The Role of Social Spending in Korea during the Global Financial Crisis: An International Comparison

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Introduction

Economic shocks, accompanied usually by abrupt cyclical fluctuations, tend to degrade people's living standards and conditions within a short period of time, and thus escalate the need for increased government intervention. A case in point for Korea can be illustrated by how the two past economic crises—one having transpired in 1997 and the other in 2008—augmented the role of government in response to major economic difficulties. The more recent of these two economic crises, coming about as it did on a global scale and having plunged many of the developed European countries all at once into economic distress, provides a context for comparison of social spending in different parts of the world in times of economic recession.

This study gauges the effect that social expenditures as automatic stabilizers have brought about in cushioning the impact of the global financial crisis, especially on income distribution. To understand how social expenditures functioned as automatic stabilizers requires time series data covering periods before, during, and after financial crisis. Most previous studies, however, have little taken into account the period during which the crisis was unfolding. Nor have changes in income distribution measures over this period been sufficiently discussed for different types of welfare states, due to the dearth of internationally comparable data. This study identifies the effect income redistribution had on poverty rates and the Gini coefficient, especially during the period 2008~2010. How public social expenditures functioned as automatic stabilizers is examined in terms of the social spending-GDP relationship derived from a chain equation of national income accounting.

The 2008 global financial crisis and changes in social expenditures in various welfare regimes

This study compares Korea with a range of European welfare state types including: Anglo (Ireland and the United Kingdom); Nordic (Denmark, Finland, Norway, and Sweden); Continental (Austria, Belgium, France, and Germany and the Netherlands); and Southern (Greece, Italy, Portugal, and Spain).

Most of the countries explored here recorded a rise in their poverty rates during the global financial crisis. In the period 2007~2009, the national poverty rate rose from 16.4 percent to 17.2 percent in Korea, from 30.7 percent to 31.3 percent in England, from 23.9 percent to 24.4 percent the Netherland, from 27.8 percent to 33.0 percent in Spain, and from 30.0 percent to 31.6 percent in Finland. Moreover, six of the countries saw their economies shrink in 2008. In 2009, not one but posted a negative growth rate.

[Table 1] GDP growth in various welfare states, 2007~2009

	Anglo		Continental					Nordic				Southern				KOR
	GBR	IRL	AUT	BEL	FRA	DEU	NLD	DNK	FIN	NOR	SWE	GRC	ITA	PRT	ESP	
2007	2.6	5.5	3.5	3.4	2.4	3.4	3.7	0.8	5.2	2.9	3.5	3.2	1.3	2.5	3.8	5.5
2008	-0.5	-2.2	1.2	0.7	0.2	0.8	1.7	-0.7	0.7	0.4	-0.7	-0.2	-1.1	0.2	1.1	2.8
2009	-4.2	-5.7	-3.6	-2.3	-2.6	-5.6	-3.8	-5.1	-8.3	-1.6	-5.1	-4.3	-5.5	-3.0	-3.6	0.7

Source: OECD.stat

In the event of increasing poverty rate and declining income, social welfare programs usually serve as automatic stabilizers by increasing their spending, doing as much as they can to keep people from falling below the poverty line.

Social expenditures as a percentage of GDP have increased greatly across all welfare state types in 2008 and 2009, when the global financial crisis was taking its toll in earnest. From 2010 on, the welfare states of the Anglo type have retrenched their expenditures, whereas the Nordic countries, the continental welfare states, and Korea have committed an increasing share of their GDP to social spending for the better part of the period. Following the typology presented by Bonoli in 1997, this study classifies the observed countries into "high welfare state coverage" and "low welfare state coverage", depending on how much of their GDP they spend on social welfare.

As shown below in Figure 1, the Continental and Nordic types spent a larger share of GDP on social programs than did the other welfare state types. The Continental and Southern European types showed a large element of contribution-based social insurance in their public social expenditures, while the Anglo and the Nordic countries spent a great percentage of public social expenditures on tax-financed social benefits. Korea is seen in this study as a social insurance-oriented country, although its social insurance contributions have been getting smaller as a percentage of its social spending.

Korea is marked by a low tax burden and a low benefit level. Public social expenditure and total tax burden as shares of GDP were lower in Korea than in any other country examined in this study. Both the level of social expenditures and total tax burden were higher in the Continental and Nordic types than in the Anglo and Southern European types. Of the last two types, the latter featured higher levels of total tax burden and social expenditures.

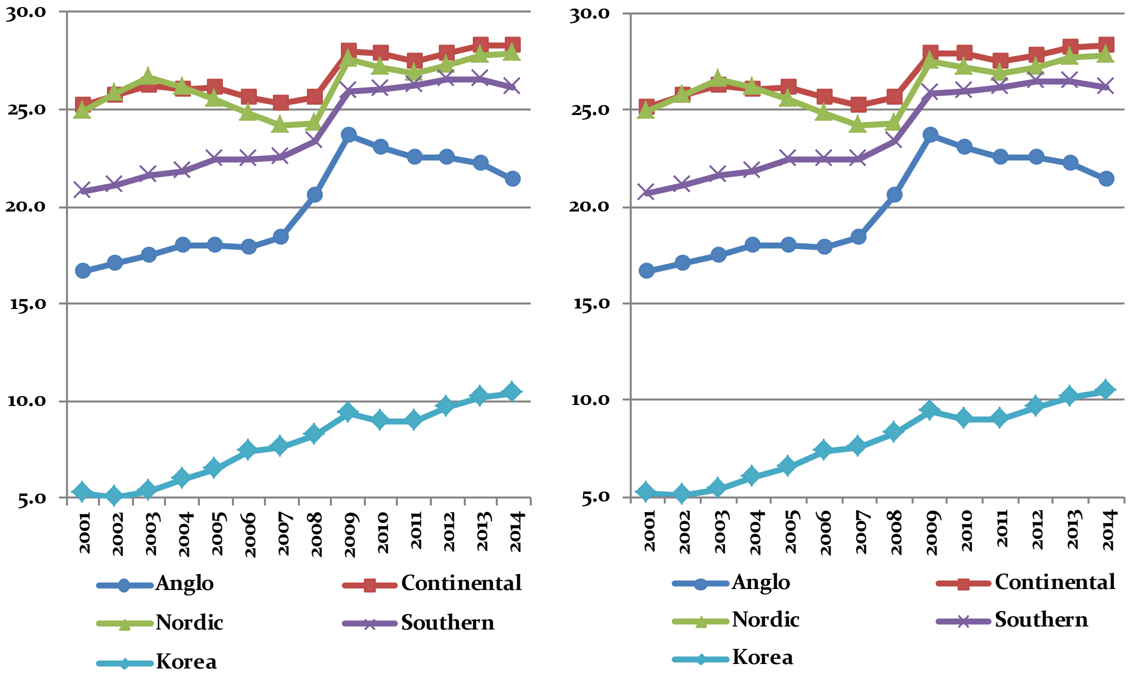
[Table 2] Changes in total tax burden as percentage of GDP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anglo-Am	31.7	30.4	30.6	31.2	31.5	32.7	32.3	31.1	30.0	30.1	30.5	30.5	31.0	31.2
Continental	40.1	39.6	39.3	39.2	39.4	39.4	39.3	39.7	39.2	39.2	39.7	40.4	41.1	42.3
Nordic	44.5	44.1	43.8	44.1	44.8	44.3	43.8	42.9	42.8	42.8	43.0	43.3	43.7	44.1
South Europe	34.1	34.2	34.0	33.5	34.2	34.6	35.3	34.2	33.2	34.0	34.8	35.6	36.4	36.8
Korea	21.8	22.0	22.7	22.0	22.5	23.6	24.8	24.6	23.8	23.4	24.2	24.8	24.3	24.6

Source: OECD.stat

[Figure 1] Social expenditures and social security contributions in selected OECD countries of different welfare state regimes, 2001~2014

(Social spending as % of GDP) (Social security contributions as % of social spending)



Source: OECD.stat

Poverty reduction and reduction in income inequality

The effect of redistribution is measured in terms of the amount of reduction that came about in relative-income poverty (those living on less than 50 percent of the median income) and in the Gini coefficient. The poverty reduction effect is defined as the difference between market-income poverty rate and current income poverty rate divided by market-income poverty rate. The inequality reduction effect is defined as the difference between the market-income Gini coefficient and the disposable-income Gini coefficient. Disposable income here means the total amount of final income households have after taxes and public transfers.

The effect of redistribution on poverty reduction was greatest in the Continental European countries (high-contribution, high-benefit). The Nordic countries came next in this respect. When measured in terms of disposable income (post-tax and post-transfer), however, the poverty rate was lower in the Nordic countries than in any other welfare state type. The Nordic countries were associated also with low market-income poverty rate, which explains why they fared somewhat worse than the Continental ones in the effect of poverty reduction, which was measured with respect to the difference between market-income poverty rate and disposable-income poverty rate.

The market-income poverty rate was higher in the Anglo (low contribution, low benefit) countries than in the Southern European countries. The disposable-income poverty rate, however, was lower in the Anglo countries, where the effect of redistribution on poverty reduction was greater than in the Southern European countries. Public social expenditure as a share of GDP, as of 2009, was 25.9 percent for the Southern European countries, compared to 23.7 percent for the Anglo countries. The difference in the effect of income distribution on poverty reduction between the Southern European countries on the one hand and the

Continental and Nordic ones on the other was far greater than the difference between the two in public social spending as a percentage of GDP.

The effect of redistribution on inequality reduction in Korea was larger in 2009 than in 2008, with the disposable-income Gini coefficient being lower in 2008 and 2009 than in 2010. The inequality reduction via redistribution was greatest in the Anglo countries (low burden, low benefit) and least in the Southern European countries. The inequality-reduction effect was less pronounced in the Nordic countries than elsewhere, as the market-income Gini coefficient was lower there than in the other European welfare states; the disposable-income Gini coefficient was lower in the Nordic type than in any other countries examined, including Korea.

Both the poverty rate and the Gini coefficient, when measured based on market income, were lower in Korea than in the European countries during the years 2008~2010, when the impact of the global financial crisis was intensely felt in Korea as well as across entire Europe. The effect of redistribution on poverty and income inequality in Korea, however, though having grown considerably, remained less significant than that in any of the European countries examined in this study, a result attributable in part to the fact that Korea spent less of GDP on redistribution than the European countries. On the other hand, a finding of note from this study is that spending a higher percentage of GDP on social programs does not necessarily lead to a greater reduction in poverty and income inequality.

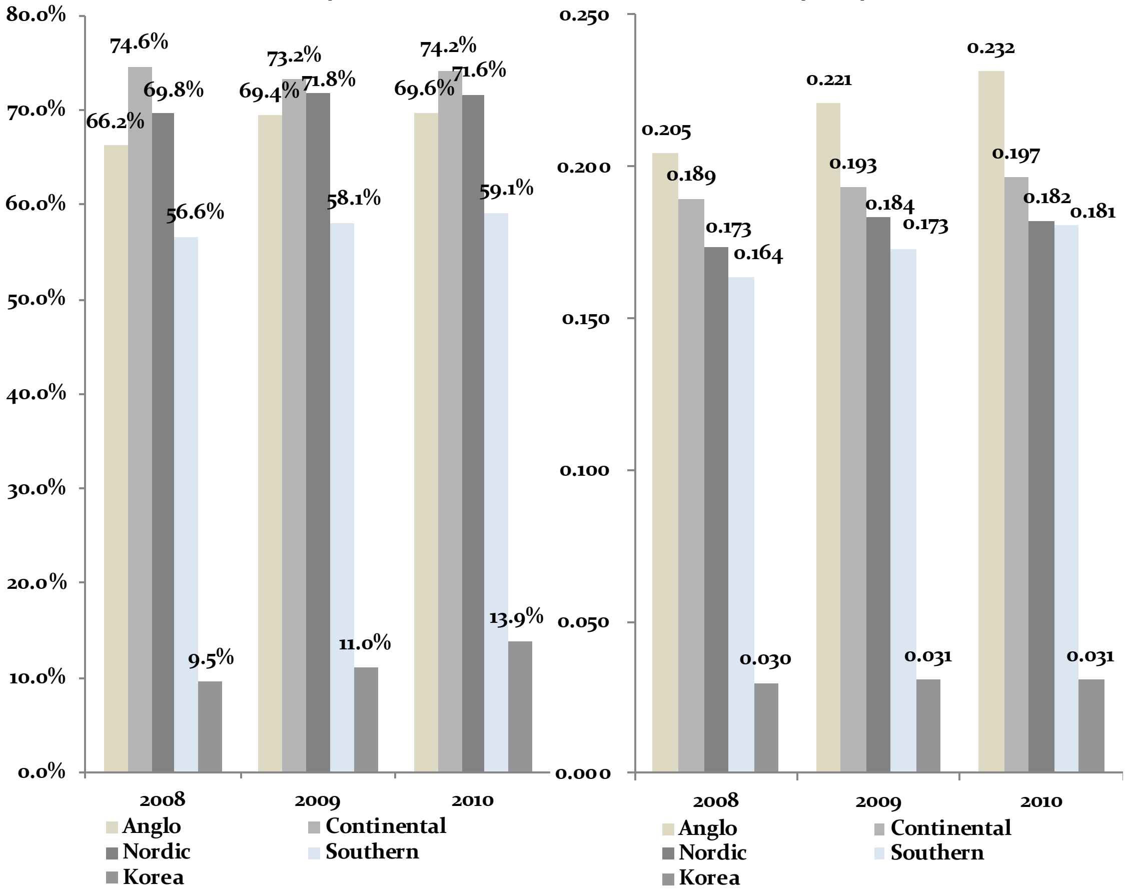
[Table 3] Income distribution indicators and public social expenditures (as % of GDP) during the global financial crisis (2008~2010)

Type		2008		2009		2010	
		Market income	Disposable income	Market income	Disposable income	Market income	Disposable income
Anglo	Poverty rate (%)	31.8	10.8	32.1	9.8	32.7	9.9
	Gini coefficient	0.523	0.319	0.550	0.329	0.551	0.320
	PSE as % of GDP	20.6		23.7		23.1	
Continental	Poverty rate (%)	31.4	8.0	32.1	8.6	32.5	8.4
	Gini coefficient	0.472	0.282	0.478	0.284	0.480	0.283
	PSE as % of GDP	25.6		28.0		27.9	
Nordic	Poverty rate (%)	25.8	7.8	27.2	7.7	27.3	7.7
	Gini coefficient	0.428	0.254	0.437	0.253	0.441	0.259
	PSE as % of GDP	24.3		27.6		27.2	
Southern European	Poverty rate (%)	29.6	12.9	31.4	13.2	32.6	13.3
	Gini coefficient	0.497	0.333	0.503	0.330	0.517	0.336
	PSE as % of GDP	23.4		25.9		26.0	
Korea	Poverty rate (%)	16.8	15.2	17.2	15.3	17.3	14.9
	Gini coefficient	0.344	0.314	0.345	0.314	0.341	0.310
	PSE as % of GDP	8.2		9.4		9.0	

Source: OECD.stat

[Figure 2] Effect of income redistribution on reduction in poverty and inequality

(Poverty reduction) (Inequality reduction)



Source: OECD.stat

The role of automatic stabilizers in times of economic recession

Automatic stabilizers refer to government spending programs and tax provisions that automatically increase during recessions and decrease during expansions to help smooth out the impact of economic fluctuations. As public social spending has been increasing rapidly in Korea during and after the two grand-scale economic crises, it would be of significant help to policymaking to come to a better understanding of the effect of social spending on economic stabilization and recovery. (After the global financial crisis, Korea has implemented basic old-age pension and EITC programs. Also, public pensioners as a percentage of people 65 and older have increased rapidly.)

This study estimated the stabilization effect of public social spending using the panel regression equation

$$\triangle \log DNI_{i,t} - \triangle \log (DNI + f)_{i,t} = \alpha^f + \beta^f \triangle \log GDP_{i,t} + \epsilon^f_{i,t}$$

Here, f denotes a category of social spending and β^f is the amount of shock smoothing it provided. The equation was derived from the following chain equation between GDP and total consumption ($C_i + G_i$). [Afonso & Furceri (2008), EMU enlargement, stabilization costs and insurance mechanisms, *Journal of International Money and Finance* 27]

$$GDP_i = \frac{GDP_i}{GNP_i}\frac{GNP_i}{NI_i}\frac{NI_i}{DNI_i}\frac{DNI_i}{(C_i+G_i)}(C_i+G_i)$$

The stabilization effect of social spending for the years 1990~2014 was measured to be 10.5 percent for Korea; the OECD average was 14.2 percent. The stabilization effect of social spending in Korea was estimated to have been greater in the periods 2000~2010 (17.4 percent) and 2011~2014 (20.5 percent) than in the years 1990~1999 (12.4 percent). The average across 35 OECD countries was also greater for the period 2000~2010 than for the decade before it.

[Table 4] Stabilization effect of social spending, by period

	(1) 1990~1999	(2) 2000~2010	(3) 2011~2014	(2)+(3) 2000~2014	(1)+(2)+(3) 1990~2014
Korea (OLS)	0.124 [7.48]***	0.174 [3.62]***	0.205 [0.86]	0.145 [3.26]***	0.105 [3.58]***
OECD (state fixed effects)	0.117 [2.15]**	0.163 [11.62]***	0.123 [4.07]***	0.150 [11.20]***	0.142 [9.81]***

Note: Figures in parentheses are T-statistics based on robust standard errors; ***p < 0.01, **p <0.05, *p < 0.1
Source: OECD.stat

The category of social spending that produced the largest stabilization effect was "old age" (5.7 percent), followed by "health" (2 percent) and "active labor market" (1.4 percent). Social expenditures on old-age income protection, active labor market policies, unemployment benefits and pro-family programs were all larger in the 2000s and thereafter than in the 1990s. The stabilization effect of health spending on the other hand, although second only to that of "old age" spending, was found to have declined in the period 2000~2014, even to the point of becoming statistically insignificant.

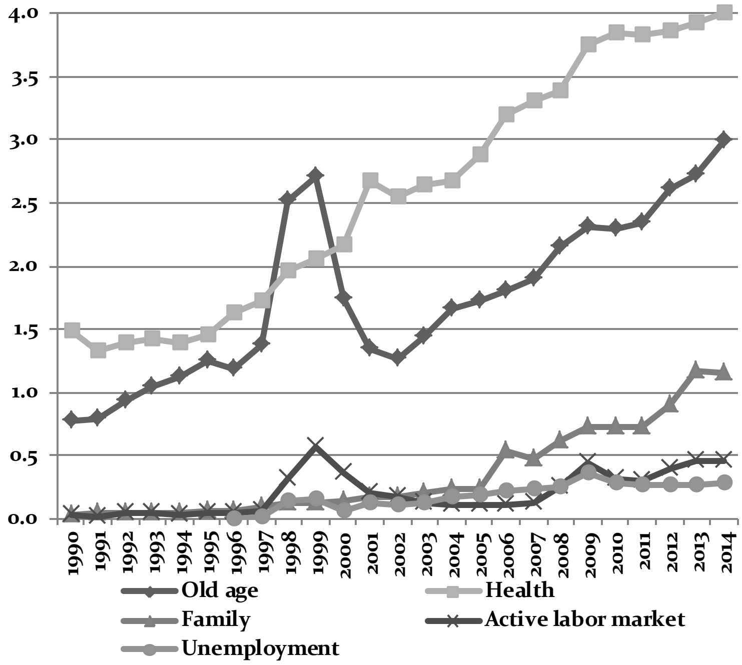
[Table 5] Stabilization effect of social spending in Korea, by category (OLS)

	1990~1999	2000~2014	1990~2014
Old age	0.077 [7.50]***	0.084 [2.17]**	0.057 [2.36]**
Survivors	0.001 [1.72]	0.000 [0.16]	0.001 [1.25]
Work incapacity	0.003 [1.40]	0.000 [-0.10]	0.002 [1.08]
Health	0.022 [4.47]***	0.017 [0.97]	0.020 [3.13]***
Family	0.002 [5.77]***	0.017 [1.85]*	0.010 [1.92]*
Active labor market	0.013 [1.94]*	0.032 [4.69]***	0.014 [1.80]*
Unemployment	0.010 [5.37]	0.011 [2.30]**	0.010 [3.14]***
Others	0.001 [0.68]	-0.005 [-0.64]	0.000 [0.02]
Total	0.124 [7.48]***	0.145 [3.26]***	0.105 [3.58]***

Note: Figures in parentheses are T-statistics based on robust standard errors; ***p < 0.01, **p <0.05, *p < 0.1
Source: OECD.stat

This study finds that social spending helps cushion the sudden impact of economic fluctuations over an extended period of time. But increasing social spending does not necessarily guarantee stabilization, as government expenditures as automatic stabilizers are able to dampen only a fraction of economic fluctuations. Also, the magnitude of stabilization effect is not always in proportion to the size of social spending, as is shown in Figure 3.

[Figure 3] Trends in social spending in Korea, as % of GDP



Source: OECD.stat

Concluding remarks

Having in place institutional capacities that can soften the shocks of sudden economic fluctuations is important, especially so in times such as these of worryingly protracted economic recessions and persistent low growth. As has been briefly discussed, public expenditures such as social spending can, through redistribution, help increase economic stabilization and buffer the impact of major economic shocks.

A noticeable increase was observed in the effect of redistribution—in terms of reduction in both poverty and income inequality—in the years 2008~2010, a period when the impact of the global financial crisis was at its most severe. In the years following the financial crisis, the redistribution effect has continued to grow in Korea, although not without some temporary declines. Overall, however, the effect of redistribution has been greater in the European countries than in Korea, a result that may be attributed to the former's higher level of social spending and mature welfare programs. However, it turned out that the effect of redistribution was not unconditionally proportional to how much is spent on welfare. For example, as compared to the Southern European welfare states ("low-burden, low benefit), the Anglo European countries, even with less tax and lower social spending as a share of GDP, showed greater redistribution effect. Any increases in spending on welfare programs should therefore be designed in a way to increase the effectiveness of these programs.

[Table 6] Effects of redistribution in Korea

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Poverty reduction	13.9%	14.5%	13.1%	15.5%	17.2%	16.9%	17.0%	18.0%	19.6%	25.8%
Inequality reduction	0.024	0.028	0.030	0.031	0.031	0.031	0.031	0.034	0.039	0.046

Source: KOSIS

The stabilization effect of social spending has been growing in Korea, particularly in policy areas including old age, active labor market, and family. But public social spending does not and cannot entirely absorb the impact of major economic shocks, and its stabilization effect varies across different policy areas. A rapid increase in public social spending may thus as well do more to prolong than shorten economic downturns. As this has profoundly to do with the function of automatic stabilizers, whose essence it is to smooth out the short-term impact of economic fluctuations over an extended period of time, the policy challenge would be one of finding ways to disperse the shock of an economic crisis and cut short its duration.