



ปัจจัยที่ส่งผลกระทบต่อรายจ่าย
องค์การบริหารส่วนจังหวัด:
กรณีศึกษาการศึกษา
ระดับประถมศึกษา

Factors Determining Provincial Administrative
Organizations' Expenditure:
A Case Study of Primary Education*

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บทคัดย่อ

ปัจจุบัน ประเทศไทย ได้มีการส่งเสริมให้มีการกระจายอำนาจการจัดการศึกษาให้แก่องค์กรปกครองส่วนท้องถิ่น (อปท.) โดยมุ่งหวังว่าการจัดการศึกษาโดยองค์กรปกครองส่วนท้องถิ่นจะช่วยเพิ่มประสิทธิภาพและประสิทธิผลทางการศึกษาได้ดียิ่งขึ้น เนื่องจากรัฐบาลท้องถิ่นเป็นหน่วยงานของรัฐที่ใกล้ชิดกับประชาชนมากที่สุด น่าจะตอบสนองต่อความต้องการของท้องถิ่นได้ดีกว่าโดย อปท. สามารถมีส่วนร่วมทั้งในการจัดการศึกษาในสถานศึกษาและส่งเสริมระบบการศึกษา อย่างไรก็ตาม เนื่องจากแต่ละท้องถิ่นมีลักษณะเฉพาะที่หลากหลาย และทั้งส่วนกลางและท้องถิ่นต่างก็มีงบประมาณที่จำกัด การจัดสรรงบประมาณย่อมเป็นไปตามลำดับความสำคัญของนโยบายของท้องถิ่นนั้นๆ ในอดีตมีการศึกษาถึงปัจจัยที่ส่งผลต่องบประมาณรายจ่ายสาธารณะประเภทต่างๆ ในระดับรัฐบาลท้องถิ่น แต่ในกรณีประเทศไทยมีงานศึกษาในด้านดังกล่าวจำนวนน้อยมาก อีกทั้งงานวิจัยทั้งในและต่างประเทศที่น่าปัจจัยด้านธรรมาภิบาล มาประกอบการวิเคราะห์ก็มีจำนวนน้อยเช่นกัน ดังนั้น ในงานวิจัยชิ้นนี้ จึงได้ทำการศึกษา องค์การบริหารส่วนจังหวัด (อบจ.) ซึ่งเป็น อปท. ประเภทหนึ่งที่มีการจัดการศึกษา โดยมีวัตถุประสงค์เพื่อศึกษาว่าปัจจัยใดที่มีผลต่อการกำหนดรายจ่ายสาธารณะทางด้านการศึกษาของท้องถิ่น โดยเฉพาะอย่างยิ่งงบประมาณที่มาจากรายได้ของท้องถิ่นเอง ปัจจัยดังกล่าวประกอบด้วยปัจจัยทางด้านเศรษฐกิจ สังคม การเมือง และธรรมาภิบาล โดยใช้วิธีวิจัยเชิงปริมาณ ผลการศึกษาพบว่า งบประมาณรายจ่ายต่อหัวของนักเรียนระดับประถมศึกษาสังกัดโรงเรียน อบจ. ถูกกำหนดโดยปัจจัยด้านเศรษฐกิจ คือ รายได้ที่ อบจ.จัดเก็บเอง ปัจจัยทางด้านสังคม ได้แก่ จำนวนนักเรียนและจำนวนโรงเรียน ปัจจัยทางด้านการเมือง ได้แก่ สัดส่วนคนยากจน และความต่อเนื่องในการดำรงตำแหน่งของนายก อบจ. และปัจจัยทางด้านธรรมาภิบาล ได้แก่ อบจ. ที่ได้รับรางวัล อปท. ที่มีการบริหารกิจการบ้านเมืองที่ดี และรางวัลพระปกเกล้า ด้านการส่งเสริมความโปร่งใส และการมีส่วนร่วมของประชาชน

คำสำคัญ: รายจ่ายสาธารณะทางด้านการศึกษา/ องค์การบริหารส่วนจังหวัด/ การศึกษาระดับประถมศึกษา/ ปัจจัย

Abstract

Nowadays, Local Administrative Organization (LAO) in Thailand has increased its role in education services provider. With assumption that LAO is the closest government unit so it should be responsive to local needs most. Therefore, LAO should help improve efficiency and effectiveness in public education services. Normally, LAO can take part in one or two or both education functions which are providing education in educational institute or supporting education systems. Either or both functions need educational expenditure to fulfil the public education goals. However, regarding limited resources, each LAO would allocate its expenditure to high prioritized functions. The question that which factors determine the priority of education in local government is taken into account as there are few researches on local spending on education in Thailand. Moreover, there are fewer studies on the determinants than concern about political process, in other word, governance factors in both international and national studies. In this study, its scope is to study 29 Provincial Administrative Organizations (PAOs) providing primary education services. The main objective is to investigate the determinants of socioeconomic, political and governance factors on per pupil primary education expenditure (PPE) allocated from PAOs collected revenues. The results found that economic factor: local revenue, social factors: number of students and number of schools, political factors: poverty ratio and political continuity and governance factors: PAOs received Good Governance Awards and King Prajadhipok Institute's awards

on transparency and participation promotion had significant effects on PPE.

Keywords: Local education expenditure/ Local government/ Primary Education/ Determinants

Definition

LAO = Local Administrative Organization, PAO = Provincial Administrative Organization, PPE= Per Primary Education Pupil Expenditure allocated from PAOs' collected revenue, NACC = Office of Anti-Corruption Commission, ODLOC = office of the decentralization to local government organization committee, DLA= Department of Local Administration, KPI = King Prajadhipok's Institute

Introduction

There are four main types of Thailand's LAOs: PAO, Thessaban, Tambon Administrative Organization, and special LAOs which are Bangkok Metropolitan Administration and Pattaya City. All of the LAOs which are ready could perform educational provision. In this study, it will focus only PAOs providing primary education services. Due to 75 PAOs' coverage, the results can be implied to every region. However, 52 PAOs from 75 PAOs provide education service and only 29 PAOs engage in primary education function. In the past, as for international studies on determinants of local government expenditure, they included only socio-economic and political factors. Furthermore, in Thailand, there are very few studies on

determinants of expenditure at local government level especially on education. Currently, LAOs are increasing their roles in Thailand's education system according to the Constitutions of 1997 and 2007. It is, therefore, worth investigating the determinants of PAOs' primary education expenditure to understand the PAOs' behavior in allocating education budget. Additionally, this study also has theoretical contribution in applying governance concept to analyze this issue. As a result, this research includes four main determinants as follows;

1. Economic Factors consist of two factors: GPP per capita and Local Revenue
2. Social Factors consist of four factors: Number of students, Number of Schools, Population Density and School Age Population
3. Political Factors consist of four factors: Poverty Ratio, Political Competition, Political Continuity and Voter Participation
4. Governance Factors consist of two main factors: Number of corruption complaints and PAOs received governance awards

Regarding to research's limitations, this study includes only 20 out of 29 PAOs providing primary education.*

* The PAOs in this study consist of Chiang Rai, Chiang Mai, Prachinburi, Mae Hong Son, Lampang, Kanchanaburi, Ayutthaya, Rachburi, Samutsakorn, Saraburi, Khon Khan, Yasothorn, Srisaket, Chacheongsao, Rayong, Chumpon, Pattani, Phuket and Ranong. Actually, there are 29 PAOs providing primary education service but other PAOs have problems in giving information such as delay and uncooperative staff and supervisor.

Objectives of study

1. To investigate the historical development of the public primary education administration of PAOs in Thailand.
2. To examine and analyze the determinants of PAO primary education expenditure
3. To provide policy recommendations to improve education output

Theoretical Background

Some researchers have interpreted the meaning of policy output and outcomes interchangeably. (Mandl, Dierx, & Ilzkovitz, 2008) The example of this interpretation was in Dye's studies 1967*. In order to study about determinants of public policy, it is necessary to base on the theory. The framework of this study is derived from Easton's system theory** (Easton, 1957). In this paper, economic, social and political variables would be treated as environmental factors while process determinants reflect the system's bureaucracy. The theories relating to those determinants are Wagner's law, public choice theories, political concepts and the

* Dye (1967) defined educational policy outcomes as policy outputs according to Easton's political systems theory. Apart from other educational policy outcomes such as teacher pupil ratio, teacher turnover, drop-outs, pupil expenditure was one of them. His inputs for this research were socioeconomic characters of the cities as a priori indicators of public educational demands., (Dye, 1967)

** System theory is a general theory which has objectives to identify important variables in the whole political system and to seek for relationship among the variables to analyze a public policy. There are many factors to be in concern as a multi-dimension analysis.

concept of governance. The summary of those theories are followed:

Socio- Economic Theory

- Wagner's Law

Adolph Wagner (1958) developed “the Law of Increasing State Activity”. The law’s assumption is that Wagner’s Law focuses on the relationship between the size of economy and the size of economic development. (Mahdavi, 2009) He proposed the theory to explain the relationship between economic growth and public expenditure in that when a country is during industrialization process, the real per capita income increases, the proportion of government expenditure will be higher respectively. (Wagner, 1958) Once there is an economic development, there is higher in demand for public goods and the control of externalities. This theory could be applied for both central and local governments as they have to serve their citizens through public spending. (Gupta H. , 2013)

Political Theories

- The Median Voter Model

The median voter model’s was coined by Black in 1948, and was discussed extensively by Downs in his 1957 book ‘An Economic Theory of Democracy’. (Poulette, 2013) The core idea of the model is that any politician who strays too far from voters at the philosophical center will soon be out of office. In fact, there is a

dynamic that pushes politicians to embrace the preferences of the typical or “median” voter, who sits squarely in the middle of public opinion. (Cowen, 2010) In democracy regime, political outcomes reflect median voter preferences. The voter expects considered as the demand side, so they ask the public sector to fulfill their requirements. Their satisfaction indicator will be shown in the next election. Therefore, the median voter conditions such as age, gender, income, information and expectation have an impact on public policy. If there are any changes in those conditions, they will, definitely affect their preferences. (Congleton, 2002)

- Voter Participation

Downs (1957) developed a model to examine electoral competition. The model consists of political parties, citizens and interested groups, therefore, he paid attention to the parties which developing policies to win elections. The Downsian model had been used to explain income redistribution through fiscal policy. (Larcinese, 2007)

- Political Continuity

Competitive election creates a relationship of formal accountability between policy

makers and citizens. Citizens could reward or punish their ex-winner on Election Day. (Ashworth, 2012) Therefore, with term limits, incumbents try to be more responsive in order to win the second election. There are studies which are controversial about

the political effects on redistribution policy.* (Janvry, Finan, & Sadoulet, 2012; Motta & Moriera, 2009) While the other scholar group found that with term limit, it could induce incumbents to be responsible for their citizen's needs.** (Smart & Sturm, 2013)

Governance Concept

Governance's definitions have been discussed among scholars. Therefore, there is no consensus about its definition. UNESCAP summarized the definition of governance that "governance" means: the process of decision-making and the process by which decisions are implemented (or not implemented)". (UNESCO, 2007, p. 7) Governance can be used in several contexts such as corporate governance, international governance, national governance and local governance. Apart from UNESCAP, the World Bank (1994) also developed Worldwide Governance Indicators (WGI). It contained six aspects of good governance: Voice and Accountability, Political Stability and Violence, Government Effectiveness, Rule of Law, Regulatory Quality and Control of Corruption. In term of local government, some have invented their own governance indicators such as Mexico, Romania and Philippines guideline by UNDP. (Wilde, Narang, Laberge, & Moretto,

* Janvry, Finan and Sadoulet found being able to be reelected in the second term affecting mayors' better performance than term limit reached mayors. Motta and Moreira also found that the governors had more incentives to spend on education and health if they had a chance to be re-elected.

** Smart and Sturm (2013) investigated the relationship between term limit and accountability and found that term limits affecting welfare improving from the perspective of voters.

2009) Although Thailand has promoted local governance, there is no local governance indicator yet. Therefore, to measure how local government applies governance, it needs to use alternative approaches. Local governance indicators are replaced with PAOs that received awards relating to governance.

Empirical Evidences on the Determinants of Local Education Expenditures

There are many studies from several parts of the world on the socioeconomic, political and decision making process on the educational outcomes. To understand the factors' characters and how to interpret them, this section reviews each factor and explains how they affect the local education expenditures. For economic determinants, Dye (1967), Sharkansky (1971) and Taylor & Hatcheson (1973) all found that average income has impact on local educational expenditure. For socio factors, some scholars found that population density affected this local education expenditure. (Lago-Panas & Marinez-Vezquez, 2013; Gebremariam, Gebremedhin, & Shaeffer, 2012). While an increase number of students also generates pressure for total spending on education, (Marlow & Shiers, 1999; Verbina & Chowdhury, 2002; Akanbi & Schoeman, 2013; Sousa & Mendes, 2011) the increase affects the decrease of the local per pupil spending. (Bergstrom & Goodman, 1973; Delavallade, 2006; Fernandez & Rogerson, 1997; Poterba, 1997; Kopanska & Bukowska, 2013) Some of previous studies found that enrolment rate or teacher-pupil ratio were social

factors, however, those data are not available at Thailand local level. A Thailand research utilized number of schools instead. (Sagarik, 2012) School age population also played an important role in determining spending on education. (Akanbi & Schoeman, 2013; Sousa & Mendes, 2011 and Kopanska & Bukowska, 2013) Several researchers found that political factors influence the expenditure. Andersson & Lawrence (2011) found that political competition has impact on educational spending. Some other researchers concluded in their studies that voter participation induce budget allocation to educational spending. (Fumagalli & Narciso, 2011; Aggeborn, 2013) In case of governance factors there are studies which found that governance related in increasing in educational expenditure. (Suryadarma D. , 2011)

Methodology

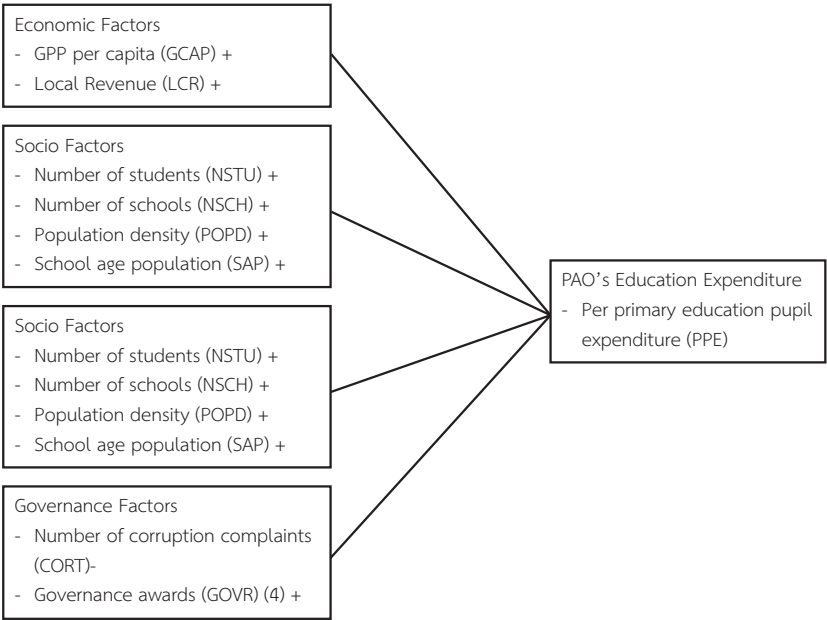
Panel data analysis is employed in this study, using four years of available data. To examine the determinants of the PAO's educational expenditure, the annual data taken from 20 out of 29 PAOs providing primary education service from 2010-2013 are utilized. The model specifications of PAO's per pupil educational expenditure (PPE) depicted as the following functional forms are following.

$$PPE = f(GCAP, LCR, NSTU, NSCH, POPD, SAP, POV, PCOM, PCON, VOTP, COURT, GOVR1, GOVR2, GOVR3, GOVR4)$$

The model includes all independent variables from the EVGD framework for each dependent variable to explain the

determinants of PAO’s per pupil primary education expenditure as follows.

Figure: Conceptual Framework: Environmental and Governance Determinants (EVGD) of PAO’s Primary Educational Expenditure



In terms of the independent variables, data on each independent variable are annual data from 2010-2013, as in the case of dependent variables.

Table 1: Operational Definitions of Dependent and Independent Variables and Sources of Data

Factor	Expected Relationship	Operational Definition	Sources
A. Dependent Variable			
PPE		Education Expenditure of PAO's primary education allocated from PAO's revenue/ number of primary students	15 of Provincial Administrative Organizations
B. Independent Variables			
GPP per capita	+	Gross provincial product per capita	Office of the National Economic and Social Development Board
LCR	+	Local government revenue excludes every type of grants-in-aids	15 of Provincial Administrative Organizations
NSTU	+/-	Number of PAO students	15 of Provincial Administrative Organizations
NSCH	+	Number of PAO schools	15 of Provincial Administrative Organizations
POPD	-	Number of population/ provincial size	National Statistical Office
SAP	+	Population age less than 15 years old	Department of Provincia Administration

Table 1 (Cont.)

Factor	Expected Relationship	Operational Definition	Sources
POV	+	Poverty headcount ratio at national poverty lines (% of population)	National Statistical Office
PCOM	+	Number of incumbents in PAO Chief Executive Election	Office of the Election Commission of Thailand
PCON	-	Use of dummies, 0 = Chief Executive of PAO who was not reelected, and 1 = Chief Executive of PAO who was reelected	Office of the Election Commission of Thailand
VOTP	+	% of voters in the last 4 years PAO's Chief Executive elections	Office of the Election Commission of Thailand
CORT	-	Number of complaints about frauds	Office of the National Anti-Corruption Commission
GOVR1	+	Use of dummies, 0 = PAO did not receive Governance Awards for Education Provision, and 1 = PAO received the award	Department of Local Administration
GOVR2	+	Use of dummies, 0 = PAO did not receive Good Governance Award, and 1 = PAO received the award	Office of Decentralization to the Local Government Organization Committee

Table 1 (Cont.)

Factor	Expected Relationship	Operational Definition	Sources
GOVR3	+	Use of dummies, 0 = PAO did not receive King Prajadhipok Awards on transparency and participation, and 1 PAO received the award.	King Prajadhipok Institute
GOVR4	+	Use of dummies, 0 = PAO did not receive King Prajadhipok Awards on Network, and 1 PAO received the award.	King Prajadhipok Institute

Empirical Results and Discussion

The analysis of this study aims to use the panel data based on PAOs providing primary educational services, to clarify the determinants of educational expenditure of Thailand local administration level. With some limitations on the data at the PAOs level such as some PAOs' staff are not cooperative while some PAO have just been transferred to the schools from the Office of the Basic Education Commission (OBEC).

The local government educational expenditure comes from the central grants and their own revenue. Unlike local government budgeting in other countries, some local governments cannot identify how much of the budget from their own revenue allocated to primary education. Only some can do so. In this study only 15 out of 20 PAOs were able to clarify how much they spent on primary educational expenditure.

Empirical Estimations of PAOs Data

The PAO's expenditure data is panel data in nature. The dependent variable is per pupil expenditure as mentioned earlier. The panel data multiple regression with random effects were employed here. The data has been tested by Hausman test* to run random effect instead of fixed effect. The empirical results of the equation presented in Table 1 can serve as provision of an analysis of the determinants of PAO's primary educational expenditure. The analyzing would also be added implication for the literature as well as for policy implication for future education administration at local government level of Thailand.

* Hausman test tests the null hypothesis that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. If they are (insignificant P-value, $\text{Prob} > \chi^2$ larger than .05) then it is safe to use random effects. If you get a significant P-value, however, you should use fixed effects. (Princeton, Data and Statistical Services)

Table 2: Estimation of PAOs' Per Pupil Primary Education Expenditure

(Independent Variable: PPE)

Variable	Model	Coefficients (Robust)	
		1	2
GPP per capita(1-year lagged)		-0.0050061	-
Local revenue (1-year lagged)		-	0.000369*
Number of students		-31.43752*	-28.69259
Number of schools		21753.24*	27411.67
Population density		12.4506	-25.0435
School age population		0.4558	0.3040
Poverty -		-790.5891*	
Variable	Model	Coefficients (Robust)	
		1	2
Political competition		-	-3971.721
Political continuity		-10070.13*	-
Voter participation		-132.1114	-
Number of corruption complaints		-	485.655
Leadership in education award		-	29081.07
Good governance award		-	24002.1*
KPI Award on transparency & participation		-	16795.97*
KPI Award on networking		-	4707.617
Observation 45		45	
R-Squared 0.4215		0.4233	

Notes: 1. Model 1 and 2 are estimated by a Random Effects Method

2. The 45 observations are from 15 provinces and 3 years (2010, 2011 and 2012)

Empirical Estimation of PPE

From Table 1, there are 7 out of 15 variables that can explain the change in PAO's PPE. After experimental statistics test running, GPP per capita and local revenue without lagged time could explain PPE less than with lagged effects. For local revenue, the result is positive and significant. The estimation implies that PPE distributed among PAOs increases with the increase in the size of local revenue. The impact of number of student is negatively and significantly determined the PPE. The allocation of expenditure per student tends to decrease with the increasing number of student. This impact shows that there is unequal distribution of resources, which results in widening the income and wealthy gap of people across provinces, as education perceived as a form of human capital. On the other hand, the number of schools has a positive and very significant impact on PPE of PAOs. This means the provinces with a larger number of schools is allocated more to PPE. The allocation of this type of budget seems not to go in line with Wagner's Law.

As for the political variable, the poverty ratio has demonstrated a highly significant impact on PPE. However, the coefficient of the poverty ratio is negative, meaning that local government has no tendency to increase PPE according to the percentage of poverty. The government does not allocate its budget depending on the poor-income group of people. For the impact of political continuity, the coefficient of political continuity is negative and the magnitude is very fair at about 0.01 indicating

that the longer PAO executive officers are in their position, the less budget allocation to PPE.

The estimation of GOVR sheds some light on the analysis of PPE for PAOs' distribution. The PAOs rewarded Good Governance Awards (GOVR2) and KPI Awards on transparency and participation (GOVR3) are significantly positive. This can be implied that PAOs with governance components especially on transparency and participation resulting in higher PPE.

Even though the allocation of PPE matches the economic contexts and the political local context, it moves in the opposite direction for the number of students. This pattern of allocation may lead to unproductive development outcomes and may not be able to solve the problem of disparity among provinces, especially when taking the number of students into account which is very important factor.

Conclusion and Policy Recommendations

In this study, attempts are made at considering whether which factors have impact on PPE. It is obvious that they are partly determined by a set of socio-economic and political determinants. The impact of local context needs to be taken into account for explaining the results. For governance determinants, all of them have positive coefficient. The most important governance factor for PPE seems to be the proxy of transparency and participation. The summary of the determinants of PAOs' educational expenditure is following.

Table 3: Summary of the Determinants of PAOs’ Educational Expenditures

No.	Determinants	PPE
1	Local Revenue 1 year lagged	+
2	Number of students	-
3	Number of schools	+
4	Poverty Ratio	-
5	Political Continuity	-
6	Good Governance Awards	+
7	KPIs awards on transparency and participation	+

There are numbers of implications should be noted here. As local governments have to be transferred more and more numbers of schools, the role of policy makers, in terms of efficiency and effectiveness in budgetary allocation, can be boosted from the application of the following policy implications.

It is somewhat clear that local government allocate resources responding to local demands. Economic development has a negative effect on educational expenditure due to local demographic contexts. Moreover, as economic growth, some parents could afford private schools which are perceived as better schools than public schools. The demands for free schools would be less. For political determinants, the poverty ratio referred to the median voter. It could be implied that they prefer other

redistributive policies than educational policy. However, political continuity should be taken into concern. The political continuity among parents and cousins is normal practice for a local political context. From previous studies, two-terms reelection bring about better allocation to welfare spending than one term or no term limits. It should be reconsidered carefully so that political continuity will not affect efficiency in allocating educational expenditure. Last but not least, the result shows that governance plays an important role in determining local educational expenditures. The composition of governance which is transparency, participation has a significant impact on PAO's educational expenditure. The governance factor reflects the PAO's system itself, as a policy recommendation, to improve PAO's educational expenditure by making it more responsive to the local demands and more effectiveness, Local governance should be promoted by supporting participatory budgeting, having opened access to local government's information and increasing program escalating networking for local education.

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