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행정학석사학위논문

The Impact of Official Development Assistance
on Government Effectiveness

From the Perspective of Government Competitiveness

ODA가 정부효과성에 미치는 영향: 정부경쟁력 관점에서

2015년 8월

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The Impact of Official Development Assistance
on Government Effectiveness
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Abstract

The Impact of Official Development Assistance on Government Effectiveness From the Perspective of Government Competitiveness

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The effectiveness of aid is still a contentious issue of debate. A few East Asian countries, such as South Korea, Hong Kong, Singapore, and Taiwan were notable for the extraordinary growth by government-led development strategy. By contrast, though the history of foreign aids has been more than 60 years, many developing countries are suffering from poverty. Given the four Asian tigers' cases, this study focused on the role of government to achieve economic and social development, and made attempts to explore the relationship between aid dependence on government spending and government effectiveness, and the mediating effect of corruption from the perspective of government competitiveness.

The analysis draws upon a panel data of 82 recipient countries in the period 2004-2013. Government effectiveness and control of corruption are measured by the World Bank's the Worldwide Governance

Indicators(WGI), and the aid dependency ratio released by the World Bank is used for the independent variable. The analysis of the relationship between dependence on ODA to government expense and government effectiveness is examined through pooled OLS(Ordinary Least Squares). Moreover, the mediating role of the capacity to control corruption is verified by using Baron & Kenny's steps and the Sobel's test.

The findings of the study substantiate the hypothesis that dependence on ODA undermines government effectiveness in developing countries. In addition, it cannot be deduced that there are full or partial mediation effects of the control of corruption between ODA and government effectiveness.

To increase aid effectiveness, the recipient governments should exercise ownership over its developmental strategies. Considering cases in East Asian countries which have made rapid growth with government intervention, recipients must build its administrative capacity. To sum up, governments of developing countries need to strengthen their government competitiveness.

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keywords : Aid Effectiveness, Government Effectiveness, Control of Corruption, Government Competitiveness, The Worldwide Governance Indicators(WGI)

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I. Introduction

1. Research background and purpose

Despite the long history of Official Development Assistance(ODA) for more than 60 years, many developing countries are still struggling with poverty. In contrast, a few East Asian countries such as Korea, Singapore and Taiwan have enjoyed remarkable success in economic and social development. These cases out of poverty are considered as models for developing countries to follow. Especially, Korea is the only case that changed its position from a recipient country into a donor country, joining OECD/DAC(Development Assistance Committee) as the 24th member in 2010. Korean government is planning to increase the foreign assistance to 0.25 percent of gross national income in 2015 with the highest ODA growth rate among OECD/DAC countries from 2008–2012. As a key emerging donor, Korean government is attempts to go the extra mile for improving aid effectiveness. In 2014, the board of audit and inspection of Korea audited Korea's ODA for the first time in the past five years since Korea joined DAC. Moreover, the representative ODA related agencies, EDCF(Economic Development Cooperation Fund) and KOICA(Korea International Cooperation Agency), are now working on establishing evaluation systems to improve the effectiveness of ODA.

The greatest strength of Korea's ODA is that Korea has already experienced with development led by government. A critical

feature of developmental states in a handful of cases like Korea, Japan, and Taiwan is that development policy involves government intervention to allocate credit and expedite the process of industrial development(Fukuyama, 2004:101). During the era of economic development in these East Asian countries, growth, productivity, and competitiveness of the state was guided with manifest objectives and strategies formulated by elite bureaucracy and a pilot agency(Öniş, Z. 1991:111).

As a matter of fact, development policies of former president Park Chung-hee and export-led growth by the five-year economic development plans yielded remarkable economic and social development(Jung, 2008; Kim, 2008; Jung, 2003; Im, 2008). Supposing that the recipient governments learn from Korea's development case, the strong and autonomous government should lead developmental goals that is the ultimate purpose of foreign aids.

A number of researches have been carried out concerning the relationship between ODA and economic development. These researches explored whether or not inflows of the foreign assistance make a positive contribution to economic growth. Some of these researches found negative roles of ODA, suggesting that it causes the aid dependency and the Dutch disease¹⁾ in developing countries. Meanwhile, some studies have been conducted regarding the impact of ODA focusing on improvement of governance. However, the concept of

¹⁾ The term 'Dutch disease' was coined by the Economist in 1977 to explain the decline of the manufacturing sector in Netherlands after the discovery of the large natural gas field in 1959(en.wikipedia.org).

governance in these researches is equivocal and varies in different studies.

This study aims to shed light on the relationship between aid dependency and government effectiveness in the recipient countries from the perspective of government competitiveness. Considering that extraordinary rate of economic and social growth in East Asian countries was led by their governments, this study tries to focus on the role of government. In addition, as donors had increasingly felt the aid-fatigue, the international community has been underscored the aid effectiveness since the Paris Declaration. Therefore, aid effectiveness focusing on the effectiveness in recipient governments will be examined in this study.

2. Unit of analysis and scope of the study

Resource inflows to developing countries are varied. To be specific, resources are flowing into developing countries in the form of ODA, Other Official Flows(OOF), grants by private agencies, and private flow at market terms. This study limits the scope of the research only to ODA that is led by government or governmental agencies, in order to focus on the aspect of the government.

Table 1. Resource flows to developing countries

	Flow	Chanel	Fund flow	Aid Type
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Official Flows	Official Development Assistance (ODA)	Bilateral	Grants	Technical cooperation, project aid, food aid, support to national NGOs, humanitarian aid, and etc.
		Multilateral	Non- grants	Concessional Loan
	Other Official Flows (OOF)	Bilateral	Non- grants	Official export credits, Equities and other bilateral assets
		Multilateral	Non- grants	Co-financing
Private Flows	Private Flows	-	Non- grants	Foreign direct investment, private export credits securities of multilateral agencies, and etc.
	Private Voluntary Agencies	-	Grants	Grants by NGO

Source: KOICA(2013:28)

The unit of analysis is 82 recipient countries(N=82). 21 countries out of 82 countries are low-income countries. 29 countries of them are lower middle-income economies, and the remainders are upper middle-income economies. The criteria for classification of economies is determined by the World Bank. According to the World Bank, low-income economies are defined as those with a GNI per capita of \$1,045 or less, lower middle-income economies are those with a GNI per capita of more than \$1,045 but less than \$4,125 and upper-middle-income economies are between \$4,125 and \$12,746 for

the 2015 fiscal year.

The analysis draws upon a data set covering 2004–2013 time period. The data in 2004 will be used for the one-year lagged ODA variable. The reason this study intends to figure out the effect of the time period 2004–2013 is that the Paris Declaration on Aid Effectiveness was endorsed in 2005. Thus, this study will explore whether dependence on ODA has influence upon improving the aid effectiveness focusing on the government, and, if it influences, whether the relationship is positive or negative.

In the data set, 82 developing countries will be analyzed with the hierarchical multiple regression analysis to demonstrate if ODA influences government effectiveness. Also, mediating effects of the capacity to corruption control between ODA and government effectiveness will be analyzed.

Table 2. List of countries

No.	Country	Region	Income
1	Afghanistan	South Asia	Low income
2	Albania	Europe & Central Asia	Upper middle income
3	Angola	Sub-Saharan Africa	Upper middle income
4	Armenia	Europe & Central Asia	Lower middle income
5	Azerbaijan	Europe & Central Asia	Upper middle income
6	Bangladesh	South Asia	Low income
7	Belarus	Europe & Central Asia	Upper middle income
8	Belize	Latin America & Caribbean	Upper middle income
9	Benin	Sub-Saharan Africa	Low income
10	Bosnia And Herzegovina	Europe & Central Asia	Upper middle income
11	Botswana	Sub-Saharan Africa	Upper middle income
12	Brazil	Latin America & Caribbean	Upper middle income

13	Burkina Faso	Sub-Saharan Africa	Low income
14	Cambodia	East Asia & Pacific	Low income
15	Central African Republic	Sub-Saharan Africa	Low income
16	Colombia	Latin America & Caribbean	Upper middle income
17	Congo, Dem. Rep.	Sub-Saharan Africa	Low income
18	Costa Rica	Latin America & Caribbean	Upper middle income
19	Dominica	Latin America & Caribbean	Upper middle income
20	Dominican Republic	Latin America & Caribbean	Upper middle income
21	Egypt, Arab Rep.	Middle East & North Africa	Lower middle income
22	El Salvador	Latin America & Caribbean	Lower middle income
23	Ethiopia	Sub-Saharan Africa	Low income
24	Georgia	Europe & Central Asia	Lower middle income
25	Ghana	Sub-Saharan Africa	Lower middle income
26	Grenada	Latin America & Caribbean	Upper middle income
27	Guatemala	Latin America & Caribbean	Lower middle income
28	Honduras	Latin America & Caribbean	Lower middle income
29	India	South Asia	Lower middle income
30	Jamaica	Latin America & Caribbean	Upper middle income
31	Jordan	Middle East & North Africa	Upper middle income
32	Kenya	Sub-Saharan Africa	Low income
33	Kiribati	East Asia & Pacific	Lower middle income
34	Kyrgyz Republic	Europe & Central Asia	Lower middle income
35	Lao Pdr	East Asia & Pacific	Lower middle income
36	Lebanon	Middle East & North Africa	Upper middle income
37	Macedonia	Europe & Central Asia	Upper middle income
38	Madagascar	Sub-Saharan Africa	Low income
39	Malaysia	East Asia & Pacific	Upper middle income
40	Maldives	South Asia	Upper middle income
41	Mali	Sub-Saharan Africa	Low income
42	Mauritius	Sub-Saharan Africa	Upper middle income
43	Moldova	Europe & Central Asia	Lower middle income
44	Mongolia	East Asia & Pacific	Lower middle income
45	Montenegro	Europe & Central Asia	Upper middle income
46	Morocco	Middle East & North Africa	Lower middle income
47	Mozambique	Sub-Saharan Africa	Low income

48	Namibia	Sub-Saharan Africa	Upper middle income
49	Nepal	South Asia	Low income
50	Nicaragua	Latin America & Caribbean	Lower middle income
51	Niger	Sub-Saharan Africa	Low income
52	Nigeria	Sub-Saharan Africa	Lower middle income
53	Pakistan	South Asia	Lower middle income
54	Paraguay	Latin America & Caribbean	Lower middle income
55	Peru	Latin America & Caribbean	Upper middle income
56	Philippines	East Asia & Pacific	Lower middle income
57	Rwanda	Sub-Saharan Africa	Low income
58	Samoa	East Asia & Pacific	Lower middle income
59	Senegal	Sub-Saharan Africa	Lower middle income
60	Serbia	Europe & Central Asia	Upper middle income
61	Seychelles	Sub-Saharan Africa	Upper middle income
62	Sierra Leone	Sub-Saharan Africa	Low income
63	Solomon Islands	East Asia & Pacific	Lower middle income
64	Somalia	Sub-Saharan Africa	Low income
65	South Africa	Sub-Saharan Africa	Upper middle income
66	Sri Lanka	South Asia	Lower middle income
67	St. Lucia	Latin America & Caribbean	Upper middle income
68	St. Vincent And The Grenadines	Latin America & Caribbean	Upper middle income
69	Sudan	Sub-Saharan Africa	Lower middle income
70	Suriname	Latin America & Caribbean	Upper middle income
71	Swaziland	Sub-Saharan Africa	Lower middle income
72	Tajikistan	Europe & Central Asia	Low income
73	Tanzania	Sub-Saharan Africa	Low income
74	Thailand	East Asia & Pacific	Upper middle income
75	Togo	Sub-Saharan Africa	Low income
76	Tunisia	Middle East & North Africa	Upper middle income
77	Turkey	Europe & Central Asia	Upper middle income
78	Uganda	Sub-Saharan Africa	Low income
79	Ukraine	Europe & Central Asia	Lower middle income
80	Uzbekistan	Europe & Central Asia	Lower middle income
81	Vanuatu	East Asia & Pacific	Lower middle income

82	Zambia	Sub-Saharan Africa	Lower middle income
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II. Literature review

1. Official Development Assistance(ODA)

i. Definition

ODA refers to flows to countries and territories on the DAC list of ODA recipients and to multilateral development institutions which are provided by states, local governments, or its agencies, and each transaction of which is managed with the economic development and social welfare of countries and is concessional in character and conveys a grant element of more than 25 percent (OECD, 2001:1).

OECD/DAC reported that the top five recipients of gross ODA in 2012 were Afghanistan, Myanmar, Vietnam, India, and Indonesia. The top five ODA donors were United States, EU institutions, United Kingdom, Germany, and France. The commitment of U.S accounted for about 29% among DAC countries for the same time period(OECD, 2014).

The reason why donors provide ODA to developing countries varies depending on different countries and their historical backgrounds. First of all, donors provide aids to recipients for political reasons. For example, during the cold war, U.S expanded the volume

of aid to prevent underdeveloped countries from changing its positions into communist states. Second, donors have been willing to help developing countries for the purpose of development for recipients. Aids for construction of social infrastructure and basic human needs aim to achieve development in developing countries. The third reason is related to the expectation of economic benefits that is followed by economic infrastructure. For instance, Japan's foreign aid policy promotes commercial interests(KOICA, 2013:35). The fourth reason is to give humanitarian assistance based on moral duties global society requires.

ii. The evolution of development doctrine and foreign aid

According to Thorbecke(2002), development theories and models, objectives, data systems and the measurement of performance, development policies, institutions and strategies are interdependent as well as interrelated. In particular, when it comes to the relationship between development objectives and theories, they are closely associated with each other. The role of foreign assistance is decided by development policies and strategies. The diplomatic and economic goals of donors have an important influence on formulating aid strategies for the recipients(Lee, 2013:6).

Throughout the late 1940s and early 1960s, the mainstream of developmental economics was structuralism(Lee, 2013:10). Colonies became independent during the period, the Marshall plan to help

European reconstruction succeeded and Keynesian economics was prevalent in world wide. Besides, as the cold war ensued, U.S increased the volume of foreign aid. However, it was difficult to actualize developmental plans. One of the critical problems of de-colonized countries was that they were devoid of financial resources and fundamental infrastructures. Also, the equilibrium of demand and supply in de-colonized countries did not work well because the economic structure was totally different(Lee, 2013:10) from developed countries. Therefore, during that period, it was an axiom that government intervention is indispensable.

Since the late 1960s, donors started to perceive the problem that the effect of aid had not been delivered to people and trickle-down effects isn't sufficient to bring the benefits to the impoverished citizens. Sporadic projects on a short term basis were not helpful for people in developing countries to benefit from the aid (Degnbol-Martinussen & Engberg-Pedersen, 2003; Lee, 2013). It incurred the gap between the rich and the poor in a developing country. Accordingly, Pearson Commission Report²⁾ presented in 1969 suggested that structural changes in developing countries are needed.

Oil price shocks in the 1970s begot debt rising of developing countries. Mexico and Brazil ran up sizeable foreign debt. 'Aid fatigue' of donor countries was increased since 1980s, with the idea that foreign aids induce aid-dependency of developing countries. The

²⁾ The Pearson Commission on International Development made an intensive investigation into effectiveness of foreign aids for developing countries, and then published a report.

Washington consensus, which advocates free trade, free markets and macroeconomic stability(Williamson; 1990), was suggested by John Williamson and international organizations such as the IMF, the World Bank. The EU and the U.S adopted the idea. The importance of good governance and ownership in developing countries started to be highlighted.

Despite increasing influx of foreign aids into developing countries, economic conditions in most developing countries have been deteriorated except for a few East Asian countries including Korea. With the reprimand for the Washington consensus, the perspective of new institutionalism was applied in foreign aids. Institution, industrial policies and the role of government in poverty, distribution, human rights are considered essential factors to promote development in that these problems cannot be solved under market mechanisms(Lee, 2013:7).

Sub-Saharan African countries have retrogressed in capacity during the period of pushing forward external aid flows to the point where more than 10 percent of the GDP(Fukuyama, 2004; Moyo, 2009) Donors want the recipients not only to increase its capacity to provide essential public services like health and education, but also to deliver those services to the end users. Nonetheless, because the latter objectives are more closely related to donor's incentives, increasing the capacity of recipient government is relatively belittled(Fukuyama, 2004:54).

Since the Millennium Development Goals(MDGs) were

approved in 2000, continuous efforts to achieve targets has been going on. The Declaration on Harmonisation, subsequently, adopted at the first Hi-Level Forum(HLF) in Rome in 2003(OECD, 2003). Furthermore, ministers of developed and developing countries, those who are responsible for promoting development and heads of multilateral and bilateral development institutions, agreed on the five principles, ownership, alignment, harmonisation, managing for results and mutual accountability, in the Paris Declaration on aid effectiveness in 2005(OECD, 2005). The principles of the Paris Declaration were reconfirmed in the Accra Agenda for Action(OECD, 2008). The fourth high level forum on aid effectiveness in Busan, Korea, recognized the five principles focusing on transparency and the use of country systems(OECD, 2011).

The world wide efforts to improve aid effectiveness and reduce aid dependence are now underway. As a indicator for evaluating aid dependence, the World Bank announces aid dependency ratios which of GNI, gross capital formation, imports of goods and services, and central government expenditure. The aid dependency ratios are calculated using values in U.S. dollars converted at official exchange rates. The aid dependency ratios may exhibit as much about a donor's interest as they do about a recipient's needs(World Bank, 2006:351).

iii. Empirical studies on aid effectiveness

Much of theoretical and empirical literatures have investigated the economic effect of foreign aid. Some empirical studies proved a positive impact of foreign assistance on the economic growth(Burnside and Dollar 2004; Tsikata 1998; Lensink& Morrissey, 2000). Asteriou(2009) performed analysis to check the relationship between aid and economic growth. He used a panel data set from 1975 to 2002 for five South Asian countries; Bangladesh, Nepal, India, Sri Lanka, and Pakistan. The research provided robust evidence of a positive effect of foreign aid on GDP growth. Jung & Lee(2011)'s study with the panel data of 41 developing countries from 1970 to 2010 found that GDP has made an impact on ODA in the short term, and vice versa. The same study also implies that the impact of ODA is dependent on the regions and countries.

Yet, some influential researches have argued against claims on a positive linkage between foreign aid and growth(Moyo, 2009; Boone, 1996, Kekic, 2008), although a myriad of studies countenanced that the aid is conducive to growth for developing countries and the economic and social conditions of the developing countries have been somewhat improved. These studies support the aid dependency theory that the developing countries are becoming so dependent on foreign aid that government officials loses motivation to work hard for development of the countries, and corruption in the public sector is getting worse. As a consequence, they cannot achieve developmental goals. Those who have a negative point of view on aid effectiveness insist that the public officials in developing government are not

encouraged to boost government's revenue due to ODA. The more they receive ODA from donors, the more government officials become addicted to ODA. In other words, they are inured to the addiction without making aggressive efforts to the economic and social growth of their country.

Svensson(2000) applied game-theoretic rent-seeking model to foreign aid. The findings demonstrated that expectation of aid may increase rent-seeking behaviors and reduce the expected level of public goods provision. That is, foreign aids provide less reason to improve general welfare in the developing countries. Besides, there was positive correlation between recipients' needs and aid owes. It implies that expectations of aid in the future may increase rent-seeking behavior.

According to the empirical study on aid to the Balkan countries conducted by Kekic(2008), the result of the study showed that a Balkan version of the Marshall Plan did not embody because political stability, democracy and economic prosperity cannot be applied to the countries in Balkan. The findings of regressions illuminated that the very weak positive impact on output of aid for the transition countries in the Balkans.

Concerning a certain sector of growth, Rajan and Subramanian(2006) focused on the ground why aid reduces the competitiveness of the traded goods sector. The result of the study pointed out that there is inimical effects to foreign aids on the competitiveness of the traded goods sector. They also pointed out aid dejects the growth rate of manufacturing sector. As discussed above,

debates about the aid effectiveness are still going on.

2. Government effectiveness

i. Definition

Government is comprised of diverse organizations such as ministries and agencies. In order for a government to make effective performance, organizations in the government should work effectively and efficiently. Organizational effectiveness evaluates the degree to which goals in the organization are achieved (Daft, 2001:64). Quinn & Rohrbaugh (1983) claims the competing values approach to organizational effectiveness with four models of effectiveness values; human relations model, internal process model, open systems model, and rational goal model. On the one hand, the first value dimension is related to organizational focus, on the other hand, the second value dimension is relevant to organizational structure (Quinn & Rohrbaugh, 1983:369). A recipient government can be seen as the rational goal model in this study. The rational goal model emphasizes on structural control and external focus, and organizations in a government are considered a principal agent which sets their own goal to make productive and efficient output. Since this study puts a great deal of emphasis on the functions and roles of a recipient government to attain development, the view of rational goal model in terms of the recipient governments is similar with the perspective of this study.

Effectiveness in public organizations influences the quality of life in the country (Rainey, 2003; Lee & Whitford, 2009). Government effectiveness is closely related to economic and social growth in a nation (Garcia-Sanchez et al, 2013:573). In particular, aid is ineffective when the influence of the government in developing countries is ignored and the work performance of the government is ineffectiveness (Dalgaard, Hansen & Tarp, 2004:195). Unless governments bolster the rule of law, sound economic policy, appropriate public investments, a public administration, human rights, and civil society organizations (Binagwaho & Sachs, 2005:31), economic growth remains in deadlock.

The Worldwide Governance Indicators (WGI) project, supported from the World Bank, measures the level of governance for 215 economies. The WGI indicators consist of six categories of governance; voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. The government effectiveness indicator captures “perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies (Kaufmann, et al., 2011:4).” Moreover, satisfactions with public transportation system, roads and highways, and education system are included to measure government effectiveness.

The World Bank’s government effectiveness data includes

surveys of firms and households, as well as the subjective assessments of commercial business information providers, NGO, multilateral organizations and other public sector bodies(Kaufmann, Kraay & Mastruzzi, 2011:5), such as Bertelsmann Transformation Index, Freedom House, and Institutional Profiles Database.

ii. Foreign aid and government effectiveness

The study to find determinants of government effectiveness reveals that income level, educational status and gender diversity are the important determinants of government effectiveness. The main determinants of government effectiveness are organizational environment and citizen's demands, and those are supposed to influence on economic development. Particularly, in transition countries, the educational status is considered one of the most critical factor to augment a government's effectiveness(Garcia-Sanchez et al, 2013:575). Lee and Whitford(2009) assessed government effectiveness to explore what a government is, and how to compare the perceived government competitiveness. They examined not the effectiveness of a government agency but the effectiveness of entire governments, and compared them across countries.

Considering an assumption that institutions and policies are vital for growth, Burnside and Dollar(2004) investigated the relationships between aid and institutions and policies that have direct impacts on growth. The findings of the study that aid spurs growth

with better institutional quality were more robust, than for the competing hypothesis that aid has the same positive effect without reference to institutional environments(Burnside and Dollar, 2004:18).

When it comes to the relationship between foreign aids and policy, a research conducted by Dalgaard, Hansen & Tarp (2004) has explored on the empirics for the claims with respect to the effectiveness of aid in the long term. The results implied there is a strong interaction between policy and aid. Further, the results reveal that aid can play a conducive role and have a positive impact on improving productivity in developing countries.

Studies in light of aid effectiveness have been conducted focusing on the relationship between ODA and recipient governments, or governance. These studies have attempted to analyze whether ODA has positive clout on government. Regarding this issue, many empirical studies have shed lights on the detrimental effect on ODA, suggesting that foreign aids weaken the bureaucracies of governments in developing countries.

Knack(2001) examined whether aid dependence in recipients undermines the quality of governance. Indices of bureaucratic quality, corruption, and the rule of law at the International Country Risk Guide(ICRG) indicators were used to explore the association between aid dependence and the institutional quality. The research suggests that more opportunities to design and implement projects sponsored by foreign aids should be given to recipient governments, and as a result, the recipients can build its administrative capacity. Also,

Remmer(2004)'s research with respect to government expenses and aids showed that dependence on ODA encourages the expansion of governance size in middle and lower income countries.

Rajan and Subramanian(2007) tested a hypothesis that aid may undermine the quality of governance. They concluded that since aid diminishes the need for government to tax the governed or enlist their cooperation(Rajan and Subramanian, 2007:326) aid might be related with weak governance. In addition, Kim(2011) analyzed the causal relationship between ODA and governance. In order to test the impact of ODA, the study separated ODA into three measures, net ODA total, net ODA total divided by technical cooperation, and net ODA total except for technical cooperation. The independent variables used in the study were six governance indicators from WGI, in addition to GNI per capita, foreign direct investment, resource production, and government expenditure as a percentage of GDP. The research shows that the more government spending is increased, the more the amount of aids is increased.

Table 3. Research on aid and government, or governance

Author	Independent Variables	Dependent Variables	Control Variables	Unit of analysis
Knack (2001)	Aid/GNP, Aid/Government spending	Governance: Change in bureaucratic quality, corruption, and	Population change GDP change	1982 -1995, N=80

		rule of law(ICRG)		
Remmer(2004)	Aid/GNI, Aid/government expenditures, Aid/imports	Government size: government expenditures/GDP	Population, population % aged 65 and over, Exports and Imports/GDP, GDP per capita , Government revenues/GDP, Debt service /exports.	1970 -1999, N=120
Rajan and Subramania. (2007)	Investment protection (ICRG), Aid/GDP, Technical aid/GDP	Governance dependent industries: Annual avg. rate of growth of value added of industry	Initial industry share, SW trade policy (Sachs and Warner)	1981 -1990, N=811
Kim (2011)	Net ODA total, Net ODA total/ Technical cooperation, Net ODA total -Technical cooperation	Governance: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption	GNI per capita, Resource production, FDI, Government expenditure	1999 -2009, N=70

		(WGI)		
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3. Corruption

i. Definition

The principal–agency theory suggests that public officials are agents who work for people and the country. In spite of the undeniable fact, corruption of the agents takes place in public sector. The meaning of corruption is used in different contexts. In general, corruption refers to taking advantages of public office for private gains, in which an agent handling a task by the principal engages in malfeasance for private unfair profits. Corruption is hard to monitor for the principal(Bardham, 1997:1321).

The public choice model asserts that government officials pursue their own interests and rents rather than public interests(Buchanan and Tullock, 1962; Kruger, 1974). Competition in licensing mechanism and allocating resources spurs corruption in public sector. Competition can also occur through allocating ODA resources for influencing the probability of license allocations. In many cases, the licensing mechanism is less systematic in that government officials decide on license allocations(Kruger, 1974:292). Public officials put their private interests ahead of those of their principals(Fukuyama, 2004:66).

The government in many developing countries cannot afford

to pay for plenty of money for payroll cost due to a tight budget. Consequently, low salaries of public officials lead them to choose corrupted behaviors. That is to say that low salary fuels corruption. When corruption is prevalent across the public service as institutionalized ways, it then breeds greed(Mujungu, 2015:123)

Corruption enfeebles the rules and principles of the public organization. A bribe a public official accepts is not always the compensation for their works. Personal gains to pursuit private interests are not necessary for performing jobs, or are not essential by-products of performing the work duties(Thompson, 2000:155). Corruption implies decay, degeneration and disintegration. It makes the original condition of something becomes infected(Euben, 1989:4-5).

It has been remarked for a long time that corruption is a major problem in foreign aids. Behaviors of political or administrative elites have influences on government-led developing strategies in developing countries(Chung, 2011:666). Besides, foreign aids bolster corrupt government by providing them with freely available resource. Corruption encourages business to operate in the unofficial sector in violation of tax and regulatory laws and lower the effectiveness of industrial policies(Rose-Ackerman, 1999:2). The vicious cycle of foreign aids takes a heavy toll on economic failure in the poverty ridden aid-dependent countries(Moyo, 2009:49).

When politicians or public officials pursue private interests, they are accessible to bribery which interferes with social welfare in the long run(Chung, 2011:663). Endemic corruption derives from

contracts in public sectors. It is widely known that monitoring behaviors of public officials is difficult(Fukuyama, 2004:75) while making and performing a contract. A huge amounts of ODA resources are being allocated to developing countries for the type of project. A serious problem for the resources is that monitoring and assessing the exact value of projects is convoluted. The bigger project means the greater opportunities for bribes and diverting funds. Thus, it provides opportunities for corruption to public officials. As a result, it ensues lower-quality of infrastructure projects, and enfeebled public services that is deleterious to growth(Moyo, 2009:51).

For these reasons, various international organizations try to measure the degree of corruption in public and private sectors. For example, Transparency International Global Corruption Barometer Survey, Global Integrity Index, and WGI's control of corruption are widely used to measure corruption in a country and compare them across different countries.

ii. Sanders or greasers?

There have been conflicting views and perspectives on whether corruption is the 'sanders' or the 'greasers' to development(Aidt, 2009). Some scholars have asserted that corruption greases the wheels of economic growth and improves bureaucratic efficiency(Aidt, 2009; Bardham, 1997; Mauro, 1995). The advocates of corruption explain that 'speed money' paid by business people to public

officials dispatches bureaucratic delay(Aidt, 2009:273), and bribes work harder.

Tavares(2003) provided evidence on whether foreign aid increase corruption. The findings of the empirical research validated that foreign aid decreases corruption. He explained that foreign aids might inhibit public officials in recipients from enjoying discretion. Concerning the reason aid decreases corruption, he presented that foreign aids may limit the discretion of officials and it may alleviates the shortage of public revenue. Likewise, Okada and Sarmreth(2012)'s study about the relationship between foreign aids and corruption also illustrated that foreign aid contributes to lessening corruption, especially, in countries with lower levels of corruption.

Meanwhile, the prevailing view is pessimistic at corruption which views corruption as the sander of the wheels of development. Corruption is regarded as a serious problem in nearly every country, but corruption in the process of dealing with ODA is taken into consideration of a critical point that hinders economic development in recipient countries. Concerning the interminable debate whether or not corruption cause aid fatigue, Mauro(1995) illustrated that there are adverse relationships of corruption with investment and economic development through the empirical study. To be specific, if the integrity of bureaucracy improved, its rate of investment would rise almost five percentage point, and it leads to GDP growth. Knack(2001)'s study also provided robust evidence that foreign aids may increase corruption in recipients.

De Vaal and Ebben (2011) took the institutional framework into account the relationship between corruption and economic growth. The variables to examine the degree of institutional effects were political stability and property rights. They proved that the effect of corruption on economic growth is reliant upon the institutional settings of a country.

The research of Bauhr, et al.,(2013) investigated the influence of corruption on support for foreign assistance. They claimed that corruption in recipients can cause aid fatigue of donors, but it depends on fundamental beliefs about the role of foreign aids; moral, pragmatic and strategic understandings. They identified that better understandings of those three beliefs have an impact on aid fatigue.

Table 4. Research on aid and corruption

Author	Independent Variable	Dependent Variable	Control Variable	Unit of analysis
Mauro (1995)	Bureaucratic efficiency, political stability, corruption	Investment /GDP, Per capita GDP growth	Primary and Secondary education, Population growth, government expenditure, and etc.	1960 -1985, N=58
Tavares (2003)			Log GDP per capita at the beginning of the	

	International aid as a share of GDP (World Bank, 1998)	corruption as reported by international consultants (ICRG, 2001)	5-year period, political rights, ethno-linguistic fractionalization, oil exporter, population, government expenditure/GDP, ever a colony dummies, region, legal origin, religions(% of individuals)	5 year avg., N=184
Okada and Sarmreth (2012)	Aid Total	Corruption: Control of Corruption, Corruption Perception Index	Log GDP per capita, Democracy, British legal origin	1995 -2009 (5 year avg.), N=120

4. Government competitiveness

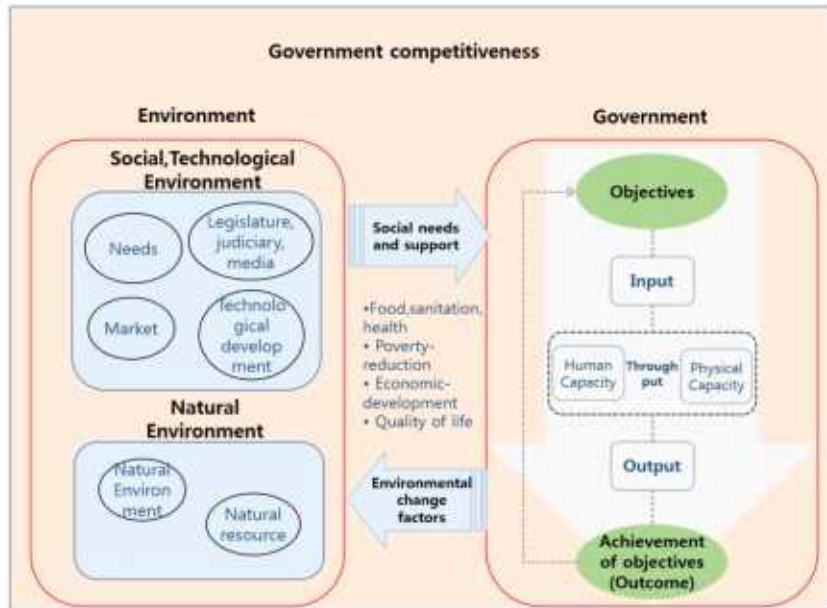
i. Definition

The concept of Government Competitiveness(GC), according to Ho and Im (2012:13), is defined as “the power of government to, in light of various constraints, take resources from in and outside of the country and improve social, economic and cultural conditions of the

nation in order to sustainably enhance citizens' quality of life and bring the future to more desirable ways." The fundamental theoretical frameworks of the concept of government competitiveness are Easton's system theory, Fukuyama's state function theory, and Maslow's hierarchical needs theory.

Eastons' system theory divides the working process in a government into four stages; input, throughput, output, and outcome (Easton, 1965). Utilizing resources from social, technological, natural environment, a government performs throughput and produces outputs and outcomes. Outcomes produced by these processes provide feedbacks to inputs again. The circulation process is repeated unremittingly. Given putting these four stages into ODA process, influx of ODA funds is input. Outputs may be hospital establishments, road constructions, internet network constructions, and so on. The ultimate goals of the ODA is to make outcomes with economic and social development of recipients. During these processes, central and local governments in recipient countries should play important roles on improving throughputs, that is, implementing development-oriented policies and managing resources from donors.

Figure 1. Research scope of government competitiveness

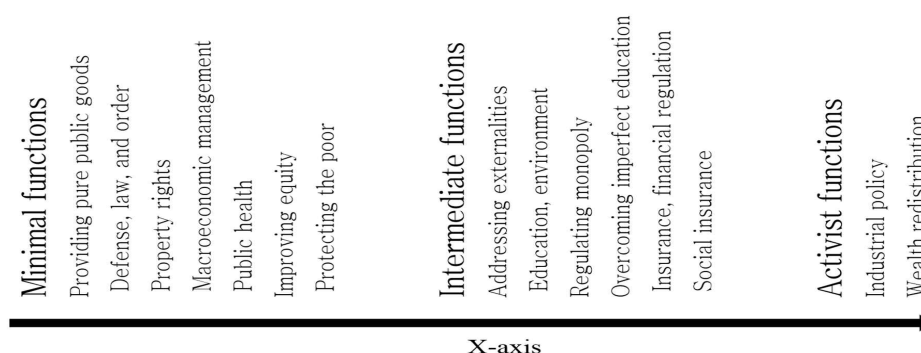


Source: Im, et al.(2014:122)

Fukuyama(2004) considers building a strong state as a prerequisite condition for economic growth. He has an emphasis on the stateness, insisting that “before you can have democracy or economic development, you have to have a state(Fukuyama, 2004:84).” The World Bank made a list on functions of the state in the world development report in 1997, and divided the nation’s functions into three stages: minimal, intermediate, and activist functions. Fukuyama arrayed them along an X-axis as indicated by figure 2. It is possible to array countries along this X-axis depending on the most ambitious types of functions their governments seek to accomplish(Fukuyama 2004:12). In terms of Y-axis, the extant of state capacity may vary

across different countries. The concept of government competitiveness take these various functions of a state as policy sectors that government should pursuit at different points along the axis. To illustrate, the most competitive government can manage whatever the functions are, whereas the least competitive government manages merely minimal functions even if policy demands of people for social insurance or wealth redistribution are getting higher.

Figure 2. Scope of state functions



Source: Fukuyama(2004:11)

According to Maslow(1970)s' hierarchy of needs, it is most likely that the physiological needs would be a major motivation rather than any other motivations. A person who is lack of food, safety, love, self-esteem, and self-actualization needs would most probably hunger for foods more strongly than for anything else(Maslow, 1970:37). In this regard, the concept of government competitiveness takes account of the needs of people in a country. In case of the least developed countries(LDC), hunger, nutrition, and sanitation are the best needed

policy sectors. Therefore, the assumption of government competitiveness based on hierarchical needs theory is that satisfying basic needs, physiological and safety needs on food, drinking water, health, and safety shelter are the top priority for the government in developing countries. It is exigent and imperative for the government in developmental states to satisfy the basic human needs. As national income increases with improving standard of living, citizen's needs become more complex and sophisticated. In other words, self-fulfillment needs for citizens should be taken into consideration as developing country become developed. At that point, market functions play a substantive role, however the government still seeks to accomplish state functions at minimal levels such as defense, law, providing pure public goods and general welfare. This is the fundamental reason a government exists.

Based on three theories mentioned above, the rankings of Government Competitiveness(GC) index developed by the center for government competitiveness were reported in 2013 and 2014. The rankings are measured by two groups of 34 OECD member countries and non-OECD countries. Non-OECD countries include developing countries, South Korea and a few high-income countries. The GC index for OECD countries encompasses 10 policy sectors. These policy sectors are supposed to satisfy citizen's needs; economy, education, health & welfare, agriculture & food, governance, R&D, information & communication technologies, and energy & environment, culture & tourism, and disaster management(Im, 2014; Im, 2015).

Meanwhile, policy sectors for appraising GC between non-OECD countries are different from the GC evaluation system for OECD countries. The rankings for non-OECD countries are measured by inputs and outputs of six policy sectors; economy, education, health & welfare, agriculture & food, energy & environment, and information & communication technologies due to underdevelopment of the market. Instead, the administrative capacity of government and comprehensive activities of the government are included. After evaluating rankings for four stages of the working process in a government, total rankings for governments are computed using the scores in each of rankings. Policy sectors for evaluating competitiveness in non-OECD countries are far from key policy sectors for OECD countries, such as culture & tourism, R&D, and disaster management, are excluded in measuring non-OECD rankings. Since markets and civil society in developing countries have less developed than developed OECD member countries, it is inevitable that the government of developing countries plays a bigger role than its own markets or civil society(Im, 2015:100).

Policy sectors for evaluating government competitiveness of developing countries are not much different from UN's Sustainable Development Goals(SDGs)³⁾ that are a proposal for international development subsequent to Millennium Development Goals(MDGs). For

³⁾ Sustainable Development goals(SDGs) are one of the main outcomes of the Rio+20 Conference. The Rio+20 was the agreement by member states to launch a process to develop a set of SDGs, which will build upon the Millennium Development Goals(MDGs_ and converge with the post 2015 development agenda(<http://sustainabledevelopment.un.org>).

instance, the second SDGs' goal claims to end hunger, achieve food security and improved nutrition and promote sustainable agriculture. It can be measured by the inputs and outputs of agriculture & food sector from the perspective of government competitiveness. Also, SDGs evince a desire to achieve goals regarding health, education, energy, environment, and economy. GC index also covers these policy sectors to measure government competitiveness of developing countries. In particular, it seems that the SDGs' 16th and 17th goal are highly associated with the competitiveness of a government in developing countries in that it places an emphasis on building effective, accountable and inclusive institutions as well as the means of implementation.

From the Fukuyama's standpoint, a government should perform appropriate functions and roles to accomplish its goals. Accordingly, GC index categorizes the role of government into four stages: input, throughput, output, and outcome adopting Easton's system theory. Each stages and areas are calculated using soft and hard data from various international organizations and research institutes such as UN, World Bank, UNESCO, BTI, Transparency International, and etc.

ii. Empirical studies on government competitiveness

As the government competitiveness is a macro concept which embraces several policy sectors and four stages founded on

Easton's system theory, the research areas on the government competitiveness are various. Hence, researches from the perspective of the government competitiveness have been conducted at various levels.

To put the concept of government competitiveness into further perspective, some researches were carried out on investigating ways to increase government competitiveness at organizational levels. For example, researches on PSM, turnover intention, organizational reforms, social trust, and informal organizations have been conducted from the perspective of government competitiveness. These studies focused on the throughput in a government, which is the narrowest sense of the government competitiveness.

Some cross-country researches on the competitiveness of different states have been conducted at the country level. A cross-country study conducted by Cho, et al(2013a), analyzed relationships between characteristics of the Weberian model of bureaucracy and government performance. In order to perform analysis, the paper used data of the government effectiveness from World Bank, and ICRG's quality of government indicator. The result of the research substantiated that the Weberian characteristic of bureaucratic professionalism is strongly and positively associated with government performance in less democratic countries. Im et al.(2013) conducted a meta analysis of development studies to shore up the basis for future studies on developing countries. The meta study analyzed key-words in the articles published in a representative development-related journal. The networks of texts in the analysis pointed out that

research interests about development are changed over time period studied from 1997 to 2012.

Jin(2014) computed the efficiency of local governments in China in the perspective of local government competitiveness at the local government level. In the first stage of analysis, she measured overall efficiency scores of 31 local governments in China using Data Envelopment Analysis(DEA) from the six public service categories; transportation, sanitation, education, culture, environment, and urbanization. In the second stage of the study, she carried out regression analysis to explore what factors have influences on efficiency scores using the efficiency scores measured through DEA. The results of the analysis illustrated that the smaller size of local government is more efficient than the bigger size of government.

Furthermore, Cho, et al(2013b) measured government competitiveness of OECD countries by collecting indicators reported by international institutions. Starting from this research, Im(2014) determined ranks of different factors of competitiveness in policy sectors for 34 OECD countries. In the following year, 2015, Im(2015) reported GC rankings for 60 non-OECD countries as well as 34 OECD countries. According to the 2015 GC rankings, U.S. government is ranked the most competitive over other OECD countries. Singapore is ranked in the first place among non-OECD countries. The government competitiveness ranks of both OECD and non-OECD countries are identified in table 5.

Table 5. Government Competitiveness Ranks

Rank	OECD		Non-OECD		Rank	OECD		Non-OECD	
	Country	Score	Country	Score		Country	Score	Country	Score
1	USA	0.650	Singapore	0.705	31	Slovakia	0.344	Indonesia	0.473
2	Netherlands	0.620	Korea	0.668	32	Greece	0.308	Ghana	0.469
3	Sweden	0.619	Lithuania	0.619	33	Turkey	0.300	Kuwait	0.466
4	Finland	0.609	Uruguay	0.602	34	Mexico	0.264	Guatemala	0.455
5	Norway	0.602	Costa Rica	0.590	35			Ecuador	0.455
6	Switzerland	0.587	Qatar	0.587	36			Honduras	0.451
7	Denmark	0.587	Latvia	0.577	37			Philippines	0.449
8	UK	0.575	Malaysia	0.564	38			Paraguay	0.447
9	Germany	0.574	Croatia	0.560	39			Senegal	0.440
10	New Zealand	0.569	Georgia	0.554	40			Bolivia	0.434
11	Australia	0.565	Tunisia	0.548	41			Egypt	0.433
12	Canada	0.555	Bahrain	0.545	42			Kenya	0.429
13	Luxembourg	0.550	Brazil	0.538	43			Cambodia	0.425
14	Iceland	0.548	Thailand	0.523	44			Tanzania	0.424
15	Japan	0.543	Colombia	0.519	45			East Timor	0.423
16	France	0.521	Oman	0.519	46			Uzbekistan	0.418
17	Austria	0.517	Kazakhstan	0.516	47			Zambia	0.416
18	Korea	0.516	Rwanda	0.512	48			Uganda	0.412
19	Belgium	0.512	Mongolia	0.508	49			Ethiopia	0.411
20	Ireland	0.503	Vietnam	0.508	50			Nepal	0.405

21	Israe	0.479	China	0.503	51	Laos	0.394
22	Estonia	0.470	Sri Lanka	0.502	52	Mozambique	0.393
23	Spain	0.429	Argentina	0.501	53	Algeria	0.390
24	Portugal	0.406	El Salvador	0.495	54	Burkina Faso	0.381
25	Slovenia	0.404	Azerbaijan	0.485	55	Bangladesh	0.373
26	Italy	0.385	India	0.478	56	Mali	0.367
27	Czech	0.382	Peru	0.478	57	Pakistan	0.353
28	Chile	0.379	Ukraine	0.478	58	Cameroon	0.347
29	Hungary	0.361	Morocco	0.477	59	Nigeria	0.320
30	Poland	0.353	Russia	0.475	60	D.R.Congo	0.250

Han(2014) also developed an index of government capacity and presented government capacity ranks with 60 non-OECD countries. His measurement used two factors –human resource and physical capacity– and 17 indicators such as management performance, corruption perceptions index, fiscal policy, and etc. Han’s research to measure government capacity focused only on the throughput of the Easton’s system theory, whereas the government competitiveness ranks fully adopt the four stages of the systems theory.

III. Research design and method

1. Research question

The research question for this study is, “Is dependence on ODA related with the government effectiveness in developing countries? if so, is the effect negative or positive?” Prior studies on the impact of foreign aids tried to prove the relationships with growth, corruption, or governance. On the other hand, this study is an attempt to focus only on ODA the perspective of the government. While it is admitted that good governance is a key factor in ensuring development, above all, this study presumes that the role of government is considerably important. Therefore, the first assumption of this study is that when more ODA resources flow into the government budget, the government of a developing country may lose motivation to work effectively and efficiently. Namely, this study will assume the dependence on ODA is negatively linked to the government effectiveness.

Besides, this study assume that corruption mediates the causal relationship between dependence on ODA and the government effectiveness. The second assumption for this study is that the more ODA flows into the government expense, the more government effectiveness is impeded by pursuits of self-interests rather than public interests and rent-seeking behaviors of public officials.

2. Variables

i. Dependent Variable

The concept of government competitiveness postulates that when a government has the power to take resources in a variety of constraints and make changes in social, economic and cultural conditions through their conversion capacity, the government is a highly competitive over other governments. ODA is resources the government can utilize. The recipient governments should perform effectively to eradicate poverty and attain national development goals using the ODA grants and loans.

At this point, improving the effectiveness of the government in developing countries should be considered one of the most important aspects to attain development goals because the government is the main agent of ODA. When government in the developing world has the capacity to manage ODA resources effectively, the aid effectiveness can also be improved. Therefore, the causal link between dependence on ODA and government effectiveness will be investigated in the study.

A dependent variable used for this research is the World Bank's government effectiveness indicator which is one out of six dimensions of WGI. Since the focal point of the study is the role of government in developing countries, government effectiveness indicator will allow me to distinguish a government from the governance that includes the effect of civil society.

The government effectiveness indicator captures perceptions of the quality of public services, the quality of civil service, independence

from political pressures, and policy formulation and implementation. The credibility of the government's commitment to policies is also measured in the indicator(Kaufmann, et al, 2011:18). The government effectiveness indicator is scaled from 0 to 100. The lowest level of government effectiveness is represented by the zero score, by contrast, one hundred score means the highest level of government effectiveness.

ii. Independent variable

The World Bank annually announces aid dependency ratios in the World Development Indicators(WDI). The aid dependency ratio consists of net official development assistance as a percentage of GNI, gross capital formation, imports of goods, services and primary income, and central government expenditure. Since the key point of this study is the leading role of the government, as an independent variable, net ODA as a percentage of central government spending will be used to capture the dependence on ODA.

Dynamic changes in a government surrounded by changing environments are a critical point to evaluate competitiveness of the government. The region, in which a country is located, is closely associated with social, technological, and natural environment which influences on a government. Moreover, a government should lead positive changes in environmental factors during the working process of four stages in Easton's system theory. Even though ODA funds

flow into a developing country in the input stage, it is difficult in reality for a developing government to generate output in a year. For instance, in order to enhance statistical capabilities of a government, it is required to construct the internet network as well as educate public officials. Since many developing countries suffer from a dearth of infrastructure facilities, it takes time to step up output in a year. Hence, given that normally the fiscal year ends in a year, this study will use one-year lagged ratio of ODA to central government expenditure.

iii. Control variable

This study controls for other variables that might have influences on the degree of government effectiveness. Control variables in this study are the logarithm of the gross domestic product(GDP) growth rate, the logarithm of population, government spending as a percentage of GDP, foreign direct investment, and trade as a percentage of GDP, in addition to year and regional dummy variables.

Since this study aims to estimate the impact of ODA for developing countries, economic growth rate may be more significant than gross domestic product per capita. GDP growth rate represents the change of economic development in comparison with the previous year. The primary goal of ODA is to make changes in economic and social conditions of developing countries, so controls for the GDP growth rate are included. The analysis also takes population and

government expenditures into consideration because these tends to respond to demographic factors. The natural logarithms of GDP growth rate and population will be used to minimize the effect of extreme values.

Trade openness, the sum of exports and imports of goods and services measured as a share of GDP, is controlled for the regression because the positive correlation between openness to international trade and government size was demonstrated(Rodrik, 1996: 1028). Similar to trade openness, a positive influence of foreign direct investment(FDI) on governance is also considered since foreign investors might lobby for improvements in governance(Busse and Groning, 2009:3). The data is obtained from World Development Index(WDI).

The concept of the government competitiveness takes time and and space into account for the analysis of a government. In order to control for time and space, year dummies and regional dummies are included in the regression models. Regional dummy variables enable me to control the effects of unmeasured regional heterogeneity. The sample of 82 countries is split into six regional groups to generate dummy variables representing East Asia & Pacific, South Asia, Middle East & North Africa, Sub-Saharan Africa, Europe & Central Asia, Latin America & Caribbean. This analysis also takes into account year dummy variables to control time-bound effects that may affect the effectiveness of a government.

iv. Mediating variable

The mediating variable is measured by the World Bank's control of corruption indicator which is one of the six clusters of WGI. When it comes to measuring the effect of corruption, previous researches use disparate indices such as the World Bank's control of corruption, Corruption Perception Index(CPI) presented by Transparency International(TI) and Freedom from Corruption reported by Heritage Foundation(HF), and control of corruption from the World Bank's WGI.

However, this study uses the World Bank's control of corruption indicator. This is because the control of corruption indicator has the advantage of evaluating corruption focusing on the public sector rather than private sector. According to the official explanation for the WGI, control of corruption indicator captures perceptions of the degree to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests(Kaufmann, et al, 2011:18). And what's more, control of corruption indicator evaluates the capacity to 'control' of corruption. Thus, it satisfies the assumption in the study that corruption controlling may have a positive effect on the government effectiveness. In addition, on the contrary to other governance indices that integrate government or governance and corruption, WGI separates out the government effectiveness indicators and the control of corruption indicators with the same methodology.

Using this indicator will enable me to analyze the mediating role of the control of corruption on the government effectiveness. The control of corruption index is also scaled from 0 to 100 as same with the scales of the government effectiveness index. If a country gets a score of 100, it means that the capacity to control corruption in the country is the highest level.

In the first step of the study, the analysis of the relationship between dependence on ODA to government expense and government effectiveness is examined using pooled OLS(Ordinary Least Squares). Afterwards, the mediating role of the capacity to control corruption will be verified by using Baron & Kenny's steps as well as the Sobel's test.

Table 6. Variables

Variables	Operationalization	Indicator	Source	Period
Dependent Variable: Government Effectiveness	Quality of public services independence from political pressures, policy formulation and implementation	Government Effectiveness	The World Bank: The Worldwide Governance Indicators (WGI) 2014	'05-'13
Independent Variable: ODA	Aid dependence on government expense	Net ODA received % of central government expense(t-1)	OECD DAC & World Bank	'04-'12

Mediating Variable: Corruption	Frequency of corruption among government officials, irregular payments in public contracts and taxation, etc.	Control of Corruption	WGI (2014)	'05-'13
Control Variables	Logged GDP growth rate (annual %)		World Development Indicators(2014)	'05-'13
	Logged population		WDI (2014)	'05-'13
	Foreign Direct Investment		WDI (2014)	'05-'13
	Trade openness(% of GDP)		WDI (2014)	'05-'13
	Government expense(% of GDP)		WDI (2014)	'05-'13
Dummy Variables	Year			'05-'13
	Region: East Asia & Pacific(0), South Asia(1), Middle East & North Africa(2), Sub-Saharan Africa(3), Europe & Central Asia(4), Latin America & Caribbean(5)			

3. Method

Using the fixed-effects model is useful to control for impact or bias of the independent or dependent variables, and to reflect time specific effects within the individuals. The fixed-effects model is to analyze the impact of variables that vary over time(Baltagi, 2001:5-9).

Notwithstanding these advantages of the fixed-effects model, the fixed-effects model cannot be applicable for this study because the government effectiveness indicator is based on perceptions data, taken from surveys of households and firms as well as expert assessments produced by various organizations(Kaufmann, et al., 2011:18). In fact, if the WGI data set is looked in detail, year-to-year variations in the WGI score are negligible. Hence, though the data set is a panel data covering 82 countries in 2004-2013, the hypotheses for this study will be tested through pooled OLS(Ordinary Least Squares) estimation due to the limitation of data.

In the first step of analysis, control variables such as GDP growth rate, population, FDI, trade openness, and government expense will be added hierarchically. If the coefficients of the independent variable are constantly significant even if control variables are included in regression models, the robustness of the relationship in the regressions is checked. The second step of the analysis will test mediating effects of control of corruption. To determine the mediating relationship between the independent variable and the dependent variable, three more regression models will be estimated: first, regressing the mediator on the independent variable in model 6(path A); second, regressing the dependent variable on the mediator in model 7(path B); and in model 8(direct effect), lastly, regressing the dependent variable on both the independent variable and on the mediator(Baron & Kenny, 1986:1177).

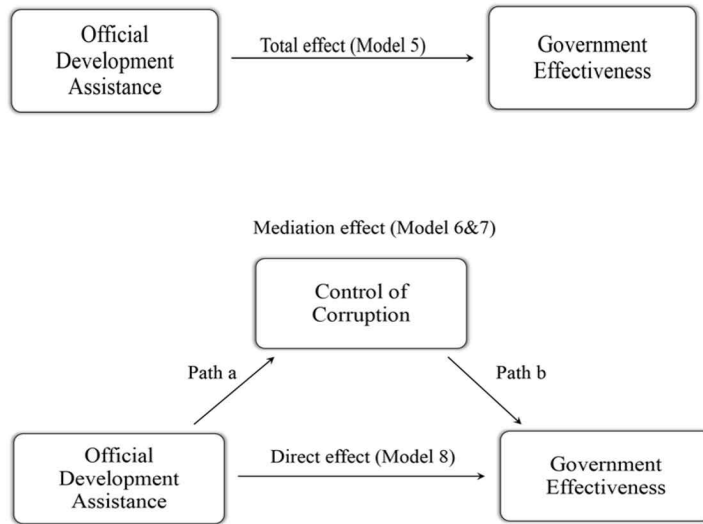
Model 5 testifies total effects, and Model 6 and Model 7

explore indirect (mediation) effect. If the model 8 indicates there is no longer a significant direct effect, the mediating variable perfectly mediates relationships between independent and dependent variables. Meanwhile, if there is a significant with controlling for the mediator in model 8, and the coefficient of the independent variable in model 8 is smaller in absolute value than the coefficient in model 5, the mediator partially mediates the causal relationship between independent and dependent variables (Baron & Kenny, 1986; Rucker, et al, 2011)

If the proportion of ODA to government expenditure affects the control of corruption in the model 6 (Path a), the proportion of ODA to government expense affects the government effectiveness in model 5 (path b), and the control of corruption affects the government effectiveness in model 7 (Path b), the mediating relationship is established. If the coefficient of aid dependence to government spending on the government effectiveness is smaller in the model 8 than in model 5 or there is no effect when the mediator is controlled, then mediation holds.

Moreover, lastly, the Sobel's test will be analyzed to test if a mediating variable carries the impact of an independent variable to a dependent variable. Thus, the Sobel's test will verify if control of corruption variable mediates between ODA and the government effectiveness. Statistical analysis for both pooled OLS and the Sobel's test is carried out using Stata 13.

Figure 3. Research models



IV. Result and analysis

1. The ODA-government effectiveness relationship

Table 7 shows summary statistics for basic sample use in the analyses. The data set covers 82 recipient countries from 2004 to 2013. For each variable, mean, standard deviation, minimum, maximum and the number of observation are illustrated in the table 7. The log form

of GDP growth rate and population are used in the empirical analysis.

Table 7. Descriptive statistics

Variable	Mean	Std.Dev.	Min	Max	Observations
Government effectiveness (Govef)	39.116	20.313	0.000	86.890	818
ODA/gov't exp ($t-1$) (ODA/gov't ($t-1$))	30.750	40.322	0.004	229.654	554
Cnt'l of corruption (CoC)	38.342	21.506	0.000	85.650	820
log GDP growth rate (Log grth)	1.557	0.736	-2.719	3.541	736
log population (Log pop)	15.804	2.011	11.161	20.948	820
Government expense/GDP (Govexp)	21.873	9.032	0.025	70.058	571
Trade openness (Trd)	84.859	36.131	22.000	224.000	795
Foreign Direct Investment (Fdi)	-1.90E+09	5.99E+09	-6.81E+10	1.32E+10	677

Table 8 represents the correlations between variables. Most of correlations between variables are quite robust with one another at the 1% significant level except for the relationships of GDP growth rate with government expense/GDP, trade openness, foreign direct investment, and the correlation of government expense and foreign direct investment. The correlation coefficient in the data set between one-year lagged the proportion of ODA to government expenditure and the government effectiveness is -0.4568 at the 0.01 significant level. All of the variables, not only independent variable but also control variables, are correlated with the dependent variable, government

effectiveness, at the 0.01 significant level. Even though the correlations found to be significant, it cannot be interpreted that a variable has an impact on another variable. Regression analysis should be carried out in order to analyze the size of influence between independent variables and dependent variable.(Ko, 2014:269).

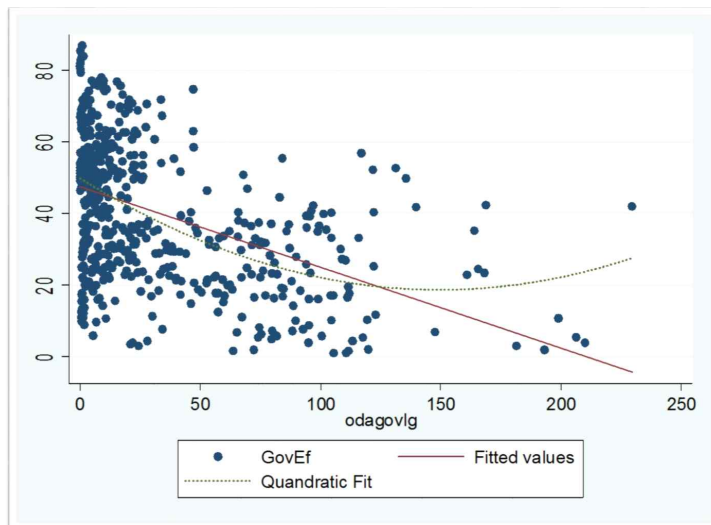
Table 8. Correlation

	GovEf	ODA/gov't (t-1)	CoC	Log grth	Log pop	Govexp	Trd	Fdi
GovEf								
ODA/gov't (t-1)	-0.4568*							
CoC	0.8247*	-0.3053*						
Log grth	-0.1063*	0.1875*	-0.1679*					
Log pop	-0.2614*	0.0885*	-0.4618*	0.1522*				
Govexp	0.2455*	-0.3796*	0.2708*	-0.0685	-0.2453*			
Trd	0.2060*	-0.2574*	0.1965*	-0.0123	-0.4904*	0.3231*		
Fdi	-0.0991*	0.1567*	-0.0790*	0.0449	-0.3427*	-0.0664	0.2542*	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: *p < 0.05

Figure 4 below shows the negative correlation between the proportion of ODA to government expense and government effectiveness with fitted values and quadratic fit values. Though it seems that the values of ODA variables are equal to zero in most of observations from the graph, the values of ODA variables are, in fact, distributed at different points.

Figure 4. Correlation between the ratio of ODA to government expense and government effectiveness



As variables added in the regressions, in general, multicollinearity problem arises. Multicollinearity depends on the existence of an correlation in the data set. In order to test multicollinearity, VIF(variance inflation factor) is tested in the regression models of the study. If VIF values of an independent variables are close to 1, there is a less multicollinearity problem.

Otherwise, if VIF values are higher than 10, multicollinearity problem is in doubt.

In the regression models from model 1 to model 8, the range of VIF is from 1.05 to 3.74. Even if VIF values of each of variables are lower than 10, the model is not safe from multicollinearity when values of mean VIF exceed 10. However, the range of mean VIF values in the regression models in this study is from 1.14 to 2.14. Therefore, it can be regarded that multicollinearity did not pose a problem in this analysis.

The R-squared and the F-test give information about the goodness of fit of regression models. The R-squared measures how much the variance in the model is explained by the fit (Ko, 2014:345). As indicated by table 9 and table 10, the value of R-squared is ranged from 0.2087 to 0.7687. In other words, 20.87% of variance is explained in model 1, and the explanatory power for model 8 is 76.87% of the variance. The F-test evaluates the null hypothesis that assumes homogeneity of variances. The values of F-test in the regressions from 1 to 8 are 0.000. For this reason, it can be said that the fit of model is reliable.

The five models are analyzed to substantiate the hypothesis that aid dependence of government expense is negatively linked with the improvement of government effectiveness. Model 1 regresses the government effectiveness with no control variables. The second model considers socioeconomic variables; the logarithm of the gross domestic product (GDP) growth rate, the logarithm of population and government

expense as a percentage of GDP to respond to demographic factors. In the third model, foreign direct investment and trade openness as a percentage of GDP are added to the previous model. Model 4 includes year dummies, and regional dummies are added in the Model 5. Model 5 identifies total effect to test mediation effects.

The results of the regressions from Model 1 to Model 5 demonstrate that the effect for lagged ODA to government expenditure is statistically significant at the 0.01 significant levels. Overall, the coefficients of ODA to government expenditure variable demonstrate negative effects no matter what control variables are included step by step. Thus, the impact of ODA on the government effectiveness is always negative and robust to five different regression models.

In addition to the percentage of ODA to government expenditure, the population also becomes statically significant at the significant level of 0.01 in the models from 2 to 5 and the directions are consistently negative in the four equations. The results indicate that not only dependence on ODA to government expenditure, but also population in a country is negatively linked to government effectiveness. That is, a government with large population is likely to be less effective than a government with small population in developing worlds.

In model 3, trade openness and foreign direct investment variables are added to model 2. While trade openness is not found to be statistically significant, foreign direct investment is significant at the 0.05 significant level. Year dummies are added in model 4,

however, none of coefficients are significant. In model 5 which includes both regional and regional dummies, year dummies have no significant impact on the government effectiveness except for 2011 at the 0.05 significant level. When regional dummy variables are added in model 5, regional dummies are statistically significant in all regions, except for Region 2(Middle East & North Africa), and the direction of the coefficients is negative. Table 9 below presents the effect of dependence on ODA to government expenditure on the government effectiveness from five model specifications.

Furthermore, additional analysis separates aid dependence on ODA into two groups of more than 50 percentile(11.916) and less than 50 percentile in ODA dependence rate to check the difference in the effect of the amount of ODA to government expenditure. Both groups are statistically significant at 1 percent significant level. In the more than 50 percentile group, the ODA dependence has a significant negative impact on government effectiveness. Another group, less than 50 percentile, was not statistically significant, but the direction of ODA on government effectiveness remains negative.

Table 9. Results of pooled OLS

Dependent Variable: Government Effectiveness		Model 1			Model 2			Model 3			Model 4			Model 5		
		β	t	VIF	β	t	VIF	β	t	VIF	β	t	VIF	β	t	VIF
Independent Variable	ODA/gov't (<i>t</i> - 1)	-.226**	-12.07	1	-.200**	-9.45	1.18	-.195**	-8.34	1.18	-.196**	-8.29	1.29	-.0219**	-8.49	1.62
Control Variables	Log grth				1.026	.92	1.05	1.207	1.03	1.05	.818	.65	1.24	.513	.41	1.28
	Log pop				-2.204**	-4.86	1.11	-3.026**	-5.36	1.64	-2.983**	-5.23	1.66	-3.724**	-5.72	2.28
	Govexp				.060	.58	1.24	.023	.22	1.31	.025	.23	1.33	.049	.41	1.7
	Trd							-.028	-.98	1.67	-.030	-1.02	1.69	-.067*	-2.08	2.15
	Fdi							-3.66E-10*	-2.42	1.23	-3.63E-10*	-2.37	1.24	.000**	-2.79	1.32
Year Dummies	2006										-2.352	-.66	1.84	-1.814	-.52	1.84
	2007										-2.274	-.65	1.9	-1.841	-.54	1.91
	2008										-2.102	-.6	1.9	-1.570	-.46	1.91
	2009										-5.557	-1.42	1.73	-6.611	-1.73	1.75

	2010										-2.284	-.67	1.99	-2.217	-.67	2.00
	2011										-2.667	-.78	2.03	-2.474	-.74	2.06
	2012										-2.949	-.80	1.83	-3.409	-.95	1.85
Regional Dummies	1													-8.560*	-2.1	2.32
	2													.019	.00	2.22
	3													-6.030	-1.8	3.61
	4													-15.020*	-3.91	2.60
	5													-10.820*	-2.80	3.74
Constant		47.506**	.95		78.495**	9.37		94.011**	8.5		96.474**	8.54		119.517	8.38	
Mean VIF		1			1.14			1.37			1.67			2.12		
R-squared		.2087			.2500			.2487			.2526			.3026		
Adj R-squared		.2073			.2429			.2374			.2278			.2701		
F		.000			.000			.000			.000			.000		

Note: *p < 0.05, **p < 0.01

2. The mediating effect of corruption

It was proved that total effect of the analysis which is the causal relationship between aid dependency on government expenditure and the government effectiveness without the mediator is significant in previous five regression models. Since a significant coefficient of total effect is a necessary condition for testing mediation (Rucker, et al., 2011:361), the analysis meets the condition of total effect. In the next step, the indirect (mediation) effect and the direct effect are tested with Baron & Kenny's four steps to check the mediation impact.

Model 6 and model 7 test the mediation effect, and model 8 tests the direct effect that the mediator is added to the model of total effect. Model 6 views the control of corruption as if it were a dependent variable. Model 6 presents that ODA affects control of corruption with the coefficient of -0.158 and highly significant. The same control variables from model 5 are included in both model 6 and 7 to make the condition of the equations equal. The coefficients of population and trade openness are statistically significant with negative relationship, on the other hand, the results of government expense and foreign direct investment shows positive relationships with control of corruption. Year and regional dummies are not statistically significant apart from region 4; Europe and Central Asia.

The positive impact of corruption control on the government effectiveness is also estimated in model 7. The coefficient value of

control of corruption is 0.846 at the 0.01 significance level. Population and trade openness in the model 7 are found to have positive impacts on improving government effectiveness and statistically significant at the 1 percent confidence level. With regards to dummy variables, although year dummies are statistically insignificant, the impacts of regions in Sub-Saharan Africa, Europe & Central Asia, and Latin America & Caribbean have statistically significant negative relationship with government effectiveness.

Model 8 checks the direct effect of corruption control. The lagged ODA dependence retains a negative relationship to the government effectiveness with controlling the mediator, control of corruption, and the estimated effect is statistically significant at 0.1 confidence. However, not only the significance of the coefficients but also their absolute size of coefficients should be examined to corroborate the mediating effect. In the Baron & Kenny's four steps from model 5 to model 8, yet, the comparison with the absolute size of coefficients demonstrates that the coefficient of the direct effect is -0.093, though the beta value of the total effect is -0.219. The comparison of beta values explain that the direct effect of ODA on the government effectiveness is not larger than the total effect of ODA. Simply put, it is difficult to deduce a conclusion that there are full or partial mediation effects of the control of corruption between ODA and government effectiveness.

Table 10. Mediation effect test

		Model 6			Model 7			Model 8		
		Dependent: CoC			Dependent:GovEf			Dependent:GovEf		
		β	t	VIF	β	t	VIF	β	t	VIF
Independent Variable	ODA/gov't _(t-1)	-.158**	-5.99	1.62				-.093**	-5.96	1.77
Mediator	CoC				.846**	31.22	1.43	.800**	27.89	1.58
Control Variables	Log grth	.027	.02	1.28	-.071	-.10	1.23	.491	.69	1.28
	Log pop	-5.790**	-8.71	2.28	1.949**	5.34	2.20	.908*	2.21	2.73
	Govexp	.359**	2.91	1.70	-.164*	-2.41	1.66	-.238**	-3.38	1.74
	Trd	-.110**	-3.35	2.15	.070**	4.06	1.86	.021	1.12	2.21
	Fdi	.000**	-4.11	1.32	.000	.87	1.37	.000	.96	1.38
Year Dummies	2006	-3.311	-.93	1.84	1.855	.95	1.82	.835	.42	1.85
	2007	-4.458	-1.29	1.91	2.395	1.24	1.85	1.726	.88	1.91
	2008	-4.094	-1.18	1.91	1.984	1.04	1.90	1.705	.87	1.91
	2009	-7.848	-2.01	1.75	.294	.14	1.74	-.332	-.15	1.77

	2010	-4.062	-1.2	2.00	1.358	.72	1.95	1.032	.54	2.01
	2011	-4.712	-1.38	2.06	1.866	.98	1.99	1.296	.67	2.07
	2012	-5.610	-1.52	1.85	2.103	1.03	1.8	1.080	.52	1.86
Regional Dummies	1	-6.814	-1.63	2.32	-.900	-.40	2.07	-3.109	-1.32	2.34
	2	.510	.12	2.22	2.103	.90	1.95	-.389	-.16	2.22
	3	2.570	.75	3.61	-7.903**	-4.40	3.14	-8.086**	-4.18	3.61
	4	-9.364	-2.39**	2.60	-4.547*	-2.18	2.43	-7.529**	-3.38	2.64
	5	-1.929	-.49	3.74	-4.807*	-2.44	2.91	-9.277**	-4.17	3.74
Constant		141.767**	9.73		-22/732**	-2.95		6.101	.67	
Mean VIF		2.12			1.96			2.14		
R-squared		.3655			.752			.7687		
Adj R-squared		.336			.741			.7573		
F		.000			.000			.000		

*p < 0.05, **p < 0.01

Finally, the Sobel's test is examined to cross-check whether control of corruption carries the mediating role of ODA on the government effectiveness or not. The result indicates that there is a significant negative total effect with the beta of -0.232. The results of the Sobel test are summarized in the table 11. The coefficient of Path a indicates -0.164 with the negative relationship between dependence on ODA and control of corruption. The coefficient of Path b is 0.712, suggesting the capacity of corruption controlling has positively influence on the government effectiveness. The significant levels of these two coefficients are 0.01.

Table 11. Results of the Sobel's Test

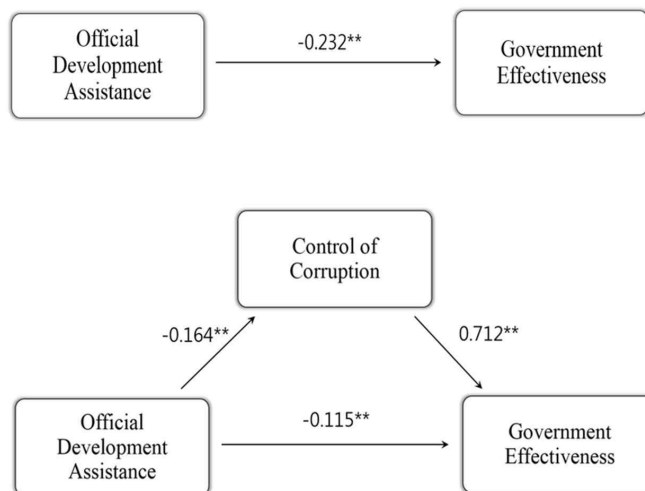
	Coef	Std. Err.	Z	P> Z
Sobel	-.117**	.015	-7.532	.000
a coefficient	-.164**	.021	-7.739	.000
b coefficient	.712**	.022	32.808	.000
Indirect effect	-.117**	.015	-7.532	.000
Direct effect	-.115**	.011	-10.064	.000
Total effect	-.232**	.019	-12.478	.000

Note: *p < 0.05, **p < 0.01

As the preceding findings with Baron & Kenny's steps from model 5 to model 8 demonstrate, the comparison the absolute size of the direct effect with the total effect also indicates that there is no mediation effect of the control of corruption mediator though indirect, direct and total effect were statistically significant at the 0.01

significance level. To be specific, it cannot be concluded that there is mediation effects of control of corruption. This is because the coefficient of direct effect(-.115) is larger than that of total effect(-.232). The result of the Sobel's test is illustrated in the figure 5.

Figure 5. Results of the Sobel's Test



Note: *p < 0.05, **p < 0.01

V. Conclusion

1. Summary

Stances on aid effectiveness are divided over whether or not

it helps developing countries to achieve social and economic growth. The endless debates on the impact of ODA on governance is still going on. Since this year, 2015, is the deadline year for MDGs, it is needed to assess the effectiveness ODA from diverse angles.

Previous studies have investigated the impact of ODA on growth, governance, and corruption, but those did not focus on the role and functions of government. This study puts more stress on the role of government to make growth from the perspective of government competitiveness, given the fact that East Asian countries, Korea inclusive, have made rapid growth with government's intervention. In this respect, this study made attempts to test the hypothesis that high ratios of ODA to government expenditure hamper improving the government effectiveness in developing countries, and there might be the mediating effect of corruption control between them.

The analysis draws upon a data set of 82 developing countries over the period from 2004 to 2013. Using the panel data, pooled OLS is carried out to test the hypotheses, putting control variables hierarchically. The control variables used in the regression models are GDP growth rate, population, government expense, trade openness, foreign direct investment, year and regional dummies. In the next step, the mediation effect of control of corruption is analyzed with the same panel data set with the analysis to explore the causality between ODA and government effectiveness.

The findings of the study verified that ODA as a percentage of central government expense has the detrimental effect on improving government effectiveness in developing countries in the narrowest sense of the government competitiveness, considering the research scope of the government competitiveness which is extending from OECD countries to non-OECD countries. Moreover, the result of the study reveals that the degree to control corruption in public sector does not perfectly nor fully mediate the relationship between aid dependency on government expense and government effectiveness. To put it in another way, when the government expenditure is dependent more upon ODA capitals, the quality of public administration, financial management and civil services are dwindled. It is likely that as the amount of ODA is increased, recipient governments get out of control on the increased budgets. In consequence, the recipient governments do not have to make desperate efforts to make the quality of public administration and public service better as well as to secure a budget on their own. Also, if a government does not have the capacity to secure and control budgets effectively and efficiently, it is impossible to exercise effective leadership to formulate and implement policies by itself.

Though aid dependence on government expense has influences on government effectiveness and control of corruption respectively, against expectation, the mediation effect of corruption control on the causality between ODA and government effectiveness is not found. It

rejects the assumption that corruption mediates the causal relationship between ODA and government effectiveness. While some influential literatures adopt an approach that the negative impact of ODA on growth results from corruption and malfeasance in public officials, the findings illustrate that even if ODA influences on corruption or governance, the extent of corruption control does not mediate the causal relations between ODA and government effectiveness.

2. Limitations and implications

Although this study has implications in that it examined the causal relationship between dependence on ODA and government effectiveness, and the mediating role of corruption control, it has following limitations. To begin with, although this study used a panel data set, the research questions for this study were investigated through the pooled-OLS despite using a panel data set covering 82 developing countries. The fixed-effects model remove the impact of time-invariant characteristics and control for impact or bias the independent or dependent variables(Baltagi, 2001:5-9). However, since the WGI scores capture perceptions based measures of government effectiveness, year-to-year fluctuations in the score are marginal.

Secondly, the approach of government competitiveness categorizes government's conversion capacity into various angles, such as structural capacity, the will and attitudes, work performance,

financial ability, and informatization ability. Nonetheless, this study substitutes government competitiveness by government effectiveness which evaluates the quality of public service, freedom from political interference and satisfaction with public goods and so on. Binagwaho, Minister of Health in Rwanda, and Sachs, a special adviser to UN Secretary General Ban Ki-Moon, emphasize diversified facets of public administration in recipients such as civil service planning, information technology and management systems, monitoring and evaluation systems in promoting transparency and good governance (Binagwaho & Sachs, 2005:101). As such, future research may extend the research scope in the broader sense of the government competitiveness and take account of multiple facets of the government.

Furthermore, the impact of ODA may be different depending on the income groups a government belongs to. However, this study cannot analyze the differences between the income groups due to the limited unit of analysis, 82 countries. In the data set, low-income countries are less than 30. Now that the minimum size for multiple regression analysis must be at least 30 units, comparisons between income groups cannot be analyzed. Provided that missing values are reduced, future study on the analysis of differences between income groups may give us more valuable explanation for the impact of ODA on government effectiveness at the distinct stages of development.

In spite of the limitations above, this study has implications in that it mainly focused on the government-led development unlike

previous studies which explored the effect of ODA on economic growth or governance. The Paris Declaration on Aid Effectiveness stresses not only the importance of building institutions and establishing governance structures but also strong government leadership(OECD, 2005:5) As such, this study placed more weight on the role of government from the perspective of government competitiveness now that successful cases of late industrialization have been strongly associated with the government intervention(Öniş, 1991:110). The observations through cross-country empirical analysis in this study showed that high ratios of ODA to government expenditure impede government effectiveness in developing countries.

In terms of variables, unlike other studies which used net ODA as a percentage of GNI or GDP for regression estimations, this study put the proportion of ODA to central government spendings as the independent variable. In addition, instead of economic growth or governance, of which the concept is elusive by mixing government factors with civil society factors, government effectiveness indicator was used as the dependent variable in this research. What is more, this study made attempts to control time and spatial dimensions with dummy variables. Since the concept of government competitiveness postulates that the time and spatial dimension should be considered to capture the changes of the features of the role of each government(Im, et al., 2014), this study controlled the effect of time and space using year and regional variables.

Despite the fact that this study failed to show the mediation effect of control of corruption, it has an implication that it goes against the predominant view about corruption. Prevailing assumption about the reason developing countries still mired in poverty is that rampant corruption in developing countries is a substantive obstacle to its development and governance. However, there are complicated processes how to and where to use ODA funds. Therefore, the perspective that corruption greases the wheels of social and economic development in developing worlds should be reconsidered and a better understanding of determinants of government effectiveness is required for the future research to find the moderator or the mediator.

3. Conclusion

While the amount of ODA has increased over decades, trickle-down effects did not work to bring the benefits to those who mired in poverty. As international community stresses on good governance and building management capacity for developing countries, according to the OECD aid statistics, the percentage of aids for government & civil society has been increased and become the highest in the social sector ODA since 2000. Even though the inputs of ODA resources are consistently increased, it takes time for recipient governments to effectively use these increased inputs and achieve successful outputs and developing goals. Recipient governments should

be wary of the Dutch disease which is attributed to the consequences on a country's competitiveness of large windfalls of resources.

The traditional type of aids has been the short-term projects. However, the short-term projects have generated problems of the aid fragmentation. Different projects from disparate donors haven't been harmonized and work effectively. Aids based on short-term projects did not make long-term development for the recipient country, but cause merely short-term development in a specific area or sector. Further, while the Paris Declaration and High-Level Forums place a great deal of weight on ownership of recipients, recipients find it hard to manage aid resources from donors effectively, lacking enough capacity for management. When projects are designed and implemented by recipient governments, they may have greater opportunities to build administrative capacity (Knack, 2001:23). As long as recipient governments do not exercise ownership over its developmental strategies, it will be unrealizable for them to strengthen governance and achieve developmental goals. It is vital for each recipient government to enhance the competitiveness with the long-term perspective in order that a government of developing countries implements effective and consistent development strategies using the large amount of ODA resources.

In many low-income countries, cash-strapped governments are often forced into draconian decisions such as hiring freezes and reductions in labor forces across the public organization (Binagwaho & Sachs, 2005:99) with no consideration for human resource development.

Conversely, it is well known that professional government officials had performed important roles to lead development policies(Im, 2009:175) during developmental periods in Korea. In the same way, professionalism and the high quality of bureaucracy should be preceded to deliver effective aid in recipient governments. In other words, it is imperative that developing countries make efforts to improve the quality of national and local governments to escape from a poverty trap. In conclusion, when a recipient government enhances its competitiveness, a recipient government can take the lead in formulating and implementing their developmental strategies so that they can increase aid effectiveness.

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요약

공적개발원조(Official Development Assistance)의 역사가 오래되었음에도 불구하고 한국, 싱가포르, 타이완 등 소수의 동아시아 국가들을 제외한 대부분의 개발도상국들은 여전히 빈곤에 시달리고 있다. 개발도상국에서 벗어나 빠른 경제성장을 이룩한 동아시아 국가들은 정부가 발전을 주도했다는 공통된 특징을 갖고 있다. 해외원조를 통해 확보한 재원으로 정부가 전략적으로 발전정책을 수립하고 이행하여 지금의 경제 및 사회 발전을 이룩할 수 있었던 것이다.

국제사회의 원조금액은 꾸준히 증가해온 반면 대다수의 개발도상국들은 여전히 빈곤상태에 머물고 있어 원조 공여국들의 원조피로(aid-fatigue)는 가중되어왔다. 원조의존율은 점점 높아졌지만 원조효과는 크지 않았다는 비판에 맞서 국제사회는 현재 원조효과성을 높이기 위한 노력을 하고 있다.

이러한 점에 착안하여 본 연구에서는 정부지출의 ODA의존도와 정부효과성 간의 관계를 밝히고자 하였다. 또한 원조 효과에 회의적인 시각을 가진 입장에서는 공무원의 부패를 그 원인으로 지적하고 있기에, ODA의존도와 정부효과성의 관계에서 부패 통제가 가지는 매개효과를 분석하였다. 기존의 연구들은 원조와 성장, 거버넌스, 부패 등의 관계를 살펴본 반면, 본 연구에서는 개발도상국 '정부'의 효과성에 주목하였다.

분석을 위해 82개 개발도상국의 2004년부터 2013년까지의 패널데이터를 구성하였다. 먼저, Pooled OLS 모형으로 통제변수들을 단계적으로 추가하면서 정부지출 대비 ODA와 정부효과성의 인과관계를 살펴보았다. 다음으로는 Baron & Kenny의 매개효과 분석단계 및 Sobel's test를 활용하여 부패통제가 ODA와 정부효과성의 인과관계에서 매개역할을 하는지 분석

하였다. 독립변수인 ODA의존도는 정부지출대비 ODA의 비율을, 정부효과성과 부패통제 변수로는 세계은행의 세계거버넌스지수(WGI)의 지표를 활용하였다. 통제변수로는 세계개발지표(WDI)의 GDP성장율(log), 인구(log), 외국인직접투자, 무역개방도, GDP대비 정부지출 데이터를 활용하였고, 연도더미와 지역더미 역시 분석에 사용되었다.

분석 결과, 정부지출대비 ODA 의존도가 높을수록 정부효과성이 낮아지는 부(-)의 관계를 갖는 것으로 나타났고, 부패통제의 매개효과는 나타나지 않았다. 이는 정부가 예산의 상당부분을 ODA에 의존할수록 개발도상국 정부의 효과성이 떨어진다는 의미로 해석된다.

데이터의 한계로 인해 고정효과모형을 적용하지 못한 점, 정부경쟁력을 정부효과성에 국한하여 측정된 점, 개도국 데이터에 결측치가 많아 소득군에 따른 분석이 이루어지지 못한 점 등은 본 연구의 한계점이다. 추후 연구에서는 데이터를 보완하고 정부경쟁력의 다양한 요소들을 고려하여 보다 심도 있는 연구를 진행할 수 있을 것이다.

그럼에도 불구하고 이 연구는 발전목표를 달성하기 위한 '정부의 역할'에 주목하고 있다는 점에서 기존 연구들과 차이가 있다. 개도국 발전을 위한 요건으로 거버넌스가 중요시 되고 있지만, 그 중에서도 특히 개도국 정부의 발전정책을 수립하고 이행하는 주도적 역할은 정부의 질, 관료제의 질, 공공서비스의 만족도 등으로 대변되는 정부효과성과 직결된다. 변수들을 사용함에 있어서도 기존 연구들은 GNP대비, 혹은 GNI대비 ODA의 비율을 사용하였지만 본 연구에서는 정부지출대비 ODA, GDP대비 정부지출 등을 반영하였다. 더불어, 부패가 원조효과성을 저해하는 요인으로 지목되고 있지만 본 연구의 분석에서는 부패통제의 매개효과가 나타나지 않았다. 따라서 부패가 개도국의 발전에 윤택유 역할을 한다는 주장, 혹은 발전 정도에 따른 부패의 영향 등을 재고해볼 필요가 있어 보인다.

ODA 총액 중 사회영역의 금액이 가장 큰 영역을 차지하고 있고, 그 중에서도 정부와 시민사회를 위한 원조의 비율이 가장 높다. 그러나 원조가 증가한다고 해서 그 효과가 드러나기까지는 시간이 걸리기 마련이다. 따라서 개발도상국 정부가 일관성 있는 발전전략을 통해 발전국가로 도약하기 위해서는 장기적인 시각으로 접근할 필요가 있다. 한국을 포함한 동아시아 국가들의 눈부신 성장은 우수한 공무원들로 구성된 정부가 전략적으로 발전을 이끈 결과임을 감안해볼 때, 개발도상국 공무원들의 인적자본의 역량 개발 또한 요구된다. 즉, 개발도상국의 발전을 도모하기 위해서는 무엇보다도 개도국 정부의 경쟁력이 우선적으로 담보되어야 할 것이다.

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주요어 : 원조효과성, 정부효과성, 부패통제, 정부경쟁력, 세계거버넌스지수

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