Explaining the Growth of Public Spending in Thailand: Demand-Side, Supply-Side Explanations and Empowerment

Ponlapat Buracom, Ph.D.*

Abstract

The paper proposes to prove the validity of two major theories on public expenditure allocation: demand-side and supply-side theories. In contrast to more advanced democratic societies, Thai public spending growth is dominantly determined by supply-side factors. This trend causes inefficiency and misallocation of public resources. A more balanced approach integrating both the demand and supply factors is therefore required for better public resources allocation in Thailand.

บทคัดย่อ

บทความนี้เป็นการพยายามพิสูจน์ความถูกต้องของทฤษฎีรายจ่ายสาธารณะ โดยแบ่งออกเป็น 2 กลุ่มทฤษฎี คือ ทฤษฎีที่เน้นปัจจัยด้านอุปสงค์ และทฤษฎีที่เน้น ปัจจัยด้านอุปทาน จากการศึกษาพบว่าในทางตรงกันข้ามกับการศึกษาทั่วไปของ ประเทศที่มีระบบการเมืองแบบประชาธิปไตยที่พัฒนาแล้ว การจัดสรรรายจ่าย สาธารณะในประเทศไทยมีแนวโน้มถูกกำหนดโดยปัจจัยด้านอุปทานเป็นหลัก แนวโน้ม ดังกล่าวนี้ทำให้เกิดการขาดประสิทธิภาพในการจัดสรรรายจ่ายสาธารณะ ซึ่งแนวโน้ม การแก้ไข ก็คือ การพัฒนาให้ระบบงบประมาณของไทยสามารถตอบสนองต่อปัจจัยด้าน อุปสงค์และอุปทานอย่างมีความสมดุลมากขึ้น เพื่อให้การจัดสรรทรัพยากรของภาครัฐ มีประสิทธิภาพมากขึ้น

* Associate Professor, School of Public Administration

  National Institute of Development Administration, Bangkok, Thailand.

1. Introduction

The growth of public spending has been the topic of interest among many scholars (e.g. Lybeck and Henrekson, 1988 Borcherding, 1985 Mueller, 2003 Tanzi and Schuknecht, 2000). Most of these studies have been concentrated on the study of the growth of public spending in the developed countries, especially the European Union and the United States. Only a few studies have focused on studying the growth of public spending in developing countries, especially in Thailand. (Wildavsky, 1964; Wilensky, 1975; Van de Walle and Nead, 1995; Limmanee, 1984).

Table 1 shows the expansion of public spending in Thailand from 1982 to 2003. From the Table, we can see that Thai public spending in absolute terms has been increasing overtime. That is, during 1982, the total public spending was equal to 161,000 million Baht. But the figure had climbed to 984,000 million before the Thai economic crisis in 1997. After that the growth of public spending slowed down and then increased again to 1,023,000 million Baht in 2002. Table 1 also shows Thailand's total public spending in terms relative to the GDP. Although the figure did not seem to increase very much, there is also some evidence of expansion. That is, during 1982-1989, the total public spending was only about 16 percent of the GDP. But after 1993, the total the public spending was increased to 17-18 percent of the GDP. This trend therefore indicates an increase in the size of the public sector itself as compared to the entire economy.

Despite this increase in public spending, very little research has been geared towards the explanation of this growth. The focus of this study is therefore on the factors that determine the expansion of public spending in Thailand during the years 1982 to 2003.

Not only must the Thai government must decide every year on how much money it needs to spend on total government spending, the Thai government, like all other governments, must also allocate its spending between consumption and investment.

Table 1 The Size of Total Public Spending in Thailand 1982-2003

Year	Total public spending (million Baht)	Total public spending (as % of GDP)
1982	161,000	16.5
1983	177,000	16.2
1984	192,000	16.6
1985	213,000	16.7
1986	218,000	16.3
1987	227,500	16.4
1988	243,500	16.6
1989	285,500	16.9
1990	335,000	15.3
1991	387,500	15.5
1992	460,400	16.3
1993	560,000	17.7
1994	625,000	17.2
1995	715,000	17.1
1996	843,200	18.3
1997	984,000	19.2
1998	923,000	17.9
1999	825,000	17.8
2000	860,000	17.5
2001	910,000	17.7
2002	1,023,000	18.8
2003	999,900	17.9

Source: Bureau of the Budget, **Thailand's Budget in Brief** (1987, 1992, 1997, 2003)

Table 2 shows the shape of public spending on consumption and investment of the Thai government also from 1982 to 2003. From the Table, we can see that the Thai government has allocated a very large proportion (about 70-75 percent) of its spending on consumption, and only about 25 percent is left for investment. Yet these proportions tended to vary overtime. In many years (e.g. 1989-1997), the proportion of government spending allocated to investment tended to increase. And after the economic crisis in Thailand in 1997, government consumption spending in Thailand increased dramatically from 56.3 to 75.4 percent in 2003.

Table 2 The Size of Public Consumption and Investment Spending in Thailand (1982-2003)

(as % of total spending)

Year	Public Consumption Spending[1]	Public Investment Spending[2]
1982	74.4	22.7
1983	76.7	19.8
1984	77.3	18.3
1985	77.1	16.7
1986	77.7	15.9
1987	77.2	16.0
1988	76.3	16.6
1989	73.7	18.8
1990	67.9	24.5
1991	67.6	27.3
1992	65.6	28.4
1993	62.7	30.6
1994	60.2	34.1
1995	60.8	35.5
1996	57.2	38.8
1997	56.3	41.1
1998	62.6	33.6
1999	71.0	28.3

Table 2 (continued)   (as % of total spending)

Year	Public Consumption Spending[1]	Public Investment Spending[2]
2000	73.7	25.5
2001	74.7	24.0
2002	75.6	21.9
2003	75.4	21.1

Source: Bureau of the Budget, **Thailand's Budget in Brief** (1987, 1992, 1997, 2003)

1. Consumption spending is a general administrative expense, such as salaries, wages, personal expenses and other procurements which are not related to capital formation.

2. Investment spending involves economic expenses on fixed assets, such as land and buildings which contribute to capital formation.

Public finance theorists (Musgrave and Musgrave, 1989 Rosen, 1999 Perkins et al., 2001: 423) believe that government investment spending is more productive for the economy than consumption spending because investment spending tends to increase the stocks of capital to a society, which thereby can stimulate more investment and more economic growth. If the government can allocate more of its limited resources to investment, this will be more conductive to economic development. Therefore another important question is how the Thai government allocates its resources to investment and consumption or in other words, what factors determine the allocation of public spending between consumption and investment in Thailand?

2. Objectives of the Study

The focus of this study is on the factors that determined the size of pubic spending in Thailand from 1982-2003. And in studying the growth of public spending, we divide pubic spending into 3 types:

1. Total public spending as a percentage of the Gross Domestic Product (GDP).

2. Public consumption spending as a percentage of total spending.

3. Public investment spending as a percentage of total spending.

The objectives of this study can therefore be specified as follows:

1. To study factors determining changes in the total public spending in Thailand from 1982-2003.

2. To determine the factors influencing the allocations of public spending between consumption and investment.

3. To offer recommendations on improving the use of public resources in Thailand.

And in explaining these allocations of public spending, an empirical model integrating both demand and supply-side factors will be developed and tested.

3. Theoretical Framework

In studying public spending, two different conceptions of public spending can be put forwards. The demand-side theory, based on traditional democratic theory, specifies that the government is simply an agent which carries out the will or demand of the people. In this view the government is considered to be a neutral and altruistic agent that responds to the needs of a society. In this view, therefore the shape of public expenditure is simply a response to the changing socio-economic demand of a society.

A second conception of public spending is called the supply-side theory. In this view, it is believed that the government is not simply an instrument of a society but plays an important role in shaping public policy and public spending to serve its own interest. In this view, it is postulated that government has discretionary power to promote its own interests, whereas the preferences of the citizens are of secondary importance.

Although a true understanding of the growth of public spending requires both views of the government, we will here try to compare the explanatory power of these two theories of public spending. In the first subsection we review public spending theories acting on the demand side and suggest empirical indicators to be used in the testing. In the second subsection this procedure is repeated for the supply side.

3.1 Demand-Side Explanations

Several theories or perspectives can be classified under the demand-side explanations.

Wagner's Law. Adolph Wagner (1883, 1890) a German Sociologist, formulated a "law of expanding public expenditure" over one hundred years ago. Wagner believed that there are several reasons why public expenditure tends to increase overtime. Fist, industrialization, urbanization and increased population density resulting from industrialization would give rise to a need for more public provision of public facilities and infrastructures, as well as more expenditures on law and order. Moreover, an increase in economic growth would facilitate the expansion of certain income-elastic demand, such as demand for more education, airports, mass transportations, etc.

What may be seen as a modern variant of Wagner's Law has been expounded by North and Wallis (1982) and North (1985). In their studies, an in crease in industrialization and division of labor in the course of economic development is also claimed to be the main cause behind the growth of government expenditure.

To test the validity of Wagner's Law, we apply 4 different variables in our estimation model: the degree of urbanization, the degree of industrialization, the real GDP, and the population growth rate. All of these variables should have a positive relationship with public spending.

Baumol's Disease Model. Another perspective on the growth of public expenditure has been proposed by Baumol (1967). In this model, the explanation is based on the assumption that the relative cost of production of public goods tends to rise. This is because of low competition in producing goods or services in the public sector compared to that in the private sector. This inherent nature of the pubic sector renders productivity advances in the public sector very difficult, thereby leading to an increase in the cost of production of public goods which causes public expenditure to increase overtime.

This phenomenon, often named Baumol's Disease after its inventor, can be classified under both demand-side as well as supply-side explanations.

Nevertheless, because many writers (such as Spann, 1977 and Lybeck, 1986) have offered this explanation on the supply-side and found support for this thesis, we will use the supply-side explanation.

To test for this Baumol's Disease effect, we can use inflation rate as a measure of the higher cost of production of the public sector. That is, a higher inflation rate should lead to an increase in the cost of production of the public sector and thereby causes public expenditure to increase.

Median Voter Theory and the Demand for Income Distribution. Although there are many variants within the Public Choice theory, one of the most important perspectives within the public choice school is the median voter theory developed by Downs (1957), Meltzer and Richard (1981, 1983). In this theory, it is believed that the government, in order to get elected, must try to respond to the needs of the voter. In this model, government expenditure grows when the franchise is extended to include more voters below the median income (the decisive voter), when the growth of incomes provides revenues for increased redistribution and when the income distribution becomes more uneven. As the market produces a distribution of income less equal than the distribution of votes, those with the lowest income use the political process to implement redistribution programs in their own favour and this causes government spending to expand.

To test the validity of this theory, we can use the Gini coefficient as a measure of income inequality. The higher the value of the coefficient, the higher the inequality of income distribution, the lower it is, the more equitable the distribution of income.

The Gini coefficient is expected to have a positive relationship with government spending.

3.2 Supply-Side Explanations

There is no clear-cut distinction between demand-side and supply-side theories. Some variables or explanations can be classified under both the demand and the supply side. The following theories are classified as supply-side theories

here because all of these theories share the same idea that the government has its own interest and plays an important role in shaping public spending to serve its own interest.

Baumol's disease model. This model has been discussed above under the demand factors, so very little further elaboration is needed here. The basic rationale of this model is the higher cost of production in the public sector. Consequently, the government needs to increase its public spending to cover the increasing cost of production.

To prove this model, we can use inflation rate as a measure of the cost of production of the public sector. Higher inflation rate is expected to have a positive relationship with public spending growth.

Fiscal Illusion Theory. Another variant of public choice theory is the so-called fiscal illusion theory proposed by Buchanan (1975), Marshall (1991) and Oates (1988). In this theory it is believed that the government has preferences for expanding its public spending. These preferences for larger budgets are said to be due to the need to satisfy the increasing demand of the voters. But in order to increase the budget, the government needs to increase taxes and this action will cause dissatisfaction on the part of the voters. To reduce this dissatisfaction the government usually tries to collect taxes that are less visible to the taxpayer. And this can be done in several ways. First, indirect taxes (e.g. sale taxes or VAT, excise taxes, and import-export taxes), for example, are less visible to the taxpayers. This is because the burden of the taxes can be shifted to the consumers by adding to the prices of goods or services. All of these burdens are less visible to the consumers because there are so many goods and services that people consume everyday. Second, debt financing is also less visible to the taxpayers because the burden is shifted to the taxpayers in the future.

To prove this theory, we include tax as a percentage of the GDP, budget deficit as a percentage of total expenditure, and proportion of direct tax to total taxes among the independent variables.

• Tax as a percentage of the GDP represents a financial constraints on public spending. If the government can collect more taxes, the capability to increase public spending will also increase. So, we expect a positive relationship between taxes as a percentage of the GDP and public spending.

• Budget deficit is also expected to have a positive relationship with public spending because debt financing gives the government opportunity to increase its spending without the necessity of dissatisfying the present voter.

• The proportion of direct tax to total tax is expected to have a negative relationship with the growth of public spending. If the government collects a small proportion of direct taxes (which means a more reliance on indirect taxes), this should give the government more opportunity to increase public spending because indirect taxes are less visible to the taxpayers and thereby causes less resistance.

Keynesian Theory and Counter-Cyclical Policy. The government may respond to recessions and unemployment by increasing expenditures. The rationale behind this Keynesian theory is that an increase in government spending can stimulate an increase in aggregate demand and thereby can stimulate higher economic growth and more employment. Some studies, such as Henrekson (1988) and Cameron (1984) find that unemployment tends to have a positive relationship with public spending. In accordance, we do include unemployment rate among our independent variables.

Incrementalism views public expenditure as a continuation of past expenditure with only incremental modifications (Lindblom, 1959; Wildavsky, 1964). According to this theory, the government or the policymakers do not have enough time, information, or money to investigate all their alternatives into existing policy because there are so many uncertainties involved. To avoid these uncertainties and risk, public spending is made incrementally. That is in making a budget, policymakers concentrate their attention on modest changes—increases or decreases?—in existing spending. For Wildavsky (1964), incrementalism is especially pervasive in budget making. Because of the constraints of time, information, and money, budget makers do not reconsider the value of all existing programs each year. Rather the previous year's expenditures are usually considered as a base of spending and the new spending is adjusted from that year's base.

Incrementalism therefore provides a good prediction of government spending. The previous year's expenditure level is the best predictor of the next year's expenditure level. Incrementalism is also an explanatory theory: it helps explain the limited rationality in the budget making process. Instead of responding to the demand of the society, government spending programs can persist and grow overtime, long after their value to society has diminished.

To prove the validity of incrementalism, a one-year lagged public spending variable is employed as a predictor of the current public spending. We expect to find a high positive relationship between a lagged public spending variable and the current public spending, if the argument of incrementalism is correct.

Political Business Cycles Theory. The focus of public choice theory is mainly on how politics affects public expenditure. As proposed by many public choice theorists (e.g. Paldam, 1977; Alesina and Roubini, 1992; Hibbs, 1977) a business cycle or an economic fluctuation can also be created by the government or by competition for election between political parties. That is why it is called a political business cycle.

In this view, the government, the political party or politicians are profit-maximizers. They are all want to maximize their own interest, and their main interest is to become reelected. In this way public spending is usually used by the government or political party as an instrument to manipulate political support during an election. That is, during the period before the election, the government or government party will increase public spending to stimulate higher economic growth and to reduce unemployment to satisfy the voters and to gain an advantage in the election. This action therefore tends to cause economic fluctuation.

To test this model, year with general election (dummy variable, 1 in the year before and the year of the election, 0 in other years) is employed as a predictor of the growth of public spending. We expect to have a positive relationship between the year of election and public expenditure growth.

4. Specification of the Model

The aim of this section is to derive an empirically testable model of the growth of the public spending. Since the public spending growth is the result of both demand-side as well as supply-side factors, the empirical model specifying the relationship between dependent and independent variables can be developed as follows:

Dependent and Independent Variables Applied to Explaining Publicing Spending in Thailand, 1982-2003

Dependent Variables	
GEXP	Total government spending as % of GDP
GCONS	Government consumption spending as % of total spending
GINV	Government investment spending as % of total spending

Independent Demand Variables and their Expected Sign		
GDP	+	Gross Domestic Product at current prices (in billion Baht)
IND	+	Growth rate of labor in industrial sector (%)
URB	+	Growth rate of total population living in urban areas (%)
POP	+	Population growth rate (%)
GINI	+	Gini coefficient

Independent Supply Variables and their Expected Sign		
REV	+	Total tax as % of GDP
DEFCT	+	Budget deficit as % of total budget
DIRCT	-	Proportion of direct tax to total tax (%)
INFT	+	Inflation rate (%)
UNEMP	+	Unemployment rate (%)
LGEXP	+	One-year lagged total public spending as % of GDP
LGCONS	+	One-year lagged public consumption spending as % of GDP
LGINV	+	One-year lagged public investment spending as % of GDP
ELEC	+	Election Cycle
		(dummy variable 1 in one year before and year of election, 0 in other years)

Sources: of data the data for all of these dependent and independent variables are collected from many sources the following

- Data for Dependent variables, REV, DEFCT, DIRCT, LGEXP, LGCONS, LGINV are from the Bureau of the Budget, Thailand's Budget In Brief (1982-2003).
- GDP, INFT are from the Bank of Thailand, Thailand's Key Economic Indicators 1982-2005 (online). http://www.bot.or.th/bothomepage/databank/EconData.
- IND, URB, POP, UNEMP are from the National Statistics Office, Thailand's Statistics Yearbook (1987, 1989, 1992, 1995, 1997, 1999, 2000, 2003, 2004)
- GINI are from Medhi Krongkaew (1989), Pranee Tinnakorn (2002).
- ELEC are from the Pra-Pokkrow Institute, Lessons from Thai General Elections: Experience and Reform (2001).

Note: Data for all variables except the GINI are available for 22 years from 1982-2003. Data for GINI are available for only 10 years.

From the above specifications of dependent and independent variables, we can formulate regression equations as follows:

Demand-side explanation

$$GEXP = a + b_1GDP + b_2IND + b_3URB + b_4 POP$$
$$GEXP = a + b_1GINI$$
$$GCONS = a + b_1GDP + b_2IND + b_3URB + b_4 POP$$
$$GCONS = a + b_1GINI$$
$$GINV = a + b_1GDP + b_2IND + b_3URB + b_4 POP$$
$$GINV = a + b_1GINI$$

Supply-side explanation

$$GEXP = a + b_1REV + b_2DEFCT + b_3DIRCT + b_4INFT + b_5UNEMP + b_6LGEXP + b_7ELEC$$
$$GCONS = a + b_1REV + b_2DEFCT + b_3DIRCT + b_4INFT + b_5UNEMP + b_6LGCONS + b_7ELEC$$
$$GINV = a + b_1REV + b_2DEFCT + b_3DIRCT + b_4INFT + b_5UNEMP + b_6LGINV + b_7ELEC$$

5. Empirical Results

The empirical findings from the multiple regression can be summarized for each dependent variable the follows:

5.1 Total government spending (GEXP)

Table 3 shows the coefficients from regression analysis. The findings can be summarized as follows:

Demand-side explanations. Unlike contrary to the demand-side theories, the demand-side factors do not seem to have significant effects on total government spending, except for the GDP. In contrary to Wagner's Law, industrialization (IND), urbanization (URB), and population growth (POP) have no significant relationship with total public spending. Only the GDP or the level of economic growth has a positive relationship with total spending. The coefficient of .348 means that an increase in the GDP by 1 percent can cause an expansion of total public spending by .348 percent. This relation is also statistically significant at a 0.05 level. This finding therefore to some extent, supports Wagner's Law.

Table 3 Empirical Results of Regression on Total Public Spending in Thailand, 1982-2003

Independent variables	Dependent variable: Total public spending (GEXP)	
	Coefficients (Beta)	Sig
Demand-side explanation		
GDP	.348*	.042
IND	.009	.984
URB	-.034	.917
POP	.661	.150
R^2 = .369* n = 22	Sig = .053	
Demand-side explanation		
GINI	-.541	.106
R^2 = .293 n = 10	Sig = .106	

Table 3 (continued)

Independent variables	Dependent variable: Total public spending (GEXP)	
	Coefficients (Beta)	Sig
Supply-side explanation		
REV	.580*	.052
DEFCT	-.054	.836
DIRCT	.523	.249
INFT	.466	.215
UNEMP	.460	.281
LGEXP	.464**	.014
ELEC	-.037	.842
R^2 = .627* n = 22	Sig = .026	

Note: *   statistically significant at a 0.05 level.

    ** statistically significant at a 0.01 level.

And also in contrary to the median-voter theory, income inequality (Gini) has no significant effect on total spending.

Supply-side explanations. In contrast to the demand-side theories, the supply-side variables are in general more significant than those on the demand side. Table 3 also shows us the relationship between supply side variables and total public spending. We find a significant positive relationship between tax revenue (REV) and total public spending. That is, an increase in tax revenue by 1 percent tends to cause the an expansion of total public spending by .58 percent (coefficient = .580*). This is to some extent supports the fiscal illusion theory. Nevertheless we find no significant relationship between DEFCT, DIRCT and total public spending. This may be because the Thai government may use the budget deficit as a mean to cover the revenue shortfall more than as a mean of increasing spending. This argument is supported by a high correlation between REV and DEFCT (Correlation = -.668, Sig = .001), which means that the Thai government usually increases debt financing (budget deficit) whenever the revenue is shortfalling to maintain the existing spending.

We also find no significant relationship between INFT, UNEMP, ELEC and total public spending. This is not supportive to of Baumol's disease, Keynesian or the Political Business Cycle hypotheses.

Another supply side variable that has a high significant positive relationship with total public spending is LGEXP. This finding lends support to the argument Incrementalism that the present level of pubic spending is usually marginally adjusted from the previous year's level. This relationship is statistically significant at a 0.01 level.

Moreover, the value of R^2 = .627 means that all of the supply side variables together can explain about 62 percent of the variation in the total public spending. The finding therefore confirms the importance of supply-side variables over those on the demand-side.

In summary, we can conclude that the Thai government usually bases its decision on increasing or decreasing total public spending level by primarily taking a look at the previous year's spending level and also at the level of the tax revenue they can collect. So, the level of total public spending is primarily determined by the previous year's spending and the amount of tax revenue. All these lend support more to the supply-side theory.

Although one of the demand side variables (GDP) also has a positive effect on total public expenditure, but the effect is quite small. So, the increase in GDP can stimulate more demand for public goods and force the government to respond to these new demand by increasing public spending. But we can argue as well that an increase in GDP may effect the total government spending via supply-side factors. It is quite possible that an increase in the GDP can cause the tax revenues to increase because the government can collect more taxes.

This idea is supported by a high correlation between GDP and tax revenue (correlation = .686, sig = .000). And higher tax revenue therefore causes the expansion of total public spending.

| higher GDP | → | more tax revenue | → | more public spending |

5.2 Government Consumption Spending (GCONS)

Table 4 shows the relationship between the independent variables and public consumption spending.

Demand-side explanation Unlike the argument of demand-side theory, not all of the demand-side factors have a significant effect on consumption

expenditure of the government. The level of public consumption expenditure is therefore basically determined by the supply factors.

Supply-side explanation. Three supply side variables have a significant positive relationship with consumption expenditure: REV, INFT, and LGCONS. This means that the Thai government usually increases consumption expenditure as tax revenue increases. The coefficient of **.223** means that when the tax revenue increases by 1 percent, consumption expenditure tends to increase by **.223** percent. Moreover the Thai government also adjusts consumption expenditure (e.g. salaries and wages) when the cost of living (inflation) increases.

Table 4 Empirical Results of Regression on Public Consumption Spending in Thailand, 1982-2003

Independent variables	Dependent variable: Public consumption spending (GCONS)	
	Coefficients (Beta)	Sig.
Demand-side explanation		
GDP	-.481	.272
IND	.252	.250
URB	.333	.344
POP	-.048	.913
R^2 = .381 n = 22	Sig = .072	
Demand-side explanation		
GINI	-.378	.254
R^2 = .159 n = 10	Sig = .254	
Supply-side explanation		
REV	.223*	.034
DEFCT	-.037	.826
DIRCT	-.232	.118
INFT	.310**	.009
UNEMP	-.087	.430
LGCONS	.653**	.002
ELEC	.050	.367
R^2 = .768** n = 22	Sig = .000	

Note: *   statistically significant at 0.05 level.

       ** statistically significant at 0.01 level.

LGCONS also has a significant positive relationship with consumption expenditure. This means the present consumption spending is usually marginally adjusted from that of the previous year's level. This also lends support to Incrementalism.

In summary, we can conclude that the supply-side variables are more significant in explaining the variation in public consumption expenditure than those on the demand side. R^2 = .768 means that all of the supply side variables together can explain as high as a 76 percent variation in consumption spending.

5.3 Government Investment Spending (GINV)

Table 5 shows the coefficients of the relationship between the independent variables and public investment spending.

Demand-side explanation.   Here, the demand-side variables do not seem to have a significant effect on investment spending either except for GDP. The coefficient of .336 means that an increase in one percent of the GDP tends to cause the expansion of public investment spending by .336 percent. This relationship means that an increase in the GDP can stimulate more demand for pubic goods, which causes public investment spending to increase. This relationship therefore, to some extent, supports Wagner's Law.

Supply-side explanation.   Three supply side variables also have a significant positive relationship with investment spending: REV, INFT, and LGINV. This means that the Thai government usually increases investment spending as tax revenue increases. The coefficient of .179 means that as tax revenue increases by 1 percent, investment expenditure tends to increase by .179 percent. The effect therefore is quite small. Moreover, the Thai government also tends to increase investment spending when the cost of production (inflation) is increasing. Finally, LGINV also has a significant positive relationship with investment expenditure. This also means that the present investment spending is usually marginally adjusted from that of the previous year's level. This also supports the incrementalism argument.

Table 5 Empirical Results of Regression on public Investment spending in Thailand,
1982-2003

Independent variables	Dependent variable Public Investment spending (GINV)	
	Coefficients (Beta)	Sig
Demand-side explanation		
GDP	.336*	.016
IND	-.244	.206
URB	-.254	.409
POP	-.062	.872
R^2 = .523** n = 22	Sig = .010	
Demand-side explanation		
GINI	.373	.288
R^2 = .139 n = 10	Sig = .288	
Supply-side explanation		
REV	.179*	.056
DEFCT	-.041	.771
DIRCT	.063	.607
INFT	.188*	.031
UNEMP	-.093	.292
LGINV	.720**	.000
ELEC	-.006	.884
R^2 = .780** n = 22	Sig = .000	

Note: *   statistically significant at 0.05 level.
** statistically significant at 0.01 level.

6. Conclusions and Recommendations: Empowerment and the Better Use of Public Resources

What we have discussed so far is about efficiency in the allocation of public resources. In this paper, 2 major theories of pubic expenditure allocation have been proposed the demand-side and the supply-side theories. The demand-side theory, based on the traditional democratic theory, believes that the government must carry out the will of the people. That is public expenditure

must be responsive to the demand of the people and the society. In this view, to be effective, public expenditure must be responsive to the changing socio-economic demand of a society. The supply-side theory, on the other hand, believes that the government does have a discretionary power of its own, whereas the preferences of the citizens are of secondary importance. In allocating pubic spending, the government's own preferences can take a prominent part.

Indeed, in order to be effective, public expenditure must be allocated in response to both the demand and supply-side factors. Most studies of public spending in more advanced democratic countries have often found that public expenditure growth in these particular countries is a result of a complex interaction of forces acting on the demand as well as the supply side (Henrekson, 1988; Cameron, 1984; Tanzi and Schucknecht, 2000). For example, we usually found that in advanced democratic societies demand factors such as economic growth, urbanization, income inequality among classes, strength of the labor union, aging of the population, as well as, the supply-side factors such as ability to raise revenue, inflation, elections and the expansion of bureaucracy, are all important in determining the growth of public spending.

However, in Thailand, what we have found in this study is that the supply side variables tend to take primary importance compared to those on the demand side. This means that the changes in Thai pubic spending is primarily determined by supply side factors such as the capability to increase taxes revenue, inflation, and the previous year's spending level. The demand side factors, such as industrialization, urbanization, and inequality in income distribution, on the other hand, do not seem to play a significant role except only for the GDP. This particular characteristic of public resources allocation in Thailand may cause many inefficiency and misallocation effects because instead of responding to the demands at the society level, public spending is more responsive to the supplier's demand.

Table 6 shows an example of the inefficiency and misallocation of public resources in Thailand, and further indicates the distribution of public expenditure classified by region in Thailand during the year 1997. From the table, we can see that public resources are distributed inequally among regions,

with a bias toward Bangkok and the peripheries. About half (**45** percent) of the total public expenditure in Thailand was allocated to Bangkok and only about **18.4** percent, and **13.2** percent and about **4** to **8** percent, were left to Northeastern, North, and other regions, respectively. This trend is also true for the allocation of consumption and investment expenditures.

Table 6 The Distribution of Pubic Expenditure Classified by Region, 1997

Regions	Total spending (%)	Consumption spending (%)	Investment spending (%)
North-Eastern	18.4	17.8	19.7
North	13.2	12.9	13.8
South	8.8	9.4	7.5
Eastern	5.2	5.3	5.2
Western	4.5	4.3	4.8
Central	4.7	4.3	5.4
Bangkok and Peripheries	45.2	45.9	43.7

Source: Pranee Tinnakorn (2002: Table 20)

This bias of public resource allocation toward Bangkok is even more pronounced if we take into account that only **12.2** percent of Thai population live in Bangkok and peripheries. And this trend of bias is very difficult to reverse because decisions on public spending allocation are often made incrementally—policymakers concentrate their decisions on modest changes from existing spending patterns.

Table 7 also shows the poor targeting of public education expenditure allocation in Thailand. Education expenditure tends to benefit the rich more than the poor. The low and lowest income groups received only about **31.2** percent of total education expenditure. This inequality, therefore, causes misallocation and inefficiency of public resource utilization.

Table 7 Benefit Incidence of Public Education Expenditure Classified by Income Class, 1997

Income class	Benefit Incidence of Public Education Expenditure (% of total spending)
Lowest income	15.53
Low income	15.67
Middle income	15.85
High income	19.24
Highest income	33.71
Total	100.00

Source: Direk Pattamasiriwat, et al., (1999: Table 12.9)

To reduce the inefficiency and misallocation of public resources, public expenditure reform is necessary. In the past, Thailand has implemented several fiscal reforms with the belief that these reforms might help increase the efficiency in public resource allocations. But most of these past reforms tended to focus simply on technical changes, such the introduction of a program budget, and later on a performance-based budget into the budgetary process and also the introduction of the Government Financial Information System (GFMIS) as a mean for better resource planning. All of these are good innovations but they are inadequate.

To make better use of public resources, Thailand will need to reallocate expenditures while learning to use their resources more efficiently. And this will take both political as well as institutional change (not only technical change). The vital step will embrance a more pluralistic approach to public service delivery, permiting direct public involvement in the process of public resource allocation; that is, to empower the people with a "voice," so that the demands of the people at the societal level can have more significant effects on public expenditure allocation.

In the case of Thailand, this can be accomplished in many ways, such as

(1) Increasing the roles of citizen organizations, such as the Economic and

Social Advisory Board, in setting the directions and priorities of public expenditure allocation.

(2) Setting up a budget agency directly under the Parliament to gather the demands and preferences of the people on public expenditure allocation so that the members of Parliament can have more information about the needs of the people.

(3) Enhancing broader-based public participation in the budget committees during the budget approval process.

(4) And at the implementation level, the people sector should be allowed to actively participate in the design, implementation and monitoring of public expenditure programs.

With all these, a greater balance between demand and supply side factors in determining public resource allocation can be established.

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