

# A Study on the Alleviation of Fiscal Disparity in the Seoul Metropolitan Area

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## 【Abstract】

Fiscal disparity problems are common in metropolitan areas all over the world. The Seoul metropolitan city, as other big cities, shares the same problem. However, a local autonomy system in Korea, which had been reinstated from March 1991, contributes to the fiscal gap among local governments. The Seoul metropolitan area consists of 25 basic units of local governments which are called districts. Each district has autonomy with which they can exercise legislative, administrative, and organizational power including independent financial power. After 10 years of practicing the local autonomy system, the fiscal disparity problem has risen to the surface in the city of Seoul.

To alleviate the problem of fiscal disparity the city of Seoul has proposed an exchange of tax base between the Seoul metropolitan government and the district. The proposed tax base of the city is a tobacco consumption tax and an aggregate land tax of the district. The share of the aggregate land tax revenue varies among 25 districts, whereas the variation of the tobacco consumption tax revenue is relatively small. However, those districts which have high land prices have been opposed to the idea of exchanging the tax base.

Therefore, this paper investigates the problem of fiscal disparity in the Seoul metropolitan area and proposes a solution by introducing the aggregate land tax base shared between the Seoul metropolitan government and the district in lieu of exchanging the tax base.

## I. Introduction

The Seoul metropolitan government is facing a problem of fiscal disparity among 25 basic units of local governments within its boundary (technically, these units are called "Gu" however, the term "district" will be used in this

paper). It is not an uncommon problem as a metropolitan government to encounter this problem(Orfield, 1997). However, a local autonomy system in Korea which has been reinstated from March 1991, contributes to a bigger fiscal gap among local governments. The local autonomy system grants local governments with independent legislative, administrative, organizational power, and most important of all, independent public financial power of local governments. Local public finance has been largely neglected in Korea, but has now come to the fore in the wake of the reinstatement of the local autonomy system. It implies that the Seoul metropolitan government has a limitation of control over fiscal matters on the basic units of local governments. This is why the fiscal gap has been growing among districts. It is about time to implement a new policy in order to alleviate the fiscal imbalance problem which has risen to the surface in the Seoul metropolitan government after 10 years of practicing local autonomy system.

Seoul, the capital of Korea, is the center of most areas such as politics, economy, education, culture, etc. It causes more fiscal problem than any other metropolitan governments throughout a country. Although the area of Seoul is only 0.6% of the entire country, Seoul has a population of 10,373,234 individuals and 3,458,511 households which accounts for about a quarter of the total national population. Therefore, as a leader among local governments, the Seoul metropolitan government plays an important role.

Harmonization of the efficiency and the equity issue to improve one's welfare is an important criteria for public finance although the two principles conflict with each other. Fiscal decentralization after the reinstatement of the local autonomy system impacts the progress toward the efficiency but somewhat neglects the pertinence of equity, even though it is a common phenomena. The upper level government desires to alleviate the fiscal disparity in order to improve equity. However, it not only will weaken the accountability of lower level government but also weaken local government's autonomous power. Special caution should be paid when upper level government equalizes the fiscal disparity among lower level governments.

There are two ways of alleviating fiscal disparity in Seoul metropolitan area. One is an enlargement of grants so that transfers are sufficient for the fiscal demand of each district. The Seoul metropolitan governments may prefer this method if it is allowed to increase the amount of grants to equalize the fiscal imbalance among 25 districts. Nevertheless, it may weaken the accountability

of local governments due to their dependence on grants rather than their own source of revenue. The second way of alleviating fiscal disparity would be sharing the tax base between Seoul metropolitan government and districts. Although it is not a direct way of equalizing the fiscal imbalance, the reform of tax base may have a secondary effect if tax bases are restructured in a way that is desirable to all relevant parties. It is an efficient way of decreasing fiscal disparity since autonomous power is still given to the district. Since the second strategy is more efficient than the first with respect to the accountability of local government, this paper will focus on restructuring the tax base to alleviate the fiscal disparity in the Seoul metropolitan area.

The organization of this paper is as follows. Section II describes the composition of revenue and structure of tax system in local government. Section III explains the fiscal problems in Seoul Metropolitan Area along with the structure of local governments and their characteristics. Details regarding fiscal problems within 25 districts, especially the fiscal disparity issue are discussed. Section IV discusses the restructuring of the tax base in terms of the tobacco consumption tax and the aggregate land tax, and recommendation relating to the issue of the fiscal disparity. And the last Section is comprised of the conclusion of this paper.

## II. Revenue Structure of Local Government

### Composition of Revenue

The revenue of the metropolitan government consists of tax revenue, non-tax revenue, shared tax, city shared tax, national subsidy, and local borrowing. The local tax revenue purely relies on the collection of local taxes, which are the most important and fundamental financial sources of local revenue. There are 17 local taxes in Korea, 4 out of 17 are for the district and the rest are for the metropolitan government. The non-tax revenues include various local revenues such as charges and fees other than those categories mentioned above. The non-tax revenue varies depending on the collection of the temporary non-tax revenue. The size of non-tax revenue as of 2000 is 2,485,760 million won with its share in total local revenue at 22.6%. The shared tax is basically a general grant from the central government. The main purpose of shared tax is to minimize the fiscal gap among local governments.

The Seoul metropolitan government is one of the non-recipient local governments for the shared tax revenue because of its capacity to finance itself. Although the characteristics of city shared tax are similar to a shared tax, the city shared tax revenue is for the allocation of grants to the city's subordinate local governments in order to support the basic needs of local governments. The national subsidy is a specific grant from the central government. The purpose of the national subsidy is to meet the specific needs of both central and local governments. The national subsidy has various matching fund tools that are used depending on the fiscal capacity of the local governments. The last category for the revenue structure is a local borrowing. Local governments borrow money for capital investment. Local borrowings take the form of either an issuance of local bonds or money borrowed directly from the public and/or private sectors.

The revenue structure of the district is similar to those of Seoul metropolitan government. Table 1 shows the share of each category and the proportion to the total revenue. The data shown below is the collected amount in the fiscal year of 2000.

**Table 1. Revenue of Local Government in Seoul**

(unit : million Won, %)

	total	city	districts	percentage
total	10,998,036	6,999,325	3,998,711	100.00
tax revenue	6,204,199	5,360,465	843,734	56.41
non-tax revenue	2,485,760	1,239,817	1,245,943	22.60
shared tax	10,551	9,493	1,058	0.10
city shared tax	1,310,148	-	1,310,148	11.91
national subsidy	968,938	384,310	584,628	8.81
local borrowing	18,440	5,240	13,200	0.17

source: <http://metro.seoul.kr>

Not like other metropolitan governments in Korea, the largest share is from local taxes(56.4%) in Seoul. The tax and the non-tax revenues are the own sources of revenue for the local government. It would be ideal for a large share of revenue in local government is borne from its own sources. Seoul metropolitan government is an exception because it is one of the very few local

governments in Korea that doesn't need financial help from the central government. Nevertheless, only 6 out of 25 districts in Seoul metropolitan area have a larger tax revenue than the revenue from the city shared tax, which is basically a general grant from the city. This means that most of basic units of local governments in Korea have to rely on grants from the upper-level governments. The detailed information can be found in Table 2.

**Table 2. Composition of Revenue among 25 Districts**

(Unit : Million won)

District	Total	Local tax	Non-tax	Shared tax	City shared tax	National subsidy	Borrowing
Total	10,998,038	6,204,199	2,485,780	10,551	1,310,148	968,938	18,440
분청	6,999,325	5,360,465	1,239,817	9,493	-	384,310	5,240
Gu total	3,998,711	843,734	1,245,943	1,058	1,310,148	584,628	13,200
Dobong-gu	157,080	14,131	55,449	-	59,978	27,522	-
Dongdaemun-gu	159,192	21,374	39,019	45	68,855	21,899	8,200
Dongjak-gu	150,071	20,187	49,876	2	63,968	16,038	-
Eunpyeong-gu	155,005	17,138	44,112	-	70,212	23,543	-
Gangbuk-gu	136,613	13,307	26,449	420	68,376	28,061	-
Gangdong-gu	133,774	25,644	33,055	-	58,105	16,970	-
Gangnam-gu	264,213	138,940	103,782	-	1,478	20,013	-
Gangseo-gu	177,571	34,883	47,519	3	60,711	34,655	-
Geumcheon-gu	121,175	16,625	30,174	20	56,227	18,129	-
Guro-gu	150,013	21,370	44,705	40	56,321	27,577	-
Gwanak-gu	170,478	19,340	41,159	5	74,850	35,124	-
Gwangjin-gu	120,155	21,619	28,321	15	55,463	14,737	-
Jongno-gu	146,492	43,498	49,877	200	33,524	19,393	-
Jung-gu	161,792	77,739	63,979	-	4,460	15,614	-
Jungnang-gu	153,211	15,550	33,959	1	67,990	30,711	5,000
Mapo-gu	177,731	25,748	66,639	-	62,840	22,504	-
Nowon-gu	189,559	20,847	54,442	27	73,334	40,909	-
Seocho-gu	143,653	70,908	59,134	-	1,236	12,375	-
Seodaeun-gu	157,519	17,707	48,785	-	66,249	24,778	-
Seongbuk-gu	181,073	21,170	63,570	235	67,889	28,209	-
Seongdong-gu	157,726	19,045	48,030	13	62,589	28,049	-
Songpa-gu	175,947	59,188	58,627	29	36,856	21,247	-
Yangcheon-gu	147,528	20,630	52,101	-	56,075	18,722	-
Yeongdeungpo-gu	169,542	60,589	57,250	-	30,659	21,044	-
Yongsan-gu	141,598	26,757	45,930	3	51,903	17,005	-

source: <http://metro.seoul.kr>

## Structure of Local Tax System

There are 17 local taxes that are levied by the local governments. Thirteen local taxes belong to the Seoul metropolitan government, whereas 4 local taxes are assigned to the district<sup>1)</sup>. City taxes include acquisition tax, registration tax, leisure tax, fire facility tax, regional development tax, inhabitant tax, automobile tax, farmland tax, butchery tax, tobacco consumption tax, city planning tax, local education tax and fuel tax. On the other hand, the district levies property tax, aggregate land tax, license tax and business tax.

A large part of the tax revenues in local governments are heavily reliant upon property taxes, whereas income and consumption taxes are major sources of tax revenue for the central government. According to Table 3, the percentage of income tax and consumption tax for the Seoul metropolitan government counts as 25.51%, and 12.48%, respectively.

With the exception of others, the remainder of 60.83% is collected as property related taxes.

**Table 3. Sources of Local Tax Revenue(Seoul)**

(Unit : Million won, %)

District	Total	Income	Consumption	Property	Others
Revenue	6,060,036	1,546,013	756,534	3,686,233	71,256
Ratio	100.00	25.51	12.48	60.83	1.18

note: income tax: inhabitant tax, farmland tax, business tax

consumption tax: leisure tax, tobacco consumption tax, fuel tax,

property tax: property tax, aggregate land tax, acquisition tax, registration tax, automobile tax, city planning tax, fire facility tax

others: license tax, regional development tax, butchery tax, local education tax

## III. Fiscal Problems in Seoul Metropolitan Area

### Characteristics of Seoul Metropolitan Area

There are two tiers within local governments in Korea. The first tier consists

1) The combination of local taxes is different for the province and city/county local governments. Eight local taxes belong to the province and nine taxes to the city/county local governments.

of the upper-level local governments which are 16 counting Seoul metropolitan government, and the second tier is made of 232 lower-level governments. There are 25 districts of lower-level governments in the Seoul metropolitan area. Not like other metropolitan governments, the Seoul metropolitan government must deal with complexities of unique problems and difficulties since one fourth of the national population resides in Seoul.

The Hangang River in Seoul bisects the city into two parts, northern and southern Seoul. Before the Olympics in 1988, the northern part of Seoul used to be a center for business, and people preferred to live in northern part of the Hangang. However, the situation has changed slowly, and today most citizens want to live in the southern part of Seoul if they can afford to pay for housing rent which has skyrocketed since 1990s. Because of the large demand for housing in the southern part of Seoul, the gap of land prices between the north and the south has grown. As a result of this gap, those districts belonging to the south have become wealthier and those in the north have grown poorer. This is understandable since over 60% of the district total tax revenue collected is related to the land.

Table 4 presents the population and the area in each district. Seoul had a population of 10,331,244 as of the end of year 2001, and the area of Seoul was 605.50km<sup>2</sup> in 2000. Among 25 districts, the largest is Seocho-gu and the smallest is Jung-gu with an area of only one fifth of that of Seocho-gu. Five out of the 25 districts have more than 500,000 residents. Songpa-gu has the largest population of 658,242. On the other hand, Jung-gu has a population of only 146,335. Since Jung-gu is a commercial building district, there are more people during daytime than at night.

**Table 4. Population and Area of 25 Districts**



District	Population	Area(km <sup>2</sup> )	District	Population	Area(km <sup>2</sup> )
Total	10,331,244	605.50	Jongno-gu	187,038	23.91
Dobong-gu	372,318	20.82	Jung-gu	146,335	9.97
Dongdaemun-gu	383,822	14.21	Jungnang-gu	449,965	18.51
Dongjak-gu	407,793	16.35	Mapo-gu	382,195	23.87
Eunpyeong-gu	469,242	29.72	Nowon-gu	648,615	35.45
Gangbuk-gu	352,317	23.61	Seocho-gu	397,983	47.14
Gangdong-gu	490,585	24.58	Seodaemun-gu	371,316	17.60
Gangnam-gu	546,038	39.55	Seongbuk-gu	453,517	24.55
Gangseo-gu	523,542	41.39	Seongdong-gu	343,471	16.84
Geumcheon-gu	263,061	13.00	Songpa-gu	658,242	33.89
Guro-gu	417,453	20.11	Yangcheon-gu	486,095	17.41
Gwanak-gu	529,741	29.56	Yeongdeungpo-gu	409,920	24.56
Gwangjin-gu	390,090	17.05	Yongsan-gu	250,550	21.87

source: <http://metro.seoul.kr>

## Fiscal Problems

The most serious fiscal problems in Seoul metropolitan area are the fiscal disparity and the low ratio of self-generated revenue. The latter problem is common throughout the country, but the former problem is more serious in Seoul. There are several reasons for the fiscal disparity but the skyrocketed land prices in the late 80s and early 90s play an important role in the widening of the gap. Another reason could be the main source of tax revenue for the local government is the property related taxes. The land value in Seoul is extremely high in comparison to other regions and its variation among districts is highly inconsistent. As a result of this fact, those districts with an increase in land value have become more affluent than those that have remained the same. This is one of reasons why the fiscal gap has grown wider in Seoul metropolitan area.

The percentage of the low ratio of self-generated revenue in the local government is as serious as that of fiscal disparity. To increase efficiency, the

autonomous local government should encourage fiscal decentralization by increasing the share of self-generated revenue. However, upper level governments tend to increase the allocation of grants thereby emphasizing the fiscal inequity instead of broadening the tax bases for lower level governments.

The Seoul metropolitan government is one of the few local governments that does not receive general grants from the central government because of its self-financed fiscal capacity. Nevertheless, most of the subordinate local governments in Seoul have low ratios of self-generated revenue. The ratio of self-generated revenue in 25 districts is shown in Table 5.

**Table 5. Ratio of Self-Generated Revenue**

(Unit : %)

District	Ratio	District	Ratio
Total Average	95.6	Gwangjin-gu	40.6
Seoul	94.7	Jongno-gu	76.5
Gu Average	54.5	Jung-gu	93.7
Dobong-gu	39.0	Jungnang-gu	33.5
Dongdaemun-gu	39.9	Mapo-gu	46.1
Dongjak-gu	43.2	Nowon-gu	34.8
Eunpyeong-gu	32.6	Seocho-gu	92.8
Gangbuk-gu	32.8	Seodaemun-gu	43.6
Gangdong-gu	45.3	Seongbuk-gu	45.7
Gangnam-gu	89.4	Seongdong-gu	42.2
Gangseo-gu	47.2	Songpa-gu	70.1
Geumcheon-gu	40.9	Yangcheon-gu	62.1
Guro-gu	46.0	Yeongdeungpo-gu	83.6
Gwanak-gu	34.0	Yongsan-gu	53.8

Note: The ratio of self-generated revenue is calculated by dividing tax and non-tax revenues by total budget in 2002.

Source: The Summary of Local Government's Budget in 2002, MOGAHA.

According to Table 5, only four (Gangnam-gu, Jung-gu, Seocho-gu, and Yeongdeungpo-gu) out of 25 districts have over 80% of self-generated revenue to the total. Of the 25 districts, the percentage of own tax and non-tax revenue in 16 districts is less than 50% of the total revenue.

Thus, it is impossible to expect them to have independent financial power. Most of the district budgets heavily rely on the city shared tax which is basically a general grant from the Seoul metropolitan government.

Table 6 shows the coefficient of variation (CV), which is an equalization

indicator, among 25 districts with and without the city shared tax revenue. Without the general grant, the CV is shown on the last column as 0.667. On the other hand, with the general grant from the Seoul metropolitan government, the CV is calculated as 0.425. It means that by allocating the general grant to the districts there is an alleviation of fiscal disparity by 36%.

**Table B. Comparison of CV with and without the City Shared Tax**

(Unit : Million won)

District	Total tax revenue(A)	City shared tax(B)	(A) - (B)
Total	3,998,711	1,310,148	2,688,563
Dobong-gu	157,080	59,978	97,102
Dongdaemun-gu	159,192	68,855	90,337
Dongjak-gu	150,071	63,968	86,103
Eunpyeong-gu	155,005	70,212	84,793
Gangbuk-gu	136,613	68,376	68,237
Gangdong-gu	133,774	58,105	75,669
Gangnam-gu	264,213	1,478	262,735
Gangseo-gu	177,571	60,711	116,860
Geumcheon-gu	121,175	56,227	64,948
Guro-gu	150,013	56,321	93,692
Gwanak-gu	170,478	74,850	95,628
Gwangjin-gu	120,155	55,463	64,692
Jongno-gu	146,492	33,524	112,968
Jung-gu	161,792	4,460	157,332
Jungnang-gu	153,211	67,990	85,221
Mapo-gu	177,731	62,840	114,891
Nowon-gu	189,559	73,334	116,225
Seocho-gu	143,653	1,236	142,417
Seodaemun-gu	157,519	66,249	91,270
Seongbuk-gu	181,073	67,889	113,184
Seongdong-gu	157,726	62,589	95,137
Songpa-gu	175,947	36,856	139,091
Yangcheon-gu	147,528	56,075	91,453
Yeongdeungpo-gu	169,542	30,659	138,883
Yongsan-gu	141,598	51,903	89,695
CV	0.42480		0.66740

source : <http://tax.seoul.go.kr>

Although it is very difficult to perform in reality, the ratio of self-generated revenue can be increased by restructuring the tax bases between governments. It is always questionable when regarding optimal allocation of the scarcity of revenue resources to all levels of government. It has been discussed often

between the central and the local governments as well as between intermediate and basic units of local governments. In principle, allocation should be made according to the service that the government provides or depending on the scope of externality. However, in reality, it is very difficult to clearly identify functions or externalities between the levels of government. Especially in Korea, since the central government system has been in practice for a long time, most functions were controlled and directed by the central government. Because of this fact, most functions are still exercised on the side of upper level government. Thus, it is imperative to clarify the services of each government level. Although the central and local government have been working on this issue since the local autonomy system has been reinstated, the refining process has not been completed yet. The law for the transferring the function from the central to local governments will be mandated in 2003.

Even accounting for the lack of clarification of functions, the restructuring of tax bases between governments has been delayed far too long. It could be seen as though upper levels of government did not seem to have an intention to restructure the tax bases. The upper level of government may have an incentive to increase the size of grants for lower-levels of government instead of allocating the tax bases. If the upper level goes for with its plan, it would deter fiscal decentralization and, in the long run, the local autonomy system will not be established efficiently. No one denies that the upper-levels of government should have grants to equalize the fiscal disparity for subordinate governments, however, restructuring of tax bases should be considered first on behalf of the establishment of local autonomy system.

### **The Role of the Metropolitan Government**

The role of the metropolitan government is different from local governments in the rural area even though both are in the same level of local government. Since the characteristics of a metropolitan area such as density, and size of area are different from those in the rural area, the role of government in metropolitan area should be different to meet the basic needs for its residents. The jurisdictions in metropolitan areas especially in Seoul may not be important, for its residents are heterogeneous and do not have strong sentiments regarding their local governments except that they are the citizen of Seoul. On the other hand, the residents in rural areas are very

homogeneous and are proud of region of which they belong.

This implies that local governments(districts) in Seoul may have a less functional responsibility than that of the Seoul metropolitan government. Since Seoul is a highly dense city, most services have a big spill-over effect. As a result of this fact, it would be more efficient if those services that have effect on more than one jurisdiction such as regional development and city planning are carried out by the Seoul metropolitan government.

With the exception of services by the Seoul metropolitan government, the services left for the districts are the basic needs for everyday life such as sewage or street cleaning. These basic services should not differ among districts whether the district is rich or poor. Other than the basic needs, however, each district may provide different quality of services per se depending on its fiscal capacity. This is a possible proposal in the case that the Seoul metropolitan government does not subsidize the general grants for the districts to equalize since the fiscal gap is big among the 25 districts.

To alleviate fiscal diversity, the Seoul metropolitan government proposed to swap the aggregate land tax for the tobacco consumption tax. The tobacco consumption tax belongs to the Seoul metropolitan government, whereas the aggregate land tax belongs to the districts. The next section will discuss more on the issue of exchanging the tax base.

## **IV. Discussion between Tobacco Consumption Tax and Aggregate Land Tax**

### **Charateristics of Tax Bases**

The tobacco consumption tax is imposed on the purchase of tobacco. This tax was implemented as a local tax in 1989. Since the share of the tobacco consumption tax in the total local tax revenue is high and the revenue is evenly distributed across local governments, it is considered to be an effective local tax. The Seoul metropolitan area also has a similar case. The amount of tobacco consumption tax revenue for each district and the proportion of the total tobacco consumption tax revenue are shown in Table 7.

Not like other taxes, the tobacco consumption tax revenue is distributed evenly among districts. Since the tobacco consumption tax belongs to the Seoul

metropolitan government, the share for each district is calculated by the proportion to the total tobacco sales volume. The even distribution of the tobacco consumption tax revenue is shown in Table 7. Gangnam-gu which is the most affluent district in Korea still has the highest percentage of total revenue among 25 districts. This is because Gangnam-gu has larger residential and commercial areas relative to others. The coefficient of variation, which is shown as 0.201175 at the bottom of right hand side in Table 7, supports also that the variation of the tobacco consumption tax is relatively small compare to other taxes.

**Table 7. Ratio of Tobacco Consumption Tax Revenue**

(Unit : Million won, %)

District	Revenue	Ratio	District	Revenue	Ratio
Total	557,478	100.00	Jung-gu	28,153	5.05
Dobong-gu	13,268	2.38	Jungnang-gu	20,181	3.62
Dongdaemun-gu	24,306	4.36	Mapo-gu	21,296	3.82
Dongjak-gu	18,397	3.30	Nowon-gu	22,801	4.09
Eunpyeong-gu	19,010	3.41	Secho-gu	27,149	4.87
Gangbuk-gu	16,446	2.95	Seodaemun-gu	17,561	3.15
Gangdong-gu	21,073	3.78	Seongbuk-gu	20,682	3.71
Gangnam-gu	42,313	7.59	Seongdong-gu	19,345	3.47
Gangseo-gu	22,243	3.99	Songpa-gu	28,599	5.13
Geumcheon-gu	14,773	2.65	Yangcheon-gu	17,338	3.11
Guro-gu	22,578	4.05	Yeongdeungpo-gu	31,219	5.60
Gwanak-gu	24,752	4.44	Yongsan-gu	16,446	2.95
Gwengjin-gu	18,731	3.36	CV	0.201175	
Jongno-gu	28,822	5.17			

source: <http://tax.seoul.go.kr>

The aggregate land tax, which belongs to the basic units of local government(district), is imposed on land owners. Unlike most of the land taxes in other countries, its tax rate is not flat but aggregate. This is because land prices in Korea in the late 1980s and early 1990s increased rapidly and speculative investment in land became a serious social problem. Since land prices have been stabilizing for the past few years, it has been often suggested that the tax rate of the aggregate land tax should be re-evaluated.

The aggregate land tax is not a typical local tax because of its unique method of tax collection. If one owns several lots of land throughout the country, the tax base of the aggregate land tax is the total land value assessed by each local government. After the revenue is collected from levying the tax on the total land value, each local government takes its share of the tax revenue by claiming the revenue proportional to the ratio of its own land value to the total land value.

The ratio of the aggregate land tax revenue among 25 districts is presented in Table 8. Not like the tobacco consumption tax, the variation of the aggregate land tax revenue is very high depending on the fiscal capacity of each district. For example, the percentage of the aggregate land tax revenue



of Gangnam-gu and Jung-gu is 17.82 and 10.70 to the total, respectively, whereas others cluster around 2%. Gangnam-gu and Jung-gu distort the distribution of the aggregate land tax revenue.

The coefficient of variation for the aggregate land tax proves the uneven distribution among 25 districts. The CV of the tax is 0.746539 and 73% worse than the distribution of the tobacco consumption tax revenue. Without considering other factors, the tobacco consumption tax is more favorable to the district than the aggregate land tax per se.

**Table B. Ratio of Aggregate Land Tax Revenue**

(Unit : Million won, %)

District	Revenue	Ratio	District	Revenue	Ratio
Total	438,461	100.00	Jung-gu	46,918	10.70
Dobong-gu	6,564	1.49	Jungnang-gu	7,586	1.73
Dongdaemun-gu	12,417	2.83	Mapo-gu	12,081	2.75
Dongjak-gu	9,200	2.10	Nowon-gu	8,646	1.97
Eunpyeong-gu	9,022	2.05	Seocho-gu	38,084	8.69
Gangbuk-gu	7,159	1.63	Seodaemun-gu	8,444	1.92
Gangdong-gu	13,976	3.19	Seongbuk-gu	10,708	2.44
Gangnam-gu	78,155	17.82	Seongdong-gu	9,771	2.22
Gangseo-gu	12,475	2.85	Songpa-gu	34,936	7.97
Geumcheon-gu	7,391	1.69	Yangcheon-gu	8,522	2.17
Guro-gu	10,685	2.48	Yeongdeungpo-gu	26,311	6.00
Gwanak-gu	9,262	2.11	Yongsan-gu	13,601	3.10
Gwangjin-gu	11,000	2.50	CV	0.746539	
Jongno-gu	24,547	5.60			

source: <http://tax.seoul.go.kr>

This is why the Seoul metropolitan government has proposed to exchange its tax base of the tobacco consumption tax with the aggregate land tax base of the district to alleviate the fiscal disparity among districts. This issue will be discussed in detail on the next section.

## Recommendation

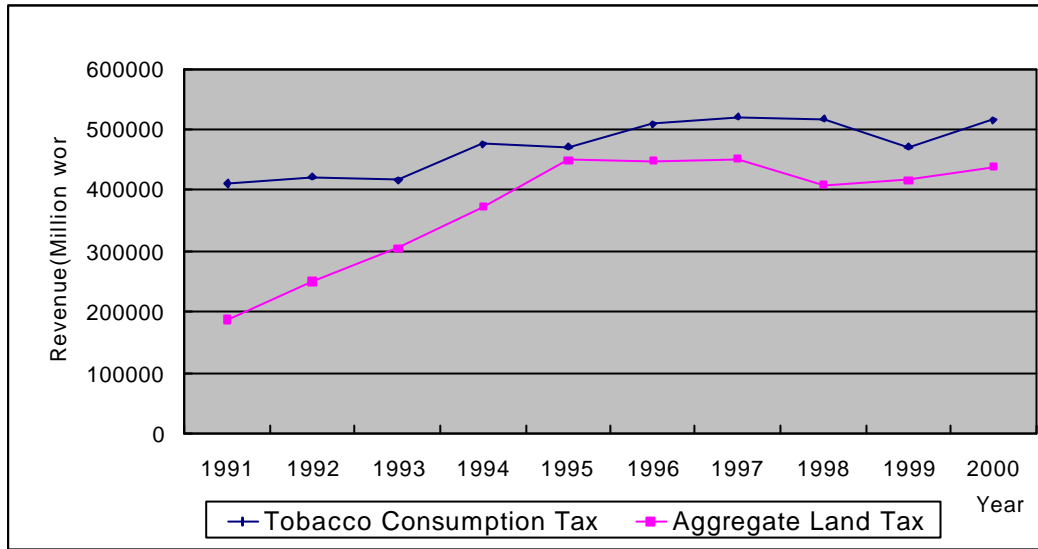
The heated debate on the proposal made by the Seoul metropolitan government has been going on among 25 districts. The districts that have a large share of the aggregate land tax oppose the exchange of the tax base,

whereas majority of districts that have a small share support the proposal. The districts have a tendency to decide based on their own interests of gaining more tax revenue rather than the fundamental theory of tax for basic units of local government.

There are some positive and negative effects of exchanging the tax base. The positive effect may be the alleviation of fiscal disparity among districts by collecting more tax revenue for most districts. However, more tax revenue may not be collected because of the social movement against smoking. Smoking will be strictly prohibited inside public buildings from July of this year. This fact has already impacted smokers' behaviors accordingly and the tax collection for the first quarter has proved to be much less than that of the year before.

The tobacco consumption tax rate has stabilized for long time as shown in Figure 1, but its rate may drop starting from this year due to the prohibition which will be implemented on July. This means that the total share of tax revenues will be smaller and each district may have to collect less revenue than before. Then, the majority districts that now support the exchange of tax base may change their position. Therefore, this issue should be considered more on the fundamental characteristics of tax base.

Figure 1. Rate of Tobacco Consumption Tax and Aggregate Land Tax



The negative effects for exchanging the tax base can be explained by the regressivity of the tax burden. The evenly distributed tobacco consumption tax revenue implies that there is no relationship between the consumption of tobacco and the level of income in each district. Moreover, it means that the tobacco consumption tax revenue is not proportional to the local public goods provided by the district. According to the fundamental tax theory, it is desirable that the taxes for the basic units of local government to have an relationship with the service provided by the local government. In that sense, the tobacco consumption tax is not an appropriate tax for the district although it helps to alleviate the fiscal disparity in Seoul metropolitan area.

Rather than exchanging the tax base, the sharing of the aggregate land tax base between the Seoul metropolitan government and the district is proposed in this paper for the decrease of the current fiscal disparity in Seoul as well as for the efficient restructuring of the tax base in general<sup>2)</sup>. The sharing tax base between government levels is very common nowadays<sup>3)</sup>. The land property tax is well-known for the basic units of local government since it plays an important role of signaling the price for the service local government provided. The aggregate land tax, however, is not a typical land tax, because of its unique method of tax collection.

2) more detailed discussion on this issue is in Lee, et al.(1999)

3) similar cases can be found in Minnesota([http://rin.buffalo.edu/gov\\_report/chapter\\_10.html](http://rin.buffalo.edu/gov_report/chapter_10.html)) and New Jersey(<http://www.hmdc.state.nj.us/taxshare>).

In fact, the aggregate land tax was implemented to solve the serious social problem of land speculation in the early 90s. This is why this tax is imposed not only on the land but also on the wealth of a land owner by aggregating all the lots he or she has in a country. Those who are affected mostly happen to be residents in Gangnam-gu, and Gangnam-gu contributes as it became the richest local government in Korea. This fact implies that a portion of the aggregate land tax revenue in Gangnam-gu is not just by Gangnam-gu's own effort, but because of unique collecting method of the aggregate land tax system. In addition, the regional development such as the subway system and bridges provided by the Seoul metropolitan government will attribute more to the land value of each district. This is also another reason why each district collect more of tax revenue from land. Thus, the revenue from the aggregate land tax can not be claimed by only one district.

Ultimately, it is desirable to improve the aggregate land tax as a typical land tax system for local government, but the recommendation made from this paper may be for the short-run as a second choice. Since some parts of the aggregate land tax revenue are collected because of the service provided by the Seoul metropolitan government, it would be desirable to share the tax base with Seoul. No one can deny that the land value of each district has a high correlation with the outcomes of the regional development by the Seoul metropolitan government.

The shared proportion of the aggregate land tax base would be similar to the one proposed in the case of Minnesota in 1971<sup>4)</sup>. In Minnesota, 40% of the tax base from the commercial and industrial districts was shared tax base with other districts<sup>5)</sup> in order to minimize the fiscal disparity.

## V. Conclusions

Fiscal disparity problems in Seoul metropolitan area have been discussed among various groups of people included scholars and practitioners. The heated debate regarding the proposal is still going on which is an exchange of the tax base between the tobacco consumption tax and the aggregate land tax,

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4) see Metropolitan Fiscal Disparity Act, Minnesota Statutes, 1971, Chapter 473 E. Simulation for Seoul Metropolitan case is discussed in Lee(1998).

5) see more detailed information in Reschovsky(1980).

proposed by the Seoul metropolitan government. Since the share of the tobacco consumption tax is evenly distributed among 25 districts in comparison to the aggregate land tax revenue, it is reasonable considering that it is only for the fiscal disparity. Nevertheless, the characteristics of tobacco consumption tax may not be favorable for the basic units of local government because of its regressive tax burden. Moreover, the non-smoking social movement from this year is also not favorable to the local government. Each district is interested in collecting more tax revenue, whereas the Seoul metropolitan government is in the process of equalizing the fiscal unbalance.

Therefore, another proposal is made in this paper introducing the idea of sharing the aggregate land tax base with the Seoul metropolitan government in order to alleviate the fiscal disparity as well as to meet the needs for each district. This is because the aggregate land tax is a land tax even though it is not a typical land tax like in other countries. Due to its special method of tax collection, it is a desirable belonging to a basic units of local government. Nevertheless, it can not be claimed that the entire revenue belongs only to the district because of the characteristics of the aggregate land tax and the externalities of metropolitan area.

Therefore, sharing the aggregate land tax base between the district and the Seoul metropolitan government has been proposed instead of exchanging the tobacco consumption tax with the aggregate land tax. This way, alleviating the fiscal disparity among districts as well as allocating the efficient tax base between upper and lower levels of government will be established.

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