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Local Fiscal Consolidation in Korea:

Debt and Liabilities of Public Enterprises

December 2013

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I

Introduction

Amidst the continued downturn in the global economy, the influence exerted by the economic circumstances of major countries on the Korean economy is becoming broader in range and more rapid in sensitivity. These changing financial conditions are directly affecting the national economy and public finance in every country across the world, while state treasuries have been expended in order to overcome the economic crises arising from various external changes. Thus, state contribution is constantly increasing in boosting and moderating the national economy through proactive financial policies and will continue to become more important. In general, the central government of a country assumes the primary responsibility for financial turbulence caused by an economic crisis, although this depends on factors such as intergovernmental financial relationships, level of self-governance, potency of taxation authority, and political circumstances. Cases in point include a number of OECD countries that overcame the economic crisis in 2008: their central governments absorbed the majority of the initial shock from the economic downturn in order to shield local governments from the resultant financial after shock.[1)]

The Korean central government is facing various forms of fiscal crises ranging from the lack of opportunity for tax increases and worsening conditions

1) Vammalle, C. and C. Hulbert, "Sub-national Finances and Fiscal Consolidation: Walking on Thin Ice," *OECD Regional Development Working Papers*, 2013/02, OECD Publishing, http://dx.doi.org/10.1787/5k49m8cqkcf3-en, 2013.

of revenue and expenditure due to higher welfare expenditure, to aggravated conditions for liability issuance, which is caused by issues such as the tightened conditions for government bond issuance resulting from fluctuations in the national credit rating since the economic crisis. Local governments in Korea are no exceptions. Even worse, local governments face additional burdens caused by domestic conditions such as regional gaps and issues in political autonomy, which compounds the difficulty of identifying solutions to the financial crisis.

Although some of the financial difficulties facing Korean local governments may be resolved through improved economic conditions, most are structural problems in reality. Despite the expected financial compensation of over 5 trillion won each year, the persistent discussion on the division of the financial burden between the central and local governments showcases the structural fact that the quantitative increase of financial resources alone will not be sufficient to resolve the current set of challenges, such as compensating for decreased income tax revenue and allocating the financial burden of child care services. Meanwhile, although the increase in the liability ratio of local public enterprises as recently reported in the media cannot be seen only as a problem caused by the financial unsoundness of local governments, the relevant discussion has only produced short-sighted solutions resulting from an overestimation of the status quo. In addition, the plan to improve local finance, based on the principle of self-governance as guaranteed by the Korean Constitution, suggests that the intervention of the central government or deregulation cannot be a solution to the local finance issue and instead adds to its difficulty. Therefore, only the combination of quantitative growth and restructuring could restore the soundness of local finance, while the central government must exercise leadership over its local counterparts to restructure their financial activities to strengthen accountability.

This study aims to examine and discuss relevant issues regarding the debt status of local governments and the liability held by local public enterprises, with the eventual aim to characterise the nature of local government debt. By doing so, this study attempts to accurately analyse the level of ‘local debt’ in the general account, an index of the fiscal soundness of local governments, and the ‘public enterprise liabilities’ in public enterprise special accounts. Existing studies have faced difficulties in establishing any correlation between the national and local economy in terms of general accounts. Meanwhile, the liabilities of public local enterprises show a trend of fast increase due to their concentration in development programs, fluctuate significantly with changing economic conditions home and abroad, and do not conform well to any set of consistent criteria. Naturally, the two aforementioned statistics are important indexes for analysis in order to identify the characteristics of the local and public enterprise liabilities and thereby improve local finance, although the content and solutions regarding the two indexes are differentiated by their nature. This study will discuss a plan to comprehensively examine the issue of local debt and the liabilities of local public enterprises to present a plan for improvement, its limitations, and other matters for consideration.

II

Status and Main Issues of Local Debt and Local Public Enterprises

1 Status of Intergovernmental Fiscal Relations and Liabilities

A. Status of Intergovernmental Fiscal Relations

According to the 2013 Overview of Integrated Finance of Local Governments, the budget scale of the central government in Korea stood approximately at 263.6 trillion won, while that of local governments reached 156.8 trillion won. The local education sector had a budget of approximately 51.5 trillion won. The central government, local governments, and education sector each account for 55.9 percent, 33.2 percent, and 10.9 percent of the total budget, respectively. Adjusted for actual fiscal expenditure, the fiscal spending of the central and local governments are approximately 152.5 trillion won and 150.9 trillion won, respectively, whereby the actual ratio of the former to the latter is approximately 42.6 to 42.1 percent in 2013. Meanwhile, the size of local education finance has kept increasing to reach approximately 55 trillion won, or 15.3 percent of the total fiscal spending as the largest proportion recorded in recent years.

〈Table II-1〉 **Ratio of National-to-Local Budget**

(Unit: trillion won, %)

Classification	2008	2009	2010	2011	2012	2013
Central government budget (proportion)	195 (54.5)	217 (55.1)	226 (55.5)	236 (56.0)	249 (55.5)	264 (55.9)
Local budget (proportion)	125 (34.9)	138 (34.8)	140 (34.4)	141 (33.5)	151 (33.8)	157 (33.2)
Local education budget (proportion)	38 (10.6)	40 (10.1)	41 (10.1)	44 (10.5)	48 (10.7)	51 (10.9)

Source: *Overview of Integrated Finance of Local Governments in 2013* (Vol. I), p. 22.

〈Table II-2〉 **Ratio of National-to-Local Fiscal Spending (in total)**

(Unit: trillion won, %)

Classification	2008	2009	2010	2011	2012	2013
Central government (proportion)	111 (40.3)	133 (42.9)	136 (43.7)	137 (42.8)	146 (42.8)	153 (42.6)
Local governments (proportion)	124 (45.1)	134 (43.3)	134 (42.8)	136 (42.5)	144 (42.2)	151 (42.1)
Local education (proportion)	40 (14.6)	43 (13.8)	42 (13.5)	47 (14.7)	51 (15.0)	55 (15.3)

Source: *Overview of Integrated Finance of Local Governments in 2013* (Vol. I), p. 22.

Based on the 2013 budget, the amount of debt issuance is 4.096 trillion won, up 4 percent from the previous year and equates to approximately 2.6 percent of the total net revenue budget. Characteristically for this type of debt, the size of local liabilities compared to special accounts is 11.9 percent higher than that to general accounts (0.5%). Therefore, the size of debt issuance is not considerably large and its growth rate and proportion remain low. And as the repayment period for the debt is over a long period of time, even if it is issued in the current year, a realistic characterization of the liability and reference in a policy-related sense would use the 'accumulated debt amount' rather than 'annual amount of debt issuance.' Accordingly, this study uses the term 'debt' to refer to the 'accumulated debt amount,' which stands at 26.7 trillion won based on the FY 2012 settlement of accounts.

〈Table II-3〉 **Amount of Local Debt by Year (based on net revenue budget)**

(Unit: 100 million won, %)

Year	Total			General accounts			Special accounts		
	Total	Local debt	Dependency rate	Amount	Local debt	Dependency rate	Amount	Local debt	Dependency rate
2007	1,280,366	35,347	2.8	998,147	7,414	0.7	282,219	27,933	9.9
2008	1,444,536	37,382	2.6	1,153,125	7,901	0.7	291,410	29,481	10.1
2009	1,567,029	97,817	6.2	1,257,759	57,468	4.6	309,270	40,349	13.0
2010	1,497,797	56,270	3.8	1,218,960	20,432	1.7	278,837	35,838	12.9
2011	1,562,568	64,783	4.1	1,276,740	31,199	2.4	285,828	33,584	11.7
2012	1,670,153	40,324	2.4	1,366,855	6,215	0.5	303,298	34,109	11.2
2013	1,568,887	40,960	2.6	1,282,714	6,919	0.5	286,173	34,041	11.9

Note: Figures represent the final budget amount up to 2012 and the initial budget amount in 2013.
Source: *Overview of Integrated Finance of Local Governments in 2013* (Vol. I), p. 90.

B. Status of Intergovernmental Liabilities

When comparing the debt and liability sizes of the central and local governments, the debt of local public enterprises (72.5 trillion won) is equivalent to 48 percent of the total budget of local governments in 2012 (151 trillion won). The accumulated debt of local governments is approximately 27.1 trillion won, against which the liability size of local public enterprises is larger by approximately 2.6 times. Meanwhile, the liabilities of public institutions under the central government stands at approximately 493.4 trillion won, approximately 14.7 percent of which is comprised of the liabilities of local public enterprises, and which is equivalent to approximately 16.4 percent of the government debt.

As seen in <Table II-4>, the liabilities of local public enterprises (72.5 trillion won) is equivalent approximately to 43.4 percent of the local debt (150 trillion won), and up to 2.7 times the debt of local government in their general accounts (27.1 trillion won). The liabilities of local public enterprises are equivalent to 16.4 percent of the government debt and 14.7 percent of the public institution liabilities, and thus may not seem to be the key determinants in the quantitative increase of government debt. The central and local governments share the same situation where their debts are expected to increase rapidly due to unfavourable economic conditions and obstacles to higher taxes. The problem is, however, that the current state of intergovernmental fiscal structure places the final responsibility of the debt and liabilities of local governments upon the central government. As is already known, local debt is a de facto component of overall government debt and most plans to reduce the liabilities of local public enterprise focus on the deregulation of fees or expansion of general financial resources available to local governments, but as these measures are little more than direct financial support from the central government, the central government eventually assumes the final responsibility. Perceived as public financial resources without ownership, public enterprise liabilities are inherited by successive generations. If it continues to be transferred from local governments to the central government, the total government debt in Korea will increase faster than in neighbouring countries.

〈Table II-4〉 **Status of Intergovernmental Debt/Liabilities in 2012**

(Unit: trillion won, %)

Classification	Liabilities of local public enterprises	Local government budget	Local government debt	Liabilities of national public institutions	Government Debt
Amount	72.5	151	27.13	493.4	443.1
Proportion		43.4%	267.3%	14.7%	16.4%

Note: Adapted from 〈Table II-8〉 in So Il-seop (2013, p. 20).
Sources:
1. 'Liabilities of local public enterprises' is based on *Analysis on Settlement of Accounts and Management of Local Public Enterprises in 2012*, Ministry of Security and Public Administration.
2. 'Local government budget' is based on *Overview of Local Government Debt (net total of final budget)*, Ministry of Security and Public Administration.
3. 'Local government debt' is based on *Status of Local Debt*, Ministry of Security and Public Administration.
4. 'Debt of national public institution debt' is based on *Management Disclosure and Financial Information of Public Institutionsin 2012*, Ministry of Strategy and Finance.
5. 'Government debt' from *Plan for Management of Government Debt*, Ministry of Strategy and Finance.

2 Status of Local Liabilities

A. Status of Local Liabilities

According to the recent report released by the Ministry of Security and Public Administration, the debt held by local governments and directly-managed SOEs marked a total of 27.1252 trillion won as of the end of 2012.[2] Based on the closing of accounts for fiscal year 2011, the final budget of local governments was 167.152 trillion won, indicating that the debt-to-pertinent year budget ratio stood at around 16 percent. As for the issuance method of local government bonds and the composition of funds, the amount of documented borrowings made up approximately 16.3 trillion won, or 61.2 percent of the total debt. In the composition of the funds, the largest share at approximately 7.4 trillion won was occupied by the public capital management fund, which is strongly considered as a transferable fund. Comprised of local development and rapid transit bonds, local government bonds issued as securities amounted to approximately 10.4 trillion won, or 38.8 percent of the total local debt.

The local debt for each project in 2012 showed usage for road construction, subway, water supply and sewerage and residential land development in order of size, indicating the local debt was used as the main resources of social overhead capital (SOC) infrastructure. Cultural and sports facilities had a liability of 1.9 trillion won while negligible debts amounting to one trillion won were posted for other projects operating independently through local governments such as waste treatment facilities, government building office maintenance, and parks and greens.

On a yearly basis, the local debt increased from 15 trillion won to 20 trillion won after the foreign exchange crisis in 1998, before decreasing again and remaining between 16 trillion to 18 trillion won. However, in the wake

2) According to *Status of Local Debt at the End of 2012* released by Local Finance & Taxation Bureau at the Ministry of Public Administration and Security, the local debt totaled 27,125.2 billion won: local government bonds worth 26,755.9 billion won and amount of obligation assumed (repayment obligation borne for a guarantee) at 369.3 billion won.

of the economic crisis in 2008, the local debt soared to 28 trillion won over the period of 2009 to 2010. In other words, the local debt increased over the two years by approximately 10 trillion won, equivalent to almost half of the existing debt. This was due to the increase in public capital management fund rather than the debt increase from government bond issuance. In addition, 'other government funds' stood at 2.2 trillion won. Therefore the actual increase was in debt consisting of transferable funds.

〈Table II-5〉 **Local Government Bonds by Issuance Method and by Fund in 2012**

Documented loan (borrowings)	16.3757 trillion won (61.2%)		
Public capital management fund	7.3843 trillion won (61.2%)	Other government fund	1.7864 trillion won
Regional development fund	4.4517 trillion won	Governmentoffice building maintenance fund	0.4760 trillion won
Private financial institutions, etc.	2.277 trillion won		
Issuance of securities (local bond securities)	**10.3802 trillion won (38.8%)**		
Rapid transit bond	2.8608 trillion won	Public bonds offered	0.5611 trillion won
Local development bond	6.9583 trillion won		

Source: Ministry of Public Administration and Security, *Local Debt at the End of 2012.*

〈Table II-6〉 **Amount and Proportion of Local Government Debt by Project in 2011**

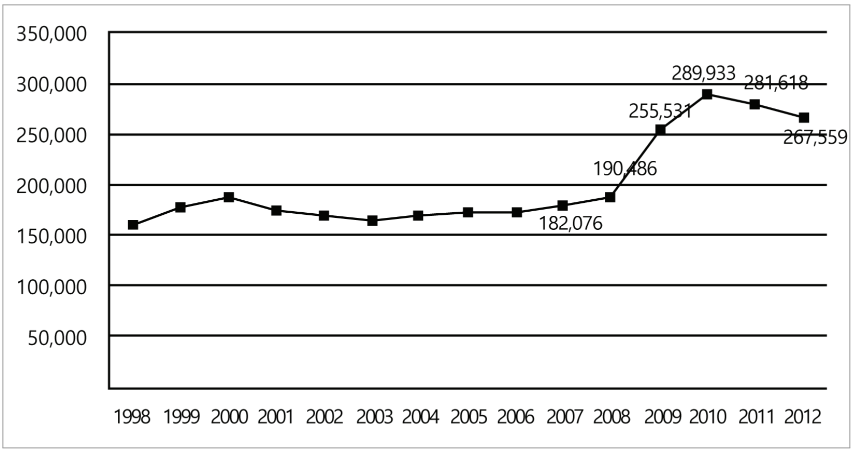
(Unit: billion won, %)

Project	Amount	Proportion
Road construction	69,971	26.2
Subway system	33,532	12.5
Water supply, sewerage, wastewater (sewage) treatment facilities	23,532	8.7
Development of residential land and industrial complexes	30,564	11.4
Cultural and sports facilities	19,722	7.4
Disasters	11,486	4.3
Government office building maintenance	5,706	2.3
Others	72,501	27.1

Source: Ministry of Public Administration and Security, *Local Debt at the End of 2012.*

[Figure II-1] Changes in the Amount of Accumulated Local Debt per Year

(Unit: 100 million won)



〈Table II-7〉 Trend of Changes in the Central and Local Government Debt

(Unit: trillion won, %)

Level of government	2006	2007	2008	2009	2010	2011	2012
Central	273.2	289.1 (5.8)	297.9 (3.0)	346.1 (16.2)	373.8 (8.0)	402.8 (7.8)	425.1 (0.8)
Local	9.6	9.8 (2.1)	11.1 (13.3)	13.5 (21.6)	18.4 (36.3)	17.8 (–3.2)	18.7 (1.1)

Note: 1. The central government figure combines government debt, borrowing, and contract resulting in treasury obligation; for local governments, each amount is the net debt that represents the total of local debt excluding loans from the central government.
2. Figures in parentheses represent the growth rate compared to the previous year.
Source: Ministry of Strategy and Finance, yearly *Settlement of National Accounts by Fiscal Year*, press release.

Based on the settlement of accounts for fiscal year 2012, a comparison between the amount of central government debt with local government debt reveals that the national government debt amounts to 425.1 trillion won, up 0.8 percent from the previous year, while that of local governments is approximately 18.7 trillion won in terms of net debt, 1.1 percent up from the previous year. The ratio of the net debt showed a rapid increase from 2008 to 2010. It increased by approximately 36.3 percent in 2010 before its aggregate

〈Table II-8〉 **Debt/Net Debt of Local Governments per Year**

	2008	2009	2010	2011	2012
Total local debts	19.0	25.6	29.0	28.2	27.1
Net local debts	11.1	13.5	18.4	17.8	18.7
Proportion of net local debts	58.4%	52.7%	63.4%	63.1%	69.0%

Note: 1. Net local debt represents the total local debt minus loans from the central government.
2. Net local debt represents the estimates in the *Government Debt Management Plan* by the Ministry of Strategy and Finance.
Source: Adapted from National Assembly Budget Office, *Analysis on Settlement of Accounts by* Fiscal Year.

amount decreased in 2011 and remained the same for 2012. Accordingly, the proportion of the net debt in the local government debt increased from 2008 to 2012 to reaching the 69 percent range.

B. Scale and Trend of Changes in Local Debt by Item

As shown in <Table II-9> regarding the scale of local debt per account as of 2012, proportions of the total debt held in general accounts, miscellaneous special accounts, and public enterprise special accounts accounted for 45.6 percent, 21.5 percent, and approximately 32.8 percent, respectively. Furthermore, changes since 2007 show that the scale of debt in public enterprise special accounts increased dramatically in 2010 compared to 2009. The scale of debts in public enterprise special accounts increased from 2.76 trillion won in 2009 to 9.13 trillion won in 2010, representing an increase of approximately 3.3 times from the previous year. In other words, the debt level in general accounts stayed at around 60 percent by 2009 before it was lowered to 50 percent or below with a substantial increase in public enterprise special accounts starting from 2010.

The debt in general accounts is referred to as ‘debt without payment resource’ that should be repaid by a local government through its financial activities such as raising revenue and cutting expenditure. Local governments are therefore subject to heavier financial pressure from increasing debt.

〈Table II-9〉 **Debt with/without Payment Resource**

(Unit: 100 million won, %)

	2007	2008	2009	2010	2011	2012
General accounts	110,934 (60.9)	117,529 (61.7)	175,124 (68.5)	135,196 (47.5)	137,243 (49.6)	122,040 (45.6)
Miscellaneous special accounts	38,639 (21.2)	43,642 (22.9)	52,782 (20.7)	58,054 (20.4)	56,776 (20.5)	57,432 (21.5)
Public enterprise special accounts	32,503 (17.9)	29,315 (15.4)	27,625 (10.8)	91,365 (32.1)	82,676 (29.9)	87,788 (32.8)
Total	182,076	190,486	255,531	284,615	276,695	267,559

Note: 1. Figures for 2010 exclude the value of assumed obligations (444.2 billion won) and local government bonds (87.6 billion won); those for 2011 exclude local government bonds for funding (45.7 billion won) and the value of assumed obligations (446.6 billion won); and those for 2012 include local government debts (22.9 billion won) but exclude the value of assumed obligations (363.9 billion won).
2. Figures represent the total debt of local governments.
3. Figures in parentheses represent the proportion of the debt in each account.

Sources: Yearly Ministry of Security and Public Administration, *Status of Local Debts at the End of December*.

Meanwhile, as with public enterprise and miscellaneous special accounts, local debts are classified as 'debt with payment resource' if there are collaterals for the debt such as self-raised funds, bonds, capitals and assets for the business concerned. The reduced proportion of debt without payment resource or the reduced debt ratio in general accounts could be interpreted to signify that the increased investment in public enterprise redirected the debt to constitute more debt with payment resources.

<Table II-10> does not show a consistent trend of local debt based on amount of issuance-to-redemption since the trend, by its nature, depends on the economic conditions of the pertinent year. When Korea was hit by the global financial crisis in 2009, the redemption-to-issuance ratio became as low as 25.9 percent and then recovered to reach as high as 110.8 percent in 2011 to the extent that the redemption outpaced the issuance. As seen in <Table II-11>, the issuance-to-ceiling ratio of local debt posted an average of approximately 56.2 percent. In other words, only the half of the debt ceiling was used, indicating that most local governments were not active in utilizing 'debt' as financial

resources. The upper-level governments had the highest debt ratio of 86.9 percent while lower-level counterparts at the city, county and district level recorded lower levels of debt utilization at 26.5 percent on average. This signifies that residents and councils in lower-level local governments have a strong tendency to consider debt as a financial burden imposed onto successive generations rather than a financial resource used in consideration of expanding financial requirements or the level of fiscal pressure. As a consequence, most debts are incurred by upper-level local governments. <Table II-12> reflects this aspect, whereby the debt ratio of upper-to-lower level governments is approximately 70:30 and upper-level governments have begun to account for increasingly bigger proportions of debt than their lower-level counterparts since 2007.

〈Table II-10〉 **Changes in Local Debt Redemption**

(Unit: 100 million won, %)

	2007	2008	2009	2010	2011	2012
Issuance in pertinent year	29,443	30,148	85,338	63,336	43,097	43,718
Redemption in pertinent year	24,081	20,387	22,062	45,217	47,768	49,174
Redemption–to–issuance ratio	81.8%	67.6%	25.9%	71.4%	110.8%	112.4%
Balance in pertinent year	182,076	190,486	255,531	289,933	281,618	271,252

Source: Ministry of Public Administration and Security, yearly *Local Debt at the End of December*.

〈Table II-11〉 **Issuance-to-Ceiling Ratio of Local Debt in 2011**

(Unit: 100 million won)

	Ceiling in 2011(a)	Ceiling in 2012	Issuance in 2011			Issuance–to–ceiling ratio (b/a*100)
			Sub–total(b)	Within ceiling	Over ceiling	
Total	83,375	79,075	46,860	41,455	5,405	56.2%
City/Province	40,981	41,750	35,627	31,281	4,346	86.9%
City/County/District	42,392	37,325	11,233	10,174	1,059	26.5%

Source: Adapted from Korea Association of Local Finance, *Plan for Reduction of Local Debts and Improvement of Local Government Bond System*, 2012, pp. 21–22.

〈Table II-12〉 **Local Debt of Upper-and-Lower Level Governments**

(Unit: 100 million won, %)

	2007	2008	2009	2010	2011	2012
Upper-level local governments	119,589 (65.7)	129,720 (68.1)	177,100 (69.3)	204,443 (70.5)	197,432 (70.1)	192,113 (70.8)
Lower-level local governments	62,487 (34.3)	60,766 (31.9)	78,431 (30.7)	85,490 (29.5)	84,186 (29.9)	79,139 (29.2)
Total	182,076	190,486	255,531	289,933	281,618	271,252

Note: Figures in parentheses represent the proportion in the total debt held by local governments at each level of government.
Source: Ministry of Public Administration and Security, yearly *Local Debt at the End of December*.

<Table II-13> (Budget-to-debt Ratio of Local Governments by Type) shows a general trend where debt ratios of local governments across all types increased in 2012 compared to 2008. Notably, the debt ratios of upper-level governments rose in 2012 compared to 2008, demonstrated by the fact that two more metropolitan and provincial governments posted a 30 percent or more increase in 2012 compared to 2008. No government recorded a debt ratio of 0 to 10 or 5 to 10 percent in 2012 and the lowest debt ratio among local governments was in the 10 percent range. Meanwhile, at the lower-level, 60 percent or more among a total of 230 local governments maintained the debt ratio below 5 percent both in 2008 and 2012. The number of local governments that showed debt-to-budget ratio of 30 percent or more dropped from two in 2008 to zero in 2012. Furthermore, most autonomous districts had a debt-to-budget ratio of below 5 percent in 2012. The debt of local governments was issued for investment in SOC projects as an area closely related to their functioning. As economic development projects represent the main fiscal expenditure of local governments at the city or county level, those governments involved in such programs inevitably showed high dependence on debt compared to their other local counterparts that are not engaged in such programs.

〈Table II-13〉 **Debt-to-Budget Ratio of Local Governments by Type in 2008**

Debt-to-budget ratio	Metropolitan city/Province	Lower-level	City	County	Autonomous district
Above 30%	2	2	2	0	0
	12.5%	0.9%	2.7%	-	-
20-30%	4	9	7	2	0
	25.0%	3.9%	9.3%	2.3%	-
10-20%	3	26	21	3	2
	18.8%	11.3%	28.0%	3.5%	2.9%
5-10%	4	53	28	22	3
	25.0%	23.0%	37.3%	25.6%	4.3%
0-5%	3	140	17	59	64
	18.8%	60.9%	22.7%	68.600%	92.8%
Total	16	230	75	86	69

Note: Debt-to-budget ratio = (outstanding debt/final budget)*100, Local Public Financial Reporting (LPFR) at Local Finance Open System of the Ministry of Security and Public Administration.

〈Table II-14〉 **Debt-to-Budget Ratio of Local Governments by Type in 2012**

Debt-to-budget ratio	Metropolitan city/Province	Lower-level	City	County	Autonomous district
Above 30%	4	0	0	0	0
	23.5%	-	-	-	-
20-30%	2	3	3	0	0
	11.8%	1.3%	4.1%	-	-
10-20%	11	33	27	6	0
	64.7%	14.5%	36.5%	7.1%	-
5-10%	0	55	28	21	6
	-	24.2%	37.8%	25.0%	8.7%
0-5%	0	136	16	57	63
	-	59.9%	21.6%	67.9%	91.3%
Total	17	227	74	84	69

Note: Debt-to-budget ratio = (outstanding debt/final budget)*100. Yeongi-gun in Chungnam has been converted to Sejong Metropolitan Autonomous City.
Source: Adapted from "Status of Local Government Bonds," Local Finance Open System of the Ministry of Security and Public Administration.

C. Local Debt with a Nature of Capital Account

Studying the term-to-maturity structure of local debts reveals that most debts were long-term ones with terms-to-maturity not shorter than ten years and the redemption of short-term debts with their term-to-maturity spanning one to four years was nearly 3.3 trillion won as of 2009. Although it is difficult to identify the structure since it has not been disclosed since 2010, terms-to-maturity have generally been shortened since the financial crisis, a trend that seems set to continue. Local debt tends to be long-term in terms of financial characteristic since they are related to capital accounts by characteristic.

Local government bonds in Korea and other countries serve as a funding source designed to pro actively meet investment demands such as regional SOC projects pursued by local governments. The local government bonds in Korea are also used for purchasing or investing in durable goods or investing mainly in SOC projects, and are thus characteristic of a capital account rather than the current account (general current expenses that clearly specify the expenditure including labor costs incurred in the pertinent year). In most cases, SOC investment projects related to regional development are led by a local government. Facing the financial crisis, the Korean government stimulated its economy through capital expenditure to the value of 3.5 percent or more of its GDP, 75 percent or more of which was used to support local governments. Korea is one of the countries which were able to expand public expenditure by means of public investment. The same trend has been shown in other countries, and it has been found that 90 percent or more of the expenditure

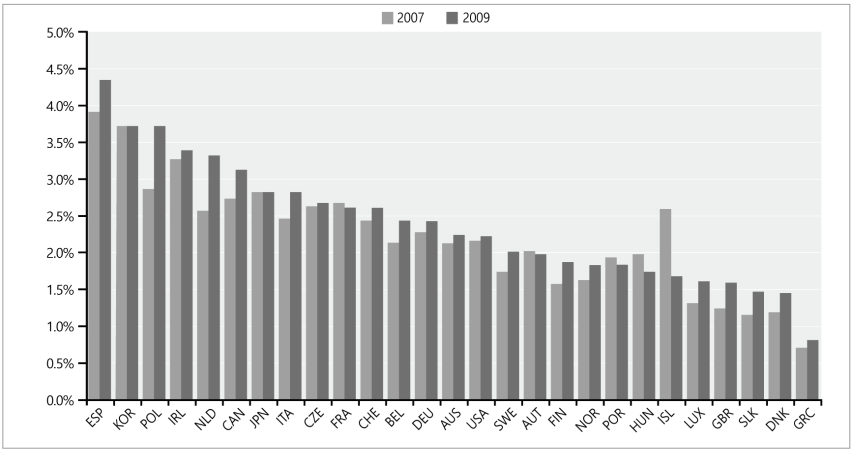
〈Table II-15〉 **Maturity Term Structure of Local Debt**

(Unit: trillion won)

	2007	2008	2009
1–4 years	0.3	0.5	3.3
5–9 years	5.0	5.5	5.4
10 years or longer	12.9	13.1	16.9
Total	18.2	19.1	25.6

Note: Term-to-maturity brackets of local government bonds have not been disclosed by the Ministry of Security and Public Administration since 2010.

〈Figure II-2〉 **Sub-central government capital expenditure as a percentage of GDP in 2009 compared to 2007**



Source: Cited from OECD & KIPF, "Institutional and Financial Relations across Levels of Government," Edited by Junghun Kim and Camila Vammalle, 2011, p. 23, Figure 1.3.

for economic stimulus have been spent in local governments in Austria, Canada, France, Germany, Korea, Spain, and the United States.[3)]

D. Level of Local Debt by Region

Among all upper-level local governments, Incheon showed the fastest growth in the scale of local debt in 2012 compared to 2000 of at approximately 4.26 times, followed by Jeollanam-do (2 times), Gyeongsangnam-do (1.75 times), Seoul (1.58 times) and Gyeonggi-do (1.45 times). In terms of absolute scale, Gyeonggi-do had the highest debt level followed by metropolitan areas such as Seoul and Incheon, indicating the general trend that heavily populated areas are prone toa high level of debt. Having posted a higher level of local government bonds than Seoul in 2000, Busan recorded a slightly lower level than that of

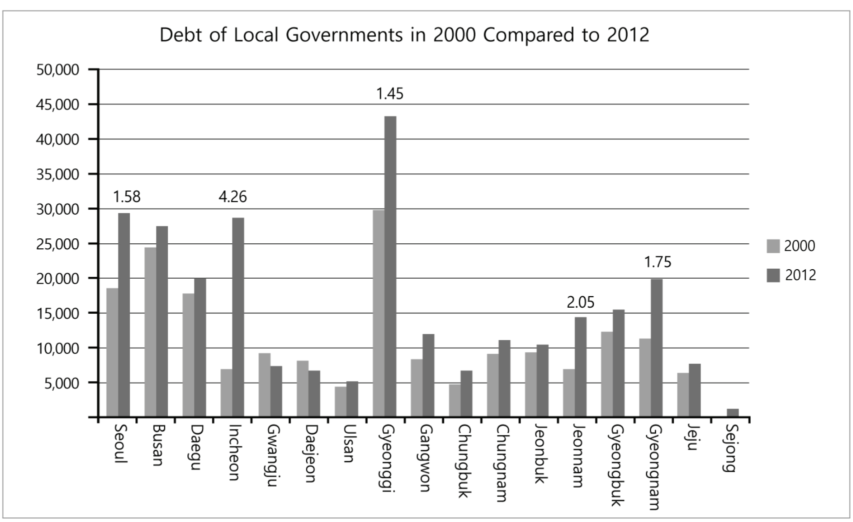
3) OECD, *Making the Most of Public Investment in a Tight Fiscal Context: Multi-Level Governance Lessons from the Crisis*, OECD Publishing, Paris, http://dx.doi.org/10.1787/978926 4114470-en, 2011.

Seoul in 2012. A breakdown of accounts reveals that the debt held by Gyeonggi-do accounted for approximately 20.3 percent of the total public enterprise special accounts, equating to 1.7 trillion won. As for Seoul, 2.3253 trillion won, approximately 40.5 percent of miscellaneous special accounts, was concentrated on a single account.[4] Therefore, in terms of scale alone, Gyeongsangnam-do, Seoul and Incheon marked a high level of local debt when excluding Incheon (Asian Games) and Jeollanam-do (Yeosu-Expo).

In addition, examining the correlations of debt ratio with local tax ratio and fiscal self-reliance found that high debt ratios were generally recorded in regions with high financial independence and high local tax ratios. Although this would require further study after controlling various variables, it can be interpreted that local debts reflected the fiscal needs of areas with relatively large populations.

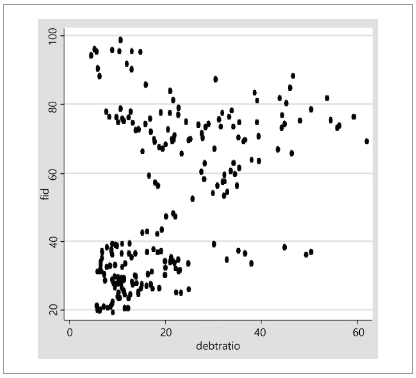
[Figure II-3] **Debt Growth by Local Government in 2012 Compared to 2000**

(Unit: 100 million won)

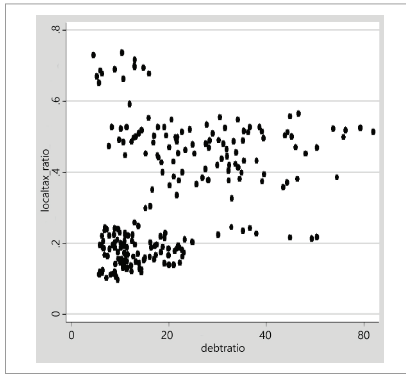


4) In Seoul, district offices are responsible for sewage works, which is classified into the miscellaneous special account.

[Figure II-4] Debt Ratio and Fiscal Self-Reliance Ratio



[Figure II-5] Debt Ratio and Local Tax Ratio



〈Table II-16〉 Status of Local Government Bonds at End of December 2012 (by account)

(Unit: 100 million won)

Classification	Total	General accounts	Miscellaneous special accounts	Public enterprise special accounts	Fund
Total	267,559 (100%)	122,040 (45.6%)	57,432 (21.5%)	87,788 (32.8%)	299 (0.1%)
Seoul Special Metropolitan City	29,495	3,155	23,253	3,087	0
Busan Metropolitan City	27,648	13,423	9,787	4,393	45
Daegu Metropolitan City	19,782	12,072	5,580	2,130	0
Incheon Metropolitan City	28,882	13,281	8,422	7,179	0
Gwangju Metropolitan City	7,512	3,542	2	3,968	0
Daejeon Metropolitan City	6,951	3,277	0	3,652	22
Ulsan Metropolitan City	5,401	918	114	4,343	26
Sejong Metropolitan Autonumous City	1,239	1	0	1,238	0
Gyeonggi–do	43,412	22,807	2,736	17,836	33
Gangwon–do	11,694	7,513	421	3,760	0
Chungcheongbuk–do	7,004	2,925	316	3,763	0
Chungcheongnam–do	11,193	4,239	3,405	3,527	22

〈Table II-16〉 **Continue**

Classification	Total	General accounts	Miscellaneous special accounts	Public enterprise special accounts	Fund
Jeollabuk-do	10,430	6,051	322	4,057	0
Jeollanam-do	14,242	7,039	1,379	5,726	98
Gyeongsangbuk-do	15,283	8,725	598	5,960	0
Gyeongsangnam-do	19,864	8,419	831	10,564	50
Jeju Special Self-Governing Province	7,527	4,653	266	2,605	3

Note: Status of each City and Province = Metropolitan cities and provinces + Cities/Counties/Districts.

3 Status of Local Public Enterprises

A. Changes in Establishment and Composition of Local Public Enterprises

Local public enterprises can be categorized by their management method as follows: enterprises directly or indirectly managed by a local government; local public corporations and industrial complexes; and government-invested or contributed corporations. Directly-managed SOEs are businesses operating independently of general accounts by establishing public enterprise special accounts. The management of aspects relating to structure and personnel belongs to the pertinent local government. Business areas of directly-managed public enterprises include water supply, sewerage, public development, and regional development funds.

Local public corporations and industrial complexes are independent corporations to which local governments invest 50 percent or more of their capital stock. Such enterprises are indirectly managed by a local government and, unlike in the case of directly-managed public enterprises, the status of their employees is civilian, not public servant. Examples include rapid transit corporations, urban development corporations, facilities management corporations involved in environmental, bicycle racing, and parking management, and other corporations and industrial complexes. Finally, government-invested or contributed institutions (corporations, foundations) are established by a local government, in concert with a third party other than any local government, by investing less than 50 percent of the total capital stock or asset held by the institutions concerned. As in the case with local public corporations and industrial complexes, the status of their employees is civilian.

〈Table II-17〉 **Management Type of Local Public Enterprises**

<table>
<tr><th>Type of management</th><th colspan="2">Type of local public enterprise</th><th>Ratio of investment by local government</th><th>Number of public enterprises</th><th>Note</th></tr>
<tr><td>Direct management (254)</td><td colspan="2">Directly-managed SOEs</td><td>100%</td><td>Water supply (116), sewerage (87), public development (33), regional development funds (18)</td><td>Governmental organization type</td></tr>
<tr><td rowspan="4">Indirect management (179)</td><td colspan="2">Local industrial complexes</td><td>100%</td><td rowspan="3">Urban development, rapid transit and other corporations (59), facility management, environmental, bicycle racing corporations (78), etc.</td><td rowspan="2">Private investments not allowed</td></tr>
<tr><td rowspan="2">Local public corporations</td><td>Full investment type</td><td>100%</td></tr>
<tr><td>Government-invested or contributed corporation type</td><td>50% or more</td><td>Government-invested or contributed corporations in a broad sense</td></tr>
<tr><td colspan="2">Government-invested or contributed corporations other than local public corporations and industrial complexes (3rd sector)</td><td>Less than 50%</td><td></td><td>Government-invested or contributed institutions in a narrow sense (corporation type)</td></tr>
</table>

Note: As of January 1, 2013.
Source: Adapted from Ministry of Public Administration and Security, *Status of Local Public Enterprises*, 2013, pp. 3-11.

〈Table II-18〉 **Establishment Status of Local Public Enterprises by Year**

(Unit: number of enterprise)

Classification	1970	1980	1990	2000	2006	2007	2008	2009	2010	2011	2012	2013
Total (including Government-invested or contributed corporations)	7	30	131	269	358	365	387	408	413	412	419	423
Total (excluding government-invested or contributed corporations)	7	30	131	234	328	339	359	371	378	379	386	391
Total of directly-managed SOEs	-	30	128	175	225	227	234	239	241	246	252	254
Water supply	6	27	73	94	108	108	111	112	113	115	115	116
Sewerage	-	-	8	22	62	64	73	75	79	82	85	87
Public development, etc.	1	3	34	44	39	39	34	36	33	33	34	33
Regional development funds	-	-	13	15	16	16	16	16	16	16	18	18
Total of local public corporations and industrial complexes	-	-	3	59	103	112	125	132	137	133	134	137
Rapid transitcorporations	-	-	1	4	7	7	7	7	7	7	7	7
Urban development	-	-	1	11	14	16	16	16	16	16	16	16
Other corporations	-	-	1	14	18	20	26	28	32	31	33	36
Local industrial complexes	-	-	-	30	64	69	76	81	82	79	78	78
Government-invested or contributed corporations	-	-	-	35	30	26	28	37	35	33	33	32

Note: As of January 1, 2013.
Source: Ministry of Public Administration and Security, *Status of Local Public Enterprises,* 2013, p.7.

B. Status of Establishment of Local Public Enterprises by Type in 2013

Among the total of 254 directly-managed SOEs as of 2013, the number of water supply businesses was the largest at 116, while the number of sewerage businesses was the second largest at 87. The two largest businesses of water supply and sewerage number over 200 combined. Under the Local Public Enterprises Act currently in effect, any water supply business with over 15,000 tons of daily production capacity and any sewerage business with over 10,000 tons of daily disposal capacity shall be converted to a directly-managed SOE. As water supply and sewerage businesses provide indispensable services for the public livelihood and high benefit to the public interest, most local governments operate these business areas as local public enterprises.

A total of 33 public development businesses have been established and operated at six metropolitan cities and provinces and 28 cities, counties and districts. Recently, conventional public development businesses have shown a modest decrease with the growing establishment of other corporations performing city development projects or businesses. Among the total of 18 regional development funds, all except for the case of Changwon have been established to operate at the level of upper-level governments.[5] The issuance of regional development bonds has its legal basis on Article 19 of the Local Public Enterprise Act. When it was first enacted, the Act only provided grounds for local governments to issue local government bonds with the expenses borne by the special accounts of the local public enterprise concerned. Later, however, the revision of the Act in December 1992 established a new provision for the issuance of regional development bonds to fund regional development. With the further revision in December 2004, a new provision was established for targets of purchase, which stipulated the obligatory purchase of regional development bonds in specified cases. Regional development bonds are generally purchased by parties that obtain a license, permission or authorization from the local government apply for registration to the local government or conclude a contract with a certain corporation for a construction project or a particular service, etc.[6]

5) Given authority to issue regional development bonds from Gyeongsangnam–do as an incentive for the integration of Changwon, Masan, and Jinhae, Changwon–si has pursued the stable operation of its finance and sustainable development.

6) Article 19 (Local Government Bonds, etc.)

(1) The local government may issue local government bonds, the issuance expenses of which shall be borne by special accounts of the enterprise directly operated by local government concerned in any

The specific subject sand procedure for purchase are prescribed by the ordinance of local government concerned. Local public corporations largely consist of rapid transit, urban development and other corporations. Rapid transit corporations are operated by seven local public corporations: two in Seoul and one each in Busan, Daegu, Incheon, Gwangju, and Daejeon. Businesses providing rapid transit services are operated in a small scale by a relatively small number of institutions as it requires a large initial investment and huge operation and maintenance costs.

Urban development corporations have been established and operated in each of the 16 cities and provinces. Daegu Urban Development Corporation and SH Corporation were established relatively early in the late 1980s, followed by the establishment of similar corporations in Busan, Daejeon, Gwangju, and Jeju. As for Incheon, Jeonnam-do, Chungbuk, Chungnam and Ulsan, urban development corporations were established following the 2000s, whereas development efforts were mostly carried out directly by the local governments

of the following cases:

1. Where it is necessary to appropriate funds for current working capital;
2. Where it is necessary to appropriate funds for the revolving fund;
3. Where it is necessary to appropriate funds for construction or improvement expenses or to use fund for purchasing similar business.

(2) The special metropolitan city, metropolitan cities, provinces, and special self-governing provinces (hereinafter referred to as "city/province") or large cities other than the special metropolitan city and metropolitan cities with a population of one million people or more (hereinafter referred to as "large city") may issue local government development bonds after obtaining an approval of the local council in order to secure investment resources for the enterprise prescribed in Article 2, and to create funds for the regional development, notwithstanding paragraph (1).

(3) Persons designated by municipal ordinances from among the following persons shall purchase the regional development bonds:

1. Persons who obtain a license, permission or authorization from the local government or who apply for or report registration to the local government;
2. Persons who conclude a contract for construction works with the local government or with a corporation for which a local government has government-invested or contributed to the whole amount of equity capital;
3. Persons who conclude a contract for service or for goods purchase, repair or manufacturing with the local government or with a corporation for which a local government has government-invested or contributed to the whole amount of equity capital.

(4) Purchase procedures for regional development bonds, the amount by purchase object, methods of bonds registration, interest rates, redemption and other necessary matters shall be prescribedby municipal ordinance of each city/province or large city.

as public development projects. Other corporations have been established and operated across a variety of business areas, the largest number of which is dedicated to housing and land development businesses: out of 36 other corporations, 21 institutions including Gyeonggi Pyeongtaek Port Corporation, Goyang Urban Management Corporation, Yongin Corporation, Ansan Urban Corporation have been established and operated under urban or development corporations. Other corporations carry out a variety of businesses other than development: tourism related business (GyeongGi Together, Jeju Tourism Organization, Incheon Tourism Organization), management of distribution of agricultural and marine products (Seoul Agro-Fisheries & Food Corporation, Chungnam Agricultural and Stockbreeding Products Distribution Center, Guri Agricultural & Marine Products Corp., and Yeong Yang Red Pepper Trade Organization), and other businesses (Kimdaejung Convention Center, Expo Science Park).

As for industrial complexes, a total of 78 have been established and remain in operation. Most are facility management corporations that manage and operate parking, cultural and sports facilities for local governments. In addition to facility management corporations, there are environment corporations managing and operating basic treatment facilities such as sewage treatment incineration plants; and corporations dedicated to managing and operating cycle racing and motor boat racing facilities.

Government-invested or contributed corporations can be classified according to the investment ratio into two categories, whether local government investment comprises under 25 percent of the enterprise, or between 25 to less than 50 percent. There are nearly 22 government-invested or contributed corporations established and operated which are comprised of a relatively high proportion local government investment in their total capital. The remaining ten are lower than 25 percent in terms of local government investment.

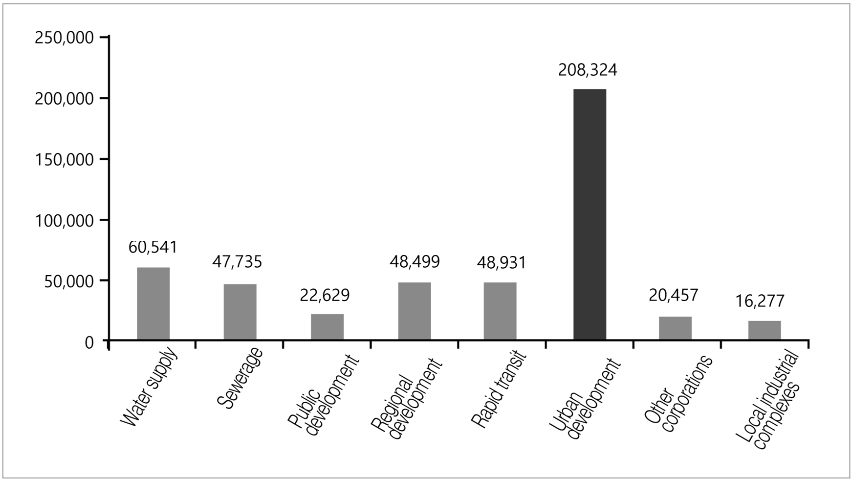
C. Budgets and Assets Status of Local Public Enterprises

In terms of budget size, urban development corporations have the biggest budgets among local public enterprises. As of the end of 2011, the total budget scale of local public enterprises stood at 47.3393 trillion won, of which the budget for urban development corporations was 20.8324 trillion won, or approximately 44 percent of the total budget. In particular, SH Corporation, Incheon Development & Tourism Corporation and Gyeonggi Urban Innovation Corporation comprised approximately 68 percent of the total budget of urban development corporations, indicating that most businesses are concentrated on metropolitan areas.

Urban development corporations take the biggest share not only in the budget scale but also in the asset size. Based on the settlement of accounts for fiscal year 2011, the asset size of local public enterprises totaled 158.6756 trillion won. The asset held by urban development corporations amounted to 55.0971 trillion won, approximately 34.7 percent of the total asset. The value of assets held by urban development corporations increased due to the increase in inventory assets such as land to be sold in lots and houses as well as leased assets (tangible assets) through businesses such as rental housing and construction projects for the development of new cities.

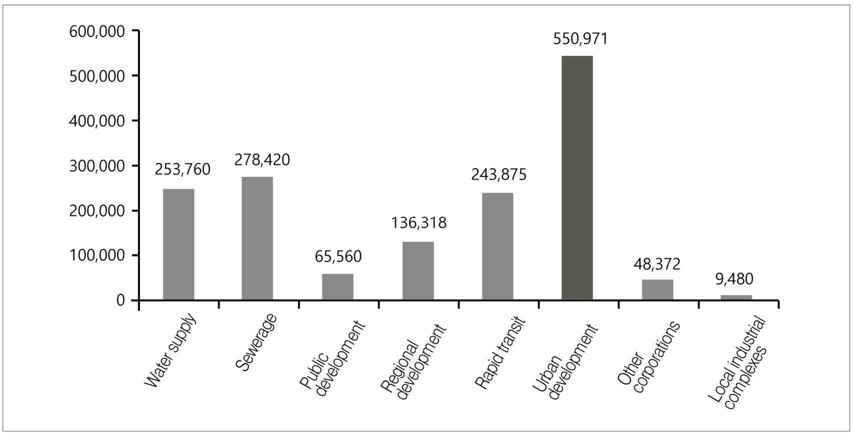
[Figure II-6] Budget Size of Local Public Enterprises by Type (based on settlement of accounts for FY 2011)

(Unit: 100 million won)



[Figure II-7] Asset Size of Local Public Enterprises by Type (based on FY 2011 settlement of accounts)

(Unit: 100 million won)

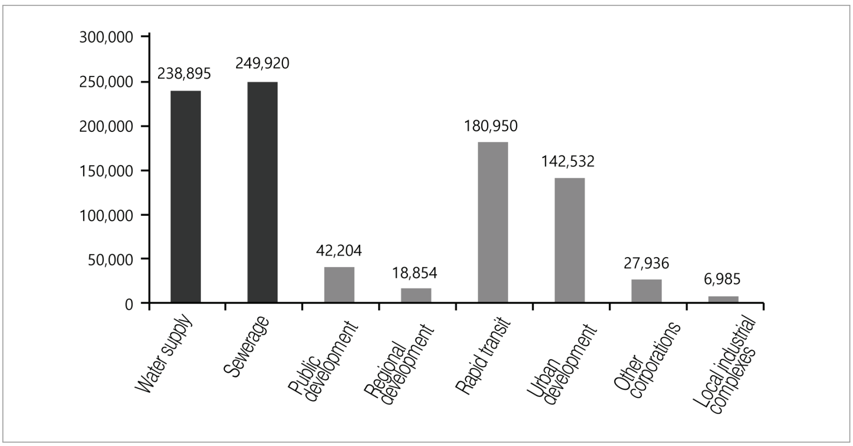


As for water supply and sewerage businesses, asset size is on the increase due to ongoing investment for new facilities to improve the distribution rate and the construction water supply pipes to improve water flow rate and efficiency. On the other hand, the asset size of rapid transit corporations tends to be enormous due to substantial amounts of initial facility investment, which then sees insignificant increases due to the continuing losses incurred by the weak profit structure.

Facility and equipment investment for water supply and sewerage businesses are generally funded by subsidies from local governments, thereby resulting in a high capital ratio. In addition, most resources for investment in facilities such as sewage or water treatment plants are financed by government subsidies or appropriations from other accounts. Based on the settlement of accounts for fiscal year 2011, the total asset size of 379 local public enterprises stood at 90.8276 trillion won, of which the capital equity of water supply and sewerage businesses accounted for 48.8815 trillion won, or 53.8 percent of the total. In addition, urban development corporations have also recently begun to see a continual increase in capital through vigorous investment in kind from local governments.

[Figure II-8] Capital Size of Local Public Enterprises by Type (based on FY 2011 settlement of accounts)

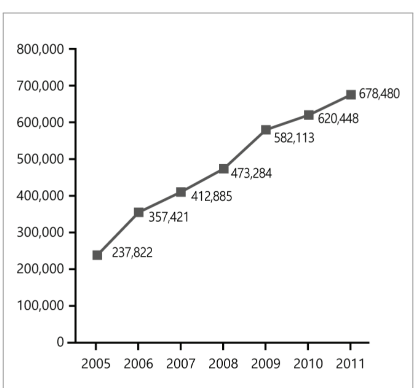
(Unit: 100 million won)



D. Status of Liabilities of Local Public Enterprises

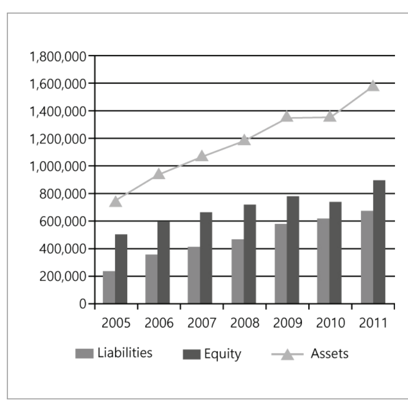
[Figure II-9] Changes in Liabilities by Year

(Unit: 100 million won)



[Figure II-10] Financial Status of Local Public Enterprises by Year

(Unit: 100 million won)



〈Table II-19〉 **Results of Settlement of Accounts of Local Public Enterprises in 2012**

Classification (number)	Assets (tril. won)			Liabilities (tril. won), (Liabilities ratio)		
	2011	2012	Change (percentage)	2011	2012	Change (percentage)
Total (①+②+③)	158.7	166.6	7.9 (5%)	67.8 (75%)	72.5 (77%)	4.7 (7%)
① Directly-managed SOEs (251)	73.4	77.9	4.5 (6%)	18.4 (34%)	20.1 (35%)	1.7 (9%)
· Water supply (115)	25.4	26.4	1 (4%)	1.5 (6%)	1.4 (6%)	-0.1
· Sewerage (85)	27.8	30.3	2.4 (9%)	2.9 (11%)	3.8 (14%)	0.9 (33%)
· Public development (33)	6.6	7.1	0.5 (8%)	2.3 (55%)	2.8 (64%)	0.4 (18%)
· Regional development funds (18)	13.6	14.1	0.5 (4%)	11.7 (623%)	12.1 (612%)	0.4 (3%)
② Local public corporations (59)	84.3	87.8	3.4 (4%)	49.2 (138%)	52.2 (145%)	3 (6%)
· Rapid transit (7)	24.4	23.9	-0.5	6.3 (35%)	6.1 (34%)	-0.2
· Urban development (36)	55.1	58	2.9 (5%)	40.8 (287%)	43.5 (301%)	2.7 (7%)
· Other corporations (36)	4.8	5.9	1 (21%)	2 (73%)	2.6 (81%)	0.6 (29%)
③ Local industrial complexes (78)	0.9	0.9	-	0.2 (36%)	0.2 (30%)	-

Source: Ministry of Security and Public Administration, *FY 2012 Results of Settlement of Accounts of Local Public Enterprises*, July 2013.

In terms of debt size, urban development corporations showed the most debt among the different types of local public enterprises. Based on the settlement of accounts for fiscal year 2011, the liabilities of urban development corporations were approximately 40.8439 trillion won, approximately 60 percent of all liabilities held by local public enterprises (67.8480 trillion won). The considerable size of liabilities held by urban development corporations is attributable to their business structure where the investment costs at the initial stage of business are loaned through public corporation bonds, national housing funds, regional development funds, etc. The liability-to-equity capital ratio of urban development corporations is an average of 623 percent, which is substantially higher than the 178 percent found in their private sector counterparts in the construction industry (Bank of Korea, *Analysis on Corporate Management*, 2011).

〈Table II-20〉 **Liability Size of Public Enterprises by Year**

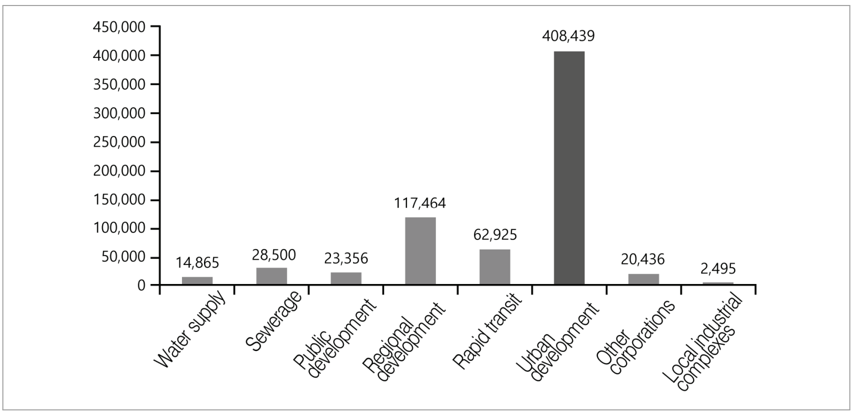
(Unit: 100 million won)

Classification	2006	2007	2008	2009	2010	2011
Water supply	16,854	15,085	13,881	12,990	14,463	14,865
Sewerage	14,075	14,000	14,065	15,172	17,400	28,500
Public development	25,734	26,054	31,295	25,076	22,262	23,356
Regional development funds	73,810	80,720	89,665	102,072	109,947	117,464
Sub-total	130,473	135,859	148,906	155,310	164,072	184,185
Rapid transit	68,814	64,781	62,809	57,573	62,350	62,925
Urban development	150,204	202,044	247,827	349,820	379,955	408,439
Other corporations	4,858	7,243	10,861	16,568	19,965	20,436
Local industrial complexes	3,072	2,958	2,881	2,842	2,475	2,495
Sub-total	226,948	277,026	324,378	426,803	464,745	494,295
Total	357,421	412,885	473,284	582,113	628,817	678,480

Source: Ministry of Public Administration and Security, yearly *Settlement of Accounts and Analysis on Management of Local Public Enterprises*.

[Figure II-11] **Liability Size of Local Public Enterprises (based on the settlement of accounts in 2011)**

(Unit: 100 million won)

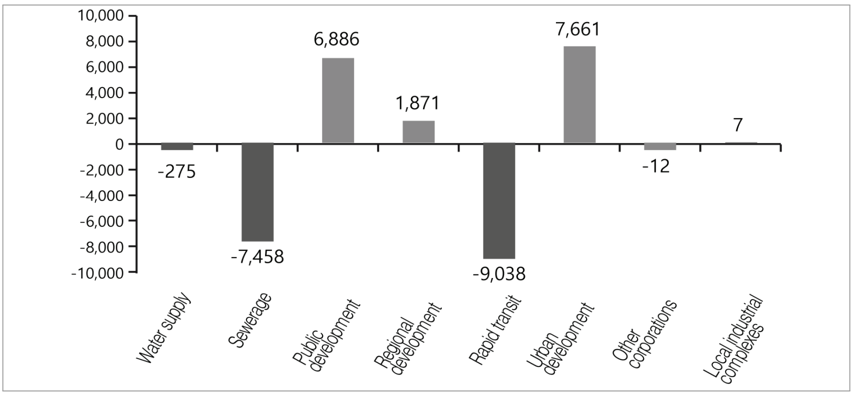


In terms of profitability, rapid transit corporations show the tendency to record low profits, instead recording continued losses due to factors such as the government's pricing policy, welfare concessions, etc. Welfare concessions for rapid transit fees cost the entire system a loss of approximately 369 billion won, almost 40 percent of total losses (903.8 billion won). This amount is considerable as it is equivalent to nearly 18 percent of total sales (2.0376 trillion won). In addition, with the cost recovery rate standing at a mere 55 percent as of 2011, one of the key factors behind structural losses is the issue of faresset below the transportation costs.

Water supply and sewerage businesses, together with the rapid transit business, contribute towards generating losses across all local public enterprises. In the settlement of accounts for fiscal year 2011, 148 (around 78.2%) of 197 water supply and sewerage institutions ran a deficit. In particular, 79 out of 82 sewerage enterprises generated deficits in the same year. In summary, the proportion of loss-generating institutions reached 96.3 percent. The massive losses incurred by water supply and sewerage businesses are attributable to the fares set below costs and large-scale facility investments. Although the sewerage business is a machinery-based business with a high-cost structure, management

[Figure II-12] **Net Profit of Current Period of Local Public Enterprises by Type (based on the settlement of accounts in 2011)**

(Unit: 100 million won)



policy towards public utility charges has led to sewage usage fees that are neither realistic nor timely. Meanwhile, costs have risen due to the massive amount of plant and equipment investment caused by the invitation of private investment projects such as the modernization of sewage facilities. In addition, water treatment costs are increasing substantially with the increased costs required by the renovation of obsolete water treatment plants and improvement of degraded water quality.

E. Overview of Liabilities of Local Public Enterprises by Region

As of 2012, the liability size of local public enterprises stood approximately at 72.5 trillion won and the liability ratio of 17 local governments posted an average of 77 percent. In terms of liability size, Seoul (23.6 trillion won) was the biggest local government followed by Gyeonggi-do (15.7 trillion won) and Incheon (10.2 trillion won). Gyeonggi-do takes the first placein terms of liability growth in 2012 compared to 2011, while the province also had the largest number of public enterprises by region at 103 or one fourth of 388 such enterprises, followed by Gyeongsangnam-do (38), Jeollanam-do (34) and Seoul

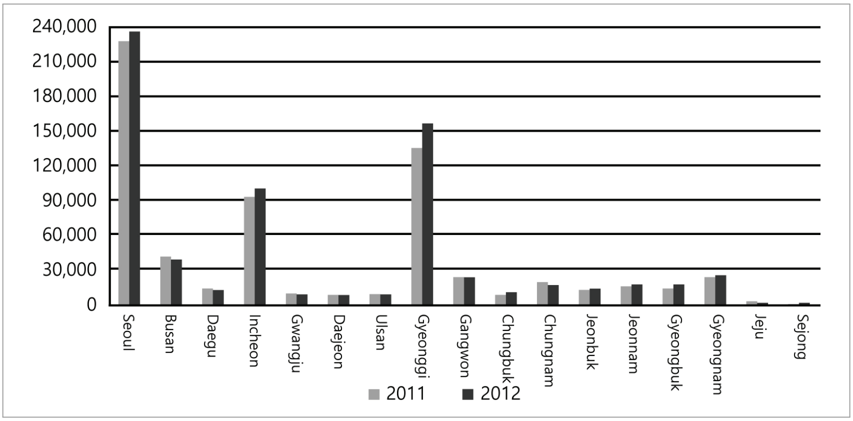
(31). Aside from Sejong-si and Jeju-si, Daegu, Daejeon and Ulsan had the smallest number with seven each.

Regarding the liability ratio of public enterprises in 2012 with the exception of Sejong-si, Seoul and Incheon jointly occupied the top place with 132 percent, followed by Gangwon-do (approximately 85%), Ulsan (84%) and Gyeonggi-do (72%). In the case of Gangwon-do, the ratio stood at 60 percent in 2006 before continuing to increase to reach the highest level at present.

A comparison between the local liability ratio and local public enterprise ratio offers some insight as to the utilization of local government debt and public enterprise liabilities as a means of generating financial resources. As for local debt ratios, those of upper-level local governments are high while those of provinces (except for Jeju-do) are relatively low. This suggests that upper-level local governments leveraged a relatively substantial portion of shortages in supporting SOC investments through liabilities. Meanwhile, the liability ratios of local public enterprises are overwhelmingly higher in Seoul, Gyeonggi-do and Incheon than other areas, while the liability ratios of provinces are generally higher than metropolitan cities. The latter is interesting in that, although provinces are not heavily populated, investments in roads and other SOC-related aspects are financed through liabilities borne by local public enterprises.

[Figure II-13] Liability Size of Local Public Enterprises by Region (2011-2012)

(Unit: 100 million won)



〈Table II-21〉 **Liability Ratio of Public Enterprises by Region**

(Unit: %)

Region	Number of public enterprises* (as of July 1, 2012)	Debt ratio of public enterprises						
		2006	2007	2008	2009	2010	2011	2012
Seoul	31	148.5	146.5	143.0	177.3	159.9	123.4	131.8
Busan	9	22.2	28.0	39.7	44.8	63.6	50.8	46.4
Daegu	7	34.4	31.4	35.4	31.4	31.4	23.8	23.5
Incheon	16	63.1	62.1	85.4	98.7	113.2	122.7	132.2
Gwangju	7	25.9	29.6	31.6	37.0	35.7	36.3	35.5
Daejeon	7	44.7	50.4	29.9	30.0	30.0	27.5	23.4
Ulsan	7	53.7	47.5	45.9	72.0	65.4	84.9	83.5
Sejong	3	–	–	–	–	–	227.8	7.9
Kyeonggi	103	96.3	101.6	100.5	105.8	103.1	79.1	85.6
Gangwon	31	57.0	68.3	83.7	104.7	117.4	102.8	96.9
Chungbuk	20	46.5	47.5	40.2	58.7	51.6	53.0	55.7
Chungnam	27	59.5	49.8	59.9	57.1	58.0	58.1	62.7
Jeonbuk	18	37.3	39.8	50.5	55.4	58.9	70.2	70.9
Jeonnam	23	39.1	43.3	46.4	53.9	66.1	57.3	60.1
Gyeongbuk	34	52.8	47.5	38.0	38.0	39.5	38.9	43.5
Gyeongnam	38	31.9	36.1	51.1	58.4	63.0	68.4	32.1
Jeju	5	64.1	41.3	43.8	43.6	42.1	55.7	23.4

Note: * Except for government-invested or contributed corporations, the number of local public enterprises (directly-managed SOEs, public corporations, industrial complexes, etc.) is at 386 (See Ministry of Public Administration and Security, *Status of Local Public Enterprises*, 2012, p. 9).

Source: Individual disclosure data of local public enterprises (management information) retrieved from Management Information System for Local Public Enterprises (http://www.cleaneye.go.kr/).

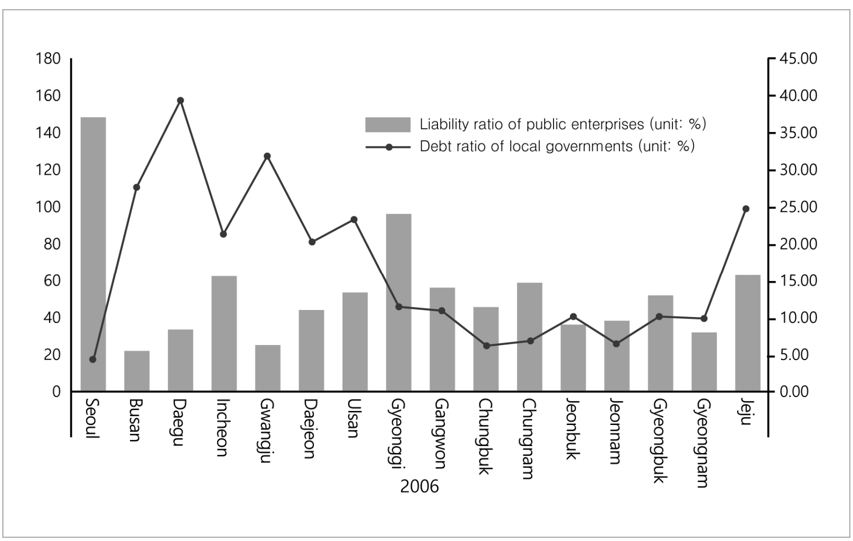
〈Table II-22〉 **Liability Size of Public Enterprises by Local Government in 2012**

(Unit: trillion won, %)

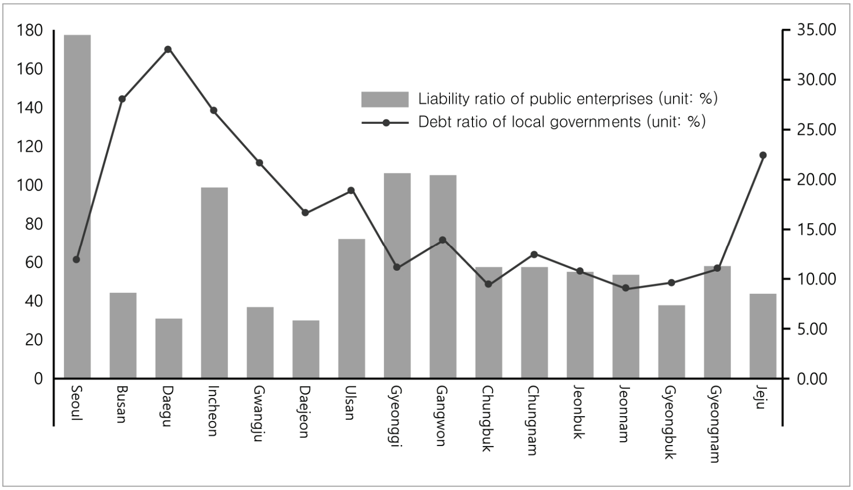
Classification	Total	Seoul	Busan	Daegu	In cheon	Gwang ju	Dae jeon	Ulsan	Se joing	Gyeong gi	Gang won	Chung buk	Chung nam	Jeon buk	Jeon nam	Gyeong buk	Gyeong nam	Jeju
Debt (tril. won) Debt ratio (%)	72.5 (77)	23.6 (132)	4 (46)	1.5 (24)	10.2 (132)	1.1 (36)	1.0 (27)	1.1 (84)	0.1 (177)	15.7 (72)	2.5 (85)	1.2 (58)	2.0 (62)	1.5 (71)	1.9 (61)	1.9 (42)	2.7 (58)	0.4 (52)
Management performance (100 mil. won)	−1.5008	−8.755	−3.88	−1.196	−7.80	−2.39	−4.10	191	−5	810	−892	41	−712	−242	−78	−1.135	−8.33	−2.55

Source: Ministry of Security and Public Administration, *FY 2012 Results of Settlement of Accounts of Local Public Enterprises*, June 2013.

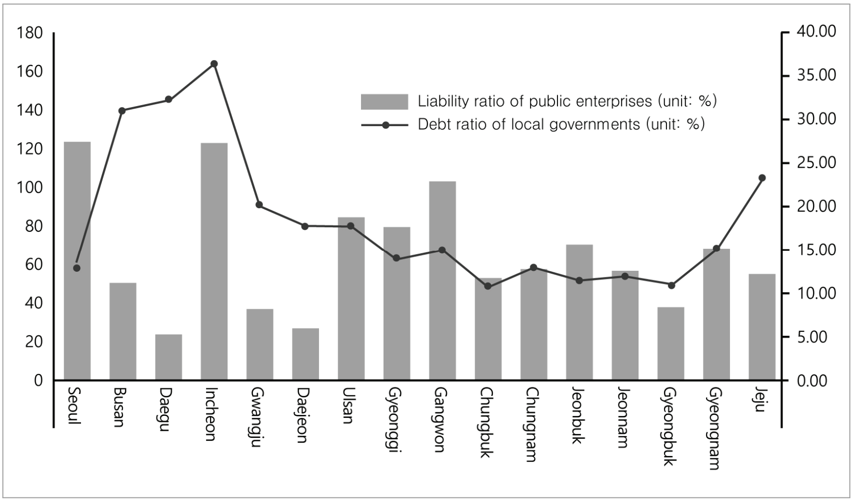
[Figure II-14] **Debt Ratios of Local Governments and Liability Ratios of Local Public Enterprises in 2006**



[Figure II-15] Debt Ratios of Local Governments and Liability Ratios of Local Public Enterprises in 2009



[Figure II-16] Liability Ratio of Local Governments and Local Public Enterprises in 2011



4 Status of Urban Development Corporations

A total of 16 urban development corporations are currently in operation, consisting of one established in each upper-level local government. In 1989, Seoul established SH Corporation, the first urban development corporation in Korea, followed by other upper-level local governments including Busan, Gwangju and Daejeon. Other upper-level local governments including Incheon,

〈Table II-23〉 **Liability and Equity Size and Debt Liability Ratio of Urban Development Corporation by Region in 2012**

(Unit: million won)

Classification	Debt	Equity	Debt ratio
SH Corporation	18,335,073	5,302,247	345.8%
Busan Metropolitan Corporation	2,470,824	977,698	252.7%
Daegu Urban Development Corporation	585,931	435,902	134.4%
Incheon Development & Tourism Corporation	7,927,182	2,224,807	356.3%
Gwangju Metropolitan City Corporation	666,626	279,787	238.3%
Daejeon City Corporation	282,348	305,754	92.3%
Ulsan Metropolitan City Authority	495,681	179,157	276.7%
Sub-total	30,763,665	9,705,352	317.0%
Gyeonggi Urban Innovation Corporation	8,435,691	2,624,412	321.4%
Gangwondo Development Corporation	1,249,760	369,709	338.0%
Chungbuk Development Corporation	328,966	170,395	193.1%
Chungnam Development Corporation	468,994	283,414	165.5%
Jeonbuk Development Corporation	422,024	129,560	325.7%
Jeonnam Development Corporation	663,663	496,816	133.6%
Gyeongsangbuk-do Development Corporation	487,873	329,739	148.0%
Gyeongnam Development Corporation	655,197	229,875	285.0%
Jeju Self-Governing Province Development Corporation	50,580	142,589	35.5%
Total	43,526,413	14,481,861	300.6%

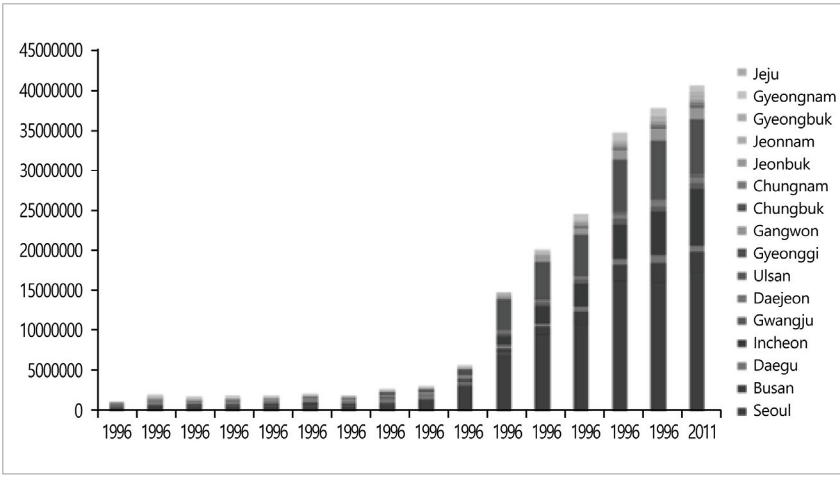
Source: Adapted from the "Information on management of urban development corporation by region in 2012" retrieved from Management Information System for Local Public Enterprises (http://www.cleaneye.go.kr/).

Ulsan, Chungnam were relatively late in establishing urban development corporations, only having done so after the 2000s. Before establishing their own urban corporations, these provinces pursued regional development projects through directly-managed SOEs through public development special accounts. There is a reason that public development projects are carried out not by a directly-managed SOE but, instead, by a separate corporation established for the specific purpose. This is because directly-managed enterprises consist of public servants who lack the necessary expertise and possess a limited ability to pursue projects due to the sporadic reorganization and rotation of assignments. Another trend in the field shows that more urban development corporations are being established to meet the demand for projects initiated on an irregular basis and to expand and actively pursue business efforts.

The liabilities of urban development corporations have increased sharply since 2006, having stood at 1.3072 trillion won in 1996 and then showing a relatively moderate increase to reach 5.8625 trillion won by 2005. However, the scale of liabilities increased sharply by over 150 percent to record 15.0204 trillion won in 2006 and has continued to increase ever since. The reason behind this increase is that the Local Public Enterprises Act of 2005 expanded the bond issuance ceiling from four times of net assets to ten times, as well as allowing the vigorous pursuit of residential land development and other businesses. It is difficult for local governments to issue local government bonds due to complicated requirements and procedures such as the central government‘s approval for debt issuance, review of business feasibility and investment, and approval of local councils. However, preemptive debt control measures towards local public enterprises have been somewhat lax, which also contributed to the sharp increase of the overall debt level. Studying the liability size of urban development corporations by region revealed that the liabilities of metropolitan areas such as Seoul, Gyeonggi, and Incheon account for 70 to 80 percent of all liabilities for such corporations. This is due to the active operation of housing distribution projects concentrated in metropolitan areas.

[Figure II-17] Status of Liabilities of Urban Development Corporations

(Unit: million won)



Source: Ministry of Security and Public Administration, yearly *Settlement of Accounts and Analysis on Management of Local Public Enterprises*.

Recently, it has been pointed out that the soundness of local finance has been undermined by the reckless pursuit of development projects on the part of local public enterprises. The downturn in the real estate market has burst the bubble in the sales prices of new apartments, thereby undermining the feasibility of the housing industry and generating greater losses. The liabilities of 16 urban development corporations under upper-level local governments exceeded 40 trillion as of the end of June 2011. In particular, the combined debt of three urban development corporations in metropolitan areas alone reached almost 26 trillion won: SH Corporation (16 trillion won), Gyeonggi Urban Innovation Corporation (6 trillion won) and Incheon Development & Tourism Corporation (4 trillion won). The debt of local urban development corporations has continued to increase due to the indiscriminate diversification of their large-scale businesses including the development of new cities, tourism and industrial complexes, without due consideration to internal financial conditions. The overall liabilities issue is compounded by the fact that most of the costs for development enterprises are financed through bond issuance.

A. SH Corporation

Examining changes in the assets, liabilities and equity of SH Corporation, it shouldbe noted that its liability size has increased drastically since 2006. Having risen to 3.3628 trillion won in 2005, the liability size more than doubled to 7.3786 trillion won in 2006 and continued to steadily increase, before turning to a continued decrease since 2010 at a decelerating pace.

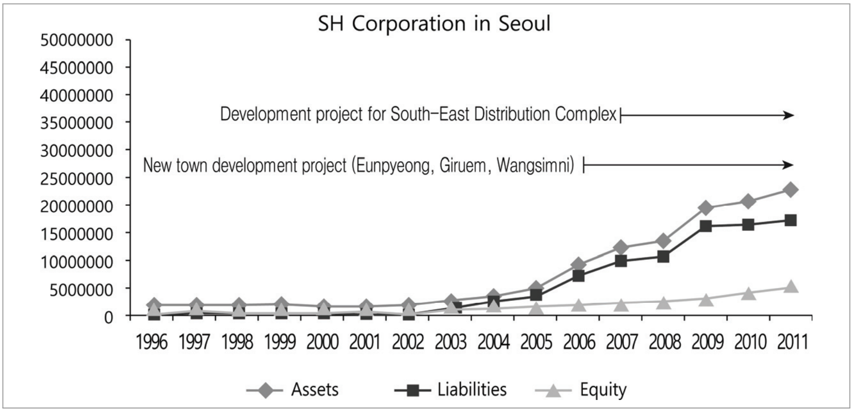
The liabilities of SH Corporation rose due to large-scale development projects such as the New Town initiative. As Lee Myeong-bak, then mayor of Seoul, began to push ahead his election pledge for new town construction, the development of Eunpyeong, Gireum, Wangsimni and other pilot districts began in earnest, thereby causing the sudden increase of the land compensation costs, which in turn became the liabilities of SH Corporation. The liabilities continued to increase in 2007 with the compensation for the Southeast Distribution Complex, the relocation site for the development of Cheonggyechoen stream. The Garden5 project, in which 1.7 trillion won had been invested, failed to be sold in lots and instead added to the liability increase.

Succeeding the position of Lee Myeong-bak as the mayor of Seoul, Oh Se-hoon pursued the land compensation for Magok and Gangil / Macheon / Cheonwang districts starting from 2008, while somewhat recklessly embarking on a large-scale project financing initiative without proper planning. The liabilities of SH Corporation currently stand at 17 trillion won and comprise of: businesses including Enpyeong New Town (3.5543 trillion won), Magok District (4.1158 trillion won), Southeast Distribution Complex (1.6435 trillion won) and interest costs (2.8058 trillion won).

Efforts to reduce the liabilities of SH Corporation have followed the emergence of this issue as a particular concern in Korean society. As a result, the liabilities moderately decreased to 1.6232 trillion in 2010 and its pace of increase was curbed.

[Figure II-18] Financial Status of SH Corporation in Seoul

(Unit: million won)



B. Gyeonggi Urban Innovation Corporation

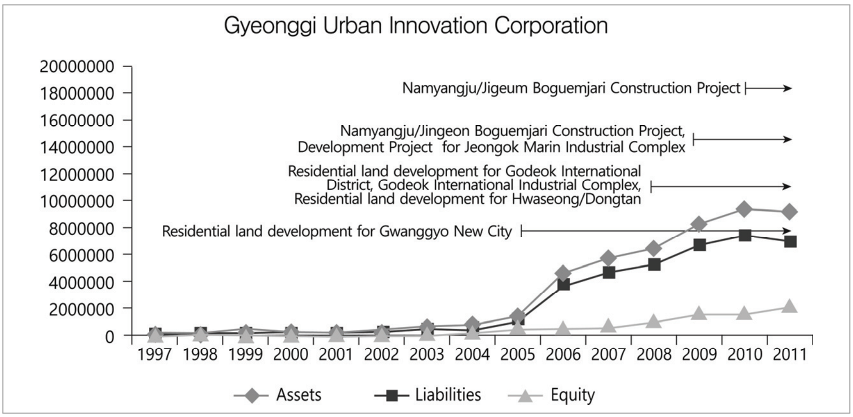
Based on the settlement of accounts for fiscal year 2011, the liabilities of Gyeonggi Urban Innovation Corporation stood at 7.0911 trillion won, approximately equivalent to 17.4 percent of the combined liabilities of all urban development corporations. The liability size increased dramatically since 2006 to exceed 7.5 trillion won in 2010, and then slightly decreased in 2011. The liability ratio hit a record high of 550 percent in 2006, and then gradually decreased to 310 percent in the settlement of accounts for fiscal year 2011.

The sudden hike in the liabilities of Gyeonggi Urban Innovation Corporation can be explained as follows: the liabilities persistently increased up to 2010 as borrowings and collection of building unit payments to finance policy projects such as Dongtan New City II (including Gwanggyo) and an industrial complex in the Godeok International District were recognized as advance payments received from customers. However, the liabilities have declined thanks to the decrease in the said advances made possible with the redemption of borrowings through the collection of building unit payments and the progress of constructions since 2011.

At present, Gyeonggi Urban Innovation Corporation is carrying out a

[Figure II-19] Financial Status of Gyeonggi Urban Innovation Corporation

(Unit: million won)



total of 25 projects: seven for residential land development including Gwanggyo New City (31,550,000 m²), seven industrial complexes including Godeok International Complex (8,180,000 m²) and six residential districts including Namyangju / Jingeon District. However, housing units to the value of 2.7503 trillion won remain unsold in these projects, wherein the average sales rate is as low as to be in the 50 percent range while 79 percent of the residential district has yet to be sold.

C. Incheon Development & Tourism Corporation

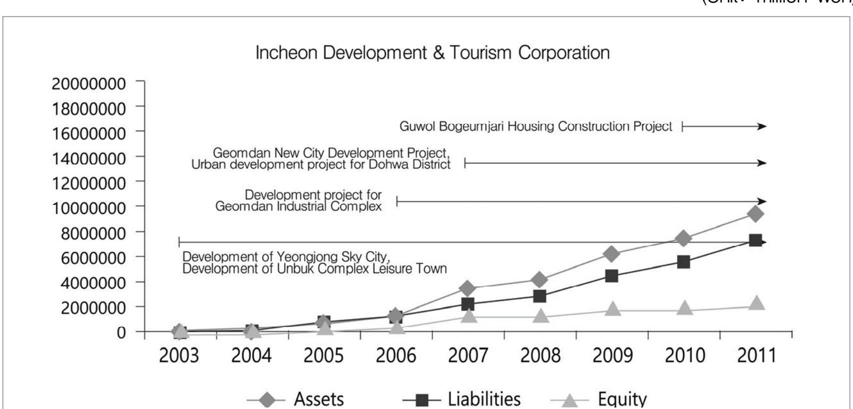
Although Incheon Development & Tourism Corporation (IDTC) simultaneously advanced a number of large-scale development projects, its negligence in conducting due diligence research towards project profitability and feasibility, as well as its reckless pursuit of development projects while ignoring potential risk management, resulted in causing a serious problem of liabilities. Yeongjong Sky City, for example, made the distinction of paying out the largest compensation amount in Korean history at over 4.3 trillion won, and although 448,000 m² of land was sold in the length of three years from 2007, 38.9 percent of the sales were eventually cancelled, which accelerated the financial deterioration. This poor sales performance sabotaged IDTC's initial plan to repay the debt by selling commercial facilities and apartment buildings in lots, and instead only served to add to the increase in liabilities.

Furthermore, the IDTC has taken on a number of development projects that were initially planned to be pursued primarily through private investment, which became another factor in worsening its liability problem. For example, it took over an urban development project for constructing apartment buildings to house 6,306 families at the former site of Incheon University located in Dohwa-dong, Nam-gu, Incheon-si, which the SK E&C Consortium had withdrawn from due to its low profitability. IDTC has taken part not only in such a large-scale development businesses but also in high-profile projects for 13 special purpose corporations (SPCs). It restructured 17 SPCs by liquidation of equity and commissioning agency businesses in 2011. As a consequence, 11 projects were liquidated, leaving only six including Midan City and Songdo Global University Campus.

Based on the settlement of accounts for fiscal year 2011, the liabilities of IDTC recorded 7.3645 trillion won, nearly 18 percent of the liabilities of all urban development corporations combined. Its liability ratio also stood as high as 326 percent, second only to that of Gangwon-do. In terms of nature of liabilities, more than 50 percent of the non-current liabilities are corporate bonds, a source for heavy burden of interests.

[Figure II-20] Financial Status of Incheon Development & Tourism Corporation

(Unit: million won)



D. Gangwondo Development Corporation

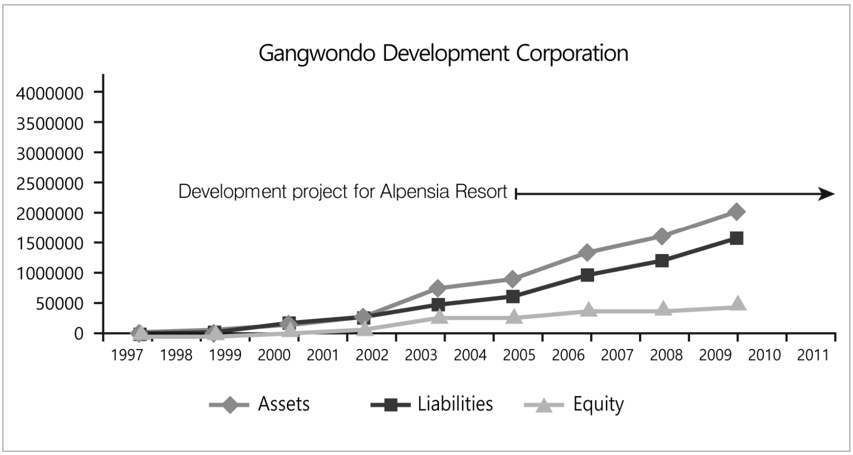
The liabilities of Gangwondo Development Corporation (GDC) was 64.9 billion won in 2005 with a liability ratio as low as 14.1 percent. However, the debt quadrupled to 283.7 billion won in 2006, continued to increase to 774.6 billion won in 2007, and then exceeded one trillion won in 2008. Accordingly, the liability ratio has continued to remain over 300 percent since 2008. Based on the settlement of accounts for fiscal year 2011, the liabilities of GDC decreased approximately by 7.5 percent, from 1.4033 trillion won in 2010 to 1.2985 trillion won in 2011. However, its liability ratio still exceeds 300 percent, reflecting its poor financial soundness.

Alpensia Resort development project is cited as the major source of the liabilities of GDC. Since 2004, Gangwon-do rushed into the development of infrastructures for the Olympic Games due to the heated competition to host the Winter Olympics. Out of concern that constructing only the facilities required for the Winter Olympics would result in a poor utility rate for the resort, it went ahead with a large-scale project to build golf courses and high-end villas within the resort. According to the business plan for Alpensia as established by GDC in 2005, its business expenses totaled 1.1245 trillion won, out of which 1,110.2 billion won was planned to be financed by revenue from sales of villa units. However, the sales rate for the high-end villas, which was initially expected to cover most of the cost for the resort development project, was only 9.2 percent in September 2008 and remained around the 20 percent range as of 2013. The sluggish resort sales market and the second failure to host the Winter Olympics in 2006, led GDC to force an irresponsible change of resort design and incur a drastic increase in liabilities.

The liabilities related to Alpensia Resort account for as much as 527.3 billion won out of GDC's total public corporation bonds (567.1 billion won), which is due to mature in 2013. Therefore the prevailing opinion in the public viewpoint is that self-recovery is impossible in the case of the GDC, which is now on the brink of becoming the first corporation under a local government to possibly enter bankruptcy. The last resort for its revitalization is through government support by means such as the purchasing of facilities.

[Figure II-21] Financial Status of Gangwondo Development Corporation

(Unit: million won)



E. Status and Problems of Urban Development Corporations under Lower-level Local Governments

Urban or development corporations of lower-level local governments are established and operated under the Local Public Enterprises Act (Article 49) and respective ordinances governing the establishment of local corporations and local industrial complexes. Article 49 (1) of the Local Public Enterprises Act prescribes that if a city, county or district intends to establish a public enterprise, it shall consult a mayor or governor having jurisdiction over the local government. Article 47 (1) of the Enforcement Decree of the Act also provides that if a local government intends to establish a corporation or industrial complex, it shall undergo, in advance, a review of feasibility of establishment by a specialized institution. In addition, Article 47 (4) of the same Enforcement Degree stipulates that the Minister of Public Administration and Security shall determine the detailed procedures and set the review criteria required including: whether the projects are appropriate; analysis on the earnings by project; determination on demand for organization and manpower; influences on the improvement of residents' welfare and local economy and finance. The relevant regulations set by the Ministry of Security and Public Administration for the establishment of a local public enterprise would suggest that the procedural and management system is quite sufficient in this area. Therefore, the current problem of rising liabilities held by local public corporations under local governments is attributable not to the inadequacy of the relevant institutional system, but rather to poor management caused by the lack of responsibility.

In March of the previous year, the issue of mismanagement in local public enterprises was covered in depth through a special newspaper report.[7] A noteworthy issue in the article is that regarding the solvency of urban corporations under lower-level local governments. The problems facing Incheon or Gangwon-do may draw interest from the central government or mass media in terms of the size and content of their debts. However, the same is not the case for urban corporations under lower-level local governments. Besides public enterprise liabilities, public-private partnerships have also been found to contribute to increasing local liabilities. The scale of the partnerships is currently at 159.1 billion won for Gyeongju-si, Gyeongbuk, 105.6 billion won for Chungju-si, Chungbuk and 103.7 billion won for Gimhae-si, Gyeongnam. As examples of urban corporations under lower-level government, the liabilities held by Gimpo-si (549.3 billion won) and Hanam-si (416.9 billion won) are massive in relation to their budgetary scale. The mismanagement of local public enterprises has also been found to be serious in non-construction areas: Agricultural Corporation Uiryeong-gun Toyoae Distribution, Gochang M &D and Wando Abalone and local convention centers (such as International Convention Center Jeju, Bexco and Kimdaejung Convention Center in Gwangju, etc) are also suffering from chronic operating losses. Furthermore, the substantial amount of incentives paid out to employees at local public corporations under lower-level local governments have also raised the concern of moral hazard in the public sector, which is a problem often associated with the issue of

7) Following are excerpts of articles from Chosun Ilbo (dated on May 31, 2013). See http://news.chosun.com//site/data/html_dir/2013/05/31/2013053100270.html, http://news.chosun.com/site/data/html_dir/2013/06/01/2013060100384.html, etc.

mismanagement. This may be the consequence of the fierce competition between lower-level local governments at the city/county/district level to establish their own corporations. The number of public enterprises involved in the distribution business at the city/county/district level increased from 26 in 2008 to 35 in 2012 while their liability size increased from 1 trillion won and to 2.6 trillion won in 2012.

The main problem is that the management authorities of these local public corporations are upper-level local governments, and as such remain outside of direct management by the Ministry of Security and Public Administration. Formulated based on the Results of Settlement of Accounts of Local Public Enterprises for Fiscal Year 2012 and the Ministry's internal data, the Plan for Improvement of Financial Consolidation of Local Finance presents measures to reinforce financial soundness such as introducing a debt reduction target system for urban corporations or a sectional accounting system, but fails to present any specific plan to manage lower-level local governments. Indeed, as a measure to manage local public governments in general and government-invested or contributed institutions in particular, the plan does partially include content suggesting the establishment of legislation to comprehensively manage government-invested or contributed institutions, which currently operate under individual laws and ordinances. Therefore, counteracting the neglect towards local public corporations under lower-level local governments requires the systematic pursuit of restructuring through the establishment of a competent governance system.

F. Relationship between Liability Ratio and Financial Indicator of Urban Development Corporations

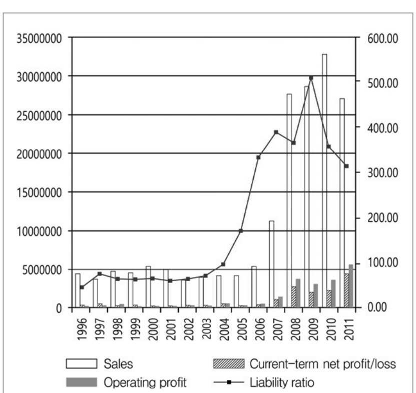
Despite earlier discussions, a large liability size does not necessarily constitute a negative aspect, at least from the perspective of management principles. A development corporation, in particular, occasionally assumes substantial debt as required for launching a new business or carrying out a large-scale project. However, upon completion, the business would begin to generate operating profits and the corporation immediately gains the capacity to repay the liabilities. As such, liabilities must be viewed in relation to the status of business progress of a development corporation, rather than merely in terms of size or ratio.

Kim No-chang and Han Young-eun (2011) performed a regressive analysis on the relationship between profit and debt to determine whether the liability ratio is reduced with the generation of profits in local public enterprises. The study found no significant relationship between the profit generated and the liability ratio, implying that even if a local public enterprise yields profit, it may not necessarily reduce its liability ratio. Therefore, the said study made attempts to discover any relationship between the indicators of corporate finance such as sales, current-term net profit / loss, project budget size, and the liability ratio. The subjects for this study are SH Corporation in Seoul and Gyeonggi Urban Innovation Corporation in Gyeonggi-do, two companies with large liability ratios.

Firstly, the above graph shows no clear relationship between the liability ratio and sales, current-term net profit/loss and operating profit, whereby the liability ratio rose regardless of the latter three factors. As for Gyeonggi Urban Innovation Corporation, in particular, the liability ratio increased sharply from approximately 150 percent to over 500 percent in 2006 without any substantial

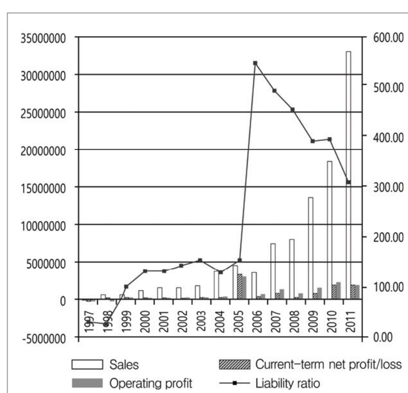
[Figure II-22] **Liability Ratio, Sales, Current Term Net Profit/Loss and Operating Profit of SH Corporation**

(Unit: million won, %)



[Figure II-23] **liability Ratio, Sales, Current Term Net Profit/Loss and Operating Profit of Gyeonggi Urban Innovation Corporation**

(Unit: million won, %)



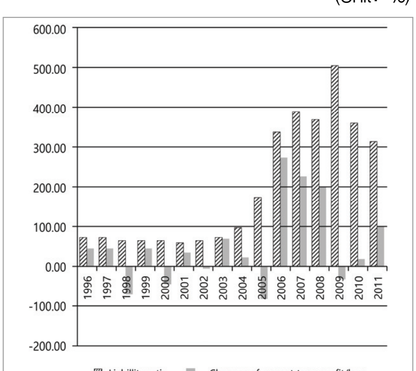
change in other indicators. However, SH Corporation saw its ratio decrease only slightly in 2008 despite the rapid growth of current-tem net profit/loss (see [Figure II-22]), whereas Gyeonggi Urban Innovation Corporation saw its debt ratio nosedive in 2011 following a high increase of its current-term net profit/loss, which suggested some correlation effect. Therefore the relationship between changes in each indicator and the liability ratio was examined individually

Examining the graph showing the fluctuation rate of current-term net profit/loss juxtaposed against the liability ratio, it is evident that the increase of the former does not necessarily equate to a decrease in the latter, while on the other hand, the increase in the former leads to the greater issuance of bonds based on business performance, which does not lead to a steady increase in the liability ratio. In fact, the graph appears to demonstrate the trend of changes becoming more irregular over time.

Likewise, when it comes to the relationship between the liability ratio and the changes in operating profit, the operating profit does not seem to influence the increase or decrease of the debt ratio as the graph does not show a pattern to the positive or negative. In the graph of Gyeonggi Urban Innovation Corporation, in particular, there is no relationship between the debt ratio and the operating profit.

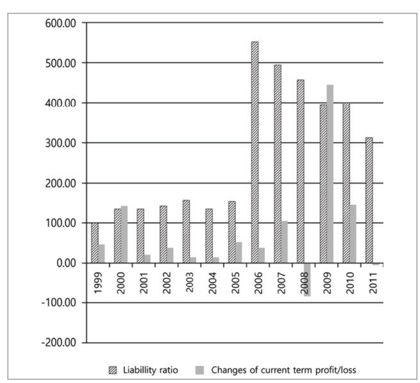
[Figure II-24] Changes of Debt Ratio and Current Term Net Profit/Loss of SH Corporation

(Unit: %)



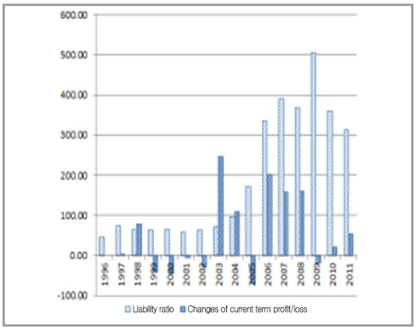
[Figure II-25] Changes of Debt Ratio and Current Term Net Profit/Loss of SH Corporation of Gyeonggi Urban Innovation Corporation

(Unit: %)



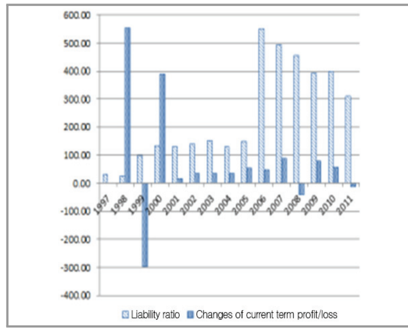
[Figure Ⅱ-26] **Debt Ratio and Change Rate of Operating Profit of SH Corporation**

(Unit: %)



[Figure Ⅱ-27] **Debt Ratio and Change Rate of Operating Profit of Gyeonggi Urban Innovation Corporation**

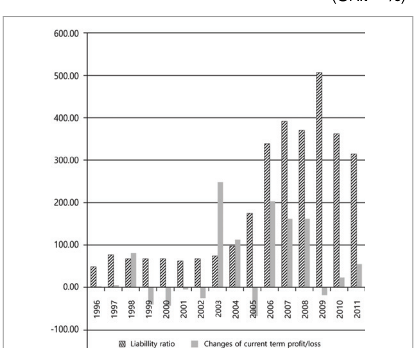
(Unit: %)



In addition, the graph depicting changes of business budget and debt ratio shows no relationship between the two indicators. Thus it can be assumed that there is no correlation between the debt ratio of development corporations and a variety of financial indicators. Rather, other indicators may have a greater influence than the operational performance or internal finance of a corporation. The study of variables that may actually influence the debt of development corporations will follow at a later juncture.

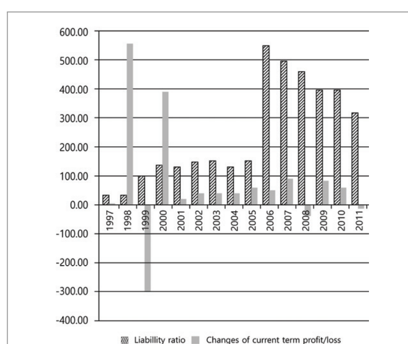
[Figure Ⅱ-28] **Debt Ratio and Change Rate of Business Budget of SH Corporation**

(Unit: %)



[Figure Ⅱ-29] **Debt ratio and Change Rate of Business Budget of Gyeonggi Urban Innovation Corporation**

(Unit: %)



The discussion developed so far has two broad implications: First, operating profits generated by a public enterprise is highly likely to lead to more investment (increased debt) based on the extra credit created, rather than being used for the redemption of debt; and second, as the fluctuations in operating profit or current term net profit / loss are highly dependent on sales, which in turn is susceptible to external factors (impact of financial crisis, slower rate of land price increase, etc.), the positive influence of financial performance is highly likely to be offset.

Therefore, it would appear that the following provides a satisfactory response to the argument that, since the debt level rises with greater investment, the debt ratio of public enterprises should be evaluated in line with other financial performance aspects and variables. A simplistic study of correlations between debt ratio and other financial indicators is hardly likely to provide a clear association, since the financial indicators, which influence changes in the debt ratio of urban development corporations, are them selves also subject to influences by external factors such as changes in macro-economic conditions, financial demand specific to the characteristics of the relevant region, and increased investment into public enterprises prior to elections due to political concerns. Hence the attempt to examine the variables of influence in relation to the debt held by urban development corporations requires this study to consider economic, financial and political variables in establishing a coherent model and subsequently tracking any relevant changes.

G. Sub-conclusion

Among urban development corporations in local areas, this chapter focuses on examining SH corporation in Seoul and the Gyeonggi Urban Innovation Corporation as both corporations have substantial debt levels, and Incheon Development & Tourism Corporation and Gangwondo Development Corporation which have recently revealed problems in the same vein. The issues faced by most urban corporations can be summarized as follows.

There are various reasons behind the financial mismanagement of development projects conducted by local public enterprises.[8] First, local public enterprises at times recklessly move forward with new investment projects[9] while neglecting feasibility studies, or employ expedient measures such as setting up special purpose companies (SPCs)[10] to carryout development projects, whereby the SPCs receive preferential treatment[11] while the potential risks are taken on by the local enterprises themselves. Besides, local governments occasionally exploit their elevated status[12] by unreasonably burdening public enterprises with operating expenses[13] that are supposed to be covered by local government budgets. It was also discovered by the Board of Audit and Inspection that some local governments issued public corporation bonds of urban development corporations[14] based on investment in kind through questionable expedients. Responsible for the supervision of local public enterprises, the

8) "Announcement of findings by the Board of Audit and Inspection of Korea on *Current Status of Development Projects of Local Public Enterprises*", Board of Audit and Inspection of Korea, Press Release, May 20, 2011.

9) Despite the flawed feasibility study conducted by the Jeonnam Research Institute, the Jeonnam Development Corporation pushed ahead with the Jangheung Haedang Industrial Complex Construction Business (146.5 billion won in total business expense), and 5.8 billion won in loss is expected at the end of 2010.

10) A corporation temporarily set up to conduct business with a particular purpose (Special Purpose Company).

11) a) When Hwaseong Urban Corporation was selling land (40,000 ㎡) to development corporation "A" on July 12, 2010, it unjustly relieved development corporation "A" from the obligation to provide a collateral for the outstanding balance of 25.9 billion won whose retrieval remains unclear, while guaranteeing the liabilities of development corporation "A" also incurred contingent liabilities to the value of 45 billion won, b) Incheon Development & Tourism Corporation and the former Korea Land Development Corporation sold a 2,290,000 ㎡ site in Yeongjong Sky City set asidefor foreign investment to corporation "B", ostensibly a foreign investment company, at the price cheaper than the construction cost by 1.8 trillion won under a contract permitting resale, but corporation "B" subsequently failed to settle the contract deposit within the due date of Mar. 31, 2011, and the contract was terminated in April 1, 2011.

12) Local governments hold authority over the approval of projects and appointment of executives for their affiliated urban development corporations.

13) Even though the profits generated from the 12 project financing (PF) businesses commissioned by Incheon Metropolitan City through SPCs including Sung-ui Arena Regeneration Project are attributed to the city, 761.5 billion won including business expenses for the projects were passed on to Incheon Urban Development Corporation, which became the responsible business operator for the Global Fair & Festival 2009 held in Incheon. Ultimately, the city government did not pay 1.7 billion won for the memorial hall construction.

14) Regarding assetsof 1.3 trillion won that could not be converted into profits, Incheon Metropolitan City transferred the assets to the Incheon Urban Development Corporation as an expediency measure, which reduced its debt ratio in 2008 to 233 percent to a tenth of previous 2,330 percent. The Incheon Urban Development Corporation issued public corporation bonds by 500 billion won above the legal limit, with its debt ratio reaching up to 1,269 percent in 2011, which raised concerns over default or suspension of its business.

Ministry of Security and Public Administration was found to be negligent of its duties of monitoring the net asset levels of urban development companies when approving the issuance of public corporation bonds, which led to criticism for poor follow-up management.

This chapter has focused on reviewing debt levels and financial status in identifying the cause for the said poor management, which may provide implications on business losses resulting from economic factors, aside from the previously discussed moral hazards caused by systemic inadequacy and negligent mismanagement. For urban development corporations as an example, causes for business losses could include the effect of macroeconomic or 'fundamental' economic changes. Although unrealistic projections of business feasibility must be corrected, it is difficult to place the responsibility for losses incurred by changes in the conditions of the real estate market between the stages of initial business planning, business execution, and completion. Other local public enterprises including urban development corporations are structurally empowered by their establishing conditions to be able to transfer financial burden to the respective local government, which is supposed to take the final financial responsibility from the foundation to the completion of local public enterprises. Thus, the increase in debt levels among urban development corporations can be the result of a complicated interplay of governance issues between the local government and local public enterprises along with a degree of buck-passing through political decision-making with regards to the debt burden.

Most of the existing research proposed reforms for financial problems following the analysis of financial indicators such as assets, liabilities, equity, debt ratio and total borrowings to total assets based on the management evaluations of local public enterprises. For instance, when short-term liquidity liabilities were found to be the problem of subway corporations, the expansion of equity capital through increased investments in local governments was suggested as a remedy, and the rationalization of subway fares as the long-term suggestion. However, conclusions drawn from analyzing financial indicators demonstrated a clear limitation in creating profitability due to the nature of public enterprises, which leads those local public enterprises to resort to fiscal transfers from the central government or local governments to expand equity capital, thereby resulting in a somewhat tangential conclusion that has little relevance to self-imposed restructuring by local public enterprises.

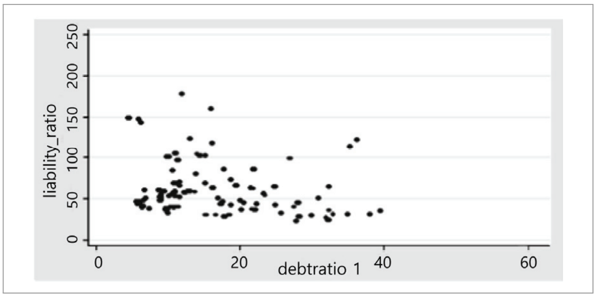
Therefore, the viewpoint of this study is that isolating the issue of fiscal soundness among local public enterprises to the input of financial resources and rationalization of fares alone would provide insufficient solutions in financial management and financial integration over the long term. Subsequently recognizing the need for greater fundamental understanding towards the economic and political characteristics of local public enterprises, this study attempts to provide empirical grounds required in understanding the correlation between fiscal operations by local governments and the financial status of local public enterprises, as well as the budget deficit of local public enterprises which relies on public utility charges. To begin with, this study intends to consider the given economic and financial variables as well as political limitations, in order to propose implications on setting the relationship between local governments and local public enterprises in reducing debts held by the latter. First, local public enterprises will be analyzed based on macro-economic conditions. Second, as local governments hold economic and political stakes in local public enterprises, the correlation between the financial capacity of local governments and regional characteristics will be discussed. Lastly, this study will suggest arbitrariness in the establishment of public enterprises as an important criterion in terms of governance structures.

5 Major Issues and Grounds for Discussion

Question 1. Does the public policy of local finance have any correlation with local debt or liability levels of local public enterprises?

Above all, this study shall examine whether the debts of local governments and liabilities of the local public corporations are similar in nature. The correlation between the debt ratio of upper-level local governments and that of local public enterprises has remained negative (-0.5) since 2006, albeit not statistically significant. It would appear that this is in reflection of the high liability ratio in metropolitan cities and relatively high liability ratio of public enterprises in provincial areas.

[Figure II-30] Correlation between Debt Ratio of Local Governments and Liability Ratio of Public Corporations



In addition, local debt ratio has shown a positive correlation with the financial capacity of local governments since 1998, which is consistent with the findings of previous studies. Local government bonds are seen as transferable funds comprised of public capital management fund during economic downturns (Lim Sung-il and Hong Seo-been, 2002; Bae In-myeong, 2009; Kim Hyun-A, 2007, etc.). This means that local government bonds were mostly used as replacement funds for local government projects in the regions without available transferable funds, which are instead supposed to be operated using general accounts. Based on this, Bae (2009) asserted in his research findings that the introduction of local consumption tax is necessary to lower the debt ratio of local governments, which connotes the need for greater financial support to solve the debt held by metropolitan cities that receive relatively little transferred funds, a result that reflects the characteristics of intergovernmental fiscal relations in Korea.

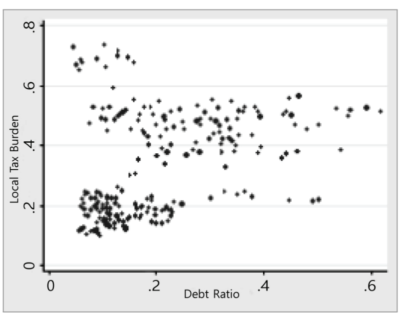
The analysis on OECD countries also shows a positive correlation between the local tax burden and the debt ratio. The analysis explains that local governments with high financial capacity, that is, with large populations and abundant tax revenue resources, tend to utilize local government bonds to satisfy further financial demands.[15] On the other hand, despite the positive correlation

15) Blöchliger, H., "Fiscal Consolidation Across Government Levels – Part1. How Much, What Policies?," *OECD Economics Department Working Papers*, No. 1070, OECD Publishing, http://dx.doi.org/10.1787/5k43nxr00zd6-en, 2013.

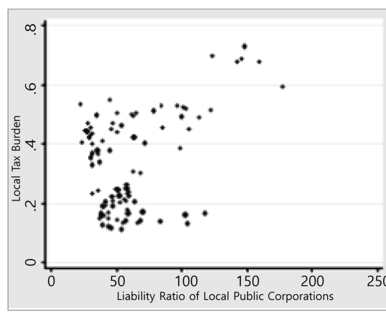
shown between the liability ratio of local public enterprises and the local tax burden, there was no statistical significance demonstrated. Furthermore, local tax and transferable resources in Korea are directly correlated as a mirror image. Thus, transferable resources and debt ratio had a significant negative correlation, while the liability ratio of local public enterprises did not display a clear correlation with transferable resources. The analysis of OECD countries also showed no clear correlation with transferable resources.

However, the issue requires further consideration. Local debt is by nature closer to the capital account, namely public investment, and therefore functions

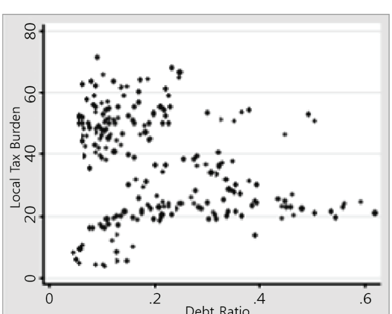
[Figure III-31] **Local Tax Burden and Debt Ratio**



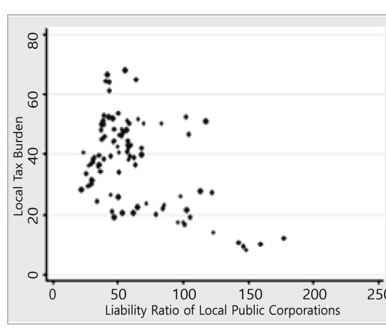
[Figure III-32] **Local Tax Burden and Liability Ratio of Local Public Corporations**



[Figure II-33] **Proportion of Transfer Resources and Debt Ratio**



[Figure II-34] **Proportion of Transfer Resources and Liability Ratio of Public Enterprises**

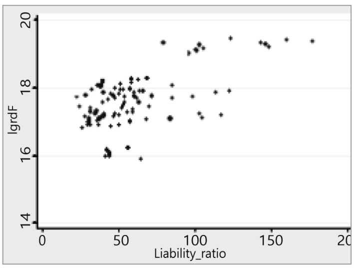


more as a replacement for government subsidies rather than revenue from shared tax although both are transferable resources. Therefore, even though local debt and shared tax show interchangeability, this is not to imply that the debt should be seen only as replacement for transferable resources. Although the results may remain unchanged, focusing on the correlation between the level of local debts and financial capacity (local tax) is the right approach to identifying the nature of local debt. Local debt is found to have significant correlations with the 'level of local tax' in the cases of OECD countries as well. Although such cases are from advanced nations with well-established bond markets, it is nevertheless suggested that the correlation with local tax is more significant than with transferable resources.

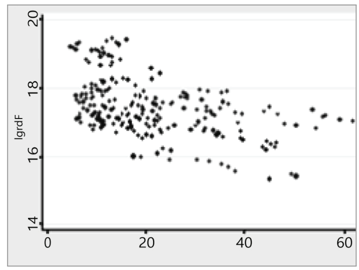
As such, the proximity of local debt to transferable resources carries a strong implication. Assuming fiscal neutrality, transfer resources are under the control of government finance, and therefore greater transferable resources allotted to one area means less to other areas. For instance, if fiscal demand is concentrated in certain areas such as welfare expenses and development projects, funding for essential public investment projects such as water supply and sewerage system could be reduced. According to the analyses of OECD and the Korea Institute of Public Finance (KIPF), the sector of capital investment projects in the EU countries decreased by 8.3 percent on average in 2010 during the financial crisis. In particular, increased welfare expenditure in France resulted in a clear reduction in capital spending, which also occurred for over half of OECD member countries after the financial crisis. The largest cut in capital spending was made in the U.S., where most public investment projects are in the process of either being postponed or cancelled and upper-level government in the U.S. were shown to be enforcing more spending cuts than those in Europe.[16)]

16) Data on Europe were based on Dexia (2011) and those on France on Rappor Jamet (2010). Cited from OECD & KIPF, "Institutional and Financial Relations across Levels of Government," Edited by Junghun Kim and Camila Vammalle, 2011, p. 30.

[Figure II-35] **GRDP and Liability Ratio of Local Public Enterprises**



[Figure II-36] **GRDP and Local Debt Ratio**



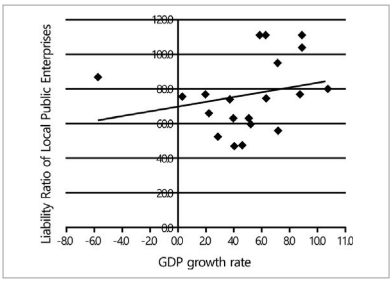
Question 2. Do local economic characteristics (market effect) have any correlation with local debts or liabilities of local public enterprises?

Since 2006, a positive correlation has been identified between the Gross Regional Domestic Product (GRDP) and liabilities of local public enterprises. In regions of high potential for production with relatively large populations and land area, local public enterprises were actively engaged in a variety of activities. On the other hand, GRDP and local debt ratio were shown to have a negative correlation. Local debts in 2012 comprise the cumulative debts of general accounts, other special accounts, and special accounts of public corporations, among which 50 percent is from general accounts, 20 percent from other special accounts, and 30 percent from special accounts of public corporations. As most of the local debts are financed through transfer resources such as public capital management funds from the general account, the debt ratio appears to remain low in regions where GRDP is relatively high.

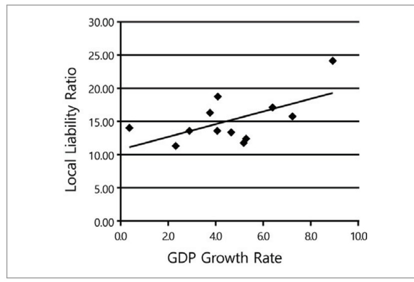
Question 3. Does the GDP growth rate (macro effect) have any correlation with local debt or liability ratio of local public enterprises?

The GDP growth rate and local debt ratio after 2000 show a significant positive correlation (coefficient 0.36, within 1 percent significance level). The liability ratio of local public enterprises also shows a positive correlation but

[Figure Ⅱ-37] **Liability ratio of Local Public Enterprises and GDP Growth Rate** (Unit: %)



[Figure Ⅱ-38] **Local Liability Ratio and GDP Growth Rate** (Unit: %)

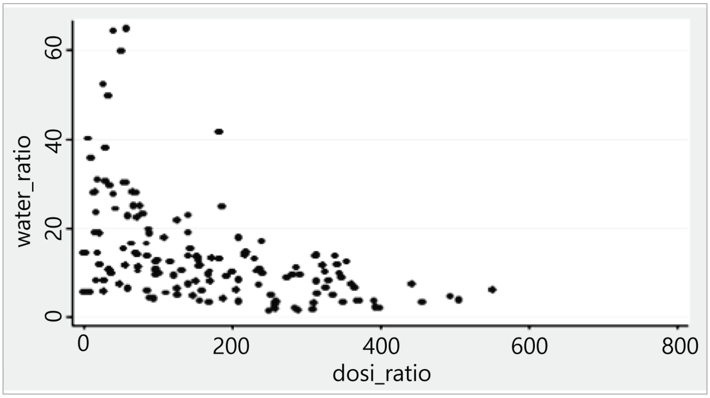


it is not statistically significant. As mentioned under Question 1, the positive correlation found between the local debt ratio and the economic growth rate explains that local debt ratio is not entirely characteristic of transfer resources alone but instead increases along with higher fiscal demands during economic expansion (pro-cyclical).

While the relationship between local debt, local financial variables and macroeconomic variables are relatively clear, it is difficult to gain a clear understanding of the characteristics of local public enterprises through the analysis of correlations between two variables. This is because the liability ratio of local public enterprises is an index that also includes external industrial characteristics. Water supply and sewerage projects clearly differ from urban development corporation projects in business characteristics. However, when examined together, indicator error scan occur, not clearly showing the characteristics of either. This signifies that selecting the debt ratio of all local public enterprises as the subject of analysis may not be conducive to identifying accurate policy implications. Thus, when defining the relationship between local debt and the financial soundness of local public enterprises or between local debt and local finances, it is appropriate to set the liability ratio of individual projects as the subjects of analysis rather than that of the entire local public enterprise sector.

Secondly, as establishment and business performance of local public

[Figure II-39] **Liability Ratios of Water Supply and Urban Development Corporations**



enterprises are somewhat arbitrary according to the region and project, suchaspects may be more influenced by political and financial conditions than economic conditions. For instance, water supply or subway corporations require consistent investment regardless of economic conditions facing the relevant local government. Prioritizing the delivery of public services, public utility projects therefore aim to prevent the supply of services from deteriorating during economic downturns. Simplistic one-on-one analysis towards the relationship between local public enterprise debt and economic variables is limited in considering characteristics in terms of the public interest or other political concerns, aside from the industrial characteristics of the local public enterprises themselves. In this respect, this study shall carry out empirical analysis inconsideration of a number of variables and debt ratio of urban development corporations.

III

Empirical Analysis

1 Analysis on Determinants for Liability of Urban Development Corporations

Local public enterprises each undertake projects that are disparate in nature, and the causes and side-effects of debt may vary. In case of rapid transit corporations for instance, rising debt may be attributed to institutional conditions such as low profitability resulting from the free ride welfare program for the elderly or fare rationalization rates. On the other hand, water and sewerage projects are directly linked to the public quality of life, and require continuous capital investment. Furthermore, local development funds face high liability ratios

〈Table III-1〉 **Characteristics of Liability of Local Public Enterprises by Type**

Causes for debt increase	Classification	Example	Office of primary responsibility
Increase in investment	Policy investment	Public residentialsite development, long-term public rental housing, etc.	Local governments
	Voluntary investment	Subway extension, etc.	Public enterprises
Decrease in profit	Regulation of rates	Subway, water supply and sewerage systems, etc.	Local governments
	General factors	Real estate market downturn, etc.	Public enterprises

Note: Re-cited from 〈Table 2-9〉, So Il-seop (March, 2013).

and are mostly issued through public bonds, which are subsequently reallocated as funding for lower-level local governments. Therefore the necessity and nature of this fiscal resource makes it difficult to identify local development funds as one of the causes of fiscal crises.

However, in the case of urban development companies, it is highly likely that local governments will make arbitrary choices in terms of their founding rationale or operating method, as well as the pace of rising debt ratios, and therefore the economic characteristics of urban development corporations have yet to be precisely determined. When analyzing major issues in the previous chapter, this study examined local public enterprises in general. The empirical analysis in this chapter will focus on identifying the relationship between the liability ratio of urban development corporations as the most problematic among general issues surrounding local public enterprises, and major macroeconomic variables such as financial capacity, GDP and GRDP.

A. Research Data and Analysis Model

The subjects of analysis were 16 upper-level local governments in Korea and only urban development corporations out of local public enterprises. The isolation of urban development corporations aimed to clearly distinguish between liabilities resulting from public utility rates and those resulting from the expansion of projects through urban development corporations.

This study performs a regression analysis using the debt ratio of urban development corporations as a dependent variable, and the data used in the analysis include financial indicators of urban development corporations under upper-level local governments, socio-economic indicators of upper-level local governments (Statistics Korea, etc), financial variables of each local government (Financial Yearbook) and election materials for upper-level governments (National Election Commission).

Moreover, local election data was analyzed in order to analyze the influence of local public enterprise management on political circumstances facing upper-level local governments. Since political competition between the executive and legislative branches of government may affect the management of local public enterprises, this study collated all existing election data with regards to heads of local government and local assembly representatives. In addition, the analysis of elections for local government heads examines factors such as total voter turnout, vote counts and difference between the elected and the runner-up. Meanwhile, the study of local council elections considers the number of seats allocated for the majority party and the second-place party, and the difference between the two. With regards to political variables, the subjects of analysis covered the total voter turnout for elections of local government heads and the difference in the rates of votes earned between the election winner and the runner up. And in order to identify problems arising from inefficient governance, this study included variables such as whether the local government head and the majority of municipal council belong to the same party, whether municipal council members and the majority in the National Assembly belong to the same party, and whether the municipal council member belongs to the ruling party, and whether the local government head belongs to the ruling party.

Although the authority on establishing local public enterprises was transferred from the central government to local governments in 1999, it was since 1992 that the establishment of urban development corporations by upper-level local governments began. Thus, the analysis period (t) spans from 1992 to 2011 while examined regions (i) cover 16 upper-level local governments.

LPE it ≊ F { (C: economic and regional characteristics)it, (R: financial condition and financial support)it, (P: political variable)it, ε it}, i=region, t=year

This study used resident registration population data of Statistics Korea for local characterization variables such as population, area, net population mobility, elderly population ratio. Data on regional economic variables such as the GRDP, labor force participation rate, unemployment rate, employment to population ratio, etc were also collected from Statistics Korea. ‘Local Finance Open System’ and ‘Overview of Local Government Budget’ were used for local financial variables such as local tax, transferable resources, fiscal self-reliance ratio, and shareof public utilities and labor costs. Road extension, total land area, farmland area, number of houses, distribution rate of the water supply and sewerage system, number of cars registered were used as variables to represent SOC fiscal demands for the relevant local government. Among these, Environmental Statistics Portal data by the Ministry of Environment was used to calculate the distribution rate of waterworks, and the data for other variables were obtained from Statistics Korea.

Liability Ratio it ≊ *F* { (SOC Demand)it, (Fiscal Capacity and Transfer)it, (Political Feature)it, ε it }, I = area, t = year

Explanatory variables were selected based on 1) analysis on the correlation between local debt and major economic variables (Temple, 1994), 2) analyses on the causes of increase in U.S. state and local government debt (Bahl and Duncombe, 1993; Wassmer and Fisher, 2011) as the determining factor of local debt (Lim Sung-il and Hong Seo-been, 2012; Bae In-myeong, 2009; Clingermayer and Wood, 1995; Michael and Schanberg, 1999), 3) Correlation between local fiscal characteristics and local bond issuance (Kim Jong-hui, 2010, etc.) and 4) studies that show changes in local bonds issuance according to regulations, etc. (Hackbert and Leigland, 1990; Sha ed., 2007). Examining regional characteristics as the determinant for local debt, Wassmer and Fisher (2011) found that the variable of regional characteristics ("unspecified state-specific factors") have an important effect on local debt.[17] For example, regional characteristics could include aspects such as the population mobility rate, ethnic composition, employment to population ratio, students enrolled in compulsory education (percentage of students enrolled in K12 public schools), area or urban area ratio. However, the said factors apply to the United States and the distinct characteristics of each state, while in the case of Korea, the regional differences in employment rates or labor force participation rates are much smaller compared to the interregional difference in other variables.

This study referred to Brueckner and Joo (1991) in selecting election variables. When debt is issued for the purpose of providing public services and facilities, the rationale for the issuance can only be established when the

17) "Indeed, unspecified state–specific factors appear to be extremely important in explaining interstate difference in debt……" (p. 22).

capitalization caused by the increased asset value in the area takes place simultaneously with the discussion on the burden of repayment for local government bonds that must be borne by the local residents. Brueckner and Joo concluded that in conditions where ‘capitalization’ exists, votes by residents guarantee the socially desirable supply of public services and facilities.

B. Basic Data Analysis and Analytical Method

This study used the dynamic panel model (Arellano-Bond dynamic panel data estimation) as a method of analysis. Variables reflecting time-series characteristics show a high autocorrelation as well as a high possibility of endogeneity with explanatory variables, thus general regression analysis or fixed-effects model alone cannot guarantee the accuracy of estimates. Generally, for panel analysis in reflection of regional characteristics, fixed effect model or random effect model are used, but this analysis chose a model that could control the endogeneity between variables while taking into account dynamic auto correlations, because the liability ratio of urban development corporations in the relevant area as the dependent variable of this analysis is affected by economic and industrial characteristics.

The dependent variable in this analysis was the liability ratio of urban development corporations, while level variables among explanatory variables were log-transformed, but rate variables were used as they were. For SOC financial demand variables (per capita GRDP, road extension, number of houses, area of land transactions, number of cars registered, etc.), lagged variables (1^{st}, 2^{nd}) were used as instrument variables to control endogeneity. Model 1, 2 and 3 are basically the same, but when there is high similarity among variables (proportion of local tax, transferred resources, fiscal self-reliance ratio, etc.) the analysis specified the variables with a more representative nature.

〈Table III-2〉 **Descriptive Statistics for Analysis Data**

Variable		Obs	Mean	Std. Dev.	Min	Max
	Population (Unit: number of persons)	320	3023202	2771620	505784	1.19e+07
	GRDP (Unit: million won)	320	4.27e+07	4.94e+07	1877800	2.84e+08
	Total net revenue (Unit: million won)	320	6180461	5998184	268816	3.52e+07
	Transferred resources (Unit: million won)	320	1938429	1905953	0	8045405
	Local tax (Unit: million won)	320	1725128	2546768	67270	1.30e+07
	Amount of liabilities of public enterprises (Unit: 100 million won)	113	34245.94	51030.32	1337	236516
	Liability ratio of public corporations (Unit: %)	114	64.3693	37.23634	22.2	227.8
	Road extension (Unit: m)	239	6093958	3869416	1038000	1.35e+07
	Aged population ratio (Unit: %)	315	.0747884	.0302963	.0295597	.1861473
	Area (Unit: ㎢)	315	6320.525	6071.087	338.8292	19451.1
	Net population mobility (Unit: number of persons)	315	0	66731.39	−321898	372514
	Number of registered cars (Unit: number of cars)	315	811527	795192.5	69412	4303774
	Employment rate (Unit: %)	314	59.35032	3.217645	51.4	69.2
	Area of land transactions (Unit: 1,000 ㎡)	315	141153.6	139498.2	6491	662826
	Fiscal self-reliance ratio (Unit: %)	269	53.08996	23.59037	19.4	98.8
	Total number of houses (Unit: number of houses)	312	722436.8	598339	98011.8	3154137
	Housing price change rate (Unit: %)	199	2.449787	6.3783	−15.67797	24.73684
	Self-generated revenue (Unit: million won)	315	4614156	5175836	328366	2.89e+07
	Increase rate of land price (Unit: %)	315	.5026543	.968454	−16.52	15.81
	Liability ratio of urban development corporations (Unit: %)	205	156.6488	134.3499	.0339167	724.8127

C. Hypothesis and Analysis Results

Hypothesis 1 (Economic and regional characteristics) Regions facing higher financial demands for SOC will be more active in pursuing development projects through the expansion of debt for urban development corporations (+). For example, large population or large land area will result in greater demand for SOC funding. In addition, high distribution rate of water supply and sewerage system in the previous quarter or the quarter before, or an increase in road coverage can increase the debt ratio of urban development corporations (+).

Hypothesis 2 (Fiscal environment and transferred resources) If a region has abundant tax sources and high self-generated tax revenue, it is likely that the debt ratio of public corporations will increase as the relevant local government provides favorable conditions for debt issuance. In contrast, a region with low financial capacity could incur a high debt issuance rate as necessitated for the purpose of financing (+, -).

Hypothesis 3 (Political characteristics) Greater political participation by local residents will cause higher debt ratio, as the demand for capitalization from investments in public corporations is likely to be high (+). Furthermore, if the local government head belongs to the majority party of the upper-level local government, it is relatively easy to establish public enterprises, which may also cause debt increase (+). In addition, in cases such as if the municipal council member belongs to the majority party in the National Assembly, or the local government head belongs to the majority party in the municipal council, or the majority party of municipal council is the ruling party, there may be a political motive for granting project approvals or debt expansion (+).

〈Table III-3〉 **Empirical Analysis Results on Determinants for Liability Ratio of Urban Development Corporations**

	Dep: Liability rate of urban development corporations	Model 1	Model 2	Model 3
Economic and regional characteristics	Lagged variable in the previous year (Lag1)	0.57 (0.00)***	0.58 (0.00)***	0.56 (0.00)***
	Per capita GRDP (log)	43.61 (0.54)	61.21 (0.58)	–
	Rise in land prices in the previous year	–3.60 (0.02)**	–	–2.28 (0.08)*
	Proportion of area of land transactions	–	0.001 (0.87)	–
	Population growth rate	–	15.37 (0.19)	15.36 (0.12)
	Road extension (log)	–3.69 (0.97)	–	26.97 (0.78)
	Number of houses two years prior (log)	–	45.7 (0.02)**	–
Fiscal environment and transferred resources	Proportion of local tax	76.6 (0.33)	–	–
	Proportion of transferred resources	–107.13 (0.82)	–	–
	Fiscal self–reliance ratio	–	2.22 (0.05)*	2.13 (0.23)
	Proportion for operational budget	–0.64 (0.55)	–	–0.60 (0.57)
Political characteristics	Voter turnout in the previous election	–0.97 (0.06)*	–1.29 (0.04)**	–0.85 (0.11)
	Difference in vote count	–0.02 (0.93)	0.20 (0.63)	0.27 (0.51)
(Party affiliation)	Party of local government head vs. majority party of municipal council	50.69 (0.20)	45.17 (0.11)	48.41 (0.22)
	Majority party of municipal council vs. majority party in the National Assembly	16.53 (0.21)	12.07 (0.36)	17.42 (0.20)
	Majority party of municipal council vs. party of the President	13.16 (0.56)	17.93 (0.43)	15.04 (0.49)
	Party of local government head vs. party of the President	–11.88 (0.96)	–13.45 (0.56)	–14.39 (0.53)

[Table III-3] Continue

	Dep: Liability rate of urban development corporations	Model 1	Model 2	Model 3
	Constant	–39.75 (0.01)**	–68.31 0.01)**	–77.61 (0.00)***
N. of obs		165	184	165
Number of groups		16	16	16

Note: ( ) is the P–value ***, **, * are within 1%, 5%, 10% level of significance, respectively.

This analysis aimed to conduct an empirical evaluation towards the notion that the vigorous supply of local public services and facilities is based on the intention to expand the growth foundation of local economies.

First, the result of effect analysis on the variables of regional characteristics (Hypothesis 1) demonstrates an empirically unclear correlation between per capita GRDP and liability ratio. Asa potential indicator of SOC financial demand, an increase in the price of land was found to decrease the liability ratio. When the increase rate of land price is high, the opportunity for listing newly-built housing units for sale also rises, corresponding with the projection that the debt ratio will decrease as it enables easy capital accumulation and debt redemption, which means that the liability of urban development corporations is caused by unsold housing units due to economic slump as an aspect of macroeconomic trends, and there are considerable implications to the fact that the growth rate of land price can explain the liability ratio. It was also found that the rise in ‘the number of houses in the year before the previous year’ increase the liability ratio of urban development corporations. On the other hand, other SOC infrastructure variables, such as the area of land transactions, road extension, distribution rate of water supply and sewerage system could not explain the increase in the debt ratio of urban development corporations. Regional characteristics and major factors for fiscal demands such as population growth rate, elderly population rate, etc. could not statistically explain the liability ratio of urban development corporations either.

In Hypothesis 2, the relationship between the fiscal environment of upper-level local governments and the debt ratio of urban development corporations could not explain the proportions of local tax, transferable resources and project budgets, but it was discovered that the high fiscal self-reliance ratio of regions and the liability ratio of urban development corporations showed a positive correlation. As a region with its own financial capacity can attract capital for development projects, it could be a cause increasing the debt ratio of urban development corporations. Gordon and Slemlord (1986) suggested through their study on U.S. state governments that regions with high financial capacity generally face a high debt ratio and that there is a high tendency of using debt to finance capital spending.[18] Temple (1994) also showed that the debt financing is prevalent in regions with high private income levels.[19] This study also examined the share of the labor cost or that of business budget against the local government budget, which did not yield any significant result.

Election variables (Hypothesis 3) were found to lower the debt rate of the urban development corporations in the given region when the voter turnout in the previous election was high. As voter turnout represents the public awareness of the region, it can represent resistance towards a specialized project or opposition towards reckless business endeavors by the local council. Other political variables including the shared party affiliation between the local government head and the majority in the upper-level local council surveyed through dummy variable could not explain with statistical significance the variation in the debt ratio.[20]

Empirical evidence proved elusive in this regard, although this study assumed that the establishment and business promotion of a local public enterprise would be made more convenient if the same political party affiliation

18) A significant relationship between private income and public debt was identified through following study: Gordon, R. H. and Joel Slemrod, “An Empirical Examination of Municipal Financial Policy,” in H. Rosen(ed.), *Studies and state and local finance*, Cambridge, Massachusetts: NBER, 1986. See also Eber and Fox (1992).

19) Temple asserts that other opinions from preceding studies suggested that debt could be used to fund low-income areas, leading to an ambiguousrelationship between the income level of a particular area and the debt utilization (arbitrage finance model).

20) In the analyses employing the fixed effect model rather than the dynamic panel model, a statistically significant increase was identified in the debt ratio of urban development corporations when the local government head's party and the majority party of the municipal council matched.

was shared by the local government head and the majority party in the National Assembly. However, the fixed effect model used produced a statistically significant explanation, which should be followed by institutional analysis on the establishment and operation of public enterprises. Other election variables such as whether the local government head won by a landslide victory, whether the same political party occupies the majority in both the municipal council and the National Assembly, or whether the local government head and the President belongs to the same party did not statistically explain the debt ratio of urban development corporations. This shortcoming highlights the need for continuous future study including in-depth analyses on the relationship between election variables and the debt ratio.

In addition, dummy variables have been utilized based on the devolved autonomy of establishing local public enterprises since 1999, but failed to yield explanatory significance. This may be attributed to the fact that the debt ratio of urban development corporations in the previous term was used as an explanatory variable, or the interpretation could be presented that the establishment of other public corporations was easier than that of urban development corporations in 1999.

2 Analysis on Determinants of Local Debts

Results from existing analyses related to identifying the determinants for local debt have been consistent as clearly demonstrated by the earlier trend analysis introduced in this study. The difference between this study and previous effortsis that existing studies emphasized the nature of local debt being transferable resources while neglecting to examine its relationship with project budgets, SOC variables or political variables. In contrast, this study analyzed local debt while maintaining the existing fundamental hypothesis and the framework for analyzing the debt of local public enterprises.

Analysis using the dynamic panel model revealed that variables affecting the local debt ratio as the dependent variable included the population growth rate, proportion of project budgets, fiscal self-reliance ratio (local tax burden, share of transferred resources), etc. However, the variables did not have much effect on the share of current expenses or labor costs. This shows that local debt, as an item under tax revenue and fiscal transfer constitute capital expenditure by nature. Other regional variables such as per capita GRDP, increase rate of land price (SOC variable), road extension and number of houses had no identified influence. All political variables as well such as voter turnout for the election of the upper-level local government head (previous election, election before the last election), whether or not the local government head belongs to the majority party of municipal council, and whether or not the local government head belongs to the national ruling party, and the majority party of municipal council belongs to the ruling party did not show any statistical correlation with local debt.

To summarize, the notion that major variables representing regional characteristics such as the population or fiscal variables affect the level of local debt is consistent with previous studies (Kim Hyun-A, 2007; Lim Sung-il and Hong Seo-been, 2012, etc.). This analysis made an attempt to study the correlation of local debts with the political variables and other macroscopic variables, but it was limited to reaffirming that the debt of local governments in Korea does not yet surpass fiscal transfers in nature.

IV

Conclusion and Policy Direction of Local Public Enterprises and Local Debt

1 Improvement Plan for Local Debt

A. Vitalization of Local Bond Market vs. Linkage to Finance Management Plan

The biggest problem of Korea's local bonds is that they are not actively utilized. It may be suggested that lower issuance of local bonds would equate to lower debt, and that it should not be a problem in terms of financial management. However, paradoxically, the under-utilization of local bonds can be a potential fiscal danger at the national level. It is not that local governments are not using local bonds in an attempt to reduce financial scale, but rather that they are not adding to existing debt as it is easier to cover fiscal needs with transferred resources. Local governments do not assume fiscal responsibility and therefore face no hesitation in requesting fiscal transfers, whereby the resulting financial burden is imposed on the central government, which will only make the national debt rapidly increase.

In a highly decentralized region, the choice is made between debt or tax financing when the local government prepares a funding plan. Otherwise, fiscal transfer is the preferred option. A local government that is actively making use of fiscal transfers tends not to place much effort to improve its fiscal condition, nor strive to improve its credit rating. In addition, until there is an intergovernmental reform in fiscal structure through reforming fiscal transfer, the local bond market is likely to remain passive. Temple (1994) showed through empirical analysis on the state governments in the U.S. that local bonds utilization level was low when the share of fiscal transfer is high.

This study believes that the use of local bonds in Korea must be revitalized, in the interest of the principle of user charges and securing transparency in using financial resources. Local bond business mostly comprised of capital investment projects and its services strongly tend to be confined to the relevant area. Therefore, in this case, users invest, bear the burden or enjoy the benefit. In addition, as financing through local bonds is made possible on the premise of secured fiscal transparency, it is also advantageous in fiscal management such as keeping account books.

Based on the aggregate ceiling system, Korea's local bond system is controlled by the central government, and is an effective system considering local fiscal integration. However, this suppresses local bond issuance and it is therefore difficult to expect the active utilization of local bonds. This is clearly shown through the fact that local bond markets remain inactive despite the deregulation of local debt issuance. Besides, the local bond's dependence on public funds is excessively high while average repayment interest rate of local governments is as low as to be in the four-percent range, and the bond trading transaction costs in the private market are relatively high.[21] As an alternative, Lim Sung-il and Hong Seo-been (2012) suggested gradually lowering the dependence on underwriting public funds and encouraging transition into the public issues market, but as local governments do not have the motivation to take high risks in the private market, this is not entirely a realistic plan. As suggested in existing studies, a short-term solution requires a plan to activate local bond usage through the reform of the aggregate debt ceiling, while perceiving national subsidy programs related to capital expenditure as a means to make use of local bonds in the long term.

The vitalization of local bond markets must be connected to the overall fiscal management plan. This is demonstrated by the strengthened fiscal

21) See Lim Sung-il and Hong Seo-been (2012), p. 124.

management system of the Ministry of Security and Public Administration. Institutional management is aimed at all local public enterprises but the management is supposed to be confined to the specific local government, thus it cannot be effectively applicable to all local governments, and ultimately shows the clear limitation of management by the central government. However, it nonetheless remains meaningful in that it can inform the local governing bodies of consistent monitoring at the central governmental level.

B. Lack of Debt Management System at a Local Government Level

The effective operation of the fiscal management system outlined above requires the ability of the relevant local government to manage debt autonomously. Among local governments in Korea, there are effectively none that have established debt-related fiscal rules or regulations, and manages debt systematically according to rules, regulations or related ordinances. In particular, special and metropolitan cities that are relatively active in the use of local bonds urgently require relevant systems and ordinances. Meanwhile, any local government that is inadequately using local bonds requires fiscal regulations suitable for its fiscal conditions and strategic debt management systems, in addition to guidelines from the Ministry of Security and Public Administration. For instance, in Wisconsin of the United States, the state constitution regards equalized taxable property of county and local government (municipal and town, etc.) as pledged assets and limits the debt level to less than 5 percent thereof.[22)]

Local autonomy, in principle, would mean that the local residents in the local government determine financial burden distribution and fiscal expenditure, prepare fiscal regulations and operate relevant rules and systems of their own volition rather than by the guidelines of the Ministry of Security and Public Administration. However, questions remain as to whether such system would

22) Wisconsin State Constitution, Article XI § 3, ¶(2) (No county, city, town, village, school district, sewerage district or other municipal corporation may become indebted in an amount that exceeds an allowable percentage of the taxable property located therein equalized for state purposes as provided by the legislature. In all cases the allowable percentage shall be 5 percent except as specified in pars.)

be adequately implemented in the present condition where fiscal autonomy is not being realized. In fact, local tax rates remain the same all across the Korean local governments, and major areas of annual spending such as education, pension and welfare mostly fall on mandatory expenditure, and decisions by the National Assembly and the central government are given greater credence. However, as projects financed through local debt are expected to become more prevalent in the future, and as local councils become more able to manage and supervise this trend, self-regulation at the local government level will be a necessity in managing debt. Ultimately, debt management will only be made possible when the central government strengthens the overall fiscal management system, the deregulation on debt financing and debt bond issuance, while a debt management system is instituted in each local government.

C. Improvement Focused on the Institutional Viewpoint: Separate Management of Capital Expenditure

The redemption period of local debt was previously long-term at over 10 years, but it has been gradually reduced since the financial crisis. However, local debt is generally a long-term debt because it constitutes capital expenditure by nature.

Not only in Korea but also in other countries, local bonds are used to finance investment demands such as local SOC projects conducted by local governments and essentially comprise the ‘capital account’ for SOC investment projects rather than the general ‘current account.’ The rationale for the separate management of these capital accounts is not entirely for the efficient management of capital investment projects, but also to prevent the waste of fiscal resources resulting from the mixed use of finances under the general account. The stakes are high for capital account projects due to their scale, while the effect of the outcome is achieved in the medium or long term, and maintenance costs can fluctuate by year. Therefore the implementation of a project must be preceded by scientific demand forecasting according to economic outlook due to the need for thorough medium and long term planning is required. And as these capital investment projects mostly rely on borrowings, a wide range of factors must be considered, such as linking with financial markets and adjusting project priority.[23)]

At present, local debts are classified as capital expenditure in Korea, but it is not separately managed in the process of budget execution. During the financial crisis, Korea succeeded in achieving economic recovery by expanding spending through public investment: with regards to SOC investments, the Korean government supported local governments to the scope of more than three fourths of the specified 3.5 percent of GDP. Similar trends were also observed in other countries (Austria, Canada, France, Germany, Spain, U.S.): more than 90 percent of the spending for economic stimulus went to local governments to support their SOC projects.[24)]

In this manner, each central government adjusts fiscal policy through capital accounts for economic stabilization in times of financial crises or when it is deemed necessary. Therefore, central and local governments must discuss the necessity of separate management for this particular account to an extent that goes beyond 'capital expenditure,' in operating and financing SOC projects.

D. Redefining the Scope of Local Debt

The scope of national debt in Korea was redefined through a reform to conform to international standards and produce coherent statistics. In case of local public enterprises, it was suggested that the general government account must include public corporations and organizations with a cost recovery rate of less than 50 percent and government sales ratio of more than 80 percent. Those standards are based on ownership according to the governance structure of the relevant public institutions and marketability of whether the relevant institution is able to function as a market producer.[25)] According to the standards,

23) A. John Vogt, "Local Capital Budgeting," Chapter 10, Shah ed., *Local Budgeting*, Public sector governance and accountability series, The World Bank, 2007. p. 307.

24) OECD *Making the Most of Public Investment in a Tight Fiscal Context: Multi-Level Governance Lessons from the Crisis*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264114470-en, 2011.

25) Hong Seung Hyun, "A Study on the Calculation of Fiscal Statistics in Public Sector," Sourcebook on public hearings, Center for Tax Expenditure and Fiscal Analysis Center, Korea Institute of Public Finance, July 2013, pp. 7-8.

the category includes six public corporations out of 83 non-profit public institutions and 77 public organizations. Four out of six public corporations are rapid transit corporations (Daegu, Gwangju, Daejeon Metropolitan Express Transit Corporations, Incheon Transit Corporation) and two are local corporations (Yangpyeong local corporation, Cheongdo Public Business Corporation) of local governments. The six public corporations largely belong to the general government sector and are included in the debt calculation. However, in the perspective of financial outcome and fiscal scale, the inclusion of non-profit public institutions that satisfy the above standards have almost no significant effect. In terms of the liability scale and potential debt, urban development corporations should be under government debt for priority management. Therefore, this study suggests that local public enterprises of all variety be included in the general government debt account and managed accordingly in the national statistics.

2 Measures to Reduce Local Public Corporation Liabilities and Relevant Institutions

The causes for the increase in the debt scale of local public enterprises are 1) nature and structure of the business, 2) problems in management of policy and institutions, 3) limitations of governance and 4) lack of a long-term management plan for public corporations. Setting aside fiscal reduction plans for single-business projects, this analysis attempts to focus on urban development corporations facing high debt ratios, subsequently identifying the nature of debt and proposing an improvement measure in relation to each cause. Furthermore, improvement measures for public corporations relying on public utility charges will be suggested, aimed at the long-term operation and management of public corporations.

A. Liability Reduction Plan According to the Nature of Urban Development Corporation Liabilities

According to the results of empirical analysis, the increase rate of land price from the previous year as an economic indicator comprises a national macroeconomic variable. The analysis showed that unsold housing units due to worsening macroeconomic conditions are attributable to the increase of debt ratio for urban development corporations. For instance, moral hazards clearly exist for some urban development corporations, but it is unfair to consider this trend to be representative of all urban development corporations. In addition, local urban development corporations in Korea are not entirely different from national public enterprises as they are differentiated by business characteristics rather than by regional or local fiscal characteristics. Therefore it may be necessary to review aspects such as potential business redundancy and efficiency enhancement for feasibility studies in conjunction with national public enterprises, as opposed to entrusting urban development corporations to respective local governments entirely.

B. Liability Reduction Plan Based on Reorganization of Structure or Nature of Business

From the fiscal point of view, urgent measures are needed to reduce the liability ratio of urban public corporations as follows: first, restructuring of business including potential liquidation and second, reduction in borrowings and interest payments. The initial business capital of most projects is comprised of borrowed funds coming from pre-distribution of housing units, which are compensated later with profits. Unless this debt-dependent business structure is reformed, continuous increase in debt is unavoidable. In other words, regulations are needed in relation to the issuance ceiling and the rate of debt dependence, and the future response must consider measures to increase profitability by securing sales prices for housing units through a multi-faceted profit model. These solutions to the nature and structure of the business also apply to public corporations such as water supply and sewerage businesses and rapid transit corporations, where charges are regulated. As a priority, the chronic deficit structure must be reorganized through the adoption of current rates rationalization plan and local public corporations must voluntarily offer cost-reduction measures in order to create a national consensus.

C. Reduction Plan for Urban Development Corporation Liability Ratio from the Institutional Perspective

From the institutional perspective, managing the liabilities of urban development corporations first requires a business plan as well as defining the distribution and adjustability of the burden in relation to the Korea Land & Housing Corporation (LH Corporation). According to the empirical analysis, the increase rate of land prices, which falls on the macroeconomic variable rather than regional characteristics, had an impact on the debt ratio, and it seems that urban development corporations under each local government are not much different in their nature. Therefore, institutions must be established to allow both the relevant local government and supervising agency to simultaneously monitor whether the business establishment standards are clearly specified in the first place and whether the demand projection for the relevant facilities were made to be precise. In other words, although local governments operate public corporations in the legal sense, projecting demand and evaluating business feasibility in the fiscal perspective should consider the economy of scale. Second, the local government level must be placed under medium and long term obligations of the funding plan and there is also a need to clarify the distribution of the financial burden with the central government for attracting international events (Incheon Asian Games, Pyeongchang Winter Olympic Games, Daegu Universiade, etc.).[26] The Ministry of Security and Public Administration is

26) In order to manage local public corporations, the Ministry of Security and Public Administration (MOSPA) is considering 1) introduction of “Debt Reduction Target Program,” 2) adoption of segmented accounting system, 3) intensification of penaltieson violations of the guidelines set by MOSPA such as debt guarantees, 4) public notification of management information and reinforcement of information disclosure for local public corporations and 5) enhancing credibility of financial statements (Ministry of Security and Public Administration, June 2013).

〈Table IV-1〉 **Monitoring Standards for Local Governments**

Enforcement decree	Indicator	"Caution" level	"Serious" level
Article 65–2(1)1	Deficit ratio of consolidated central government balance	Over 25%	Over 30%
Article 65–2(1)1	Debt ratio relative to budget	Over 25%	Over 40%
Article 65–2(1)1	Debt repayment ratio	Over 12%	Over 17%
Article 65–2(1)1	Current status of collected amount of local tax	Under 50%	Under 0%
Article 65–2(1)1	Current balance on the coffers	Under 20%	Under 10%
Article 65–2(1)1	Liability ratio of public corporations	Over 400%	Over 600%

Source: Ministry of Public Administration and Security, "Strengthening Fiscal Sound ness of Local Governments including Prevention of Local Financial Crises, etc.," Press Release on August 30, 2011.

planning to implement the 'Debt Reduction Program' for urban development corporations as a fiscal management plan in the future. According to the program, 400 percent of assets, existing ceiling for bond issuance, will be reduced to 360 percent by the end of 2013 and 200 percent by 2017. Moreover, medium-to-long term fiscal management plans set by public corporations will be reviewed and the feasibility of meeting the target will be consistently monitored for regions with excessive debt (over 300 billion won).[27]

D. Strengthening Conditions for Establishing Public Corporations: Reorganizing Governance

The empirical analysis of this study confirmed that political connections between the head of local government and the municipal council membership can lead to the inefficient use of financial resources for local public corporations.

27) In addition, segment accounting system will be adopted to allow follow–up measures after identifying debt incurred or operating loss, along with reinforced evaluations of management, profitability and secondary management indicators and the prioritization of enhanced fiscal soundness. It also contains tightened penalties for violation of MOSPA guidelines (*Fiscal year 2012 Settlement of Local Public Enterprises*, June 2013).

Currently, the establishment of public corporations by cities / counties / districts requires prior consultation with the mayor or governor of the relevant jurisdiction (Article 49 (1) of the Local Public Enterprises Act). In case of local governments, however, prior validity check is obligatory but the approval procedure is not clearly specified. The Ministry of Security and Public Administration (MOSPA) plans to institute mandatory preliminary consultation with the Ministry before the establishment of public corporations in cities and provinces, and will reinforce the requirement for establishing local public enterprises by requiring resolution by the local council when seeking financing for a new project.[28] Limiting the arbitrary establishment of public enterprises by reorganizing governance is a necessity, but may also raise controversy as establishing local public enterprises is based on the Local Autonomy Law.

〈Table Ⅳ-2〉 **Comparison of National Public Organizations and Local Public Enterprises**

Classification	Local Public Corporations	National Public Organizations
Relevant statutory provisions	· Establishment: Local public enterprises and relevant individual ordinances · Operation: Local Public Enterprises Act	· Establishment: Individual act · Management: Act on the Management of Public Institutions ※ The Framework Act on the Management of Government-Invested Institutions and the Framework Act on the Management of Government-Affiliated Institutions were integrated in April, 2007 and expended the scope of public organizations
Types	· Enterprises directly managed by local governments: established through the special account · Local corporations: more than 50% investment from the local government · Local industrial complex: fully invested by the local government	· Public enterprises: Own revenue 〉 total revenue/2 – Market-based (more than 2 trillion won in assets, etc.), quasi-market-based · Quasi-governmental institutions: Own revenue 〈 total revenue/2

28) Ministry of Security and Public Administration, *Strengthening the Local Financial Stability: Focusing on Efficiency in Expenditure and Increasing Tax Revenue*, May 16, 2013.

〈Table Ⅳ-2〉 **Continue**

Classification	Local Public Corporations	National Public Organizations
	· Government–funded/invested corporations: more than 10% and less than 50% in funding or contributions from the local government	– Fund–management based, commission–service based governmental institutions · Other public organizations – Rest of incorporations except public enterprises and quasi–governmental institutions
Subject of application	· In case a local government attempts to directly run thebusiness specified in the Local Public Enterprises Act or to establish a separate corporation (Mandatory application) Eight projects including waterworks (Voluntary application) more than 50% of balance on current account, improvement on resident welfare, exclusion of private sector, etc	· Established according to individual act (government–funded) · Over 1/2 of total revenue is funded by government subsidy · The government owns more than 50% of the organization's shares, holds more than 30% stock holdings and practically exercises ownership
Establishment or designation	· Review on the validity of establishment (by specialized agency) → Consultation with MOSPA (cities, counties, districts consult with municipal assembly through consultations with heads of cities and provinces) → Deliberation by the establishment committee → Enactment of ordinances	· Prior consultation before establishment of organizations – Request review for new establishment (Organization in charge) → eliberation on validity (Steering committee of public organizations) → Notify result (Minister of Strategy and Finance) → Enacted into law · Designation or alteration of public organizations – Consultation with the head of the organization → eliberation and resolution of public organization → Designation or alteration
Practical benefit from applying the law	· Management evaluation and consulting, public notification of management information, etc. (Except for government– funded/invested corporations)	· Inspection on functions and regulations of public organizations (Merger and abolition, readjustment of functions, privatization, etc.), public notification of management information, customer satisfaction survey, etc.
Involvement by the government, etc.	· Dualization of system into the central and local governments Central government: Appointment and dismissal of officials, common standards for budgeting and settlement, management evaluation and diagnosis, decrees for management reform,	· Running a board of directors, drafting an article of association, internal governance issues such as appointment and dismissal of officials, etc. · Compensation guidelines, accounting standards and budgeting and settlement guidelines are provided, management

〈Table IV-2〉 **Continue**

Classification	Local Public Corporations	National Public Organizations
	corporation inspection, accounting audit, etc. Local government: Power to appoint and dismiss officials, budgeting and settlement guidelines, supervisory authority over the business affairs, corporation inspection, accounting audit, etc. ※ Government-invested corporations except for local corporations or local industrial complexes are autonomously run by the local governments	evaluation, management guidelines, supervision by the Board of Audit and Inspection of Korea ※ Non-classified public institutions are provided standardsequivalent to those of public corporations or quasi-governmental institutions

Source: Ministry of Security and Public Administration, *Current Status of Local Public Corporations in 2013*.

E. Building a Long-term Management System for Public Corporations: Need for Stable Provision of Public Services

In the short term, some public investment projects can be reduced in times of financial crisis due to the inevitable curtailment of infrastructure investment such as on social overhead capital. Indeed, OECD countries were forced to reduce investments in necessary public investment projects such as waterworks and sewerage works as financial demands began to concentrate on particular areas such as welfare.

Following 2006, the annual debt ratio of each local public enterprise in Korea shows that the liability ratio of waterworks has been on the decrease while urban development corporations saw the biggest increase in debt. In case of waterworks in 2012, the entire scale of liabilities was not particularly large at 1.5 trillion won, and since a decreasing liability ratio connotes an increase in equity capital, the overall fiscal direction is somewhat positive. However, since it is unlikely for local governments to have increased the fiscal burden for funding waterworks since 2006 than before due to the fiscal conditions of local governments, thus the decrease in the liability ratio was likely caused by the reduction in new external investment, and it is highly possible that this aspect

〈Table IV-3〉 **Average Annual Increase Rate of Liability of Water Supply and Urban Development Corporations (2006-2011)**

(Unit: %)

	Water supply (average)	Average of urban development Corporations
Seoul Metropolitan City	16.50	17.68
Busan Metropolitan City	−15.34	28.63
Daegu Metropolitan City	−8.43	15.80
Incheon Metropolitan City	−9.15	39.13
Gwangju Metropolitan City	−28.23	10.24
Daejeon Metropolitan City	−1.61	−3.73
Ulsan Metropolitan City	−4.12	324.36
Gyeonggi–do	−5.78	14.01
Gangwon–do	−7.95	31.87
Chungcheongbuk–do	17.63	78376.20
Chungcheongnam–do	−6.67	296.86
Jeollabuk–do	2.82	56.40
Jeollanam–do	−3.84	33.35
Gyeongsangbuk–do	−6.49	37.42
Gyeongsangnam–do	−7.87	24.98
Jeju Special Self–Governing Province	−2.48	28.52

Source: Ministry of Security and Public Administration, yearly *Settlement of Accounts of Local Public Corporations*.

relatively increased the equity capital. Amidst escalating fiscal pressure due to economic downturn and increased welfare demands, it is an undesirable trend that the focus on public interest as the original purpose of public corporations is being undermined. While investments continue in welfare-related areas facing high political demands, decreased investment in water supply and sewerage works is certainly less than ideal in terms of a desirable image of the welfare state.

3 Conclusion and Policy Implications

The national liability is bound to increase continuously in situations where an increase in tax revenues cannot compensate for the pace of fiscal spending due to factors such as an economic downturn or political considerations. The main concern regarding the increase in the national debt is that the burden of thecurrent generation will be directly inherited by the next generation. On the other hand, some opinions claim that the liabilities of public corporations are guaranteed by tangible assets unlike national liabilities ('debt without payment resource') that assume the government's credit as collateral, and it is suggested that the net liability as the sum of total liabilities minus total assets is not as large as to cause alarm. However, assets of public corporations cannot be liquidated easily due to their responsibility for public services, despite the massive scale of such assets caused by the economy of scale in their cost structure. In addition, their disposal is practically unfeasible in consideration of the issue of replacing relevant personnel and the national ownership of such assets. Even though partial disposal may be possible, the market appraisal of public corporations rarely matches their real value, thus most assets of public corporations inevitably become the liability of public enterprises and potential debt.

The liabilities of local public enterprises are not entirely different from the debts of the central government by their nature. Moreover, close proximity in the fiscal relationship between the central and local governments poses significant risk of local government debt causing fiscal danger for the central government. If local governments assume the final responsibility for their own fiscal operation as does the central government, the discussion on methods to finance government spending (taxation vs. borrowing) may not be of much practical importance from a purely theoretical perspective. However, the government's funding process and changes in public consumption patterns cannot be managed as rationally as theory would presuppose.

The purpose of this study was to identify whether local debts and the liabilities of local public enterprises are possible alternatives to finance the central and local governments in response to dire domestic and international economic conditions and continuous escalation of fiscal pressure. The major talking points of the current discussion and the Ministry of Security and Public Administration as the competent ministry both focus on establishing a plan for debt reduction as formulated from the fiscal viewpoint, but the issue of local debt requires a more long-term perspective. To date, local public enterprises have taken short-term stop-gap measures whenever a problem arises. However, this approach only reinforces institutional controls and falls far short from tackling the core of the problem. Therefore, continuous analysis must be dedicated to the fundamental characteristics of debt and debt of public corporations, as with the case of tax revenue items in the general account.

This study first examined the economic and political characteristics of local debt and the liabilities of local public corporations through empirical analysis, based on which it attempted to provide specific plans for improvement. Prior to the formulation of improvement plans, the empirical analysis on the characteristics of the liability ratio of urban development corporations revealed that the increase rate of land price, i.e. an economic variable, was the critical cause for the growth in the liability ratio of urban corporations. This demonstrates the high sensitivity of the debt ratio to economic situations, and somewhat dilutes the structural problem faced by local urban corporation. In spite of such aspects, these results suggest that the relevant urban corporations must be vigilant towards the changes in macroeconomic conditions when projecting fiscal needs for large-scale capital investments, and stipulate a thorough review in predicting macroeconomic situations in the business feasibility study. In addition, the analysis also indicates that a review on the redundancy of businesses and feasibility study must also be conducted in cooperation with the public corporations concerned. Moreover, this study highlighted the need to lower the dependency on large-scale borrowings in the initial stage of projects as suggested by existing studies, as well as to build various profit models and conduct intensive self-restructuring in the future.

It is also important to note that the long-term fiscal conditions of the central and local governments are not stable enough to simply allow the continued deficit levels of water supply and sewerage projects as well as rapid transit corporations on the grounds that their debt ratio is not high in comparison with private companies or that their contributions to the public interest equates to indispensability. Among the debts of local public enterprises, those of fee-regulated sectors such as water supply and sewerage or rapid transit corporations are accumulating losses on account of providing necessary public services. Ultimately, the inevitability of a hike in public utility charges and the injection of government funds signify that debt from those sectors do not differ from national debt in terms of posing fiscal risk. Existing studies and the fiscal reduction plan of the Ministry of Security and Public Administration suggest the most urgent agenda as rationalizing the current fees system and replenishing fiscal resources of local governing bodies. As the structural fiscal deficit is caused by the need to regulate public utility charges, raising the charges is necessary to a certain degree. However, amidst an uncertain macroeconomic situation, employment instability and falling housing prices constitute more urgent issues and therefore it is not easy to raise the usage fees in water supply, sewerage, and rapid transits due to the concern over causing inflation. These issues can be resolved when public corporations make self-initiated efforts to address the deficit problems through intensive restructuring for example rather than higher rates, the outcome of which may determine whether the public may be persuaded towards raising utility prices.

Other suggestions included the necessity for strengthening monitoring standards and establishing public corporations. This study also mentioned the need for building a long-term management system for public corporations in order to ensurethe reliable delivery of public services.

The international comparison of debt ratios shows that the debt of Korea is relatively low compared to other major countries but interpretations of this finding must be cautious. For example, if a local government was able to lower the debt ratio as its revenue and expenditure are closely linked, the low debt ratio would represent fiscal soundness. However, the debt ratio of local governments does not represent fiscal soundness under intergovernmental fiscal relations maintaining the highest ratio of transferable resources in comparison to major countries, with a faster rate of increase for welfare-related fiscal demands and transferable resources comprising the largest proportion of legally-stipulated spending. In this case, the low debt ratio of the relevant local government is due to the high fiscal transfer, and the relevant region is passing the burden of fiscal needs to the central government without facing the political expense, thus, the low debt ratio in this case relates to the indicator of 'ratio of fiscal responsibility evasion.' In Korea, long-term reform of the fiscal structure is required in order for the debt ratio to be used as a regional fiscal indicator.

As a result, this study asserted that Korea's local government bonds need to be vitalized based on the principle of usage responsibility for costs and transparency in the utilization of financial resources. Other suggestions included the need for relaxing the regulatory nature of the debt ceiling system and reinforcing debt-related fiscal management system. In addition, each level of local government must be equipped with a debt management system in order for the fiscal crisis management led by the central government to be put into practice.

Furthermore, from the institutional perspective, this study suggests that basic control of the capital expenditure account may be possible depending on the presence of a plan to separately manage capital expenditure. At present, local government budgets include a capital expenditure account, which is not managed separately with emphasis on budgetary operation. Empirical analysis on capital expenditure projects comprise a key aspect in explaining the local debt level, and therefore separate account management is a crucial requirement in the long term. The scope of debt should be significantly adjusted based on current international standards as a severely limited number of local public corporations are being included in the general government account. The liabilities of local public enterprises constitute potential debt to be managed as a priority. In terms of the nature of the debt and the fiscal dependency on the local governments, it is reasonable to include local public enterprise debt in the general government account.

The reason why the liabilities of public corporations are deemed serious from the perspective of the entire national finance stems from the concerns of potential moral hazard in the use of fiscal resources. Such concerns relate to the fact that the government utilizes off-the-book fiscal resources as special purpose vehicles to fund projects that should be funded through tax revenues. Likewise, growing emphasis on both the importance of strengthening the conditions for establishing corporations and the need for fiscal management in consideration of political variables as well as economic variables facing local public enterprises are predicated upon the concern that local public corporations may create a convenient fiscal resource and abuse it for purposes other than fiscal requirements. In other words, the problem is of whether local governments are exploiting local public enterprises as fiscal resources freely at their disposal. Despite the presence of institutional procedures such as central government consultations at each stage of establishment and supervisory functions, the structural dynamics between the local government in actual charge of local public enterprises in relation to the relevant local council and residents allow the liberal use of local public enterprises for desired purposes.

In order to examine the moral hazard in using fiscal resources through the establishment of public corporations, this study has conducted empirical analyses on the liability ratios of urban development corporations since 1992. As a result, the major cause for the liability ratios of urban development corporations were identified as the macroeconomic contraction, and political awareness in the region as reflected by the voter turnout. In addition, a subject of further analysis was identified as whether the head of local government was affiliated with the same political party as the majority in the corresponding local council. As this reveals that much of the liabilities of urban corporations can be attributed to external economic shock and that the public sentiment is also at work to reduce the liability ratio, it is not reasonable to consider local governments as having taken advantage of public corporations for the self-interested purpose of appropriating fiscal resources. Finally, the results were based on the analysis of liabilities held by public corporations only, and further analysis must consider a broader range of variables in relation to key financial indicators and institutions.

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