COLLUSION AND GOVERNMENT SIZE IN KOREA

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Abstract- Decentralization is argued to increase the efficiency of local expenditures. And it is important that competition among local governments produces efficient distribution of local governments. The Leviathan and collusion hypotheses are tools that Competition among local governments and its implication for local government size are best illustrated. The former explains that decentralization induces smaller government size by competition. The latter describes that the intergovernmental transfers make greater government sizes. This paper is trying to test both hypotheses to examine how the fiscal structure influences the local government size influenced by a degree of competition among themselves. The results show that the Leviathan and collusion hypotheses are accepted statistically. It can be support for the Leviathan hypothesis that competition between local governments contribute to decreases in local government size as measured by expenditure. And the collusion-inducing effect of intergovernmental transfers dominate the competition-inducing effect.

Index Terms- Collusion hypothesis, Intergovernmental transfers, Leviathan hypothesis.

I. INTRODUCTION

The 1990s saw significant changes in political, social, and economic institutions around the world. International trade was liberalized to an unprecedented level with the onset of WTO regime, China joined the world economy in full force, and many developing countries began to emerge as new economic power houses. Economic changes brought about, in turn, changes in political setups with increasing number of countries beginning to introduce democracy to their populations (POLITY IV, 2000). Policy-makers as well as the general public perceived decentralization as crucial part of democratization, and have pursued decentralization as one of the main policy goals. As a result, the size of local governments has increased significantly on relative terms. Local governments have been assigned increasing roles in almost all aspects of government functions, in contrast to what theories of decentralization dictate the role of local government should be. Specifically, Oates(1972) and many who followed him emphasized that the role of local government should be confined to provision of local public goods to residents. Functions such as redistribution and stabilization were best left to the central government. The crux of their argument was that it would be undesirable for local government to engage in these activities as they produce economic inefficiencies arising from factor mobilities. However as income levels rose, demands for more government services also rose to cause significant fiscal challenges for central governments. Consequently, central governments around the world chose to delegate some of their traditional functions to local governments in order to reduce fiscal burdens on themselves. In addition to this, demand for local public goods also rose, compounding fiscal challenges local governments faced.

Korea is no exception to this international trend. Decentralization is perceived as part of democratization process by Korean policy-makers. As the shadow of military regimes faded away and democratically elected government came to power in the 1990s, many people considered it only natural to delegate the powers of central government to local governments, presumably giving more power to the general public. However, as local government expenditures grow, concerns about their adequacy and efficiency are being raised. Decentralization in Korea has been, so far, mainly driven by political motives. Relatively little attention has been paid to economic aspects of decentralization. From the economists’ viewpoint, validity of decentralization centers on competition among local governments. It is competition among local governments that guarantees efficient distribution of local public goods. Otherwise decentralization has no economic merit, and it might be better to have the central government distribute local public goods as the benefit of country-wide coordination may dominate the cost arising from information asymmetry regarding local public goods demand.

Competition among local governments and its implication for local government size are best illustrated by the Leviathan and collusion hypotheses proposed by Brenan and Buchanan(1977, 1978, 1990). They argue that decentralization induces smaller government size, ceteris paribus, via competition (the Leviathan hypothesis). With mobile tax base, local governments’ ability to tax their residents are limited as residents have an option to move to other areas where tax burden is lower. This limit on taxing power, in turn, results in smaller government in terms of expenditure. On the other hand, local government may resist competitive pressures by collusion. Instead of competing with each other, local governments may collude to impose a uniform level of tax burden across the country. The central government works as a coordinating agent in this setup by using fiscal transfers as a forcing mechanism. In other words, if a certain local government chooses to lower the tax burden, the central government can punish it by...
providing less amount of fiscal transfers.

In this paper, we test whether the Leviathan and collusion hypotheses hold for Korea. In essence, we test if there is competition among local governments. If not, decentralization in Korea as it stands now might be on a wrong footing, and policy-makers may need to rethink the direction of decentralization in Korea.

The rest of the paper is organized as follows. In section 2, we provide a brief description of local finance in Korea. In section 3, we present our estimation procedure and results. We conclude with some policy implications.

II. SPECIFICATION

If you are using Word, use either the Microsoft Equation Editor or the MathType add-on (http://www.mathtype.com) for equations in your paper (Insert | Object | Create New | Microsoft Equation orMathType Equation). ‘Float over text’ should not be selected.

In order to examine whether the Leviathan hypothesis and the collusion hypothesis hold for Korea’s local governments, we start with the specification proposed by Marlow (1988). It is written as

$$E_X_t = a_0 + a_1 DEC_{t-1} + a_2 CLS_{t-1} + a_3 Y_t + a_4 PDP_t + u_t \tag{1}$$

where $E_X_t$ is the share of local government expenditures in terms of GRDP at time $t$, $DEC_t$ is the share of local government expenditures in terms of general government expenditure at time $t$, $CLS_t$ is the ratio of transfers from the central to local governments to total local government revenues at time $t$, $Y_t$ is the GRDP per capita at time $t$, and $PDP_t$ is the population at time $t$.

We modify equation (1) in the following ways. First, we construct and test a panel model where data are gathered for 16 upper level local governments from 2002 to 2011. Also, as we saw in the previous discussion, a structural change occurs in local government expenditures after 2010. The change was a result of the global fiscal crisis that brought the Korean central government restricted local government spending. We reflect this change by including a dummy variable for the years after 2010. Hence the equation (1) is rewritten as follows;

$$E_X_{it} = a_0 + a_1 DEC_{it} + a_2 CLS_{it} + a_3 Y_{it} + a_4 PDP_{it} + a_5 DUMMY + u_{it} \tag{2}$$

where $DUMMY$ is the new dummy variable, $t = 1, 2, \ldots, 16$, and $f = 2002, 2003, \ldots, 2011$.

The second modification stems from the fact that we use the panel data. Since our variables are constructed from time-series data, we need to examine whether stationarity condition holds. If not, the estimation might be spurious. To this aim, we conduct the panel unit-root test. The test consists of two parts: common unit-root and individual unit-root. We use LLC test proposed by Levine et al (2002) to see if common unit-root exists for our variables. As for the individual unit-root, we employ three different tests for robustness reasons. They are IPS test (Im et al, 1997), ADF-Fisher and PP-Fisher tests (Maddala and Wu, 1999). Overall, all variables under consideration seem to be non-stationary except for $E_X_t$. Test results for $E_X_t$ differ depending on tests being used. To be on the safe side, we take log differences of all the variables to remove non-stationarity.

Finally, given the nature of variables under consideration, there is a possibility of endogeneity. For example, the equation (2) states that the local government expenditure share of GRDP is a function of GRDP per capita. But it is easily conceivable that the direction of influence is the other way around. As income level rises the demand for public services provided by local governments may increase so as to induce larger share of local government expenditure in GRDP. Similar arguments can be made to all the other variables except for the population. In addition, there is also a possibility of time-lag. Taking these into consideration, we use the lagged values of independent variables except for the population. In sum, the regression equation we estimate is specified as follows;

$$E_t = b_0 + b_1 DEC_{t-1} + b_2 CLS_{t-1} + b_3 Y_{t-1} + b_4 PDP_{t-1} + b_5 DUMMY + u_t \tag{3}$$

where each variable is in terms of log differences. We estimate equation (3) using panel data for 16 regional governments from 2002 to 2011. All data are taken from the Korean Statistical Information Service web page (http://kosis.kr/). If the Leviathan hypothesis holds, the value of $b_3$ will be negative and statistically significant. As for the collusion hypothesis, we expect $b_5$ to be positive if the theory is correct.

III. RESULTS

The estimation is conducted using three different approaches. First we conduct the test using pooled OLS. We then proceed with the fixed effect model and the random effect model. Instead of having the Hausman test tell us which specification is correct, we chose to present results for both models for comparison. As it turns out, all three methods produce very similar pictures, lending more credence to our results.

DEC variable, the share of local government expenditure in terms of the general government expenditure, exerts statistically significant negative influence on the local government size. This result provides support for the Leviathan hypothesis that competition between local governments contribute to decreases in local government size as measured by expenditure. Interestingly the result also suggest that
the share of intergovernmental transfer has positive effect on the local government size. The estimated coefficients for CLS are larger than those for DEC, suggesting that the collusion-inducing effect of intergovernmental transfers dominate the competition-inducing effect. Income as measured by GRDP per capita is positively correlated with the local government size as expected, but statistically insignificant. Population and the 2009 crisis seem to be meaningful determinants of local government size.

### Table 1: Estimation Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pooled OLS</th>
<th>Fixed Effect</th>
<th>Random effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.01738</td>
<td>0.01210</td>
<td>0.01738</td>
</tr>
<tr>
<td></td>
<td>(1.32)</td>
<td>(0.92)</td>
<td>(1.36)</td>
</tr>
<tr>
<td>DEC</td>
<td>-0.15412**</td>
<td>-0.12914***</td>
<td>-0.15412**</td>
</tr>
<tr>
<td></td>
<td>(-2.31)</td>
<td>(-1.98)</td>
<td>(-2.40)</td>
</tr>
<tr>
<td>CLS</td>
<td>0.23878*</td>
<td>0.21352*</td>
<td>0.23878*</td>
</tr>
<tr>
<td></td>
<td>(4.23)</td>
<td>(3.71)</td>
<td>(4.39)</td>
</tr>
<tr>
<td>Y</td>
<td>0.23754</td>
<td>0.19774</td>
<td>0.23734</td>
</tr>
<tr>
<td></td>
<td>(1.30)</td>
<td>(1.06)</td>
<td>(1.33)</td>
</tr>
<tr>
<td>POP</td>
<td>1.87150*</td>
<td>6.90291*</td>
<td>1.87150*</td>
</tr>
<tr>
<td></td>
<td>(1.62)</td>
<td>(6.15)</td>
<td>(2.67)</td>
</tr>
<tr>
<td>CRI</td>
<td>-0.16025</td>
<td>-0.19064*</td>
<td>-0.16025*</td>
</tr>
<tr>
<td></td>
<td>(-0.77)</td>
<td>(-1.198)</td>
<td>(-1.116)</td>
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<tr>
<td>F-statistic</td>
<td>30.79</td>
<td>9.47</td>
<td>30.79</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.54</td>
<td>0.57</td>
<td>0.54</td>
</tr>
</tbody>
</table>

*: statistically significant at 99% confidence level
**: statistically significant at 95% confidence level
***: statistically significant at 90% confidence level

Note) Numbers in parenthesis are t-statistics.

### CONCLUSION

This paper examines how the fiscal structure influences the local government size. The motivation is provided by the Leviathan and the collusion hypotheses that state the size of local governments is influenced by a degree of competition among themselves. Our analysis shows that, for Korea, competition exists among local governments, but it is hampered by intergovernmental transfers from the central to local governments.

Our analysis has worrisome implications for Korea’s decentralization process. As shown in the paper, local governments are becoming increasingly dependent upon transfers from the central government as a major source of revenue. Furthermore, the central government itself considers transfers as a convenient way to provide funds for services local governments provide, and shines away from allowing local governments to expand their tax bases. If this trend continues, competition among local governments may become nonexistent, thereby rendering less support to decentralization itself.

Our results suggest that in order to pursue more sound decentralization, the central government may need to devise an alternative way for local governments to finance their expenditures other than transfers.

### REFERENCES