the system that goes together with the growth. Therefore, the development at a local level can happen when there is cooperation from 3 parties 1) the local people 2) civil servants and government officials from various agencies 3) local administrative organizations. The cooperation must be based on 4 major principles (1) needs (2) obstacles or problems

based on planning and performing as planned 3) resources or items needed for development which include manpower, knowledge, financial power as well as resources available within the locality 4) potentialities which are related to competency or power of the local administrative organization to actually perform and achieve their missions. The legislation that plays an important role in the establishment of local administrative organizations, a municipal model, is the Municipal Act B.E. 2476 which is considered the first act. It was later abolished and renewed as Municipal Act B.E. 2481 and 2486 in which the latter lasted 10 years before the new act B.E. 2496 was established and has been in use until today (Dussadee Suwatwityakorn, 2008) although it has continuously been revised 13 times and the version B.E. 2552 is the latest revision.

2.1.1 Characters of Municipality

The Municipal Act B.E. 2496 Section 7 classifies 3 different types of municipality 1) sub-district municipality 2) town municipality 3) city municipality.

2.1.1.1 Sub-district Municipality is a local area that is upgraded into a sub-district municipality by the Ministry of Interior.

2.1.1.2 Town Municipality is an area where a provincial town hall is located or a local community population is more than 10,000 as well as having sufficient income.

2.1.1.3 City Municipality is a local community with a population of more than 50,000 and a sufficient income.

Perceptibly, the common measure in considering a local area and classifying it into the municipal type is mainly based on the population and the economic growth within that area.

2.1.2 Municipal Structure

There are two parts of the municipal administrative structure.

2.1.2.1 Part 1- Municipal Councils are comprised of members that are directly elected by the community's people. The number of council members depends on the type of the municipality.

- 1) Sub-district Council-12 members
- 2) Town Council – 18 members
- 3) City Council – 24 members

2.1.2.2 Part 2 –the mayor who is directly elected from the community's people and is authorized to appoint his/her deputy who can be an outsider to assist in the municipal functions based on the following measure.

- 1) Sub-district municipalities cannot have more than 2 deputies.
- 2) Town Municipalities cannot have more than 3 deputies.
- 3) City Municipalities cannot have more than 4 deputies.

The municipal council's term is 4 years and is comprised of one chairperson and one deputy who is appointed by the provincial governor from the council members based on its majority vote, as illustrated in figure 2.1.

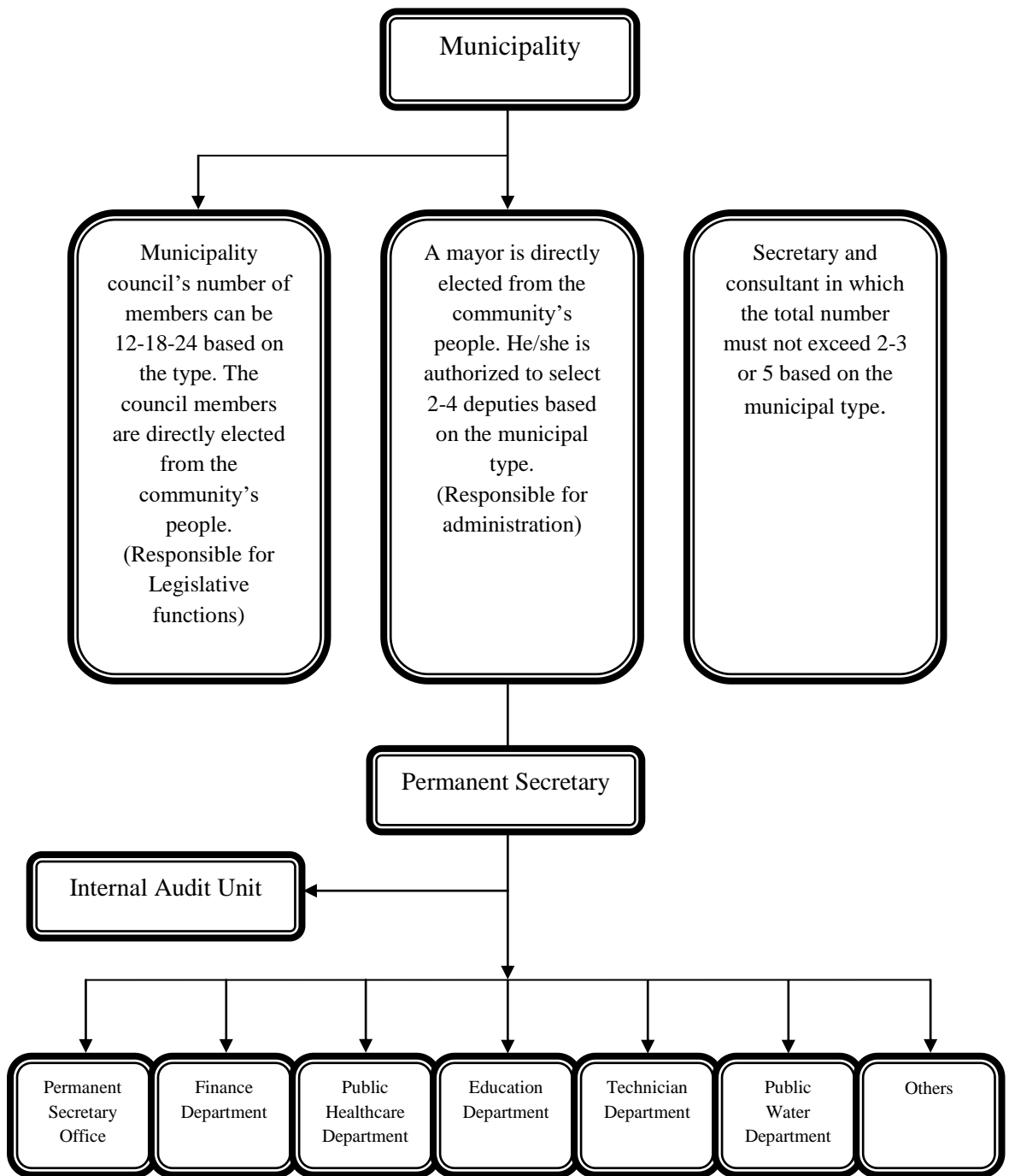


Figure 2.1 Municipal Structure

Sources: Udon Tantisuntorn and Chareonsuk Silapan, 2004: 58.

2.1.3 Municipal Functions

Based on section 50; 53; 56 of the Municipal Act B.E. 2496, the municipal functions can be summarized as the following.

- 2.1.3.1 Maintaining Public Peace and Harmony.
- 2.1.3.2 Building and Maintaining Land and Water Transport Pathways.
- 2.1.3.3 Maintaining Cleanliness of Roads, Pedestrian Sidewalks, Public Places, along with Trash and Waste Elimination.
- 2.1.3.4 Preventing and Eliminating Infectious Diseases.
- 2.1.3.5 Possessing Firefighting Tools.
- 2.1.3.6 Providing Education for the Public.
- 2.1.3.7 Enhancing the Development of Women, Children, Young Adults, Senior Citizens and the Disabled.
- 2.1.3.8 Maintaining Arts, Traditions, Local Wisdom and Valuable Local Cultures.
- 2.1.3.9 Providing Fresh Water and or Public Water.
- 2.1.3.10 Approving Slaughterhouses.
- 2.1.3.11 Setting up and Maintaining Locations for Curing and Caring for Patients.
- 2.1.3.12 Building and Maintaining Drainage Systems.
- 2.1.3.13 Building and Maintaining Public Toilets.
- 2.1.3.14 Setting up and Maintaining Electricity or Other Means of Providing the Light.
- 2.1.3.15 Setting up the Availability of Local Pawnshops or other Means of a Loan System.
- 2.1.3.16 Other Functions as Legislatively Stated.

Moreover, section 51; 54; and 57 of the Municipal Act B.E. 2496 also include other municipal activities, which can be summarized as follows.

- 2.1.3.17 Setting up Marketplaces, Shipping Ports, Piers, and Bridges.
- 2.1.3.18 Setting up Places for Graveyards and Crematoriums.
- 2.1.3.19 Maintaining and Promoting Public Professional Careers.
- 2.1.3.20 Setting up Healthcare Centers to Care and Assist Patients.

- 2.1.3.21 Setting up Electricity or other Means of Providing Lighting for the Public.
- 2.1.3.22 Setting up and Maintaining Drainage Systems.
- 2.1.3.23 Providing and Maintaining Assistance for Mothers and Children.
- 2.1.3.24 Setting up and Maintaining Places for Hospitals.
- 2.1.3.25 Setting up Public Utilities.
- 2.1.3.26 Setting up Essential Activities for Public Health.
- 2.1.3.27 Setting up and Maintaining Vocational Education.
- 2.1.3.28 Setting up the Sport and Physical Education Facilities.
- 2.1.3.29 Setting up and Maintaining Public Parks, Zoos, and Recreation Places.
- 2.1.3.30 Improving Conditions of Local Slums and Maintaining Local Cleanliness.
- 2.1.3.31 Hygienic Controlling of Restaurants, Food Places, Theatres and other Public Service Pplaces.
- 2.1.3.32 Arranging to House and Improving Conditions of Slums.
- 2.1.3.33 Setting up and Controlling Marketplaces, shipping Ports, Piers, Bridges, and Car Parking Spaces.
- 2.1.3.34 Organizing Town and City Planning as well as Controlling Construction Projects.
- 2.1.3.35 Promoting Tourism Activities.
- 2.1.3.36 Municipal Ownership.

Based on the abovementioned important characters, the municipal functions can be categorized as illustrated in table 2.1.

Table 2.1 Functions and Activities Assigned to each Municipal Type

Authority	Sub-district Municipality	Town Municipality	City Municipality
1) Municipal Functions	Section 50 States the Following Functions: 1) Maintaining Public Peace and Harmony. 2) Building and Maintaining Land and Water Transport Pathways. 3) Maintaining Cleanness of Roads or Pedestrian Sidewalks, Public Places as well as Trash and Waste Elimination. 4) Preventing and Eliminating Infectious Diseases. 5) Possessing Firefighting Tools. 6) Providing Education for the Public.	Section 53 States the Following Functions: 1) Activities as Stated in Section 50. 2) Providing Fresh Water and or Public Water. 3) Approving Slaughterhouses. 4) Setting up Healthcare Locations for Caring for Patients. 5) Setting up and Maintaining Drainage Systems. 6) Providing and Maintaining Public Toilets.	Section 56 States the Following Functions: 1) Activities as Stated in Section 53. 2) Providing and Maintaining Assistance for Mothers and Children. 3) Providing other Essential activities for Public Healthcare. 4) Hygienic Controlling of Restaurants, Food Places, Theatres and other Public Service Places. 5) Arranging to House and Improving Conditions of Slums.

Table 2.1 (Continued)

Authority	Sub-district Municipality	Town Municipality	City Municipality
2) Activities Legislatively Stated as Municipal Functions	7) Enhancing the Development of Women, Children, Young Adults, Senior Citizens and the Disabled. 8) Maintaining Arts, Traditions, Local Wisdom and Valuable Cultures. 9) Other Functions Legislatively Stated as Municipal Responsibilities.	7) Setting up and Maintaining Electricity or other Means of the Light. 8) Setting up the Availability of Local Pawn Shops or other Means of a Loan System.	6) Setting up and Controlling Marketplaces, Ship Ports, Piers, Bridges and car Parking Space. 7) Organizing Town/City Planning and Controlling Construction Projects. 8) Promoting Tourism Activities.
	Section 51 States other Following Activities within the Municipal Territory: 1) Providing Fresh Water or Public Water. 2) Approving Slaughterhouses.	Section 54 States other Following Activities within the Municipal Territory: 1) Setting up Marketplaces, Shipping Ports, Piers and Bridges.	Section 57 States other Following Activities in Addition to Section 54: 1) Setting up Marketplaces, Shipping Ports, Piers and Bridges.

Table 2.1 (Continued)

Authority	Sub-district Municipality	Town Municipality	City Municipality
	3) Setting up Marketplaces, Ship Ports, Piers and Bridges.	2) Arranging Places for Graveyards and Crematoriums.	2) Arranging Places for Graveyards and Crematoriums.
	4) Arranging Places for Graveyards and Crematoriums.	3) Maintaining and Promoting Community Professional Careers.	3) Maintaining and Promoting Community Professional Careers.
	5) Maintaining and Promoting Community Professional Careers.	4) Providing and Maintaining Assistance for Mothers and Children.	4) Providing and Maintaining Assistance for Mothers and Children.
	6) Setting up and Maintaining Healthcare Locations for Curing and Caring for Patients.	5) Setting up and Maintaining Places for Hospitals.	5) Providing and Maintaining Hospitals.
	7) Setting up and Maintaining Electricity or Means of Providing Lighting.	6) Providing Public Utilities.	6) Providing public Utilities.
	8) Building and Maintaining Drainage Systems.	7) Setting up Essential Activities for Public Healthcare.	7) Setting up Essential Activities for Public Health.
	9) Municipal Ownership.	8) Setting up and Maintaining Vocational Education.	8) Setting up and Maintaining Vocational Education.

Table 2.1 (Continued)

Authority	Sub-district Municipality	Town Municipality	City Municipality
		9) Setting up and Maintaining Sport and Physical Education Facilities.	9) Setting up and Maintaining Sport and Physical Education Facilities.
		10) Setting up and Maintaining Public Parks, Zoos and Recreation Places.	10) Setting up and Maintaining Public Parks, Zoos and Recreation Places.
		11) Improving Conditions of Local Slums and Maintaining Local Cleanness.	11) Improving Conditions of Local Slums and Maintaining Local Cleanness.
		12) Municipal Ownership.	12) Municipal Ownership.

Source: The Municipal Act B. E., 2496.

In addition, Section 57 (Secondary) and Section 57 (Primary) state other functions on different activities, as follows:

External Activities: when 1) such activities are mandatory and related to the functional performance within the municipal territory 2) such activities are authorized by the related municipal council, provincial council or sub-district council 3) such activities are authorized by the Interior Minister.

Cooperating with others in a form of company limited or holding a share in a company when 1) the aim of such company is for trading of public utilities 2) the municipality must hold its share of more than 50% of the company's registered assets and, in case of more than one municipality being involved such as a provincial administrative organization, or sub-district administrative organization, the number of shares can be accumulated 3) such activity must be approved by the Interior Minister.

Another activity that a municipality can perform is an establishment of cooperation, which is an organization where two or more municipalities are jointly set up to perform certain operations, which are within their accountabilities to work together on. The cooperation is a public body established according to the royal decree where it has to state: name, responsibilities, and functional operations as well as the administrative committee that must include concerned municipal representatives.

In addition, Section 16 establishes plans and procedures for the decentralization of local administrative organizations Act B.E 2542, which states municipal authorities and responsibilities regarding the public service administration in order to ensure maximum benefit for the municipal communities, as follows:

- 1) Organizing Local Plans.
- 2) Setting up and Maintaining Land and Water Pathways and Drainage Systems.
- 3) Organizing and Controlling Markets, Shipping Ports, Piers, Bridges, and Car Parking Spaces.
- 4) Other Public Utilities and Construction Projects.
- 5) Public Utilities.
- 6) Career Promoting, Training, and Development.
- 7) Commerce and Investment.

- 8) Tourism Promotion.
- 9) Education Arrangement.
- 10) Social Work and Living Development for Children, Women, Elderly, and the Disabled.
- 11) Maintenance of Arts, Traditions, Local Wisdom and Valuable Local Cultures.
- 12) Improvement on Slums and Arrangement on Housing Conditions.
- 13) Setting up and Maintaining Recreation places.
- 14) Sports Promotion.
- 15) Expansion of Democracy, Equality, and Public Rights.
- 16) Encouraging Public Participation in Local Development Projects.
- 17) Cleanliness and Orderliness of Public Places.
- 18) Trash, Waste and Wastewater Elimination.
- 19) Public Health, Family Healthcare, and Curing Methods.
- 20) Organizing and Maintaining Graveyards and Crematoriums.
- 21) Animal Control.
- 22) Setting up and Controlling Slaughterhouses.
- 23) The Arrangement on Safety, Orderliness, and Hygiene of Entertainment and other Healthcare Places.
- 24) Managing, Maintaining, Benefit from Forests, Lands, Natural Sources and the Environment.
- 25) Town and City Planning.
- 26) Transportation and Traffic Engineering.
- 27) Caring for and Management of Public places.
- 28) Building Controls.
- 29) Public Disaster Prevention and Alleviation.
- 30) Maintenance of Public Orderliness; Enhancement of Security of Life and Property.
- 31) Other Activities of Local Public Benefit as the Council Declarations Announce.

It can be summarized that municipal responsibilities as stated in the Municipal Act B.E. 2496, as well as the established plans and procedures for the decentralization of local administrative organizations Act B.E 2542, are entirely about public service administration since they are considered the municipality's primary and essential functions. The local public service administrations are therefore characterized as 1) activities responding to the local needs that are separated or being in a different form from other local communities such as trash elimination, organizing and maintaining land and water pathways, drainage system management, education management, community wastewater management, environmental caring, as well as other duties 2) local close-knit activities such as services related to community living conditions i.e. cremation, freshwater management, electricity and lights, public places management, etc. (Nantawat Boramanand, 2000).

2.1.4 Municipal Revenue

The municipal revenue can be categorized into the following 4 main sources (Pairat Trakansirion, 2007; Pornchai Likitthamroot, 2007; Achakorn Wongpreedee, 2011a)

2.1.4.1 Local Levied Tax

It is the tax local organizations who are authorized to levy from properties located within the boundary and the service collections from using the municipal utilities. The revenues from this tax include the following:

1) Tax Revenue – the revenues from various taxes such as property tax, local maintenance tax, poster and billboard tax, slaughterhouses and bird nests duty fees.

2) Untaxed revenue – the amount being collected from service providers which include fees, fines, license fees, income from assets, public utility earnings, activity earnings and other miscellaneous incomes.

2.1.4.2 Joint taxes, Surcharged taxes and Shared taxes

Joint taxes or surcharged taxes are the taxes that the local and federal agencies jointly help collect, and the local administrations are able to surcharge based on a percentage imposed by the central government. The surcharged tax is the one that the government collects additionally, apart from the federal revenue. The shared

tax is similar to the surcharged tax in terms of it being jointly collected by the local and federal agencies. However, since it is specifically a local tax, it is not related to the federal tax.

The revenues that the federal agencies help collect and the ones that are shared to municipalities by the central government are comprised of value added tax (1 in 9); value added tax in accordance with established plans and procedures for the decentralization of local administrative organizations Act B.E 2542; specific business tax; excise tax; registration of rights and juristic fees; and petroleum mineral royalty.

2.1.4.3 Inter-government Grant

Currently, this revenue is the main source of income for all types of local administrative organizations in Thailand. The core objective of this grant is to help all local governments possess sufficient economic power to provide public services and respond to the public needs in order to effectively and efficiently achieve the federal policies. The grant can be categorized into three classifications (Charas Suwanmala, 1995: 56-58).

1) General grant: this is an unconditional government allocation that a municipality is able to spend on any activities. The grant amount is based on the municipal population.

2) Block grant: this is a conditional allocation that a municipality must spend on the operations imposed by the federal government. In fact, this type of grant is provided to focus on increasing the municipal financial capability.

3) Specific or categorical or project grant: this is a grant that the federal government allocates to each municipality as being imposed by the Office of National Economics and Social Development Board and being concurred by the Office of Budget and Department of Interior, in accordance to the following details:

(1) There is a justified reason and the need for urgency in the operation of correcting problems or preventing the possible occurrence of problems that will directly and most likely impact the public.

(2) The budget used is beyond the municipal capability.

(3) It is the effort to allocate the budget for a municipality to broaden ways of solving problems that outstandingly cover the area based on the yearly budget assignment.

(4) Encouraging a municipality to contribute some input, based on its capability.

(5) Being a project of economic infrastructure development.

Moreover, there is a specific grant for good governance local administrative organizations in order for the local community to strengthen its organization and focus on upgrading public services to be more effective and more efficient.

2.1.4.4 Revenue and or other Incomes

These are other sources of municipal earnings such as loans, accumulated funds, etc. in which local governments are able to spend in case of obligations necessary for local development. The loans can be made from the Ministry of Interior fund. A summary of municipal revenue is shown in figure 2.2.

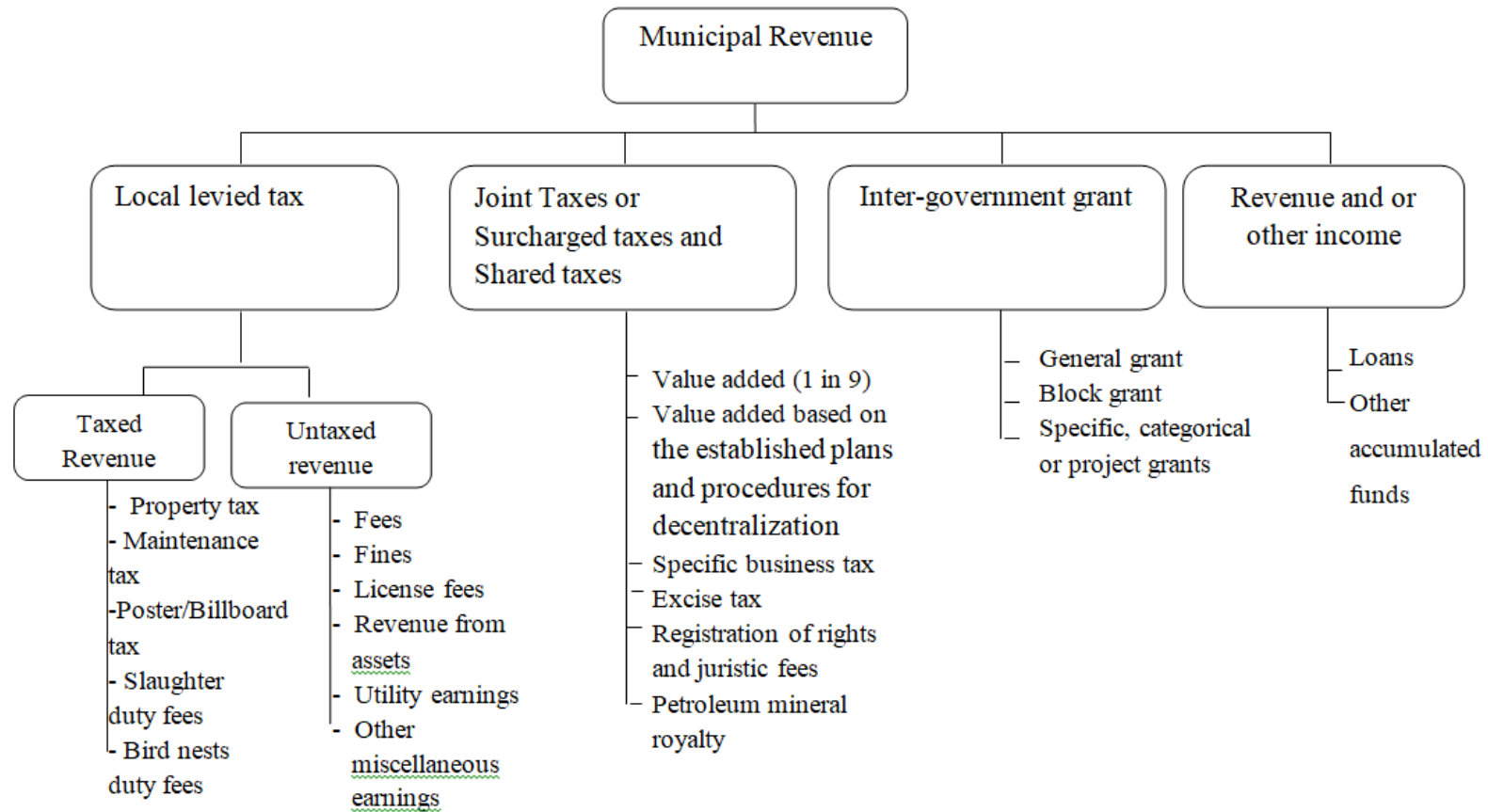


Figure 2.2 Municipal Revenue.

Sources: Pairat Trakansirinon, 2007: 23.

2.1.5 Municipal Expenditure

Ministerial rules of the Ministry of Interior on the budget of a local administrative organization (edition 2) B.E. 2543 states that a local administrative organization permits to use its development plan as a major guideline in the yearly budget arrangement which can be divided into the two following types. (Pairat Trakansirinon, 2007)

2.1.5.1 Fixed Expenditure

This is the spending of local revenues and different grants provided by the central government. Various formats of the locally fixed expenditure can be arranged into different units, in accordance with the ones of the federal budget.

2.1.5.2 Specific Expenditure

This is the spending imposed for specific activities as an annual special case. The amount is taken from the accumulated fund, loan, and specific grants or other funds that are not parts of the fixed budget.

In addition, The Municipal Act B.E. 2496 states the municipal expenditure, as follows:

- 1) Salaries
- 2) Wages
- 3) Other Wages
- 4) Expenses
- 5) Expenses on Materials
- 6) Expenses on Durable Articles
- 7) Expenses on Land, Buildings, and Other Properties
- 8) Subsidies
- 9) Other Expenses According to a Commitment, Legislation or

Regulations of the Ministry of Interior

2.1.6 Municipal Ordinance

Section 60 of the Municipal Act B.E. 2496 states that a municipality is authorized to issue its orders as long as such issuance is not against the federal law, in order that the municipality can perform its functions and missions as planned. This is

the same with its expenditure in which the municipality must arrange its annual budget and expenditure.

2.2 Fiscal Capacity

Fiscal capacity is one of the major responsibilities of government agencies as, apart from various functions in public service management, maintaining the fiscal capacity is another important government role. Berne and Schramm (1986) describe that government agencies have broadly spread responsibilities of public service management such as housing and community, community safety, public health, education, general administration, construction and civil engineering, etc. in which public satisfaction is the core. Therefore, capable government agencies hold responsibility in considering the following measures.

First: Government agencies must endeavor in increasing and using their resources as efficiently as possible with low costs but the highest gain, that is, in managing products or public services, they must always ask themselves, “Has a lower level of resource use or lower cost been focused on and achieved?”

Second: Government agencies must also attempt to increase and equitably use resources, that is, they consider cost diffusion and benefit that must equally and fairly be offered to service receivers.

Third: Government agencies must put their effort in healthy financial conditions in order to create public security to trust that the agencies are sufficiently capable of managing the financial matters as well as their other responsibilities.

Fourth: Government agencies must have awareness of public accountability as well as provide transparency by revealing necessary information so that the public can participate in the monitoring process.

The above four measures are therefore considered the main target in the fiscal management of government agencies. If all these measures are properly applied, the result is an effective and efficient public service management system.

Another term for ‘fiscal capacity’, as being used by scholars, is ‘fiscal health’ or ‘fiscal condition’ as the US. Advisory Commission on Intergovernmental Relations (ACIR) (1971) defines that fiscal capacity is a method of quantitative measurement in

analyzing the revenue capacity of the local existing resources to cope sufficiently with its public service management needs.

The Government Finance Officers Association (GFOA) (1993) further describes the definition as the competency of local governments in tax and revenue collection from other sources as well as the available sources from which taxation is derived. The definition of fiscal capacity is regularly used to illustrate levels of revenue raising capacity and, quite often, such definition is closely linked to fiscal independence (Chapman, 1999).

Mead (2001) defines the meaning of fiscal capacity as when a local administrative organization facilitates to 1) manage sufficiently and continuously, its finances to be in line with basic public services 2) respond to the public needs based on its responsibilities 3) manage its finances to be able to respond to the needs of the public within its territory. This is consistent with Udom Toomkosit (2002: 18) who states that fiscal capacity is about the condition that the local government is able to repay its debts (which can be groups of people of different categories i.e. consumers, employees, taxpayers, producers, voters, etc.) on the due date, or it can be said that the possibility that the cash and existing valuable resources of the local government (can be calculated into cash) constantly equalizes with the expenses.

From the previously mentioned definitions, it's apparent that the fiscal status of a local government may be in the form of cash, a source for cash or various ways of cash spending. Grove, Godsey and Shulman (2001) simultaneously express their ideas on this matter by saying that narrowing it down, fiscal capacity is related to the degree of government ability in repaying debts as well as in creating financial stability, as well as, being about the competency in managing and balancing revenues with expenditures within each fiscal year.

Honadle, Casta and Cigler (2004) explain the meaning of fiscal capacity as a degree of local administrative organization competency in conducting local tax collections and other revenues compared with a degree of the needs in spending during a certain period of time. On the other hand, fiscal stress means a condition when the local administrative organization needs to spend money beyond its ability from existing resource earnings at a certain period.

Weerasak Krueathep (2008: 2) also states that local fiscal strength has a different meaning from a balanced budget (or surplus budget), alternatively called budgetary strength. Having a balanced budget may be a result of reducing or deleting an expenditure plan to be within the revenue scope or from putting revenue estimation higher than reality. Therefore, this type of budget comparison is unable to clearly explain whether the arranged budget is at a level that matches the real needs of the community public services. Eventually, having arranged a balanced budget (or surplus budget) does not guarantee that the local administrative organization possesses sufficient fiscal capacity for its public service management at a satisfactory community level. Subsequently, structural fiscal stress or expenditure fiscal stress occurs, and non-budgetary stress will then accumulate.

However, local government spending is directly related with its available resources, that is, if a particular local government tries to earn a high amount of revenue, there is the chance that its expenditures will rise alongside the revenue and also become high. Moreover, expenditure stress is also related to community ‘needs and demands’.

Fiscal capacity measurement is therefore a feature of the difference between expenditure stress and local government’s available resources. If a local government faces less expenditure stress while having the better capability in gaining revenue, its fiscal capacity is subsequently productive; but if it is in an opposite direction, such local government fiscal capacity is obviously nonproductive (Berne and Schramm, 1986: 71).

It can be concluded here that a major component of local government fiscal capacity is the consideration on ‘available resources’ which are being compared with “expenditure stress” in order to look for fiscal balance, as shown in the following figure 2.3.

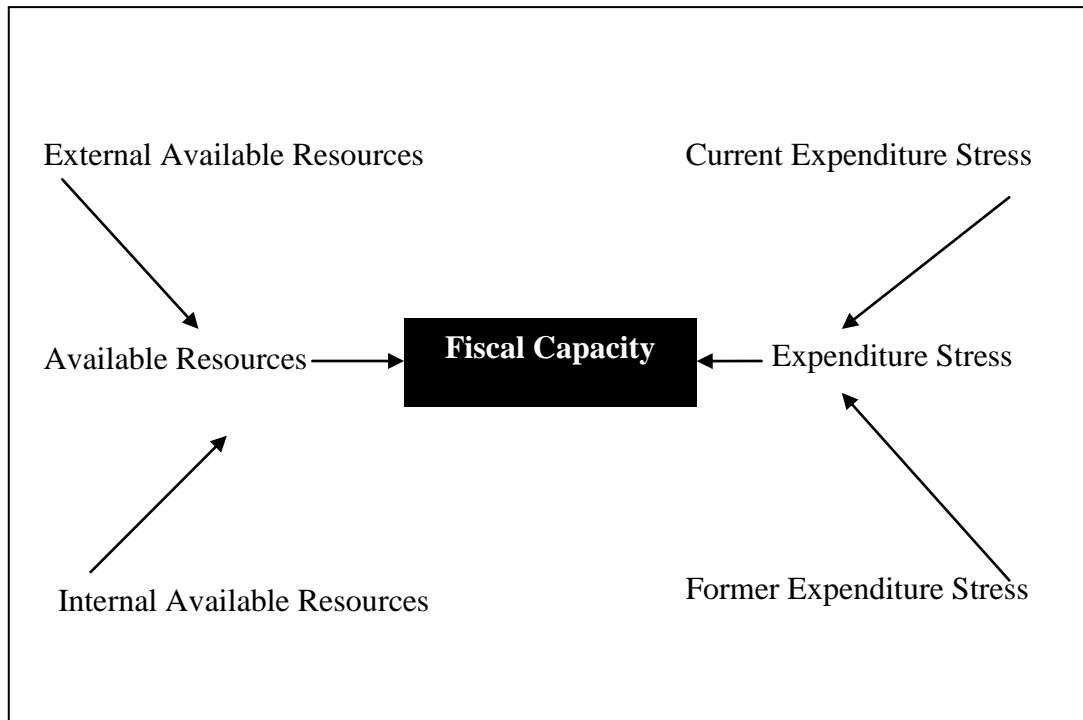


Figure 2.3 Fiscal Capacity Components.

Sources: Berne and Schramm, 1986: 56.

From the above figure, the fiscal capacity is related to both internal and external factors, that is, the result of expenditure stress, both past and present, or any other stresses, which can be from the need to increase quantity, quality, or cost of each service unit is eventually related to the local fiscal capacity.

In addition, the locally available resources are also related to internal and external factors. This is because such resources might be the ones that a local government collects from its territory based on the assigned authority such as property tax, poster or billboard tax, slaughter and birds nest duty fees, municipal commercial fees, as well as external resources such as federal shared revenue and grants, etc.

2.3 Fiscal Capacity Analysis

The fiscal capacity analysis is one of the important administrative tools that are used to analyze revenue-raising capacity (RPC) and compare the values with

expenditure needs (EN) (Ladd and Yinger, 1989). If a local administrative organization is able to conduct self-fiscal capacity research, it can be an important key to identify its administrative direction, which does not only create a more balanced situation with available resources but also manages the public services to sufficiently meet the community needs better (Weerasak Krueathep, 2008).

Therefore, local administrative organization fiscal capacity analysis means the analysis on capable degrees in revenue raising when being compared with the degree of needs for various public spending at a certain period. The capable degree is shown as a percentage, as equation 1, where, if the percentage is in a positive form, it means that the local administrative organization has a positive fiscal capacity.

$$\boxed{\text{Fiscal capacity Analysis} = (RPC-EN)/ RPC \times 100} \dots\dots\dots (1)$$

When RPC = Revenue raising capacity
 EN = Expenditure needs

There are many approaches for fiscal capacity analysis.

2.3.1 Multiple Regression Approaches

This approach is about creating equations that estimate a capable degree of revenue raising and degree of public spending needs on various community services. Upon obtaining regression coefficient values of both equations, variable factors are replaced in the equations to get estimated data on the community revenue capability degrees and expenditure needs. The equations can be illustrated as follows:

$$\boxed{RPC_A = \alpha + \beta_{1B}X_{1A} + \beta_{2B}X_{2A} + \dots + \beta_{NB}X_{NA} + \epsilon_B} \dots\dots\dots (2)$$

$$\boxed{EN_A = \alpha + \gamma_{1B}Z_{1A} + \gamma_{2B}Z_{2A} + \dots + \gamma_{NB}Z_{NA} + \delta_B} \dots\dots\dots (3)$$

RPC_A is a revenue-raising capacity degree of the local administrative organization's research - $\beta_{IB} \dots$

β_{NB} is a regression coefficient (mean) of tax rates from type 1 to N of the referred local administrative organization group.

$X_{IA} \dots X_{NA}$ are a base of tax rates from type 1 to N in the local administrative organization's research.

Different regression coefficients – β_i are obtained from estimation, based on multiple regression.

And, EN_A is the needed expenditure level of the local administrative organization's research whereas $\gamma_{IB} \dots \gamma_{NB}$ are regression coefficients (mean) of expenditure type 1 to N of the referred local administrative organization group that can be accepted as an average cost per unit.

$Z_{IA} \dots Z_{NA}$ are variables of numbers of public service units type 1 to N of the research local administrative organizations.

Other coefficient regression values – γ_i are from estimation, based on multiple regression.

2.3.2 Analysis through Representative Tax/Revenue System (RTS/RRS) and Representative Expenditure System (RES)

This is a technique that was created by the Advisory Commission on Intergovernmental Relations (ACIR) and further improved by Berne and Schramm (1986). The technique is comprised of two main components 1) the analysis on the degree of revenue raising capacity (RPC) through a representative tax system (RTS) 2) analysis on the expenditure needs (EN) through a representative expenditure system (RES).

The analysis on RTS is an estimation that if a particular organization complies with an average representative tax rate implemented in another organizational sampling group, what will be the amount being collected by that organization? This is the type of data called estimated revenue-raising capacity.

$$\boxed{RPC_A = TB_A \times ATR_B} \dots\dots\dots (4)$$

RPC_A is the revenue-raising capacity of the research from local administrative organizations.

TB_A is a tax base of the research from organizations.

ATR_B is a collected average tax rate in the referred or sampling group.

The analysis on the expenditure needs is similar to the RTS principle, that is, in considering the degree of expenditure needs, various need factors within the local community's socio-economic public services are focused on such as the unemployment rate, population ratio between youth and elderly or the proportion of the poverty line, etc. The numbers are calculated with an average public service cost per organization in the sampling group and the result is a degree of expenditure needs that reflect the community requirements or its problems, which can be illustrated as follows.

$$\boxed{\sum_{i=1}^n EN_i = \text{Workload} \times \text{Standard costs per unit}} \dots\dots\dots (5)$$

The workload is obtained from an index of various local socio-economic factors that affect the budget arrangement. The fact that the community possesses a high number of problems means its workload will accordingly increase.

A value of 'standard per unit' is an average cost in public service management of the sampling group per unit that is used.

The value 1, 2, ..., n means public services type 1, 2, ..., n.

2.3.3 Analysis of the Financial Statement

The financial statement analysis is an important tool for many organizations especially in private ones as it is used for considering their operational achievement where the obtained data is used for further plans. Therefore, the financial system acts as a main bloodline of the organization. On the contrary, the targets of government operations do not mainly aim at profits since the straightforward fiscal statement analysis might not be able to evaluate the entire performance system as a whole.

The effort in fiscal capacity analysis or fiscal health of local administrative organizations is one of the various methods as Weerasak Krueathep (2011) states in which the fiscal status analysis is an assessment of administrative organizations whether, within a short term, they are able to smoothly manage their financial status and sufficiently balance their available funds for public services. The tool used for financial ratio analysis can be categorized into the four following scopes.

2.3.3.1 Short-term financial liquidity analysis

This is the liquidity within one year which comprises the capacity assessment gained from paying back loans or other commitments such as Current Ratio, Cash Ratio, Current Liabilities and Tax Receivable Ratios.

2.3.3.2 Budgetary sustainability analysis

This is the financial capacity assessment to be sufficient for annual spending throughout all public service management issues such as Operating Ratio, Own-Source Ratio, Fund Balance, and Changes in Fund Balance.

2.3.3.3 Long-term financial sustainability analysis

This is the capacity assessment of paying back long-term loans or commitments of more than one year which are mostly the loans that local administrative organizations made for investments in developing necessary infrastructure systems. Analysis of their yearly revenues reveals that they remain insufficient for the entirety of the operational projects such as Net Asset Ratio, Debt to Reserve Ratio, Long-Term Debt Ratio, Long-Term Debt per Capita, and Debt Services Ratio.

2.3.3.4 Analysis of sufficient public service provision

This is the capacity assessment of local administrative organizations' abilities in basic public service management. The indicative tools include Fixed

Assets per Capita, Local Tax per Capita, Spending per Capita, and Service Capability per Employee.

2.3.4 Operating Ratio Analysis

An operating ratio is another technique in the overall financial capacity assessment that occurs within a fiscal year and is used in a form related to local administrative organizations' annual financial capacity assessment to observe whether such financial capacity is sufficient for policy operation or public services management or not. The operating ratio is considered an important financial management tool as it can evaluate degrees of the organizational weak or strong points (Turley, Robbins and McNena, 2015: 403-410).

The operating ratio is based on previous annual total revenue and divided by annual total spending which will show how much the difference is between the revenue and spending of each local administrative organization. If the result is positive or positively high, the capacity of the local administrative organization is at a satisfactory level. On the contrary, if the result is negative, the organization's capacity is at a low level and unsatisfactory. Therefore, the index value reflects the budgetary sustainable dimension of public service management that has responded to the needs which further means that the organization is capable of increasing its public service management for the community (Carmeli, 2002, 2008; PricewaterhouseCoopers, 2006). A calculation of this index can be viewed as the following formula:

Operating ratio	=	$\frac{\text{the amount of total annual revenue in the research year}}{\text{annual spending in the research year}}$
	=	times

2.4 Organizational Resource Theory

Since the style and methodology of municipal fiscal capacity analysis are in a form of comparison between ‘available resources’ and ‘expenditure stress’, the scrutiny on resources, both internal and external, becomes a major factor. This is because nowadays organizations are able to achieve competitive advantages that mean their available resources must be managed to produce maximum benefits. Accordingly, the organizational resource theory can be considered two different ways 1) resource-based view or 2) resource dependency theory, in which both views may explain the resource character in the same manner, yet different in resource dimensions, as follows (Tippawan Lorsuwannarat, 2013).

2.4.1 Resource-based View

This view is originated from a mixture of three main frames of thought 1) resource-based theory which is the theory focused on an internal organizational strategy that further creates capacity and competency that differs from others 2) organizational economics paradigm and finally, 3) organizational study. The resource-based view is one of the organizational components (Mahoney and Pandian, 1992) that emphasizes the resource characters in a dimension focused on its availability within the organization. Such resources are those that the organization enables to make available and non-transferable. The organizational resources and capacity can be divided into four categories 1) financial resources 2) physical resources 3) human resources and 4) organizational resources. Human resources are specifically the most important as they can hardly be duplicated whereas they are the main factor affecting organizational advantages. Strategic human resource management is dynamically conducted to increase value and to be consistent with the resource view on organizational motivation and promotion for a human resource of all levels to use individual competency and skills while working as human resources is one of the chief organizational funds. (Nisada Wedchayanon, 2016)

However, in order to understand the importance of the resource view, resources are defined as 1) things with value that provide better advantages than other organizations 2) things other organizations are unable to duplicate or are considered

scarcities 3) things that other organizations cannot copy because of a unique identity or knowledge that is very difficult to duplicate and if duplicated, the copies will not be of the same quality as the original 4) things that are non-replaceable.

The special character of resources, based on the above definition, can affect the management of organizational capacity creation in terms of an issue that an organization should focus on such as internal resource capacity in order to know which resource the organization can gain for its own advantages. Although the resource view has been popular in operations of private enterprises, government agencies have currently applied it to many of their operations because those agencies have been simultaneously influenced through changes of the surroundings (such as lobbying, politics and marketing) where the roles in managing the stakeholder groups become necessary. The resource view can also be described in how it has become a part of government agencies especially in various aspects of policy-making and the operational decision-making process or strategic planning which are directly involved or indirectly involved with stakeholder groups (Frączkiewicz-Wronka and Szymaniec, 2012).

2.4.2 Resource Dependence Theory

This is the theory that has been imposed, based on the frame of thoughts in understanding the relationship between organizations and the environment. This theory also focuses on resource properties in terms of applying emphasis on resources obtained from outside of an organization (Hillman, Withers and Collins, 2009). The focus is strategic planning of the organizational capacity in order for the organization to manage the environment to better suit its needs. The environment and its effect on the organization's performances are specifically focused on. Therefore, the organization does not only play its role as a receiver but instead adjusts itself to be in line with the environment then also facilitates to preserve the resources as they are the main factors for the organization's existence (Tippawan Lorsuwannarat, 2006).

Nevertheless, if there is an insufficient amount of resources, an organization, in order to survive, is obliged to depend on external resources in which such dependence is one of the important characters in an open system. The relationship between an organization and the environment is in a loosen form, that is, the

environment is unable to control the entire organization. The main points of resource-dependent theory can be categorized into three topics (Pfeffer and Salancik, 1978), as follows.

2.4.2.1 Topic I: It is noticeable that the capacity in an organization's existence depends on the competency in acquiring and preserving necessary resources, these might be human resources, or financial resources or various materials needed. The organization needs to depend on these resources to maintain operations providing stability and the ability to create foresight which becomes essential in planning. Therefore, the social environment can play an important role in organizational understanding, decision making and operations.

2.4.2.2 Topic II: This theory expresses that the executives play an important role in adjusting the external social-environmental contexts or enhancing the organization to adjust itself to suit such contexts. Moreover, the executives are also capable of adjusting the environment in order to reduce the chances of being controlled by other organizations as well as to provide more flexibility to the organization.

2.4.2.3 Topic III: Resource dependent theory focuses on social power and its significance in terms of depending on external resources, which may have strong effects related to power changes within the organization.

Levels of dependency on external resources are based on the following factors (Pfeffer and Salancik, 1978 quoted in Tippawan Lorsuwannarat, 2013).

1) The significance of resources required by the organization: that is a dimensional consideration of resource roles to see how influential they can be towards the organization. If a particular resource is crucial and has an important role so much that the organization cannot exist without it, the reflection will show that it is a significant resource, on the contrary, if there is no urgency in getting such resource or it can wait, the reflection explains that the resource is non significant. Scrutinizing the resource significance within the organization can be divided into 2 categories 1) considering both exchanging sizes which are measured from exchanging portions between each transporting-in factor or exchangeable product and the necessity of the resource in an emergency situation 2) the measurement on the importance of the resources in order to understand whether such resources play an important role to the

organizational operations during a period of unavailability. However, time may affect the role of resource significance to the organization.

2) Resource Control: this is where the organization is authorized to take part in managing the resource at a certain level. If an organization owns that particular resource, it possesses its right to fully allocate and utilize such resource as necessary, based on the acquired authority. However, if an organization does not own the particular resource but has access to it, such accessible action can be used as bargaining power in resource allotment. Otherwise, in cases where the resource owner is not the one who directly utilizes the particular resource, the resource users are authorized to manage it. Moreover, controlling resources also cover abilities in imposing regulations such as yearly estimated income tax where taxpayers are obliged to pay but not to use the tax revenue. Government agencies are authorized to spend it on various national administrations.

3) Resources taken from other sources or resource acquisition targets: it is always necessary to consider resource monopolies. If an organization facilitates to acquire resources from different sources without depending solely on one particular place, it will reduce the monopoly held over that resource.

Nevertheless, the resource dependency theory is one of the methods used for capacity measurement within an organization. Dress and Heugens (2013) studied and synthesized 157 organizations in the US and found that there is empirical data that supports the applied resource dependent theory in order to build up the organizational capacity in various forms. For example, transferring a director of one company to work as an executive on the board of another company, ally creation, business merging and acquisitions whereas the organizational formats are not significantly correlated between the individual company and the company a worker is transferred to or in the events of a merger. Furthermore, their findings also reveal differing format selections between organizations used in order to manage the resource dependence in which an organization has to consider two points. Point I - upgrading the format: this is done by selecting a format strategy that is flexible and in order to select a suitable format, a direct comparison has to be conducted; Point II - developing authority and command: this is done by selecting a format that is strongly related to the external forces necessary to run the business. On the other hand, the format of one company

taking over another company can be a tool in allocating resource dependency. Since most resources are controlled by an external environment, organizations have to adjust themselves to be in line with the environment and to ensure that they are able to acquire and utilize the resources they deem necessary.

As for the applied idea on capacity measurement within government organizations, Frączkiewicz-Wronka and Szymaniec (2012) also studied 93 state hospitals to disclose that the sample hospital group that received government grants also possessed positive capacity. In addition, hospital personnel later provided information that external resources are very important for supporting the efficiency of the hospital.

Furthermore, the resource dependency theory focuses on inter-organizational relations in a form of interdependence which results from the fact that organizations have to depend on necessary resources from outside of the organization in order to survive. The interdependence on each other can be in the form of an outcome or behavioral. The dependencies are important in becoming more experienced as well as providing job allotment between organizations (Pfeffer and Salancik, 2003).

2.5 Political Business Cycle Theory

This is another important idea for public choice theory as it brings economic principles and methods of neo-classical forms to explain political situations as well as local administrations, state administrations and government finances (Buchanan, 1978 quoted in Wagner, 2009). This idea proposes that governments should try to use their financial tools to get the highest vote or to be elected and at the same time creating an economically fluctuated situation. Therefore, based on this idea, the focus is on the needs of either the central government or a local government to find the highest possible benefits and what government officials benefit most from, are to be re-elected and retain their government position.

However, in order to achieve the above target, there are certain tools that the government can use which are public expenditures and taxes which become important in gaining votes from the public. That is, before an election the government tries to increase public expenditure through various projects in order to expose different

performances and create popularity among voters. In addition, the existing government officials can gain advantages beyond other candidates by showing their past performances. Such ideas create a significant hypothesis which is: voters rationally decide on which party they will elect and their decisions are often based on their assessment of economic performances during the period close to the election date. The general public prefers a high employment rate but low inflation rate. Unfortunately, most people do not know the trade-off between inflation and employment, so the government uses its financial toolset to increase the expenditures on various government aspects to stimulate productions in an economic system while decreasing the unemployment rate, especially within the period of pre-election and the end of an election. Of course, all these are for the purpose of gaining votes from voters. Such government actions further increase an inflation rate which will gradually decrease after the election because the government will later seek ways to control it. They control the inflation rate mostly by reducing spending in order to create economic stability.

In addition, there is another important hypothesis regarding the above idea, that is, voters or average citizens neither look at a long-term result nor obtain a complete working knowledge regarding government performances. This subsequently creates what is called a political business cycle which comes from an idea of maximization of utility along with rational decisions to explain government and voters behaviors (Ponlapat Buracom, 2013).

The major limitation of the political business cycle theory is that the study emphasizes the relation between an election and policy on public expenditures as well as taxes in order to accomplish the target on creating economic fluctuation such as reducing the unemployment rate, increasing the inflation rate or increasing revenue per capita, etc. All these are only to be consistent with voters' needs and that is why there is no other factor involved (Hibbs, 1977).

Nonetheless, such ideas focus on a political factor since all government administrative processes always involve a political process that, unavoidably, influences decisions. Moreover, the political business cycle theory explains the use of a financial tool whether it responds to political needs on a short-term basis or not (before an election). This is very important when improving and developing the

information revealing the system in which the public can continuously monitor the government administration that subsequently becomes public gains which are in line with the actual financial administration.

2.6 Institutional Theory

The institutional theory is to combine knowledge of various subjects including economics, social science, international relations and political science by focusing on the organizational structure as being a factor affecting the structure called institutional rules. These rules are part of the institutional environment that influences the structure as well as the internal management of the organization. The institutional theory considers that an organization is limited by an external environment that needs to comply with traditions and policies in order to create group acceptance and to be able to survive. Consequently, most organizations reveal the same activities and performances or, in other words, an occurrence of inter-organizational duplication (DiMaggio and Powell, 1983).

With the above justification, when organizations need acceptance from the institution's environment, the organizational environments gather themselves into a group and become inter-connected. The relationship between organizations and the environment is tightly coupled as the environment consists of rules, regulations, beliefs, values, or traditions and the organization is in a position of no choice but to comply with all environmental factors in order to create legitimacy, growth and existence (Tippawan Lorsuwannarat, 2013).

Many intellectuals define the meaning of 'institution' in the same manner, that is, managing regulations, imposing and standardizing rules and regulations of an organization's performance guidelines. Furthermore, 'institution' also means an organization that is officially established. W.R. Scott (1995) developed the meaning of 'institution' as – an organization is comprised of various structures and activities that reflect ideas, create habitual actions and disciplines that further become meaningful towards social behavior in which the institution would transfer through different methods and various levels of operations. The main point of the institutional theory is therefore to explain methods of exactly how an organization responds in

order to achieve an expectation from both internal and external societies regarding the action or task at hand (Sellers, Fogarty and Parker, 2012).

2.6.1 Organizational Levels

Organizations can be divided into the two following levels (Zucker, 1977)

2.6.1.1 Organizations as Institutions

This is to look at organizations as living things that facilitate themselves to conduct movements or work through attitudes, values, thoughts, and beliefs of their members which are frequently an internal process or institutionalization process. The organizations as institutions are less formal and less complicated than the ones working as machines.

2.6.1.2 Environment as Institutions

This is to look at the character of the environment related to different rules and regulations that are created for members to comply with in order to be accepted and to survive. Therefore, the environment as institutions is in a form of practical traditions which members have to follow, such as career certification standards, quality certification standards, etc. These standards are ones of external components that might possibly be set by state agencies.

2.6.2 Duplicative Isomorphism

A duplicative process in the institutional theory is the process that one organization copies another or group of organizations with the main objective of survival and control over the other. In addition, benefits that the organization enables to gain from complying with operational traditions are varied such as more popularity, stability, social support, internal and external commitment, resource access, individual attractions as well as being accepted from various professions. The duplicative process, therefore, becomes a pressure to an organization to behave in the same manner as others within the group. This process of duplication can be divided into the three following characters (DiMaggio and Powell, 1983).

2.6.2.1 Coercive Isomorphism

This is a pressure with characters of coercion which can be from formal or informal origins. It is where an organization plays an important role in setting up the standard, normative traditions and institutional environments. Therefore, in order to receive control and acceptance, the organization has to comply with all settings.

2.6.2.2 Mimetic Isomorphism

This type of stress is caused by the instability of methods and targets that, accordingly, an organization has to construct its own style by possibly copying from another similar one. The main idea is to save time in duplication while it is convenient and it is also believed that its operation will be as successful as the source that has been copied.

2.6.2.3 Normative Isomorphism

This is the pressure that comes from normative traditions. Once an organization becomes part of a group or career association, it is essential that such organizations comply with work conditions and methods in order to create control and power as well as independence in the career group. The normative isomorphism is the one that forces an occurrence of behavior as expected by the group.

2.6.3 Institutionalization Process

This process has been influenced by the duplicative behaviors as it is the one that can change conditions or commitments in a society into rules and regulations to be used in controlling social ideas and performances. The process creates a widespread acceptance and becomes both suitable and imperative.

Scott (1987) has divided the institutionalization process into 2 forms: form I-value implanted process in which various values are implanted into a work structure or process; form II-truth creation process which is the process of action repetition for a long period of time that people in society mutually accept ideas as the social truth as it has been ongoing for a long time.

The point that it is knowledge related has become another issue that most organizations place an emphasis on. This is because organizations often consider sharing capacity and knowledge integration to create competitive advantages. Today, the world is a learning society that awareness on knowledge sharing becomes

essential. It is believed that in operational drives based on institutional theory, organizations do not make decisions only under efficient rational targets but also on related socio-cultural factors and righteousness. This is the togetherness of organizations that are based on a variety of institutional norms as well as rules and regulations or the integration with the environment.

2.6.4 Institutional Pillars

Although social institution influences various operations within organizations through different processes, institutional pillars which are key processes of their establishment. Scott (2007 quoted in Trevino, Thomas and Cullen, 2008) has categorized the isomorphism within the institutional theory into the three following characters.

2.6.4.1 Regulative Pillar

This is the pillar that is set up based on rationality. Formal and informal rules and regulations which are established by organizations such as legislation, conditions and agreements as well as other standards. The motive in behavioral expressions according to ideas of this pillar is mostly in a form of rule setting and sanctioning.

2.6.4.2 Normative Pillar

This is the pillar that is related to behavioral formats of individuals and organizations based on social dimensions, professionalism and interactions within organizations. Under a variety of surroundings, a normative traditional system is based on these standard values.

2.6.4.3 Cognitive Pillar

This pillar is related to behaviors that are based on rules and methods being set from subjective, ideas and beliefs of each individual.

However, the findings of Wang, Tseng and Yen (2014) disputes with Scott's ideas as they apply to the institutional pillars with foreign direct investment in sixteen countries within Latin America. It is found that the normative pillars along with the cognitive pillars play an important role in a righteousness creation process towards foreign investors more than regulative pillars in forms of educational achievement, bilateral investment, transformation, and political stability, etc.

2.7 Intergovernmental Transfer Theory

Normally, the financial system of most countries is comprised of federal finances and local government finances in which both finances are related to fiscal decentralization, responsibilities or expenditures and incomes. Such relationships become a network of complex systems as the federal government holds all keys and functions such as the allocation role on social resources, stabilization role and growth, along with a development role (Krikkiet Phiphatseritham, 2009). It is quite difficult for the federal government to be able to complete its entire set of functions within a certain limited time.

If the concept of decentralization is performed by the federal government who solely operates all activities, a lot of the activities would be delayed and then lead to various inefficiencies on resource allocation and local environments, and natural resources preservation which further leads to unbalanced revenue decentralization and intergovernmental service management. Thus further reducing chances of employment within the local communities. Therefore, decentralization becomes the concept that allows the public to be part of its local management; by the locals; for the locals.

Obviously, that is the reason why a local administrative organization becomes one of the characters of decentralization. Since the constitution of the Kingdom of Thailand B.E. 2540 of almost two decades, the decentralization concept has been substantially conducted. The constitution has been the core basis of running the country with 'decentralization' and provides opportunities for the public to be part of administrations through the main aim of allowing local communities to efficiently manage their public services (Institute for Good Governance Promotion, 2000).

2.7.1 Fiscal Decentralization

Fiscal decentralization is one of many official decentralization formats. Manor (1998 quoted in Achakorn Wongpreedee, 2011a: 5) divided decentralization into three formats: 1) Administrative decentralization 2) Political decentralization 3) Fiscal decentralization where authorities of revenue collections are given to the

local communities which are considered an important issue in showing the real decentralization.

Similarly, Pornchai Likitthamroot (2007: 37) states that fiscal decentralization is to transfer responsibilities from central to local governments in order for them to efficiently manage their public services as well as efficiently respond to the needs of the local public. Therefore, local administrative organizations must possess authority in decision making about the expenditures from revenue collection within their communities and government grants. The main features of fiscal decentralization can be described as follows.

1) Public services provided for a local community must be from the revenue collected from that particular community.

2) Local service users must pay part of the service. The local administrative organization and its members may jointly produce public services.

3) Local administrative organizations enable to collect revenue from property tax, local maintenance tax, poster and billboard tax, along with slaughter fees.

4) Government grants are provided to local administrative organizations for certain expenses or general expenditures.

5) Permission is granted for the local administrative organization to conduct loans.

Obviously, fiscal decentralization is one of the most significant measures for the country's development because local administrations manage public services to local people that such activity subsequently becomes an important process in encouraging the public to pay attention and participate in local developing activities for the community growth that further becomes the main foundation in national development which is in turn the main target of democracy (Achakorn Wongpreedee and Suntornchai Chopyot, 2017: 4-10). The important fiscal instrument that the central government uses in fiscal decentralization is comprised of the three following tools (Charas Suwanmala, 1995: 16-18).

2.7.1.1 Tax and Revenue

The central government authorizes local administrative organizations authority in regards to certain taxes and fees, government grants or incomes from

activities of both commercial and semi-commercial projects. The local administrations can jointly invest with private sectors and collect fees from service users.

2.7.1.2 Expenditure Budget

The central government uses this budget as an important tool in forcing local administrative organizations to conduct their performances according to the central policy. This tool is also a significant measure in increasing local fiscal capacity, especially those of inefficient financial capacity, in order to reduce discrimination among local organizations. Also, it is to ensure that the public services are provided throughout the entire area of community members.

2.7.1.3 Loans

This is another fiscal tool that the central government permits local administrations to conduct in order to spend the loan amount on investment or other important activities. The loans can be in the form of borrowing with government guarantees or the central government arranges with institutions or financial institutions to facilitate the amount to the local government and with a lower interest rate being offered.

Nevertheless, fiscal decentralization is also one of the government's significant strategies as the financial system of each country is complicated especially on issues of tax collection and national budget whereas the central government fully utilizes fiscal measures and tools to reach its economic and social targets in small and overall broader reaching levels. In order to gain maximum benefit from the fiscal decentralization that leads to public prosperity and sustainability as fairly and equally to individuals or groups, the central government must manage the complexity and improve its financial system to continuously be flexible and modernized.

2.7.2 Rationale of Fiscal Decentralization

Since finance at a local level is one of the management process tools which is an administrative mechanism to achieve the target of local administrative organizations, financial administration covers all fiscal aspects including revenue, expenditures, budget arrangements, procurements, accountancy and auditors. In order to have a smooth operation and to make it easy for auditing, various systems are set

for fiscal decentralization from central to local governments. There are 2 main reasons why the central government should conduct the decentralization.

2.7.2.1 Economic Reason

Decentralization could be the main factor in the efficiency of certain public service management sectors such as utilities and constructions, garbage and waste management, wastewater management, public places maintenance, public disaster prevention and relief, etc. in which it is impossible for the central government to effectively perform at a local level. Therefore, local governments are authorized to conduct all those activities as they know and understand the needs of local citizens and they can adjust their expenditures to suit the financial status. Moreover, local governments are able to focus on their maximum production efficiencies when producing each good or service so that an average production cost per unit is at the lowest possible level.

In addition, decentralization can help people to be aware of tax paying and produce more voluntarily pay of various taxes since they know that their tax payments would come back to them in terms of individual and or local benefits.

2.7.2.2 Political Reason

Being able to participate in self-governing and selecting representatives to work on behalf of local administrations is considered as a way to promote democracy that further leads to opportunities for local governments to be maximally close-knit with its people while enabling to know their real problems and needs. In addition, once the authority on functions relating to public service management is decentralized to local administrations, the central government can spend time correcting the whole country's problems at a national level.

Also, opening opportunities for the public to participate in the management of local activities which is an important basic foundation in training and creating political leaders who can be upgraded to higher levels. Qualified politicians can greatly help with correcting various problems while becoming parts of the country's development.

2.7.3 Advancement of Fiscal Decentralization

In Thailand, which has endured almost two decades of decentralization, it shows that the country is still unable to reach its set target. This can be seen from the government budgetary grants of not less than 20% to local administrative organizations based on plans and steps of the decentralization act B.E. 2542 and B.E. 2549 (edition 2) where the percentage was later increased to not less than 35%. Although the set target has not been reached, there has been a lot of development all of which is considered advancements in a positive direction. Achakorn Wongpreedee and Suntornchai Chopyot (2017: 22-26) analyze different decentralization features from central to local governments, as follows.

First: Local administrative organizations crucially lack financial independence because a large portion of their revenue raising is so small that they have to depend on budget allocation and grants, both general and specific grants, from the central government at a very high proportion.

Second: Long-term debts are ongoing especially with large local administrative organizations. Some of them might not be appropriate since there has been no availability of analytical development on their loans and decision of such long-term debts, even the debt setting framework has not solidly been initiated.

Third: Fiscal transparency of local administrative organizations has not been created but it has been started within a limited parameter. This is because channels and methods of their public information distributions are still narrow, or in other words, most local administrative organizations neither have internal auditors nor solid methods of internal affairs that such unavailability creates risk factors and non-thoroughness that further leads to resource leakages within the organizations.

Fourth: Fiscal discrimination occurs among different types or the same type of local administrative organizations.

Fifth: It is about the expenditure analysis of local administrative organizations.

Apparently, local finance plays a very important role because it is related to financial procurements and the administration of local revenues for various operations within the area. If the local administrative organizations are with weak fiscal status or possess inefficient fiscal systems, such organizations will neither be able to conduct

financial liquidity nor provide efficient services for the public (Udom Thumkosit, 2006: 437).

2.8 Related Research

Ladd (1975)'s research on Local Education Expenditures, Fiscal Capacity, and the Composition of the Property Tax Base focuses on local education expenditure, fiscal strength and property tax base components based on the concept of the medium voter model as well as the maximum benefits model in Boston SMSA. The findings reveal that property tax has a significant impact on the occurrence of local fiscal strength. Once a local government possesses the fiscal strength, its citizens are able to have better access to education. Such occurrence shows the local government's self-reliance on the fiscal status that subsequently the government possesses the substantial capability and enables itself to efficiently provide more services to its public.

Ladd and Yinger (1989) later wrote a book 'America's ailing cities: Fiscal Health and the Design of Urban Policy' on studies about fiscal strength of 86 cities in the US and enquired whether producing structural changes and population movements in 1970 had any effects on local government's fiscal status. The findings show that changing from an industrial production structure to a service industry had an impact on the local government's fiscal health because of less property tax, but higher tax revenues. For cities of positive economic background, the impact on the strength also exists.

Gordon (2004)'s doctoral research on Home rule and local government autonomy: The determinants of fiscal health of Illinois municipalities focuses on answering the research inquiries of 'what factors affect fiscal health of Illinois municipalities' and 'whether self-reliance has any effects toward fiscal health'. The findings disclose that characters of independence and self-governance as well as sizes of local administrative organizations have an impact on the fiscal health (which can be measured by the grand total fund/population). Moreover, revenue-raising capacity, the average age of residences, and, especially being in position/without a position of having professional state officials are the major factors affecting the fiscal health.

This is in line with Achakorn Wongpreedee (2011b)'s research on A Comparative Study of Local Public Finance in Thailand and Illinois that further describes his notice on Illinois topic as an insufficient number of tax collecting personnel and lessened cost to spending ratio in the collection which resulted in forcing the state government to do the tax collection instead. Upon completing the collection, the state government kept the sum with reasons that it does not need to return such funds to the local administrative organizations as the state government handles all public welfare services to the elderly. This had a crucial impact on the joint tax dependency and state government grants.

Seifert and Li (2015)'s research on Indonesia's Fiscal Decentralization and Its Effect on Provincial Public Finances reveal their study on Indonesia's fiscal decentralization and the impact on local finance in a provincial level that increasing revenues and expenditures of each province may affect the local fiscal stability in the long term. Local governments must improve their budget system efficiency. Furthermore, the central government plays an important role in grant allocations to the local communities. This is consistent with the local fiscal situation in Thailand where local administrative organizations still rely on a high amount of grants from the central government where the local capacity level in revenue raising when being compared with the necessary expenditures is completely insufficient.

Similarly, Charas Suwanmala (1986)'s research 'Capacity on Fiscal Self-Reliance of Municipalities' focuses on the fiscal status and reveals that, overall, municipalities possess the fiscal capacity of self-reliance at a primary level. As for factors affecting the capacity, the fiscal structure shows a clear relationship with self-reliance capacity, yet such a relationship does not exist in a socio-economic factor. The variables used in this study included the number of trading and industrial places within the municipality, population and area densities.

Later, in 1998, Charas Suwanmala conducted his study on 'Fiscal Capacity of Local Administrative Organizations'. This time, his focus was on the analysis of weak and strong points to evaluate capacity levels while considering fiscal opportunities for sub-district administrative organizations (SAO) by focusing solely on budgetary issues. His sampling was four SAO's that were different in 1) community character (being a town-upcountry) 2) fiscal status (low revenue-high revenue). The findings

show that property tax, poster/billboard tax, and land fees are the major SAO incomes for the ones located in urban and suburban areas whereas the major income for small SAO's located in rural areas is local maintenance tax. Such characters explain the significance of economic factors toward SAO's capacity in revenue collections. Moreover, SAO's possess insufficient fiscal capacity as they do not seem to put all their efforts in revenue-raising. Also, there is a legislative limitation, an insufficient number of knowledgeable and professional personnel in the budgetary process.

As for analysis on the fiscal status of local administrative organizations, Udom Thumkosit et. al. (2002) worked on a case study of the Corhong Sub-District Administrative Organization in Songkhla Province and unveiled that most of its revenue is from resources within the area which includes land fees, excise tax and property tax. However, its revenue during the fiscal years of 1996-1999 shows an ongoing declination while the expenditure during the earlier two years increased which contradicts the income rate. After that, the relationship between expenditures and revenues declined continuously which is mainly due to various factors of geography, population, society and the economy of the community.

Direk Patmasiriwat (2006a) studied the revenue-raising capacity of sub-district administrative organizations (SAO) and municipalities from 4,521 SAO's and 593 municipalities using empirical data of the year 2000 which shows that revenues from local taxes depended more on the variables of the number of households and employees than the number of citizens while tax allocations or grants tend to depend on the number of citizens. It is also found that the fund allocations are granted more to towns than rural communities which demonstrates horizontal nonequivalence and it can be one of the institutional factors of careful consideration. The issue on the efficiency of municipal revenue-raising was conducted through a model of Data Envelopment Analysis (Direk Patmasiriwat, 2007a) by using municipal information from levels 1-3 within eighty-one municipalities from all regions and it is found that most municipalities hold a low-efficiency standard. Therefore, there should be an efficiency improvement on revenue collection with aims to be as close to the most effective organizations as possible.

The analysis on municipal fiscal strength done by Weerasak Krueathep (2008) is focused on fourteen city and town municipalities located in Bangkok boundaries

and the eastern region during the fiscal year of 2001-2006 where the areas are divided into four groups. The findings show that the group of industrial town areas and the groups of nearby industrial town areas possess higher revenue-raising capacity than the ones of highly urbanized and semi-rural areas. Upon considering an aspect of the needs for expenditure, there is no different in all groups since the cost of public services is correlated with community sizes. Moreover, the group of industrial town areas has the highest fiscal strength. Such character clearly reflects the significance of the economic factors. However, there are many interesting discoveries on factors of local political leaders and benefit groups from different businesses within the community that affect the fiscal strength of the studied municipalities.

In addition, after doing a literature review on various, related researches, it is found that, in Thailand, the amount of research emphasizing the several factors affecting fiscal capacity through empirical information is small, subsequently, much international research reviewed can be summarized as shown in table 2.2.

Table 2.2 Summary of Key Points of Related Research

Researchers	Units of Study	Research methodology	Variables	Findings
Schneider (1987)	812 suburban municipalities using information of 1972, 1977 and 1982	-Lagged endogenous variable model -Assessment of the impact of local service providing/ tax grouping based on local property tax.	Dependent Variables: true value per each municipality based on equalization of property tax base in each community Independent variables: SMSA Data, municipal average revenue, population growth rate, ratio of African-Americans, ratio of educated population, ratio of rentals, ratio of population over 65, retail business, amount of labors in retail business, industrial sector, amount of labors in industrial sector, actual tax rate, development,	-Local prosperity correlates with the instability of tax rates.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			distribution of benefits and fairness, quality of infrastructure, long-term debts, grant amounts.	
Eberts and Gronberg (1990)	SMSA data of 218 urban municipalities, town/city center and other areas using information of 1977	-Regression model -Assessment on relation of government agencies in regard to sizes, structures, and competitions	- Indication index on sizes of local governments/ revenues and expenditures; the state sizes = revenue and expenditure sources/ revenue per capita -Structures of centralization and decentralization	-The result supports a concept of decentralization structure. -It is found that the municipal revenue model and sizes of government agencies negatively correlate with competition, but positively with overall index.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Nelson (1990)	296 main city centers in the United States	-Ordinary least squares Tobit -Empirical analysis on factors affecting a structure of local governments within city center areas	Number of local governments located around city center areas = f of same characters, contract commitment, regulations, environmental factors	Rules and regulations have an impact on the local government structure leading to its lack of independence in self- governance while becoming obstacles to flexibility in the workplace.
Joyce and Mullins (1991)	States and local governments using information of 1960-1988	-Trend analysis and comparison. -Tax impact and expenditure limitation	Sets of limitation details and different impacts with one set that affects fiscal capacity of a certain size	The result is unclear whether the impacts are from structural or other factors.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
		affecting both federal and local government agencies	of urban areas	
Clark and Walter (1991)	1,000 cities with population of more than 25,000	-Factor analysis -Path analysis -Multiple regression -An environmental factor in management, political culter and socioeconomic contexts	strategy of fiscal austerity measure Independent variables: resource declination, revenue growth, service providing reduction, sizeable reduction, requirement growth, borrowing and extending, saving and producing management.	that various factors have an impact on the strategy of fiscal austerity measure.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Kneebone (1992)	Local communities and provinces in Canada	-Regression model -Ordinary least squares: OLS -Factors of unit sizes -State functions and centralization	Dependent variables: state expenditure/ GDP	Population movements become an obstacle to the state growth.
Hy, et al. (1993)	Counties in Arkansas	Ratio used in measuring revenue capacity, attempt and instability	Capacity on property tax = $\sum(\text{property tax total value} \times \text{average rate of state property tax})$ Attempt in property tax collection = $\text{property tax collection} / \text{property tax capacity}$ Instability value = 1.00 Fees, fines, license fees (Combined lesser	The result shows the capacity and the attempted measurement on the collection that they are correlated with revenues which further leads to the model proposal on future policy plans for the state.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			discretionary revenues: CLDR) CLDR per capita, CLDR per capita in 75 counties of Arkansas, CLDR capacity.	
Badu and Li (1994)	3 small towns in Virginia	-Multiple regression -Ordinary least squares : OLS	-Dependent variables: various attempts in tax collection, index, ratio in accepting tax amount/ total revenue base	The more fiscal stress; the more effort towards tax collection
DeSantis and Renner (1994)	Survey on Information of 1,295 counties and ICMA information	-Various attempt factors in tax collection and fiscal stress leading to attempt estimation in regional tax collection.	-Independent variables: fiscal stress, total retail trades, household income, state grants, employment rate, and welfare expenditure Dependent variables: county expenditure/ capita –	The main factor affecting the attempt estimation in tax collection is fiscal stress, total retail trades, state grants, employment rate, and welfare expenditure. The number of citizens and tax

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			education expenditure Independent variables: number of population, income per capita, region, type of state, urban characters	growth rate show little significance while local expenditures at the county level are higher than urban or city center areas.
Martinez- Vazquez and Boex (1997)	Provincial groups at a regional level in Russia	-Multiple regression	-Tax collected and uncollected, revenue per capita, regional gross product, tax representative system	The regional gross product and tax representative systems are key factors affecting fiscal capacity at a regional level in Russia.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Dougherty, Klase and Soo (2000)	Survey on local information in West Virginia using information of 1996-1999	-Multivariate analysis	-Revenues from tax collection, expenditures, revenue from grants, being local profession, the number of population and urbanization, population density, population movement.	Being a local professional is related to fiscal administrative capacity while socio-economic factors have a direct impact on fiscal capacity.
Pagano and Johnson (2000)	Cities and counties using NLC data (cities with a population of more than 50,000) and the survey of NaCO	-Multivariate analysis -Ordinary least squares: OLS -Revenue diversification	Revenue diversification = representative of property tax commitment = revenue from general property tax accumulation, ratio of general accumulation, controlling factors, and	The hypothesis does not support the research as it is found that property tax is still the main tax while tax from other sources is a small portion of the collection.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			population and households/ revenues per capita	
Warner (2001)	3,000 counties from 48 states	-Regression models -Spatial analysis -Tests of centralizing and decentralizing -3 models: revenues from federal government grants, state grants, local government efforts -Local efforts represent fiscal stress; tax efforts = tax, duty fee users, other revenues/revenue per capita	-Federal government grants = f (population, expenditures of different sources, location impact, the needs, local capacity, state policy) -State grants = f (population, expenditures of different sources, location impact, the necessity, local capacity, state policy) -Local government efforts = f (population, expenditures of different sources, location	The models indicate that state fiscal decentralization helps reduce fiscal stress. In addition, public services in some poor areas are not at a satisfactory level that improvement should be conducted.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			impact, needs, local capacity, local integrity)	
Groves, Godsey and Shulman. (2001)	24 urban areas in the United States and the selected cities being varied in sizes, geographical locations, fiscal capacities, and urbanization-rusticity	A financial analytical system being developed and called 'Financial Trend Monitoring System (FTMS)' with 36 indicators	There are 3 factors: 1) Financial factors which are comprised of revenues, expenditures, operations, debt structure, debt commitment, and investment. 2) Organizational factors which include administrations and policy plans 3) Environmental factors comprising of needs	The results show that FTMS provides more advantages in measuring the local fiscal capacity in various dimensions. However, technical limitations of information is found as the system uses the data of more than 5 years back. In addition, there is also a limitation on administrations

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			and locally available resources, external economic situations, money transfer systems, natural disasters, and political environmental situations.	within some cities.
Carmeli (2002)	Development of the measurement frame for fiscal capacity of local administrative organizations in Israel	Logistic Regression Analysis	-Dependent variables: the measurement is on various dimensions of liquidity, financial independence, operational ratio, and collection efficiency. -Primary variables: the	The results reveal that economic factors, social factors, and characteristic factors of local administrative organizations have an impact on the fiscal capacity.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			study focuses on various factors of economic, and social, characteristics of local administrative organizations.	
Hendrick (2002)	240 suburban areas of Chicago by using data from 1988-1997, sources of information from Illinois Office of the Comptroller, IL	-Regression models -Trend analysis -Revenue diversification -The impact of tax efforts during home rule and non-home rule	-Controlling expenditure needs and revenue capacity -Tax efforts = f (tax and resources, expenditures, revenue from others; non tax revenue, etc.) -Tax efforts = mean from 1993 to 1997/ total population revenue x 1000	The analytical results unveil that tax decentralization in home ruled municipalities comes with the suggestion that when home rule is set with a municipal size, the size has an impact on the variables, yet it does not correct any problems of

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
				selected municipalities with less than 25,000 people.
Franklin and Ebdon (2003)	Small towns in Burlington, Iowa, Topeka and Kansas	-Causal model	Factors are divided into 4 groups: characters of town infrastructure, types of public participation, process, and participation mechanisms	The results disclose that characters of town structure and public participation upgrade the level of fiscal capacity.
Gordon (2004)	Small municipalities in Illinois using year-end accumulated financial data per	-Multiple regression -Status of self-governance with factors affecting municipal fiscal	Dependent variables: municipal fiscal capacity Independent variables: economic factors such as population income/head,	The results show that the status of independence in self-governance and the size of state agencies are

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
	capita in the fiscal year of 2002	capacity.	<p>size of state agencies, urbanization, regional competitions.</p> <p>-Political factors: the terms of municipal council positions, the status of independence in self-governance.</p> <p>-Organizational/ institutional factors such as professional executives, being qualified state officials, characters of infrastructure.</p>	<p>the main factors affecting fiscal capacity as well as terms of being in a position of the municipal council and being an expert of state officials.</p>

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Dollery, Crase and Byrnes (2006)	Factor affecting fiscal failure of the local government in Australia using 30 years retrocession data.	Wittman model	Different factors on traditional fiscal administrative perspectives, institution of local government model, politicians' business cycle	The results disclose that all factors have an impact on the fiscal failure especially the one of traditional fiscal administrative perspectives.
Kloha, Weissert and Kleine (2005)	Fiscal capacity of 50 states in the United States using data from annual reports	-Logistic Regression Analysis	Dependent variables: fiscal capacity Independent variables: revenue divisions such as revenue/capita, revenue from grants, revenue from property tax, revenue from uncollected property tax; expenditure	The results reveal that most local governments do not pay attention to financial audits as only 15 states possess self-assessment systems or self-financial control locally.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			divisions i.e. expense per head, employee expenses/head, permanent property; operational divisions comprised of operational ratios, balance sheets, liquidity ratios; debt divisions containing circulated debt, long term debt; social and resource requirements divisions consisting of population change ratio, average age, income per capita, ratio of poverty, dwellers to owners rate, property values,	

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			unemployment rate, employment rate, and local business.	
Borge, Falch and Tovmo (2008)	384 local governments in Norway during 2001-2005	-Multiple regression analysis -Measuring state efficiencies by considering from various characters of politics and budget system, fiscal capacity, and public participation through analysis on the ratio of accumulated outcome per available resources.	-Independent variables: local government revenues, political participation, the proportion of political parties in the parliament, the differences of political parties, decentralization of political parties	The result shows that local governments having high fiscal capacity and high levels of political party decentralization possess a low level of efficiency. Moreover, there is evidence supporting the existence of public fiscal participations that enables to create

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
				more efficiency than top-down financial administration.
Zhao (2009)	Fiscal decentralization and its discrimination at a provincial level in China with the perspectives comparison of a Sino-US model using annual statistical data since 1978	-Analyzing fiscal discrimination of a local level in 31 provinces by using the data during 1978-2008 as well as after 2006 by using the Gini the coefficient - Studying policy impact related to perspectives of a Sino-US model through the comparison on relationship of	The variables used in this study include local expenditure per head, number of population, and size of areas, national gross products, and the ratio of main industry per GDP.	-The result unveils the empirical study which indicates that the Chinese local governments are fiscally discriminated since after 1994. - Furthermore, the Sino-US model also shows that Chinese government uses the model of revenue centralization while conducting more decentralization on fiscal

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
		money transfer in the US and China		authority than the US government.
Sole and Schiuma (2010)	Factors affecting fiscal efficiency measurement of state organizations in Italy	Various methods of qualitative research, in-depth interviews with related persons and quantitative research through collecting data from questionnaires.	Cultural variables; political variables; rationale variables	The results show that cultural factors, political factors, and rationale factors have an impact on the fiscal efficiency.
Maher and Deller. (2011)	320 local governments in Wisconsin in 2004 and 2007	Primary data collected from questionnaires in the survey on sample groups to evaluate self-local fiscal	-Independent variables: factors of fiscal indicators and socio-economy by dividing into 4 units: 1) expenditure unit	The results reveal that local governments possess slightly better fiscal capacity in 2007 than in 2004. The fiscal

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
		capacity; secondary data; and the technique of Probit Analysis	2) revenue unit 3) value assessment from property tax 4) property tax categorization Also including the following factors of total revenue per head, the ratio of transfer money per income, the ratio of tax per income, the ratio of deficiency per income, the ratio of debt per total property, household average income, the ratio of poverty, number of dwellers, average rental fees.	indicator enables to demonstrate the fiscal capacity clearly but the relationship of socio-economic factor does not expose it in some locations.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Helpap (2012)	-320 from 592 cities and villages in Wisconsin to evaluate the local fiscal consistency during self-reported and objective measures	-Annual reports from 1987 comprising of 4 main parts of revenue; expenditure; property tax value assessment; property tax categorization -Survey 320 cities and villages during 2004 and 2007 - Logit analysis and Least Square Regression Analysis	-Fiscal indicators comprising of income per head; ratio of grants per total revenue; tax rate per income; ratio of deficiency per total revenue; ratio of debt per cost evaluation -Socioeconomic factor consisting of city data in 2004; average household income; poverty rate; number of households and average rental fees	The study reveals that the correlation between local's self-fiscal administration and objective measure model differs in the local officials' awareness issues on various indicators in which clarification is required in order to conduct mutual understanding within both state and local levels.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Bandyopadhyay (2013)	-Assessment Frame of Fiscal Capacity for cities in India	-Capacity analysis in revenue raising and expenditure needs - Regression models	-Resource indicators including property tax; tax; non-tax revenue; transferred money -Needs indicators: dwellers with non -property; households With credit; and educated population -Infrastructure indicators: electricity vailability /1,000 population; connection within domestic and with international areas /total connection (%); banks/ square kilometer	The results of the study shows that the researcher proposes fiscal capacity assessment frames for cities in developing countries where promptness and completeness of data are necessary. The frames are developed by considering the capacity in revenue raising and expenditure needs as well as using economic dimension analysis to explain the different fiscal situations happening in each city

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
			<p>-Service indicators: streets /1,000 population; streetlights/1,000 population; households with water utility (%), households with proper drainage system (%), toilets/1000 population.</p> <p>-Capital indicator: population, number of households, sizes, areas, density</p>	<p>which include various factors of human society; costs; resource requirements; infrastructure; and service indicators. It is also found that the roles of upper government has a strong impact on money transfer management to local areas.</p>
Park, Lee and Park, (2013)	-Data of 49 states during 1999-2008	-Panel data analysis -Factors affecting expenditures and plans of State Childrens' Health Insurance	<p>Dependent variables: expenditures and plans of State Children Health Insurance Program: SCHIP</p> <p>Independent variables:</p>	-The result discloses that political factors of both local and federal governments indicate a significant impact towards

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
		Program: SCHIP by focusing on factors of political roles with a patronage model as well as fiscal factors	(1) political factors – party control; democratic tendency (2) fiscal factors – fiscal capacity; the connection with grants	decisions on expenditures and plans of State Children's' Health Insurance Program: SCHIP. There are also empirical evidence showing that fiscal status; fiscal capacity; fiscal effort being connected with grants are the main factors affecting outcomes of expenditure estimation and the insurance program.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Soojin (2013).	-Significant issues related to the fiscal capacity of 264 local governments in Chicago during 1990-2000.	-Fiscal policy toward local government performances and its fiscal health -Comparison of expenditures per head with local government resources per head to look for financial balance	-Dependent variables: fiscal capacity; administrative capacity, fiscal strain; and fiscal opportunities -Independent variables: factor of environmental context related to fiscal capacity (number of citizens, expenditures, household income, number of Caucasians, proportion of working ages at executive positions, ratio of those in poverty); political factors; institutional factors	-The outcome reveals that factors of various environmental contexts have an impact on fiscal decisions of both revenue-raising capacity and expenditure. The research results display extensive benefits in policy planning for policymakers and fiscal strategic officials while it is an important tool in fiscal stability of the local governments.

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
Nelson and Scarpin, (2014)	-Analysis of fiscal capacity indicators of southern local areas in Brazil: sample groups of more than 100,000 dwellers in the areas	Mixed methods of descriptive research; document research; and quantitative research using the technique of cluster analysis and linear regression	-Dependent variables: fiscal capacity -Independent variables: fiscal indicators being classified as: 1) Revenue 2) Expenditure 3) Operational structure 4) Debt structure	The results indicate that empirical data are in line with public choices theory and interpretive limitation is found for fiscal analysis of each town. Moreover, the differences of city sizes also have an impact on the indicators.
Bird (2015)	-Fiscal capacity in Canada and Big cities in the US-New York City, Cleveland, Detroit, San Bernardino	-Both qualitative and quantitative approaches	-Dependent variables: fiscal capacity -Independent variables: employment proportion; foreign workers rate; number of population	The results show that fiscal capacity is the point where local governments emphasize while the characters of measurement are

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
	and Stockton		under 19; crime rate; poverty rate; educational expenditure; revenues from state grants; mortgage rate; business tax rate; property tax rate; building construction license fees; government structure alteration; assessment system alteration	multidimensional.
Das (2015)	- Fiscal capacity of 3 states in India: Kerala; Punjab; and West Bengal during 2008-2009	Financial ratio analysis: remaining debts; total fiscal deficit; revenue deficit; main revenue deficit; interest rate	The study is divided into 3 main issues: - Stability - Sustainability - Implications	The result demonstrates that all 3 states possess insufficient fiscal capacity on issues of stability and

Table 2.2 (Continued)

Researchers	Units of Study	Research methodology	Variables	Findings
	and 2012-2013	payment; revenues and national gross products.		sustainability, which can be because of the continuous fiscal deficit especially on the ongoing inadequate ability regarding revenue collection.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Scope

The frame of thoughts on ‘factors affecting the fiscal capacity of municipalities in Thailand’ was set along with dependent and independent variables, as follow.

Independent Variables were an economic factor; social factor; political factor; a factor of municipal type; and factor on a relationship with the central government. Each factor is comprised of the following main points.

3.1.1 The economic factor was the study on gross provincial products (GPP); consumer price index (CPI); average monthly income per household; average monthly expenditure per household; the number of industrial factories; capital; unemployment rate; poverty rate; and Gini coefficient.

3.1.2 Social factor was based on a number of population; population density; ruling areas; total dependent rate; housing possession rate.

3.1.3 Political factor included years of election and political continuation.

3.1.4 Types of Municipality factor was on different characters of city municipality, town municipality and sub-district municipality.

3.1.5 Factor of relationship with the central government referred to general grants as well as specific grants.

Dependent variables were municipal fiscal capacity.

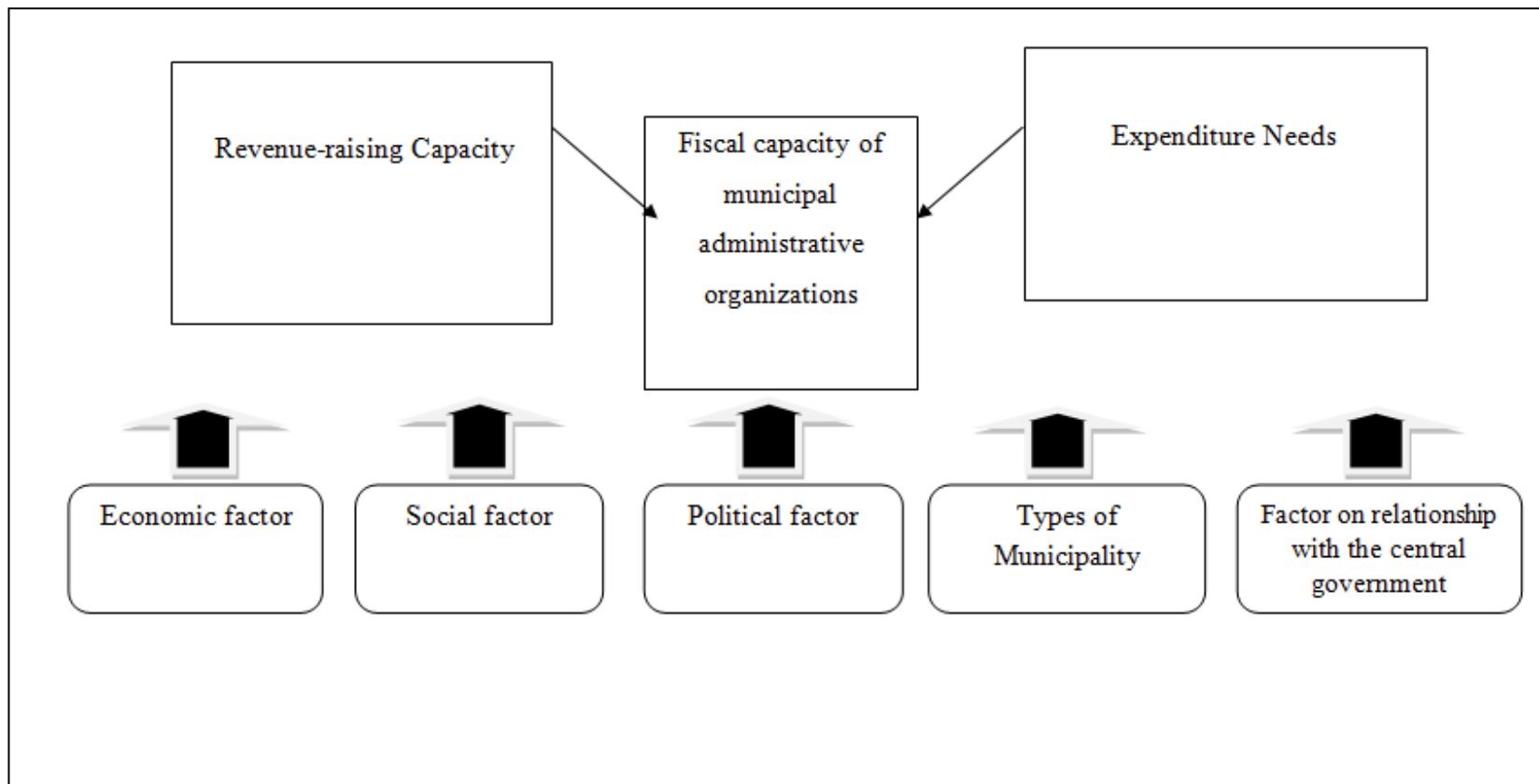


Figure 3.1 Conceptual Framework

3.2 Research Hypothesis

In order to answer each question, the research hypothesis was organized, as follows.

Hypothesis I:

Economic factors including gross provincial product (GPP), consumer price index (CPI) average monthly income per household; average monthly expenditure per household; the number of industrial factories; the amount of capital; unemployment rate; poverty rate; and Gini coefficient are likely to correlate with municipal fiscal capacity.

Hypothesis II:

Social factors which included a population number; population density; ruling areas; total dependent rate; and housing possession rate are likely to correlate with municipal fiscal capacity.

Hypothesis III:

Political factors from electoral years and political continuation are likely to correlate with municipal fiscal capacity.

Hypothesis IV:

Types of Municipality factors which are based on characters of the individual municipality i.e. city municipality, town municipality and sub-district municipality is likely to correlate with municipal fiscal capacity.

Hypothesis V:

The factors behind the relationship with the central government i.e. general grants and specific grants are likely to correlate with municipal fiscal capacity.

3.3 Research Methodology

3.3.1 Research Data

Secondary data of 2,441 municipal annual budgetary data which was certified by provincial local administrative organizations were used in this research. The data were collected by a local fiscal administration office, Department of Local

Administration in a form of mixing between pooled cross sections of data within a time series data during 2012-2015, which is a total of 4 years.

The research data sources were based on the ones that were collected by related government agencies and institutions where the main sources were from Local Fiscal Administration Offices, Department of Local Administration, Department of Administration, Ministry of Interior; National Statistics Office, Ministry of Communication and Information Technology; Department of Industrial Factories, Ministry of Industry; Database Development and Social Indicator Office, the Office of National Social and Economic Development, the Office of the Prime Minister.

3.3.2 Data Analysis Method

Quantitative research was used and comprised of Operating Ratio Analysis, Logistic Regression Analysis and Documentary Research which can be described as follows.

3.3.2.1 Operating Ratio Analysis

The operating ratio is one of the techniques that has been used for overall fiscal capacity measurement of each fiscal year. The ratio could be calculated by the following formula:

Operating ratio	=	$\frac{\text{Total revenue of the research year}}{\text{Total expenditure of the research year}}$
	=	times

3.3.2.2 Logistic Regression Analysis

This method is to analyze factors affecting the fiscal capacity of local administrative organizations through ordinal logistic regression since variable Y is an ordinal measurement.

The analysis was divided into 5 levels:

$$Y = \begin{cases} 0 & ; & \text{non-fiscal capacity} \\ 1 & ; & \text{low fiscal capacity} \\ 2 & ; & \text{moderate fiscal capacity} \\ 3 & ; & \text{high fiscal capacity} \\ 4 & ; & \text{the highest fiscal capacity} \end{cases}$$

An analysis based on ordinal logistic regression was generalized into a linear model (GLM) which consisted of the 3 following components (Weerayuth Wattanatham, Pongsak Suriyavanagul and Chavalek Vanichavetin, 2012: 7).

- 1) Random component – to demonstrate the possibility of dependent variables in an exponential group.
- 2) Systematic component – to demonstrate linear predictors of independent variables.
- 3) Link function – to demonstrate the combination of random and systematic components.

Link function was therefore used in the ordinal analysis in order to appropriately create the relationship between dependent and independent variables.

Hence, various significant conditions should be considered for the research (Kanlaya Vanichbuncha, 2011; Yut Kraiwan, 2014).

- 1) Independent variables X's: X's could be Dichotomous data of 2 values or data that startup from the interval.
- 2) Independent variables should not be inter-related to a high degree of multicollinearity. The tool for checking whether there was a correlation between dependent and independent variables was $-2 \log$ Likelihood and Chi-square test.
- 3) Some independent variables could be quantitative variables but some might be group variables.
- 4) Dependent variables must be ordinal in a form of independent multinomials.

The following are a series of logistic regression analysis along with its statistical values (Hosmer, Taber and Lemeshow, 1991: 1630-1635).

Step I: selecting an appropriate link function.

Step II: testing the set of independent variables to see whether there was a correlation with dependent variables by checking through -2log Likelihood and Chi-square test.

Step III: testing of the suitable possibility of a fit by using a Chi-square test.

Step IV: testing the significance of each independent variable by considering from values of pseudo R2 and Wald Statistics.

3.3.2.3 Documentary research

This method was conducted to investigate secondary data which was comprised of various related documents on fiscal capacity of city, town and sub-district municipalities in Thailand; related statistical data e.g. number of population, amount of gross products, people's average monthly income, situations of economy and finance, social and community status; literature reviews on fiscal administration of local governments; articles on local finances regarding efficient fiscal administrative models between central and local governments as well as the documents on legislation related to local fiscal issues.

3.4 Unit of Analysis

The unit of analysis of this research was 2,441 municipalities' data (Department of Local Administration, 2016).

3.5 Variables, Operational Definitions and Indicators

Fiscal capacity (FISCAP) of municipalities is a method of quantitative measurement to analyze the capability in revenue -raising from available resources within communities to see if such resources are sufficient for public services within the fiscal year. This method is considered a budgetary sustainability dimension.

Gross Provincial Products (GPP) is national revenue data with lists of the individual area within the provincial boundaries. This is a statistic of measuring the provincial final gross value of products and services in one calendar year.

Consumer Price Index (CPI) is an index used in an alternative measurement of average retail prices where consumers pay a certain amount for products and services once in a year (annually).

Average Monthly Income per Household (AVM_INC) is an average income per month per household located within the provincial boundaries.

Average Monthly Expenditure per Household (AVM_EXP) is an average expense per month per household located within the provincial boundary.

Number of Factories (FAC) is a statistic of industrial factories 1. be registered with the Ministry of Industry and possessing a license for functional operation (according to Factory Act B.E. 2535).

Amount of Capital (CAPITAL) is the amount of capital that is registered with the Ministry of Industry.

Unemployment Rate (UNEMP) is the percentage of unemployment.

Poverty Incidence (POVERTY) is the proportion of all the population whose household income per capita per year is lower than that of the poverty line.

Gini Coefficient (GINI) is a ratio of value between 0 and 1. Gini Coefficient of low value means equality in revenue distributions whereas the higher coefficient value means discrimination and value of 0 means perfect equality.

Number of Population (POP) is the total population within one municipality.

Population Density (DENS) means area/population (person: square kilometer)

Ruling Area (AREA) is a ruling area of one municipality (square kilometer)

Dependency Ratio (DEPR) is a percentage of children and elderly per working people.

House ratio (HOUSE) is a percentage of private households based on the condition of possession.

Year of Election (ELECT) is the year when an election is held (ELECT =1; others =2)

Political Continuation (PCON) is a mayor dummy variable in case the mayor is continuously reelected. (continue = 1; others =2)

Types of Municipality (TESSABAN) is a dummy variable of the characters of municipalities.

$$\text{TESSABAN} = \begin{cases} \text{city municipality} & 1 \\ \text{town municipality} & 2 \\ \text{sub-district municipality} & 3 \end{cases}$$

Grant (GRANT) is the government grants being allocated to local governments without the detail of setting or unconditional grants in which municipalities enable to spend on any activities. The allocation is based on various policies of the decentralization commissioner.

Specific Grant (SPGR) is a government grant being allocated to local governments based on the policy of the Office of National Social and Economic Development Committee and is concurred by the Office of Budget and Department of Administration.

3.6 Data Analysis

The data analysis of this study is divided into three parts.

The first part is a descriptive data analysis to answer the initial question of – what is the revenue structure of municipalities?

The second part is to look for the fiscal capacity of local administrative organizations, a municipal model, through an operating ratio.

The third part is to look for the relationship between various independent variables and dependent variables through logistic regression analysis in order to answer the second question of the research.

3.7 Mathematics Model

The study tool of ordinal logistic regression was set up to illustrate the relationship between independent and dependent variables. Variable ‘Y’ shows ordinal measurement and enumerates the independent multinomial that does not have

to reveal an equal width or distance. The lowest figure within the data set becomes the first category while the independent variables can be in any form of measurement as there is no requirement for enumeration. The logit model can be described as follows.

$$\text{Link}(\hat{y}_j) = \beta_{0j} + \beta_1 X_1 + \dots + \beta_n X_n$$

When link ($\dots \hat{y}_j$) is a Link Function

\hat{y}_j is the accumulated possibility of group j

j is the number of dependent variables

The study model for factors affecting municipal fiscal capacity was the analysis of data of interesting situations in the sets. There are 5 levels of municipal fiscal capacity.

$$Y = \begin{cases} 0; \text{ non-fiscal capacity when the operating ratio is } \leq 1 \\ 1; \text{ low fiscal capacity when the operating ratio is } 1 \leq 2 \\ 2; \text{ moderate fiscal capacity when the operating ratio is more than } 2 \leq 3 \\ 3; \text{ high fiscal capacity when the operating ratio is more than } 3 \leq 4 \\ 4; \text{ highest fiscal capacity when the operating ratio is more than } 4 \end{cases}$$

The data analysis results are presented in model 1-6, as follows.

Model I: gross provincial products, consumer price index, average monthly income per household, average monthly expenditure per household, number of factories, capital, minimum wage, unemployment rate and poverty incidence are likely to correlate with the local administrative organization's fiscal capacity of a municipal model.

$$Link (\hat{y}_5) = \beta_0 + \beta_1 GPP_W + \beta_2 CPI + \beta_3 AVM_INC + \beta_4 AVM_EXP + \beta_5 FAC + \beta_6 CAPITAL + \beta_7 UNEMP + \beta_8 POVERTY + \beta_9 GINI \dots\dots\dots(1)$$

When

AVM_EXP = Average Monthly Expenditure per Household

FAC = Factory

CAPITAL = Capital

POVERTY = Poverty Incidence

UNEMP = Unemployment

GINI = Gini Coefficient

Model II: from equation 1, following variables are added i.e. a number of population, population density, ruling area, dependent rate, and housing possession rate which are likely to correlate with local administrative organization fiscal capacity of a municipal model.

$$Link (\hat{y}_5) = \beta_0 + \beta_1 GPP_W + \beta_2 CPI + \beta_3 AVM_INC + \beta_4 AVM_EXP + \beta_5 FAC + \beta_6 CAPITAL + \beta_7 UNEMP + \beta_8 POVERTY + \beta_9 GINI + \beta_{10} POP + \beta_{11} DENS + \beta_{12} AREA + \beta_{13} DEPR + \beta_{14} HOUSE \dots\dots\dots(2)$$

When

POP = Population

DENS = Density

AREA = Area

DEPR = Dependent rate

HOUSE = Private house

Model III: from equation 2, other variables are added i.e. years of election and political continuation which are likely to correlate with fiscal capacity of a municipal model.

$$\begin{aligned}
 \text{Link } (\hat{y}_5) &= \beta_0 + \beta_1 \text{GPP_W} + \beta_2 \text{CPI} + \beta_3 \text{AVM_INC} + \beta_4 \text{AVM_EXP} + \beta_5 \text{FAC} + \\
 &\quad \beta_6 \text{CAPITAL} + \beta_7 \text{UNEMP} + \beta_8 \text{POVERTY} + \beta_9 \text{GINI} + \beta_{10} \text{POP} + \\
 &\quad \beta_{11} \text{DENS} + \beta_{12} \text{AREA} + \beta_{13} \text{DEPR} + \beta_{14} \text{HOUSE} \\
 &\quad + \beta_{15} \text{ELECT} + \beta_{16} \text{PCON} \dots\dots\dots(3)
 \end{aligned}$$

When

- ELECT = Years of election
- PCON = Political continuation

Model IV: from equation 3, more variables are included i.e. specific characters of the city, town and sub-district municipalities that are likely to correlate with fiscal capacity of a municipal model.

$$\begin{aligned}
 \text{Link } (\hat{y}_5) &= \beta_0 + \beta_1 \text{GPP_W} + \beta_2 \text{CPI} + \beta_3 \text{AVM_INC} + \beta_4 \text{AVM_EXP} + \beta_5 \text{FAC} + \\
 &\quad \beta_6 \text{CAPITAL} + \beta_7 \text{UNEMP} + \beta_8 \text{POVERTY} + \beta_9 \text{GINI} + \beta_{10} \text{POP} + \\
 &\quad \beta_{11} \text{DENS} + \beta_{12} \text{AREA} + \beta_{13} \text{DEPR} + \beta_{14} \text{HOUSE} \\
 &\quad + \beta_{15} \text{ELECT} + \beta_{16} \text{PCON} + \beta_{17} \text{TESSABAN} \dots\dots\dots(4)
 \end{aligned}$$

When

- TESSABAN = $\left\{ \begin{array}{l} 1 \\ 2 \\ 3 \end{array} \right.$ = city municipality
- TESSABAN = $\left\{ \begin{array}{l} 2 \\ 3 \end{array} \right.$ = town municipality
- TESSABAN = $\left\{ \begin{array}{l} 3 \end{array} \right.$ = sub-district municipality

Model V: from equation 4, two more variables are added i.e. general grants and specific grants that are likely to correlate with fiscal capacity of a municipal model.

$$\begin{aligned}
 \text{Link } (\hat{y}_5) &= \beta_0 + \beta_1 \text{GPP_W} + \beta_2 \text{CPI} + \beta_3 \text{AVM_INC} + \beta_4 \text{AVM_EXP} + \beta_5 \text{FAC} + \\
 &\quad \beta_6 \text{CAPITAL} + \beta_7 \text{UNEMP} + \beta_8 \text{POVERTY} + \beta_9 \text{GINI} + \beta_{10} \text{POP} + \\
 &\quad \beta_{11} \text{DENS} + \beta_{12} \text{AREA} + \beta_{13} \text{DEPR} + \beta_{14} \text{HOUSE} \\
 &\quad + \beta_{15} \text{ELECT} + \beta_{16} \text{PCON} + \beta_{17} \text{TESSABAN} + \beta_{18} \text{GRANT} \\
 &\quad + \beta_{19} \text{SPEGR} \dots\dots\dots(5)
 \end{aligned}$$

When

GRANT = General grants

SPEGR = Specific grants

CHAPTER 4

DATA ANALYSIS AND RESEARCH RESULTS

Details of this chapter are divided into three parts: part 1 is the descriptive analysis and the characters of municipal revenue structure of each classification in city, town and sub-district municipalities; part 2 is the municipal fiscal capacity analysis which is about the capability in possessing sufficient available resources to cope with public service administrations and arrangements according to the public needs within a fiscal year through the use of the budgetary sustainable indicator index, operating ratio, frequencies and percentage; part 3 is the quantitative analysis by using ordinal logistic regression to study factors affecting local administrative organization's fiscal capacity of a municipal model through the sample group. The details can be described as follows.

4.1 Revenue Structure of Municipalities in Thailand

In determining proportion and criteria in revenue allocations for local administrative organizations, the established plans and procedures for the decentralization of local administrative organizations Act (edition 2) B.E 2549 Section 30 (4) states that the allocation of taxes, fees, grants and other revenues to each type of local administrative organization (LAO) must be appropriate and consistent with LAOs' operations in accordance with their main authorities and functions. Since the fiscal year of 2007, LAOs are legislatively authorized to have their revenue with a proportion of not less than 25% of the government net revenues, with an aim to increase such revenues to a proportion per government net revenues of not less than 35%, which is considered a fair allotment. The higher proportion will be increased in time of proper development when LAOs are able to conduct a self-

sustaining operation on public services as well as acting in accordance with the transferred missions.

Moreover, the revenue allocation to LAOs is considered to be based on the following principles 1) the consideration must be inclusive of all types of revenues including locally levied taxes, taxes collected by the government and portioning out as well as various grants, and if the revenues provided to one LAO is insufficient for its administrations, such organization can spend from the value added tax that is allocated by the government along with general grants in order to reduce the revenue discrepancy of each LAO 2) in allocating taxes to an LAO, original source of such taxes is focused, that is, the tax is returned to its original place. However, it is practically found that there is no available data for the original source of some taxes at LAOs' level as the data only exists at the provincial level that, subsequently, the tax original source allotment is mostly done in the province. As for each LAO, the allocation is conducted based on the population criterion.

Although the government has set the LAOs' revenue proportion per its net revenue which increases every year, the revenue allocation is not managed as the set policy. Nevertheless, it is considered a good sign that the government increasingly focuses on the development of local administrations which is in line with the future policy of transferring missions, revenues and personnel (Achakorn Wongpreedee and Suntornchai Chopyot, 2017: 22-29).

As for municipal revenues, three main sources of revenue are emphasized in this study 1) a municipal self-collected revenue 2) revenue from government grants 3) revenue from subsidies, specifically from the general subsidy. Details of the revenues during 2009-2015 are illustrated in figure 4.1.

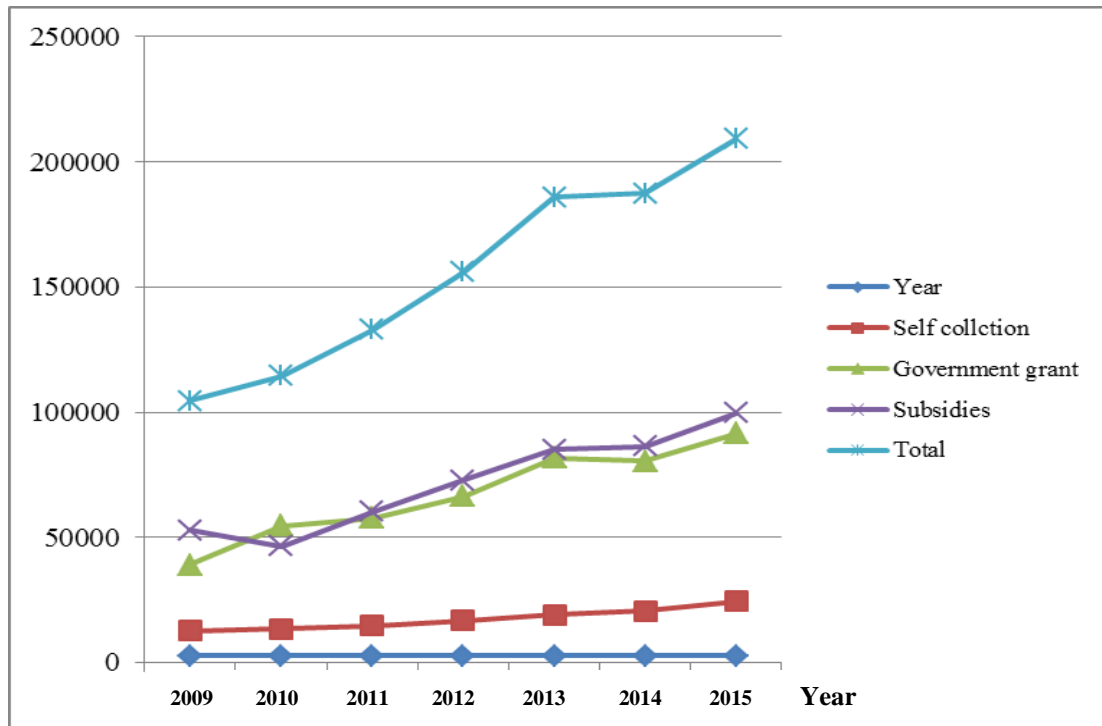


Figure 4.1 Overall Municipal Revenues during 2009-2015.

Sources: Department of Local Administration. Local Finance Division, 2015.

From figure 4.1, the data of municipal revenues from 2009 to 2015 show a higher amount every year and it continuously increases if focusing on the total revenue although there may be slight changes from 2013-2014, the increase is back in 2015. This is consistent with the number of LAOs, a municipal model, that increases in number from 1,687 in 2009 to 2,440 in 2015 or the addition of 753 municipalities or a total of 44.64% increase.

In addition, if the consideration on revenues is based on the sources, it is found that the revenues of self-collection show an increasing proportion although it may be in a form of slowly increasing and a smaller proportion if being compared with other sources. Similarly, the government grants and subsidies, specifically general subsidy, are continuously increasing, especially the revenues from subsidies that show a higher proportion although the subsidies are slightly less than the government grants in 2010.

Nevertheless, the figure reflects the fact that the majority of municipal revenues depends mainly on the government allotment and the subsidies in which the

revenues are mostly from taxes of internally based sources between the government and the municipality. If the government enables to collect a large amount of tax, a municipal allotment is also large. On the contrary, if the government collects less tax, a municipal allotment is subsequently small. The municipal revenues of self-collection alone are normally in a small portion that it is insufficient for the community public service administration. Municipal revenues can be summarized as shown in table 4.1-4.4.

Table 4.1 Municipal Revenue Structures from 2009 to 2015

Type of revenue	2009		2010		2011		2012		2013		2014		2015	
	amount	percentage	amount	percentage	amount	percentage	amount	percentage	amount	percentage	amount	percentage	amount	percentage
Self collection	12,632.99	12.08	13,508.62	11.80	14,779.26	11.12	16,658.42	10.68	19,020.55	10.24	20,473.89	10.93	21,941.55	10.48
Government grants	39,101.74	37.39	54,645.49	47.74	57,795.70	43.48	66,481.93	42.64	81,738.96	44.00	80,523.76	42.98	88,169.23	42.09
Subsidies	52,854.64	50.54	46,304.33	40.46	60,343.47	45.40	72,764.55	46.67	84,993.42	45.76	86,367.54	46.10	99,347.36	47.43
Total	104,589.37	100.00	114,458.44	100.00	132,918.43	100.00	155,904.90	100.00	185,752.93	100.00	187,365.19	100.00	209,458.14	100.00

Unit: million baht

Sources: Department of Local Administration. Local Finance Division, 2015.

Table 4.2 Revenue Structure based on Types of Municipalities during 2009-2015

Type of Revenue	2009			2010			2011			2012		
	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality
Self collection	2,874.03	4,387.23	5,371.73	3,389.61	4,480.14	5,638.88	3,561.58	4,834.13	6,383.56	4,462.55	5,050.57	7,145.30
Government grants	7,957.16	14,133.64	17,010.93	7,605.31	12,453.54	34,586.64	8,607.87	13,080.71	36,107.11	9,905.89	14,870.40	41,705.64
Subsidies	5,782.14	9,542.96	37,529.54	6,318.63	11,347.49	28,638.21	8,693.87	15,082.19	36,567.41	9,680.92	16,547.93	46,535.71
Total	16,613.34	28,063.83	59,912.20	17,313.54	28,281.17	68,863.72	20,863.32	32,997.03	79,058.08	24,049.36	36,468.89	95,386.65

Table 4.2 (Continued)

Type of Revenue	2013			2014			2015			Average of 2009-2015		
	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality
Self collection	5,211.85	5,679.22	8,129.48	5,498.60	6,153.91	8,821.39	5,765.73	8,918.75	7,257.07	4,394.85	5,643.42	6,963.91
Government allocation	11,916.65	17,345.44	52,476.86	11,752.22	17,765.04	51,006.50	13,236.55	19,459.78	55,472.90	10,140.24	15,586.94	41,195.23
Subsidies	11,645.51	19,916.89	53,431.03	11,447.77	19,637.26	55,282.51	13,076.96	22,462.16	63,808.24	9,520.83	16,362.41	45,970.38
Total	28,774.01	42,941.55	114,037.37	28,698.59	43,556.21	115,110.40	32,079.24	50,840.69	126,538.21	24,055.91	37,592.77	94,129.52

Unit: million Baht

Sources: Department of Local Administration. Local Finance Division, 2015.

Table 4.3 Municipal Revenue per Capita during 2009-2015

Type of Revenue	Year							Average
	2009	2010	2011	2012	2013	2014	2015	2009-2015
Self collection	725.05	697.04	737.12	757.74	822.90	874.03	931.65	792.22
Government allocation	2,244.17	2,819.69	2,882.59	3,024.07	3,536.34	3,437.57	3,743.70	3,098.3
Subsidies	3,033.50	2,389.29	3,009.66	3,309.85	3,677.14	3,687.04	4,218.32	3,332.11
Total	6,002.72	5,906.02	6,629.38	7,091.66	8,036.38	7,998.64	8,893.66	7,222.64

Unit: Baht/capita

Sources: Department of Local Administration. Local Finance Division, 2015.

Table 4.4 Revenue per Capita based on Types of Municipalities during 2009-2015

Type of Revenue	2009			2010			2011			2012		
	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality
Self collection	1,222.93	1,137.90	478.85	1,392.69	1,171.56	429.73	1,397.94	1,238.30	469.44	1,674.51	1,197.50	473.15
Government allocation	3,385.85	3,665.78	1,516.40	3,124.81	3,256.60	2,635.77	3,378.65	3,350.73	2,655.26	3,717.06	3,525.80	2,761.66
Subsidies	2,460.36	2,475.12	3,345.48	2,596.15	2,967.37	2,182.45	3,412.40	3,863.42	2,689.11	3,632.64	3,923.54	3,081.49
Total	7,069.14	7,278.80	5,340.73	7,113.65	7,395.53	5,247.95	8,188.99	8,452.44	5,813.81	9,024.21	8,646.84	6,316.29

Table 4.4 (Continued)

Type of Revenue	2013			2014			2015			Average		
	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality	City Municipality	Town Municipality	Subdistrict Municipality
Self collection	1,886.07	1,312.19	507.38	1,984.21	1,379.39	544.79	2,079.95	1,974.71	446.24	1,662.62	1,344.51	478.51
Government allocations	4,312.41	4,007.67	3,275.18	4,240.88	3,982.00	3,150.08	4,775.01	4,308.62	3,411.02	3,847.81	3,728.17	2,772.19
Subsidies	4,214.29	4,601.80	3,334.73	4,131.01	4,401.65	3,414.16	4,717.44	4,973.38	3,923.56	3,594.90	3,886.61	3,138.71
Total	10,412.77	9,921.65	7,117.29	10,356.10	9,763.04	7,109.04	11,572.41	11,256.71	7,780.81	9,105.32	8,959.29	6,389.42

Unit: Baht/ capita

Sources: Department of Local. Administration Local Finance Division, 2015.

Table 4.1 explains slight changes of municipal revenues during 2009-2015 of which the overall proportion of self-collection is averagely 11.05% while the government allocation is 42.90% and subsidy is 46.05% in which the total proportion of government allocation and subsidy is 88.95%, quite a high proportion. Upon considering the revenue structure based on types of municipalities, it is found that, in the past 7 years, the average total revenue of city municipality is 24,055.91 million baht while town municipality is 37,592.77 million baht and sub-district municipality is 94,129.52, as shown in table 4.2.

The municipal revenue per capita during 2009-2015 shows that the average revenue is 7,222.64 baht/capita. This amount can be differentiated as 792.22 baht from self-collection; 3,098.3 baht from government allocation; and 3,332.11 baht from the subsidy, as shown in table 4.3. Upon studying this revenue based on types of municipalities, it is discovered that city municipality has the highest revenue followed by town and sub-district respectively, as shown in table 4.4.

4.2 Analytical Results for Municipal Fiscal Capacity

An analysis to look for the fiscal capacity of municipalities is the study on the municipal capability with sufficient available resources for public arrangements and administrations to respond to the community demands within the fiscal year. The indicator index includes operating ratio, frequencies and percentage.

The analysis of the operating ratio can be calculated by the following formula:

Operating ratio	=	$\frac{\text{Total revenue of the research year}}{\text{Total expenditure of the research year}}$
	=	times

The analytical results can be divided into five levels, as follows.

Operating Ratio =	{	0- Nonfiscal capacity when the operating result is ≤ 1 times
		1- Low fiscal capacity when the operating result is more than $1 \leq 2$ times
		2- Moderate fiscal capacity when the operating result is more than $2 \leq 3$ times
		3- High fiscal capacity when the operating result is more than $3 \leq 4$ times
		4- The highest fiscal capacity when the operating result is more than 4 times

4.2.1 General Data

The sample group consisted 7,934 data of municipalities where 106 was city municipalities, 576 were towns and 7,252 were sub-district municipalities in which the sub-district showed the highest proportion of 91.4%, as shown in table 4.5.

Table 4.5 General Data of a Municipal Sample Group

Type of Municipality	amount	percentage
City Municipality	106	1.3
Town Municipality	576	7.3
Subdistrict Municipality	7,252	91.4
Total	7,934	100

4.2.2 Fiscal Capacity of Local Administrative Organizations; a Municipal Model

The study shows that, upon comparing all sample group data, the local administrative organization of a municipal model possesses low fiscal capacity in 4,822 data points or 60.8% which is respectively led by city and followed by town and sub-district municipalities. Similarly, the investigation on the municipality of

nonfiscal capacity shows that the city municipality is at the highest level of 8.2% and the comparison for higher and the highest capacities shows that sub-district municipality has the highest proportion of 6.9% while town and city show 6.3% and 5.7% respectively. These indicate that the larger the municipality, the lower the capacity as their necessity to provide public services within the areas is at a high proportion, as shown in table 4.6.

Table 4.6 Fiscal Capacity based on Municipal Types

Municipality	Fiscal Capacity										Total	
	Non-capacity		Low		Moderate		High		The highest		Amount	Percentage
	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage		
City Municipality	8	7.5	73	68.9	19	17.9	2	1.9	4	3.8	106	100
Town Municipality	47	8.2	378	65.6	115	20.0	23	4.0	13	2.3	576	100
Subdistrict Municipality	466	6.4	4,371	60.3	1,911	26.4	341	4.7	163	2.2	7252	100
Total	521	6.6	4,822	60.8	2,045	25.8	366	4.6	180	2.3	7934	100

4.3 Analytical Results on Factors Affecting Municipal Fiscal Capacity

This is an analysis to investigate the relationship between different dependent and independent variables through Logistic Regression Analysis of a model called Ordinal Logistic Regression which is an equation where the dependent variable Y is a quality variable that its possible values are in a form of ordinal scale. The scales can be divided into five levels, as follows (Kanlaya Vanichbuncha, 2011).

$$Y = \left\{ \begin{array}{l} 0; \text{ Nonfiscal capacity when the operating ratio is } \leq 1 \text{ times} \\ 1; \text{ Low fiscal capacity when the operating ratio is more than } 1 \leq 2 \\ 2; \text{ Moderate fiscal capacity when the operating ratio is more than } \\ \quad 2 \leq 3 \text{ times} \\ 3; \text{ High fiscal capacity when the operating ratio is more than } 3 \leq 4 \\ \quad \text{times} \\ 4; \text{ The highest fiscal capacity when the operating ratio is more than } 4 \\ \quad \text{times} \end{array} \right.$$

The analysis of factors that possibly affecting the municipal fiscal capacity of the provincial group areas being based on development strategies can be described as follows.

4.3.1 Economic Factor

The results from 7,934 data points of the sample group on an economic factor reveal that a model of the economic factor affecting municipal fiscal capacity directly correlates with empirical data (-2 Log likelihood=16758.178), as shown in table 4.7.

Table 4.7 Analytical Results based on Ordinal Logistic Regression of Economic Factors that Affects Municipal Fiscal Capacity

Factors	Estimate	S.E.	Wald	df	Sig.
Gross Provincial Products (GPP_W)	5.221	1.896	7.583	1	.006**
Consumer Price Index (CPI)	.023	.007	10.083	1	.001***
Average Monthly Income per Household (AVM_INC)	-5.046	6.905	.534	1	.465
Average Monthly Expenditure per household (AVM_EXP)	9.090	9.435	.928	1	.335
Number of Factories (FAC)	.000	.000	.083	1	.773
Amount of capital (CAPITAL)	-8.460	1.950	.002	1	.965
Unemployment Rate (UNEMP)	.136	.057	5.718	1	.017*
Poverty Incidence (POVERTY)	.000	.004	.004	1	.949
Gini Coefficient (GINI)	.443	.316	1.957	1	.162

-2 Log likelihood=16758.178, Chi-Square=40.217, Pearson .618, Cox & Snell R square= .05, Nagelkerke R Square= .06

Note: *statistical significant level at .05

**statistical significant level at .01

***statistical significant level at .001

Table 4.7 demonstrates that variables showing statistically significant effects on the municipal fiscal capacity are consumer price index (CPI) (p value < 0.001); gross provincial products (GPP) (p value < 0.01) and unemployment rate (p value < 0.05) with a logistic regression coefficient of .023 5.221 and .136 respectively.

The analytical results reveal the following details of the variables affecting various factors: the sample group that shows high consumer index tend to have high fiscal capacity; similarly, municipalities having high gross provincial products and high unemployment rate possess the strong possibility to show high fiscal capacity.

4.3.2 Social Factor

The social factor is added to the economic factor analysis and it shows that social factors that affect the municipal fiscal capacity directly correlate with empirical data (-2 Log likelihood=16720.095), as shown in table 4.8.

Table 4.8 Analytical Results based on Ordinal Logistic Regression of Social Factors that Affect Municipal Fiscal Capacity

Factor	Estimate	S.E.	Wald	df	Sig.
Gross Provincial Products (GPP_W)	8.184	2.488	.001	1	.974
Consumer Price Index (CPI)	.021	.007	8.788	1	.003**
Average Monthly income per household (AVM_INC)	-8.884	6.981	1.620	1	.203
Average Monthly Expenditure per Household (AVM_EXP)	5.121	9.592	.285	1	.593
Number of Factories (FAC)	6.377	.000	.024	1	.877
Amount of Capital (CAPITAL)	1.071	1.983	.292	1	.589
Unemployment rate (UNEMP)	.110	.060	3.399	1	.065
Poverty Incidence (POVERTY)	.003	.004	.385	1	.535
Gini Coefficient (GINI)	.338	.325	1.087	1	.297
Number of Population (POP)	-1.316	1.994	.435	1	.509
Population Density (DENS)	-3.735	2.153	3.009	1	.083
Ruling Areas (AREA)	-.002	.000	24.361	1	.000***
Dependent Rate (DEPR)	.001	.007	.001	1	.918
Private houses (HOUSE)	.014	.004	11.951	1	.001***

-2Log likelihood=16720.095, Chi-Square=79.686, Pearson .238, Cox & Snell R square= .10, Nagelkerke R Square= .11

Note: *statistical significant level at .05

**statistical significant level at .01

***statistical significant level at .001

Table 4.8 discloses that factors were statistically significant (p -value < 0.001) to municipal fiscal capacity are ruling area and private houses with a logistic regression coefficient of $-.002$ and $.014$ respectively.

The analytical results give details of the variables as: the sample group that is increased with one ruling unit has a high possibility in reducing its fiscal capacity because such municipality possesses one more area to look after whereas the higher number of private houses means the possibility of having higher fiscal capacity because such municipality enables to collect more taxes. Adding the social factors in the model unveils that a consumer price index affects the fiscal capacity in the original direction, but at a reducing significant level of 95%.

4.3.3 Political Factor

The political factor is added to the social factor analysis and it is found that a model of a political factor that affects municipal fiscal capacity correlates with empirical data (-2 Log likelihood=16631.772), as demonstrated in table 4.9.

Table 4.9 Analytical Results based on Ordinal Logistic Regression of Political Factors that Affect Municipal Fiscal Capacity

Factor	Estimate	S.E.	Wald	df	Sig.
Gross Provincial Products (GPP_W)	1.147	2.511	.208	1	.648
Consumer Price Index (CPI)	.020	.007	7.345	1	.007**
Average Monthly Income per Household (AVM_INC)	-8.224	7.008	1.377	1	.241
Average Monthly Expenditure per Household (AVM_EXP)	3.423	9.628	.126	1	.722
Number of Factories (FAC)	9.310	.000	.051	1	.822
Amount of Capital (CAPITAL)	7.647	1.985	.148	1	.700
Unemployment Rate (UNEMP)	.094	.060	2.447	1	.118
Poverty Incidence (POVERTY)	.003	.004	.510	1	.475

Table 4.9 (Continued)

Factor	Estimate	S.E.	Wald	df	Sig.
Gini Coefficient (GINI)	.336	.325	1.066	1	.302
Number of Population (POP)	-1.248	2.002	.389	1	.533
Population Density (DENS)	-4.058	2.162	3.523	1	.061
Ruling Area (AREA)	-.002	.000	23.085	1	.000***
Dependent Rate (DEPR)	.001	.007	.007	1	.934
Private Houses (HOUSE)	.012	.004	9.192	1	.002**
Year of Election (ELECT)	.521	.246	4.482	1	.034*
Political Continuation (PCON)	.352	.241	2.142	1	.143

-2 Log likelihood=16631.772, Chi-Square=86.184, Pearson .238, Cox & Snell R square= .11, Nagelkerke R Square= .12

Note: *statistical significant level at .05

**statistical significant level at .01

***statistical significant level at .001

Table 4.9 shows that a variable having statistical significance (p-value < 0.05) that affects municipal fiscal capacity is the year of election which reveals the logistic regression coefficient of .521.

The analytical results explain the following details of affecting variable, that is, the comparison between an election year and non-election year (others) reveals that municipal performances of election year potentially show higher fiscal capacity than the nonelection one. Adding political factors into the variables indicates that consumer price index and ruling areas have an effect on municipal fiscal capacity in an original direction, yet, the factor of private houses show lesser significance, down to 95%.

4.3.4 Factor on Types of Municipality

The factor of types of the municipality is added to the analytical results of political factors and it is found that the municipal type affecting fiscal capacity correlates with empirical data (-2 Log likelihood=16596.075), as demonstrated in table 4.10.

Table 4.10 Analytical Results based on Ordinal Logistic Regression of Type of Municipality Factors that Affect Municipal Fiscal Capacity

Factor	Estimate	S.E.	Wald	df	Sig.
Gross Provincial Products (GPP_W)	5.171	2.517	.042	1	.837
Consumer Price Index (CPI)	.019	.007	6.623	1	.010**
Average Monthly Income per Household (AVM_INC)	-6.348	7.022	.817	1	.366
Average Monthly Expenditure per Household (AVM_EXP)	5.272	9.672	.003	1	.957
Number of Factory (FAC)	.000	.000	.936	1	.333
Amount of Capital (CAPITAL)	8.217	1.999	.169	1	.681
Unemployment Rate (UNEMP)	.084	.060	1.929	1	.165
Poverty Incidence (POVERTY)	.001	.005	.055	1	.815
Gini Coefficient (GINI)	.500	.327	2.339	1	.126
Number of Population (POP)	9.310	2.719	11.727	1	.001***
Population Density (DENS)	-1.499	2.204	.462	1	.497
Ruling Area (AREA)	-.002	.000	25.926	1	.000***
Dependent Rate (DEPR)	.003	.007	.223	1	.637
Private Houses (HOUSE)	.013	.004	9.551	1	.002**
Year of Election (ELECT)	472	.247	3.668	1	.055
Political Continuation (PCON)	.298	.241	1.527	1	.217
City Municipality (Tessaban=1)	-1.352	.310	18.983	1	.000***
Town Municipality (Tessaban=2)	-.592	.105	31.517	1	.000***

Table 4.10 (Continued)

Factor	Estimate	S.E.	Wald	df	Sig.
Sub-district Municipality (Tessaban=3)	0 ^a			0	

-2 Log likelihood=16596.075, Chi-Square=121.881, Pearson .118, Cox & Snell R square= .15, Nagelkerke R Square= .17

Note: *statistical significant level at .05

**statistical significant level at .01

***statistical significant level at .001

Table 4.10 discloses the variables on municipal types affecting its fiscal capacity at a significant level (p-value < 0.001) with the logistic regression coefficient of -1.352 and -.592 respectively.

The analytical results show the following details of the variables affecting fiscal capacity. The comparison among different types of municipalities describes that the larger the municipality, the more possibility of fiscal capacity reduction. Adding the factor of municipal types in the model shows that consumer price index, ruling areas, and private houses have an effect on the fiscal capacity in the original direction. Moreover, such effect can make the factor of a number of the population become influences to municipal fiscal capacity at a significant level of 99.99%.

4.3.5 Factor of Relationship with the Central Government

A factor of relationship with the central government is added to the analytical results of the factor of municipal types and it is discovered that the relationship does not have any effect with the municipal fiscal capacity and it is uncorrelated with empirical data (-2 Log likelihood=16578.180), as revealed in table 4.11.

Table 4.11 Analytical Results on Ordinal Logistic Regression of Factor of Relationship with the Central Government that Affects Municipal Fiscal Capacity

Factor	Estimate	S.E.	Wald	df	Sig.
Gross Provincial Products (GPP_W)	4.813	2.518	.037	1	.848
Consumer Price Index (CPI)	.018	.007	6.127	1	.013*
Average Monthly Income per Household (AVM_INC)	-7326	7.034	1.085	1	.298
Average Monthly Expenditure per Household (AVM_EXP)	1.963	9.692	.041	1	.840
Number of Factory (FAC)	.000	.000	.944	1	.331
Amount of Capital (CAPITAL)	9.069	2.002	.205	1	.651
Unemployment Rate (UNEMP)	.089	.060	2.164	1	.141
Poverty Incidence (POVERTY)	.001	.005	.040	1	.841
Gini Coefficient (GINI)	.509	.327	2.422	1	.120
Number of Population (POP)	8.773	2.773	10.011	1	.002**
Population Density (DENS)	-1.601	2.207	.526	1	.468
Ruling Area (AREA)	-.002	.000	25.968	1	.000***
Dependent Rate (DEPR)	.003	.007	.143	1	.706
Private Houses (HOUSE)	.013	.004	9.508	1	.002**
Year of Election (ELECT)	.462	.247	3.490	1	.062
Private Houses (HOUSE)	.013	.004	9.508	1	.002**
Year of Election (ELECT)	.462	.247	3.490	1	.062
Political Continuation (PCON)	.288	.242	1.420	1	.233
City Municipality (Tessaban=1)	-1.364	.314	18.835	1	.000***
Town Municipality (Tessaban=2)	-.599	.106	31.992	1	.000***

Table 4.11 (Continued)

Factor	Estimate	S.E.	Wald	df	Sig.
Sub-district Municipality (Tessaban=3)	0 ^a			0	
General Grants (GRANT)	5.646	6.339	.793	1	.373
Specific Grants (SPGR)	-4.517	6.018	.563	1	.453

-2 Log likelihood=16578.180, Chi-Square=123.415, Pearson .092, Cox & Snell R square= .15, Nagelkerke R Square= .18

Note: *statistical significant level of .05

**statistical significant level of .01

***statistical significant level of .001

Table 4.11 indicates that there is no variable from the relationship with the central government that has a statistically significant effect (p-value > 0.05) with fiscal capacity of municipalities.

Having added the relationship with the central government into the variable group shows that ruling areas and private houses still have an impact on municipal fiscal capacity in the original direction, yet, consumer price index and the number of population have significantly decreased, hence, the municipal types still affect the capacity at a reliability level of 99.99%. The analytical results on factors affecting the municipal fiscal capacity can be summarized in the following table 4.12.

Table 4.12 Summary of Analytical Results on Ordinal Logistic Regression and Variables Affecting Municipal Fiscal Capacity

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Gross Provincial Products (GPP_W)	5.221**	8.184	1.147	5.171	4.813
Consumer Price Index (CPI)	.023***	.021**	.020**	.019**	.018*
Average Monthly Income per Household (AVM_INC)	-5.046	-8.884	-8.224	-6.348	-7326
Average Monthly Expenditure per household (AVM_EXP)	9.090	5.121	3.423	5.272	1.963
Number of Factor (FAC)	.000	6.377	9.310	.000	.000
Amount of Capital (CAPITAL)	-8.460	1.071	7.647	8.217	9.069
Unemployment Rate (UNEMP)	.136*	.110	.094	.084	.089
Poverty Incidence (POVERTY)	.000	.003	.003	.001	.001
Gini Coefficient (GINI)	.443	.338	.336	.500	.509
Number of Population (POP)		-1.316	-1.248	9.310***	8.773**
Population Density (DENS)		-3.735	-4.058	-1.499	-1.601
Ruling Area (AREA)		-.002***	-.002***	-.002***	-.002***
Dependent Rate (DEPR)		.001	.001	.003	.003

Table 4.12 (Continued)

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Private houses (HOUSE)		.014***	.012**	.013**	.013**
Year of Election (ELECT)			.521*	.472	.462
Political Continuation (PCON)			.352	.298	.288
City Municipality (Tessaban=1)				-1.352***	-1.364***
Town Municipality (Tessaban=2)				-.592***	-.599***
Cited sub-district Municipality (Tessaban=3)				0 ^a	0 ^a
General Grants (GRANT)					5.646
Specific Grants (SPGR)					-4.517
-2 Log likelihood	16758.178	16720.095	16631.772	16596.075	16578.180
Nagelkerke R Square	.06	.11	.12	.17	.18

Note: *statistical significant level of .05
 **statistical significant level of .01
 ***statistical significant level of .00

The above results on factors affecting the fiscal capacity of local administrative organizations, a municipal model, can answer the following set of the research hypotheses.

Hypothesis I:

Economic factors which include gross provincial products (GPP), consumer price index (CPI), average monthly income per household, average monthly expenditure per household, number of industrial factories, amount of capital, unemployment rate, poverty incidence and Gini Coefficient are likely to correlate with municipal fiscal capacity. The results show that correlated variables of economic factors are gross provincial products, consumer price index, and unemployment rate.

Hypothesis II:

Social factors such as the number of population, population density, ruling area, dependent rate, and private houses are likely to correlate with municipal fiscal capacity. The results reveal that the social variables that show a positive outcome is private houses while the negative outcome is ruling areas.

Hypothesis III:

Political factors which include the year of election and political continuation are likely to correlate with municipal fiscal capacity. The results also show that positive political variable is the year of an election.

Hypothesis IV:

A factor of types of municipality i.e. characters of city, town and sub-district municipalities are likely to correlate with municipal fiscal capacity. The results unveil that the negative municipal type variable is the character of each type of municipality.

Hypothesis V:

A factor of relationship with the central government i.e. general grants, specific grants are likely to correlate with municipal fiscal capacity, yet, there is no variable that correlates with the empirical data.

CHAPTER 5

CONCLUSION, DISCUSSION AND RECOMMENDATION

This part of the study on ‘factors affecting fiscal capacity of municipalities in Thailand’ is to present a) the conclusion which is to answer the research questions as well as each set of the hypothesis b) the discussion based on scopes of theories from the literature review c) the policy recommendation to concerned agencies in order to improve and expand municipal fiscal capacity so that municipalities can subsequently manage their budgets on public arrangements to be more beneficial towards the economy and society. The last part is the suggestions for the future study. The content of this chapter is divided into four parts: part 1 – research summary; part 2 - a conclusion based on the research objectives and hypothesis; part 3 – discussion concerning related perceptions/theories; part 4 – recommendation based on the empirical study aiming to stimulate more efficient and effective study in the future. The details are described as follows.

5.1 Research Summary

The objectives set for this research are 1) to study characters of the development on revenue structure and fiscal capacity of municipalities in Thailand 2) to investigate the relationship of factors affecting fiscal capacity of local administrative organizations, a municipality model 3) to propose policy recommendations to concerned agencies for improvement and expansion of municipal fiscal capacity.

In order to achieve the set objectives, related literature, perceptions, theories and different research studies are initially reviewed to organize the framework of this paper.

Later, dependent and independent variables are set. Independent variables include economic, social, political factors and factors of municipal types as well as central government policy whereas dependent variables are municipal fiscal capacities which can be divided into 5 levels: 0= nonfiscal capacity; 1= low fiscal capacity; 2= moderate fiscal capacity; 3= high fiscal capacity; 4= the highest fiscal capacity

In conducting data analysis, operating ratio, ordinal logistic regression analysis, and documentary research are employed.

In addition, the data analysis is classified into three parts: part 1 is a descriptive data analysis to answer the research question number one – “what are the characters of a municipal revenue structure?”; part 2 is an analysis of municipal fiscal capacity by employing an operating ratio in order to answer the research question number one on an issue of fiscal capacity; part 3 is an analysis to look at the relationship between dependent and independent variables by employing ordinal logistic regression analysis to answer the research question number two.

5.2 Conclusion

5.2.1 Respondency to Research Objectives and Hypothesis

This stage is the conclusion according to the research objectives and hypothesis to answer the set questions based on the empirical outcomes which are divided as follows.

5.2.1.1 Objective I: to Study the Development of Revenue Structure and Fiscal Capacity of Municipalities in Thailand.

The study on a municipal revenue structure reveals that although the municipal levied tax revenues show an increasing proportion, the increment is in a form of a slowly rising trend that when compared with other revenue sources, it is found that municipalities significantly depend on government allocations and grants as their local levied tax is averagely 11.05% whereas the government allocation is as high as 88.95%. Since subdistrict municipalities enable to collect self-revenue of a very small portion when being compared with other municipal types, they have to gradually depend on the government grants at a high proportion. Simultaneously, the

municipal revenues per capita are also low as the highest in the city municipality is 7,222 baht, followed by town and subdistrict municipalities respectively.

The investigation discloses that 60.8% of municipalities possess a low fiscal capacity and city municipalities are at the highest proportion followed by town and subdistrict as it shows that the highest number of city municipalities is with nonfiscal capacity whereas the subdistrict ones demonstrate the highest proportion when being compared with issues of higher and highest fiscal capacity. This shows that the larger the municipality, the lesser the fiscal capacity. The reason can be because a large municipality needs to crucially arrange public services for its people.

5.2.1.2 Objective II: To Investigate the Relationship between Factors Affecting the Fiscal Capacity of Municipalities in Thailand.

1) Analytical Results for Municipal Fiscal Capacity

The fiscal capacity analysis is one of the important administrative tools used to analyze municipal revenue-raising capacity (RPC) and compared with expenditure needs (EN) in a fiscal year. In order to measure a budget sustainability dimension, operating ratio is employed. The operating ratio is one of the techniques for overall fiscal capacity measurement in each fiscal year in which the ratio is calculated from total revenue of the studied year divided by the total expenditure of the studied year. The results would be of five levels (a) non fiscal capacity when the operating ratio is ≤ 1 times (b) low fiscal capacity when the operating ratio is more than $1 \leq 2$ times (c) moderate fiscal capacity when the operating ratio is more than $2 \leq 3$ times (d) high fiscal capacity when the operating ratio is more than $3 \leq 4$ times (e) the highest fiscal capacity when the operating ratio is more than 4 times. Frequencies and percentage are also illustrated in the results.

The sample group of 7,934 data points reveals that sub-district municipalities are with the highest proportion followed by town and city municipalities. Furthermore, their overall fiscal capacity is low as the larger the municipality, the lower the fiscal capacity. This is because a large municipality is obliged to provide more public services to its people.

2) Analytical Results on Factors Affecting Municipal Fiscal Capacity

This is an analysis to look at the relationship between various dependent and independent variables through Ordinal Logistic Regression Analysis which is an equation where Y is a quality variable with the possibility of an ordinal scale. The scale is divided into 5 levels (1) non fiscal capacity when the operating ratio is ≤ 1 times (2) low fiscal capacity when the operating ratio is more than $1 \leq 2$ times (3) moderate fiscal capacity when the operating ratio is more than $2 \leq 3$ times (4) high fiscal capacity when the operating ratio is more than $3 \leq 4$ times (5) the highest fiscal capacity when the operating ratio is 4 times.

Therefore, in order to provide more clarity in answering the objective 2, the following hypotheses are set.

Hypothesis I: economic factors which include gross provincial products (GPP), consumer price index (CPI), average monthly income per household, the number of factories, amount of capital, unemployment rate, poverty incidence, and Gini coefficient are likely to correlate with municipal fiscal capacity. The research results show that the economic factors that impact the capacity are gross provincial products, consumer price index and unemployment rate.

Hypothesis II: social factors which are the number of population, population density, ruling area, dependent rate, and private houses are likely to correlate with the municipal fiscal capacity. The results unveil that the positive social factor is private houses while the negative one is ruling area.

Hypothesis III: political factors which are the year of election and political continuation are likely to correlate with municipal fiscal capacity. The results show that the positive political factor is the year of the election.

Hypothesis IV: factors on types of the municipality which are comprised of city, town and subdistrict municipalities are likely to correlate with their fiscal capacity and the results reveal that the negative type is the character of each type of the municipalities.

Hypothesis V: factors on the relationship with central government which are general grants and specific grants are likely to correlate with

municipal fiscal capacity. The results show no variable that is consistent with the empirical data.

5.2.2 Discussion

5.2.2.1 Resources, both internal and external, are considered one of the factors related to fiscal capacity. This is because it is necessary that municipalities manage the available resources to produce the maximum benefits. The study on empirical data displays that gross provincial products, consumer price index and an unemployment rate of economic factors indicate positive impact with municipal fiscal capacity in the provincial group area at a statistically significant level. This can be explained through an organizational resource theory that in terms of a resource-based view, the focus is on an internal resource that is available within the municipality as such resource is the one that creates capacity or encourages advantages over others. As for a resource dependent theory, although it also focuses on the resource, its emphasis is on an external one. However, it also enhances and supports the fiscal capacity. Obviously, the resource is one of the main factors affecting local fiscal capacity. This is because, in order for a municipality to have effective financial status, the resource promptness is one of the major components, not only that the municipality can gain benefit from its available resources but also enables to conduct the resource-raising which is in line with Udom Thumkosit (2002) and Weerasak Krueathep (2008).

Gross provincial products are a statistic on the final gross of goods and services produced within the province in one year whereas consumer price index is a set index to study the living of families and measure the cost of living of the people that the index further upgrades their cost of living. Subsequently, both gross provincial products and consumer price index are likely to become an indicator for measurement in fiscal policy development and planning. The empirical data indicate that a municipality with high gross provincial products and consumer price index tend to correlate with its fiscal capacity which is in line with the study of Maher and Deller (2011).

Nevertheless, it is found through the empirical data that, although unemployment rate decreases a local tax base and tends to coerce the local organizations to increase community public services and welfare, high rate of unemployment in municipalities is a factor that impacts the fiscal capacity. This can be explained that, in the case of Thailand, municipalities located at the border provinces (Songkhla, Satun, Pattani, Yala, Narathiwat) are reported having high rates of unemployment, 1.52%, (data of 2015) and have been at the highest rate for many years which is due to the unrest situations around the areas, therefore, in order to help relieve the public burdens and to promote an investment around the provincial areas, the government provides various support through its allocations and grants along with budgets from different agencies. Moreover, it is additionally found that provinces around the areas of the Andaman Sea also have a high unemployment rate. However, the measurement on fiscal capacity states that these provinces are the group of high tourism income in which the rate might have been obtained from the survey during a seasonal unemployment period (the survey for unemployment was on people of 15 and above who were with no work for even one hour, completely unemployed, having no business/ no farming land; or persons with sickness and unable to perform any functions; those waiting for new jobs or new seasons; or any other reasons) yet, after the survey, they could be employed and work. Hence, this is in line with Badu and Li (1994).

On the contrary, average monthly income per household, average monthly expenditure per household, numbers of industrial factory, capital, poverty incidence and Gini coefficient do not have any impact on fiscal capacity of municipalities in the provincial group which is consistent with Helpap (2012) but not with Bird (2015) although these factors are varied in each municipality. In arranging allocations, the overall revenues must be scrutinized to avoid cases of some municipalities with distinguishable revenues. The scrutiny must include locally levied tax, government tax collection and allocation as well as various subsidies. If it is found that a municipal tax revenue collection is insufficient for its assigned public administrations, the value added tax and government grants are added to reduce the gap of revenue inequality.

5.2.2.2 The rate of private houses is a ratio of percentage of personal residences based on the occupied status which includes all types of households. The study reveals that this rate has a positive relationship with local administrative organizations, a municipality model, that is, the more private houses, the better local fiscal capacity which is because it is directly related to a property tax. The property tax collected from housing and building constructions and land use is resource-based view and resource dependent theory which is in line with Helpap (2012). On the other hand, the ruling area shows a negative relationship with the capacity which is because the more responsible areas, the lesser the municipal fiscal capacity as the municipality has more areas to look after and then needs to provide more public services.

However, the number of population, population density and dependent rate do not show any effect to fiscal capacity among municipalities in strategic development provincial areas which are consistent with DeSantis and Renner (1994) but not with Gordon (2004) and Soojin (2013). The reason is, although the central government allocates some tax and fee collections such as value added tax (1 in 9), specific business tax, alcohol and excise tax, etc. to municipalities, such allocations are mainly based on the number of population. That is, the allocation focuses largely on sufficient public service arrangements for the people of the community. Moreover, in allocating grants to municipalities, both general and specific grants, it is organized based on assigned responsibilities and transferred missions such as a specific grant for school lunch, a grant for supporting social service centers, a grant for elderly welfare centers, a grant for promoting and developing educational capability, etc. Municipalities consequently perform conditional duties with a fixed amount, yet unable to use their own judgment in spending.

5.2.2.3 The study shows the relationship between fiscal capacity on years of an election but not on political continuation which is in line with the political business cycle. The cycle explains that the government attempts to use a financial tool to gain political benefits, be reelected and able to perform the political roles again which is consistent with Hibbs (1977) as well as Alesina and Roubini (1990) and Wang (2011) but inconsistent with Porntip Kanjananont (2010) Ponlapat Buracom (2011) and Park (2011).

The above is because of the trends of decentralization and governance that are globally popular in developed and developing countries. Fiscal decentralization plays an important role in enhancing the use of resources earnestly and in the maximum arrangement of public services. In addition, municipalities compete with one another in performances that the benefits fall to the service users in the communities which then subsequently budgets are used for outcomes in the long term. Furthermore, people nowadays pay more attention to local politics and local politicians' performances which is unlike the past as they focused more on individuals. Most politicians today profess public accountability, with a lesser amount of corruption or complex benefits which are good characteristics and consistent with democratic principles. The public possesses the right to elect politicians with real satisfactory performances.

Hence, municipality administrators should also possess public accountability and provide opportunities for people to participate in auditing by revealing information transparently. Nowadays, being monitored is one of the core issues for the government administration.

Moreover, at the time of conducting this research, it was during the period of transformation where the National Council for Peace and Order took an important role in national peace and order as well as financial and fiscal expenditure. This might be one of the reasons why municipalities are economized and assure that their expenditures do not exceed the budget while focusing on effectiveness, efficiency and increased public services.

5.2.2.4 Since characters of each type of municipalities i.e. city, town, subdistrict, are in a form of institution, they are consistent with institutional theory. This is because the municipal act plays an important role in the establishment of each type of municipality. The act imposes authorities related to municipal public services along with various operational rules and regulations including revenues and expenditures. Such characters are the institutional environment which is an important factor in municipal establishment and administrations. Therefore, in order to create equality and be accepted by other municipalities as well as to survive, municipalities must comply with the legislation. Subsequently municipalities become an institution

according to the model of an institution that simultaneously possesses the environment of being an institution.

However, the study discloses that all city, town and subdistrict municipalities show a negative relationship with their fiscal capacity, that is, the empirical data clearly reveals that the larger the municipality, the lower the fiscal capacity. This is because, a proportion of the cost for public services is always high for a large size municipality and at the same time, people also demand more public services. The problem is, a large municipality has limited capability in revenue-raising, consequently such municipality encounters financial stress at a high level, and even if it tries hard to increase revenue through tax collection (Badu and Li, 1994), the amount is insufficient for various arrangements of public services. Therefore, being a large municipality may not always mean better fiscal capacity than a small one.

Furthermore, a municipality could also encounter different pressures of politics, society and culture that gradually result in its performances of similarity called 'Duplicative Process' which is in line with Pouder (1996) Weerasak Krueathep (2008) and Elsner (2012). It can be seen when one municipality accomplishes goals within local fiscal innovation on revenues, expenditures or borrowing, such as the project of increasing efficiency on tax and property map through geographical information technology (GIS) of Pak Praek Subdistrict Municipality, Muang District, Kanchanaburi Province; intermediate public service arrangement and fiscal plans of Rayong City Municipality, Rayong Province; borrowing money to correct problems of community infrastructure of Bantoom Town Municipality, Muang District, Khon Khaen Province (Achakorn Wongpreedee and Suntornchai Chopyot, 2017: 53-144) in which these performances are later modified by others to suit their area contexts. They also expand and extend such actions to be more efficient which is considered effective for improving public services that respond to the community needs.

5.2.2.5 Fund intergovernmental transfer is another important measurement in closing a financial gap while enhancing various local administrative organizations to be able to efficiently provide public services to their area communities. This decentralization method helps create equality among regions and local communities with differences in fiscal capacity. This study finds no relationship

between general or specific grants and municipal fiscal capacity. Such incidence can be easily explained that since city, town and sub-district municipalities have to depend on revenue from grants at a very high proportion of an average of 46.05%, this means that almost half of their revenue is from the grants that when the central government uses the grants as a crucial tool to stimulate municipalities to perform according to its policy, the municipalities are obliged to constantly and clearly operate according to all accounts along with conditions, objectives and spending methods. Municipalities are unable to use their own judgment in any spending. Although general grants are unconditional or non-commitment governmental allocations are provided that the municipalities can fully spend according to their discretion, although the grant amount is usually small. This is because the central government cannot control the operational directions or outcomes which is consistent with Groves, Godsey and Shulman (2001) Bandyopadhyay (2013) and Zhang (2013).

The study also shows that the central government's role has a crucial impact on the intergovernmental transfer. Theoretically, the government allocates the grants based on the objectives of maximum benefits to the locals, yet that is not in line with Melo (2002) who discovered that the government grants greatly increase the expenditure proportion that further results in an insufficient ongoing fiscal capacity of local governments.

The above explains why government grants are supplement revenues for municipalities and that is why allocating such grants should focus more on managing the allotment than on the size of the grants. The main objective of grants is to reduce fiscal capacity among communities on the basic principle of area fiscal equality as well as to guarantee that the remote areas are able to receive sufficient and suitable primary public services (Sakon Waranyuwattana, 2010). The data of this research is from the period when the country was run by the National Council for Peace and Order so the efficiency becomes a major consideration.

5.3 Recommendation

5.3.1 Policy Recommendation

5.3.1.1 The government should pay more attention to area development contexts in order to reduce fiscal-structure stress which is the primary problem occurring from a community's basic character.

5.3.1.2 The government should modernize some legislation especially the ones related to a locally levied tax in order to allow municipalities to set a clear policy in the operational collection, for example, billboard tax that nowadays since the format of making billboards has changed dramatically, yet the government is still under the unsuitable act for tax calculation. Some service rates or fees are also not up to date.

5.3.1.3 The government should encourage municipalities to work proactively especially the sub-district municipality on issues of revenue collecting and raising which can reduce the dependence on government grants while enabling to manage its expenditure to be more effectively and efficiently.

5.3.2 Suggestion for the Future Research

5.3.2. A variety of fiscal analytical techniques should be employed for the future study in order to examine different dimensions of the fiscal capacity.

5.3.2.2 The data should be of a long period to distinguish the development of municipal fiscal capacity. Other variables should also be added such as community business or interest groups so that various influences can be clearly seen.

5.3.2.3 Other model of local administrative organizations such as provincial administrative organization, subdistrict administrative organization, metropolitan (Bangkok, Pattaya) should be studied for data comparison of each model.

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APPENDIX

APPENDIX

Ordinal Logistic Regression Test Result of Model 1

```

PLUM FISCAP_0 WITH GPP_W CPI_AVM_INC_AVM_EXP FAC CAPITAL UNEMP
POVERTY GINI
  /CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5)
PCONVERGE(1.0E-6) SINGULAR(1.0E-8)
  /LINK=LOGIT
  /PRINT=FIT PARAMETER SUMMARY
  /SAVE=ESTPROB PREDCAT PCPROB.
    
```

PLUM - Ordinal Regression

Warnings

There are 31719 (80.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Case Processing Summary

		N	Marginal Percentage
FISCAP_0	0	521	6.6%
	1	4822	60.8%
	2	2045	25.8%
	3	366	4.6%
	4	180	2.3%
Valid		7934	100.0%
Missing		0	
Total		7934	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	16798.395			
Final	16758.178	40.217	9	.000

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	31630.974	31707	.618
Deviance	16756.792	31707	1.000

Link function: Logit.

Pseudo R-Square

Cox and Snell	.05
Nagelkerke	.06

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FISCAP_0 = 0]	.175	.787	.050	1	.824	-1.367	1.718
	[FISCAP_0 = 1]	3.565	.788	20.470	1	.000	2.021	5.110
	[FISCAP_0 = 2]	5.453	.789	47.706	1	.000	3.906	7.000
	[FISCAP_0 = 3]	6.613	.792	69.727	1	.000	5.061	8.165
Location	GPP_W	5.221E-7	1.896E-7	7.583	1	.006	1.505E-7	8.937E-7
	CPI	.023	.007	10.083	1	.001	.009	.037
	AVM_INC	-5.046E-6	6.905E-6	.534	1	.465	-1.858E-5	8.487E-6
	AVM_EXP	9.090E-6	9.435E-6	.928	1	.335	-9.403E-6	2.758E-5
	FAC	.000	.000	.083	1	.773	-.001	.001
	CAPITAL	-8.460E-14	1.950E-12	.002	1	.965	-3.906E-12	3.737E-12
	UNEMP	.136	.057	5.718	1	.017	.024	.247
	POVERTY	.000	.004	.004	1	.949	-.009	.008
	GINI	.443	.316	1.957	1	.162	-.177	1.063

Link function: Logit.

Ordinal Logistic Regression Test Result of Model 2

```

PLUM FISCAP_0 WITH GPP_W CPI_AVM_INC_AVM_EXP FAC CAPITAL UNEMP
POVERTY GINI POP DENS AREA DEPR HOUSE
  /CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5)
PCONVERGE(1.0E-6) SINGULAR(1.0E-8)
  /LINK=LOGIT
  /PRINT=FIT PARAMETER SUMMARY
  /SAVE=ESTPROB PREDCAT PCPROB.

```

PLUM - Ordinal Regression

Warnings

There are 31736 (80.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Case Processing Summary

		N	Marginal Percentage
FISCAP_0	0	521	6.6%
	1	4822	60.8%
	2	2045	25.8%
	3	366	4.6%
	4	180	2.3%
Valid		7934	100.0%
Missing		0	
Total		7934	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	16799.781			
Final	16720.095	79.686	14	.000

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	31897.264	31718	.238
Deviance	16720.095	31718	1.000

Link function: Logit.

Pseudo R-Square

Cox and Snell	.10
Nagelkerke	.11

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FISCAP_0 = 0]	-1.538	.987	2.431	1	.119	-3.472	.395
	[FISCAP_0 = 1]	1.865	.987	3.574	1	.059	-.069	3.799
	[FISCAP_0 = 2]	3.758	.987	14.485	1	.000	1.823	5.694
	[FISCAP_0 = 3]	4.919	.989	24.716	1	.000	2.980	6.858
Location	GPP_W	8.184E-9	2.488E-7	.001	1	.974	-4.794E-7	4.958E-7
	CPI	.021	.007	8.788	1	.003	.007	.036
	AVM_INC	-8.884E-6	6.981E-6	1.620	1	.203	-2.257E-5	4.798E-6
	AVM_EXP	5.121E-6	9.592E-6	.285	1	.593	-1.368E-5	2.392E-5
	FAC	6.377E-5	.000	.024	1	.877	-.001	.001
	CAPITAL	1.071E-12	1.983E-12	.292	1	.589	-2.815E-12	4.958E-12
	UNEMP	.110	.060	3.399	1	.065	-.007	.227
	POVERTY	.003	.004	.385	1	.535	-.006	.012
	GINI	.338	.325	1.087	1	.297	-.298	.974
	POP	-1.316E-6	1.994E-6	.435	1	.509	-5.224E-6	2.593E-6
	DENS	-3.735E-5	2.153E-5	3.009	1	.083	-7.955E-5	4.853E-6
	AREA	-.002	.000	24.361	1	.000	-.003	-.001
	DEPR	.001	.007	.011	1	.918	-.012	.014
	HOUSE	-.014	.004	11.951	1	.001	-.022	-.006

Link function: Logit.

Ordinal Logistic Regression Test Result of Model 3

```

PLUM FISCAP_0 BY ELECT PCON WITH GPP_W CPI_AVM_INC_AVM_EXP FAC
CAPITAL UNEMP POVERTY GINI POP DENS
AREA DEPR HOUSE
/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5)
PCONVERGE(1.0E-6) SINGULAR(1.0E-8)
/LINK=LOGIT
/PRINT=FIT PARAMETER SUMMARY
/SAVE=ESTPROB PREDCAT PCPROB.

```

PLUM - Ordinal Regression

Warnings

There are 31648 (80.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Case Processing Summary

		N	Marginal Percentage
FISCAP_0	0	519	6.6%
	1	4816	60.9%
	2	2038	25.8%
	3	361	4.6%
	4	178	2.2%
ELECT	1	6716	84.9%
	2	1196	15.1%
PCON	1	1250	15.8%
	2	6662	84.2%
Valid		7912	100.0%
Missing		22	
Total		7934	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	16717.956			
Final	16631.772	86.184	16	.000

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	31806.725	31628	.238
Deviance	16631.772	31628	1.000

Link function: Logit.

Pseudo R-Square

Cox and Snell	.11
Nagelkerke	.12

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FISCAP_0 = 0]	-1.109	1.014	1.196	1	.274	-3.097	.879
	[FISCAP_0 = 1]	2.302	1.014	5.148	1	.023	.313	4.290
	[FISCAP_0 = 2]	4.202	1.015	17.130	1	.000	2.212	6.193
	[FISCAP_0 = 3]	5.361	1.017	27.771	1	.000	3.367	7.354
Location	GPP_W	1.147E-7	2.511E-7	.208	1	.648	-3.775E-7	6.069E-7
	CPI	.020	.007	7.345	1	.007	.005	.034
	AVM_INC	-8.224E-6	7.008E-6	1.377	1	.241	-2.196E-5	5.511E-6
	AVM_EXP	3.423E-6	9.628E-6	.126	1	.722	-1.545E-5	2.229E-5
	FAC	9.310E-5	.000	.051	1	.822	-.001	.001
	CAPITAL	7.647E-13	1.985E-12	.148	1	.700	-3.126E-12	4.655E-12
	UNEMP	.094	.060	2.447	1	.118	-.024	.211
	POVERTY	.003	.004	.510	1	.475	-.006	.012
	GINI	.336	.325	1.066	1	.302	-.301	.973
	POP	-1.248E-6	2.002E-6	.389	1	.533	-5.173E-6	2.676E-6
	DENS	-4.058E-5	2.162E-5	3.523	1	.061	-8.294E-5	1.791E-6
	AREA	-.002	.000	23.085	1	.000	-.003	-.001
	DEPR	.001	.007	.007	1	.934	-.013	.014
	HOUSE	-.012	.004	9.192	1	.002	-.020	-.004
	[ELECT=1]	.521	.246	4.482	1	.034	.039	1.003
	[ELECT=2]	0 ^a	.	.	0	.	.	.
	[PCON=1]	.352	.241	2.142	1	.143	-.119	.824
	[PCON=2]	0 ^a	.	.	0	.	.	.

Link function: Logit.

Ordinal Logistic Regression Test Result of Model 4

```

PLUM FISCAP_0 BY ELECT PCON Tessaban WITH GPP_W CPI AVM_INC AVM_EXP
FAC CAPITAL UNEMP POVERTY GINI
    POP DENS AREA DEPR HOUSE
    /CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5)
PCONVERGE(1.0E-6) SINGULAR(1.0E-8)
    /LINK=LOGIT
    /PRINT=FIT PARAMETER SUMMARY
    /SAVE=ESTPROB PREDCAT PCPROB.

```

PLUM - Ordinal Regression

Warnings

There are 31648 (80.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Case Processing Summary

		N	Marginal Percentage
FISCAP_0	0	519	6.6%
	1	4816	60.9%
	2	2038	25.8%
	3	361	4.6%
	4	178	2.2%
ELECT	1	6716	84.9%
	2	1196	15.1%
PCON	1	1250	15.8%
	2	6662	84.2%
Tessaban	1	106	1.3%
	2	576	7.3%
	3	7230	91.4%
Valid		7912	100.0%
Missing		22	
Total		7934	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	16717.956			
Final	16596.075	121.881	18	.000

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	31924.535	31626	.118
Deviance	16596.075	31626	1.000

Link function: Logit.

Pseudo R-Square

Cox and Snell	.15
Nagelkerke	.17

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FISCAP_0 = 0]	-1.077	1.015	1.126	1	.289	-3.067	.913
	[FISCAP_0 = 1]	2.345	1.015	5.332	1	.021	.354	4.335
	[FISCAP_0 = 2]	4.251	1.016	17.493	1	.000	2.259	6.243
	[FISCAP_0 = 3]	5.411	1.018	28.236	1	.000	3.415	7.407
Location	GPP_W	5.171E-8	2.517E-7	.042	1	.837	-4.417E-7	5.451E-7
	CPI	.019	.007	6.623	1	.010	.004	.033
	AVM_INC	-6.348E-6	7.022E-6	.817	1	.366	-2.011E-5	7.415E-6
	AVM_EXP	5.272E-7	9.672E-6	.003	1	.957	-1.843E-5	1.948E-5
	FAC	.000	.000	.936	1	.333	.000	.001
	CAPITAL	8.217E-13	1.999E-12	.169	1	.681	-3.096E-12	4.739E-12
	UNEMP	.084	.060	1.929	1	.165	-.034	.201
	POVERTY	.001	.005	.055	1	.815	-.008	.010
	GINI	.500	.327	2.339	1	.126	-.141	1.141
	POP	9.310E-6	2.719E-6	11.727	1	.001	3.981E-6	1.464E-5
	DENS	-1.499E-5	2.204E-5	.462	1	.497	-5.818E-5	2.821E-5
	AREA	-.002	.000	25.926	1	.000	-.003	-.001
	DEPR	.003	.007	.223	1	.637	-.010	.016
	HOUSE	-.013	.004	9.551	1	.002	-.020	-.005
	[ELECT=1]	.472	.247	3.668	1	.055	-.011	.956
	[ELECT=2]	0 ^a	.	.	0	.	.	.
	[PCON=1]	.298	.241	1.527	1	.217	-.175	.771
	[PCON=2]	0 ^a	.	.	0	.	.	.
	[Tessaban=1]	-1.352	.310	18.983	1	.000	-1.961	-.744
	[Tessaban=2]	-.592	.105	31.517	1	.000	-.799	-.385
[Tessaban=3]	0 ^a	.	.	0	.	.	.	

Link function: Logit.

Ordinal Logistic Regression Test Result of Model 5

```

PLUM FISCAP_0 BY ELECT PCON Tessaban WITH GPP_W CPI AVM_INC AVM_EXP
FAC CAPITAL_UNEMP POVERTY GINI
    POP DENS AREA DEPR HOUSE GRANT SPGR
  /CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5)
PCONVERGE(1.0E-6) SINGULAR(1.0E-8)
  /LINK=LOGIT
  /PRINT=FIT PARAMETER SUMMARY
  /SAVE=ESTPROB PREDCAT PCPROB.

```

PLUM - Ordinal Regression

Warnings

There are 31636 (80.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Case Processing Summary

		N	Marginal Percentage
FISCAP_0	0	516	6.5%
	1	4816	60.9%
	2	2038	25.8%
	3	361	4.6%
	4	178	2.3%
ELECT	1	6713	84.9%
	2	1196	15.1%
PCON	1	1250	15.8%
	2	6659	84.2%
Tessaban	1	106	1.3%
	2	576	7.3%
	3	7227	91.4%
Valid		7909	100.0%
Missing		25	
Total		7934	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	16701.595			
Final	16578.180	123.415	20	.000

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	31946.096	31612	.092
Deviance	16578.180	31612	1.000

Link function: Logit.

Pseudo R-Square

Cox and Snell	.15
Nagelkerke	.18

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FISCAP_0 = 0]	-1.185	1.019	1.354	1	.245	-3.182	.811
	[FISCAP_0 = 1]	2.242	1.019	4.844	1	.028	.246	4.239
	[FISCAP_0 = 2]	4.149	1.020	16.557	1	.000	2.151	6.148
	[FISCAP_0 = 3]	5.309	1.022	27.010	1	.000	3.307	7.312
Location	GPP_W	4.813E-8	2.518E-7	.037	1	.848	-4.454E-7	5.417E-7
	CPI	.018	.007	6.127	1	.013	.004	.032
	AVM_INC	-7.326E-6	7.034E-6	1.085	1	.298	-2.111E-5	6.460E-6
	AVM_EXP	1.963E-6	9.692E-6	.041	1	.840	-1.703E-5	2.096E-5
	FAC	.000	.000	.944	1	.331	.000	.001
	CAPITAL	9.069E-13	2.002E-12	.205	1	.651	-3.017E-12	4.830E-12
	UNEMP	.089	.060	2.164	1	.141	-.029	.207
	POVERTY	.001	.005	.040	1	.841	-.008	.010

GINI	.509	.327	2.422	1	.120	-.132	1.150
POP	8.773E-6	2.773E-6	10.011	1	.002	3.338E-6	1.421E-5
DENS	-1.601E-5	2.207E-5	.526	1	.468	-5.926E-5	2.724E-5
AREA	-.002	.000	25.968	1	.000	-.003	-.001
DEPR	.003	.007	.143	1	.706	-.011	.016
HOUSE	-.013	.004	9.508	1	.002	-.020	-.005
GRANT	5.646E-10	6.339E-10	.793	1	.373	-6.779E-10	1.807E-9
SPGR	-4.517E-10	6.018E-10	.563	1	.453	-1.631E-9	7.278E-10
[ELECT=1]	.462	.247	3.490	1	.062	-.023	.946
[ELECT=2]	0 ^a	.	.	0	.	.	.
[PCON=1]	.288	.242	1.420	1	.233	-.186	.762
[PCON=2]	0 ^a	.	.	0	.	.	.
[Tessaban=1]	-1.364	.314	18.835	1	.000	-1.980	-.748
[Tessaban=2]	-.599	.106	31.992	1	.000	-.806	-.391
[Tessaban=3]	0 ^a	.	.	0	.	.	.

Link function: Logit.

BIOGRAPHY

NAME

Miss Wisuttinee Taneerat

ACDEMIC BACKGROUD

Bachelor' s Degree with a major in Public Administration from Prince of Songkla University, Songkla Province, in 2001 and a Master' s Degree in Public and Private Management at National Institute of Development Administration (NIDA), Bangkok Thailand in 2005

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Lecturer, Public Administration Program
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Received a scholarship from Prince of Songkla University project in 2013 for enrolling in the doctoral level program at the school of Public Administration Program, at National Institute of Development Administration (NIDA), Bangkok Thailand.