WHO'S IN CRISIS? A COMPARATIVE ANALYSIS BETWEEN G20 COUNTRIES

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─Abstract ─
The aim of the study is to investigate the effects of the current crisis on G20 countries. Some of them, especially G8 countries, has more affected from 2008 crisis. For this reason, G20 countries are divided into two groups according to their GDP, respectively G8 and the rest eleven countries. To determine the effect of crisis, panel data is used and data set covers the period of 2000-2011. According to the results obtained from all analysis, it can be seen that FDI, inflation and real interest rate are effective factors on GDP growth for G8 countries whereas only real interest rate influences GDP growth for the Rest countries for the period 2000-2011.

Key Words: *Crisis, G8, G20, Panel Data Analysis*
JEL Classification: O50

1. INTRODUCTION

It is not possible avoid crisis in current market mechanisms of the countries. Even the biggest economies like G6-G7-G8 and later G20 group countries have the highest Gross Domestic Product (GDP) of the world, experience the crisis in the capitalist system. Lately the most powerful members of the G20 group, namely G8 and early industrialized countries, have more affected than the other countries in the crisis period, which is embodied in 2008. At the same time the crisis was said to be an opportunity for the rest of the group. The reason for this discourse is that they have experienced some mitigating effects of the crisis comparing to the

G8. These effects are about some financial fund inflows with various maturities and GDP growth. All of these improvements created a moderate weather in late industrialized (rest of G8 in G20) countries. And this moderate weather is being sustained by these countries. When we look at the macroeconomic indicators, it is seen that this improvement has not reflected the real economic condition of the countries stated above.

Previous to 2008 crises in 1980's in Latin America, 1990's Mexico, Argentina, Asia, Russia and 2001 Turkey, they mostly occurred in local reasons and affected regional economies (Boratav, 2009: 2). As we observe these countries, most of them could be defined as they are industrialized economies and they were described newly industrializing countries on those days. Today numerous of them are world's conspicuous economies.

In 2008 majority of world's countries faced the last crisis that still continues. The main reason of this continuity is that the crisis occurred firstly in United States then European Union countries and the other advanced economies. Still, these economies have economic linkages between most of world's markets and countries with financial, real sector and trade relations. These countries named themselves G8 since 1970's; they have been the wealthiest of the world's countries. In recent years G8 expanded to G20, eleven countries have joined them as emerging economies plus European Union Commission. Currently G20 group countries have 90% of global GDP and have 80% of international trade. In this group G8 countries have nearly %65 of global GDP. Thus their economic activities affect whole world and economic relations are crucial between them.
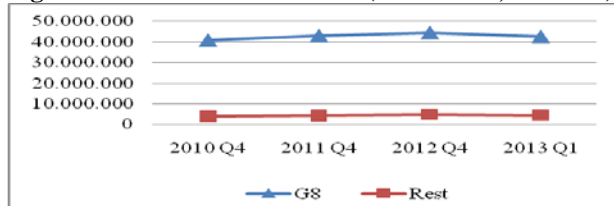
In this study our focus is on the results of the crisis, so we does not concern about the reasons. Thus this study we shall examine the economic performance of G8 and the rest countries during the last crisis period. The main question of this study is that; can we accept the rest countries that they do not affected by the last crisis and are they still safe or are they in trouble like G8. To answer this question we must analyze G8 and the rest countries with economic indicators comparatively. Rest countries were criticized for the way in which they handled the last crisis and are they as strong as they seem.

2. THE EFFECTS OF 2008 CRISIS IN G8 AND THE REST COUNTRIES

20th century international competition became crucial factor because of the capitalist competitive system. This competition system seeks new surplus areas and creates crises, so 20th century had been teemed with crises and wars. After

first half of the century the number of crises has increased in local, regional or global base (Felton A., Reinhart C., 2008: 1-2). As said before even the economically biggest countries of the world have trouble with the last crisis. These countries are mostly G8 members in G20 group. The other countries in G20 except G8 (Rest countries), they are generally emerging countries and they seem as if they have not been affected by the last crisis like G8 countries. In spite of the moderate weather in Rest countries, it is important to examine the validity of macroeconomic indicators. For this purpose it is observed economic data regarding G8 and Rest countries for the period between 2000-2011.

Having look at the results of 2008 crisis, first effects can be seen as current account deficits, decrease in GDP and GDP growth, increase in interest rates and inflation and rise in dept.

Figure-1:   External Debt (US Dollars, Millions)
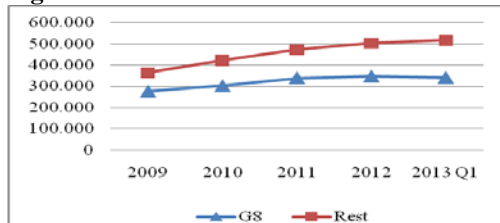

Source: www.g20.org

As can be observed from studying external debt by G8 and Rest countries for 2010 and 2013's first quarter, external debt is higher than Rest and debt volume tends to decrease after 2012 for G8.

The other indicator is reserves; in the figure below Rest countries average reserves are higher than G8. Reserves mean that the central banks hold money in foreign currency and this money may be used imports and external debt payments (Salvatore, 1995: 445-446).
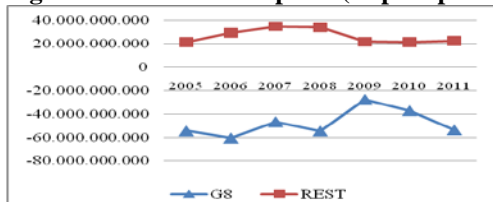
Figure-2:   Gross Official Reserves Average (US Dollars, Millions)

Source: www.g20.org

High volume on Net Exports of goods and services are held as the another important indicator of economic strength of a country. In the figure below Rest countries improved their export performance from 2005 to 2008. After 2008 their performance declined because of the crisis effect but last two years their net exports were rising. On the other hand net export performance for G8 is negative for 2005-2011 years.

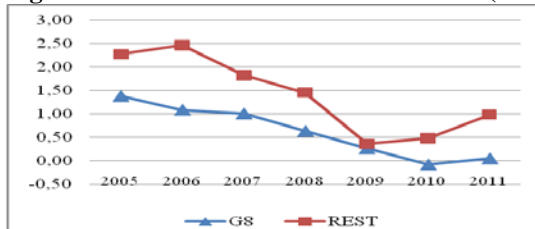**Figure-3:** **Net Exports (Exp-Imp Goods and Services) (BoP, current US$)**

Source: www.g20.org

As 2000-2011 exports in GDP data observed; after 2002 Rest countries increased their export volume from %25, 32 to %30,78 in 2011. In the same data we see G8's export volumes were stable, they were % 28,53 in 2000 and %28,73 in 2011 except %24,89 in 2009 after crisis year.

According to 2005-2011 data, current account balance sharply declined after 2008 for both sides that can be explained as the basic impact of the crisis. The reason why the current account balance deteriorated can be explained, by the decline in international demand for exports, rise in imports or diminishing reserves in crisis period. After crisis year, Rest countries' export volumes in their GDP were higher than G8.

Figure-4: **Current account balance (% of GDP)**

Source: www.g20.org

Another important indicator is the direction of the short term capital flows in crisis period. When the short term financial inflows have been realized, current account deficits reduce immediately (Rodrik, 2009: 5-6). On the contrary outflows of financial funds create disturbance and deepens crisis (Kazgan, 2002: 189-190). Over the period 2000-2011, portfolio equity of G8 had floating trend with sharp declines in 2002, 2008 and 2011. 2002 downfall might be the result of the US recession in 2001, the other downfalls occurred due to the last crisis. It is noteworthy that there was a huge rise in net inflows in 2009, this may explained due to increasing the monetary base (Quantitative Easing) in US. For the Rest countries the short term capital movements were more stable than G8 before the crisis year. Portfolio equity net inflows increased in Rest countries after 2008.

Figure-5:   Portfolio equity, net inflows (BoP, current US$)
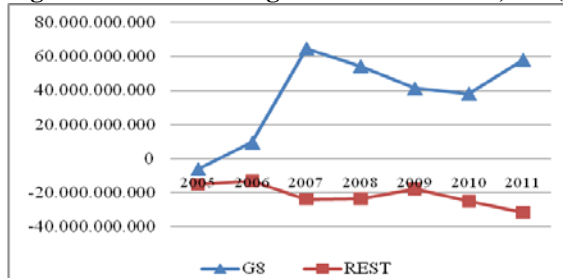

Source: databank.worldbank.org

According to the observed data and all of above explanations indicate that G8 countries have been affected hardly by the latest crisis for four years in the same time, other economic indicators show that the Rest countries' economic structures seem more fragile than G8.

Real interest rate is equal to nominal interest rate minus the inflation rate. Thus low real interest rate is crucial for economic stability. Rest countries have higher rates than G8. Inflation rates are also higher in Rest countries. The real interest gap between two country groups encourages the financial investors to invest in short term financials in Rest countries.

Inflows of capital from other economies may use to financial requirements of development. The net inflow of Foreign Direct Investments (FDI) raises the performance in an economy (Salvatore, 1995:446). Generally market system based economies invite FDI's for their developmental purposes. High volumes of FDI may meet financial requirements of productive investments and may increase capital accumulation, growth, employment of a country.

In our observation G8's FDI as a percentage of GDP has increased considerably during the past eleven years. According to the data G8's FDI performance was very high in 2000 (G8 was %4,67, Rest %1,65). After 2008 FDI percentages of G8 sharply declined in GDP. In spite of the decline, G8 recovered in a short time. In the figure below we see the amounts of FDI realizations for G8 and the Rest countries. While FDI volumes increased in G8's, The Rest's volumes were decreasing, except crisis year of 2008.
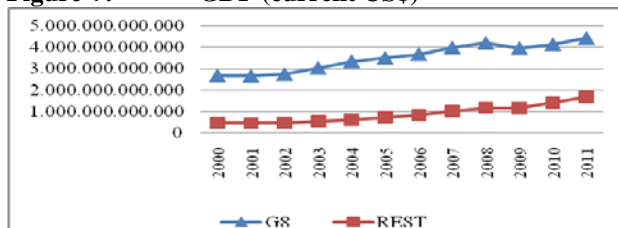
Figure-6:   Foreign direct investment, net (BoP, current US$)

Source: databank.worldbank.org

Even though there is crisis conjuncture, G8 countries are still credible for FDI. Market mechanism system welcomes FDI and it is accepted that high volumes of FDI create stability.

Figure-7:   GDP (current US$)

Source: databank.worldbank.org
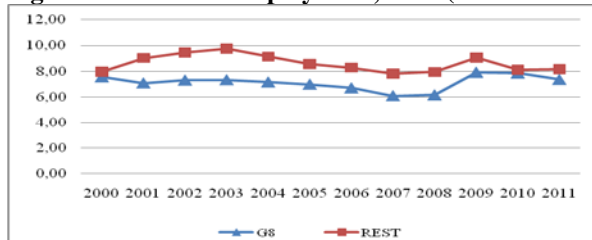
The general definition of GDP is the sum of the gross value added by all resident producers in the economy. GDP amount and GDP growth are the fundamental economic performance indicators. In emerging countries GDP amounts are not as high as early industrialized countries, so GDP growth rate is more important to them. Early industrialized countries have slow growth rates in general.

In 2000-2011, the Rest's annual growth rate of GDP is parallel but higher than G8 from 2002 to 2011. On the other hand, GDP amounts of G8 are remarkable high, comparing with Rest countries even in crisis years.

The last economic indicator of this study is unemployment rates for both country groups. Unemployment is affected several factors, such as lack of domestic and foreign investments, crisis, political reasons, weights of industry and agricultural sectors in an economy, wage levels, technological developments, government subsidies, population, etc.

Figure-8:   Unemployment, total (% of total labor force)

Source: databank.worldbank.org

In crisis period, any increase in unemployment is expected, so in our observation we see the same case for G8 and the Rest. In the Figure 8 unemployment rate were higher in Rest countries all taken years.

All of analyses show that short term capital inflows may create optimistic conditions for an economy. But it is quite clear that countries make real sector investments, have positive current account balance, higher GDP, low levels of debt and unemployment, etc. can be very helpful to improve the crisis conditions.

3. DATA AND ANALYSIS

The aim of the study is to investigate the effects of the current crisis on G20 which is divided two groups, G8 and the Rest countries, in terms of economic indicators during 2000-2011 period. For this purpose panel data analysis is employed to determine the difference between G8 countries and the Rest. Panel data analysis considers both cross-section and time dimension in the data and has several advantages. For example, it controls individual heterogeneity and gives more information, more variability, less collinearity among the variables and more efficiency. Also, it measures effects that are simply not detectable in pure cross-section or pure time-series data (Baltagi, 2003:5-7)

The general format of the panel data model is as follows:

$$Y_{it} = \alpha + X'_{i,t}\,\beta + u_{i,t} \qquad\qquad i=1\ldots..N; \quad t=1\ldots\ldots T \qquad (1)$$
where
i is the dimension of cross-sectional units
t is the dimension of time-series
Y_{it} denotes the dependent variable of the model
α is a scalar
β is Kx1 and $X_{i,t}$ is the *it* th observation on K explanatory variables.
$u_{i,t}$ displays the stochastic error term

At the beginning of the study, data set covers 19 countries and consecutive 12 years between 2000 and 2011 and it has total of 228 country-years observation. However final number of observation drops to 204 due to missing value. Besides, fixed effects model is employed because of the insufficient observation in this analysis. Random effects model is the another model in the panel data analysis and it assumes that the unobservable individual effects α are random variables that are distributed independently of the regressors (Cameron and Trivedi, 2005:700) In this study, we have only 17 countries therefore fixed effects model is more suitable to examine both G8 countries and the Rest countries separately. All variables used in the analysis are obtained from World Bank database. Some important variables such as external debt, reserves and current account balance are excluded in the study due to absence of data. Table 1 and Table 2 present variables employed in the study and descriptive statistics relating to variables, respectively.

Table 1: Variables Used in the Analysis

Abbreviation	Description
	Dependent variable:
GDPG	Gross Domestic Product Growth (annual %)
	Explanatory variables:
FDINetInf	Foreign direct investment, net inflows (BoP, current millions US$)
INF	Inflation, consumer prices (annual %)
RIR	Real Interest Rate (annual %)
UNEMP	Unemployment, total (% of total labor force)

As can be seen from Table 2, GDPG rate is higher in the Rest countries than G8 countries in terms of mean whereas INF, RIR and UNEMP rates are lower in G8 countries than the Rest countries.

Table 2: Descriptive Statistics Employed in the Analysis

		THE REST COUNTRIES						G8 COUNTRIES			
	Mean	Std. Dev.	Min	Max	N		Mean	Std. Dev.	Min	Max	N
GDPG	4.95	3.42	-5.95	14.20	108	GDPG	1.92	2.86	-7.82	10.00	96
FDINetInf	2.09	1.66	-3.54	6.14	108	FDINetInf	2.32	2.49	-1.08	11.14	96
INF	6.82	8.4	-0.77	54.92	108	INF	3.14	4.18	-1.35	21.46	96
RIR	7.84	12.18	-10.03	47.71	108	RIR	2.68	3.40	-9.63	13.05	96
UNEMP	8.49	6.30	2.5	27.20	108	UNEMP	7.12	1.84	3.9	11.10	96

3.1 Empirical Results

After conducting fixed effects model, Table 3 provides results from obtained panel data analysis. According to this, FDINetInf, INF and RIR variables are found to have a significant impact on GDPG for G8 countries while only RIR variable has negative influence on GDPG for the Rest countries. As the coefficient of FDI indicates, G8 countries tend to be more stable than the Rest countries in terms of economic credibility.

Table 3: Results of Panel Data Analysis for the G8 Countries and the Rest Countries

MODEL I: THE REST COUNTRIES				MODEL II: G8 COUNTRIES			
Dependent Variable: GDPG				**Dependent Variable:** GDPG			
	Coefficients	Std. Error	t values		Coefficients	Std. Error	t values
FDINetInf	0.0878	0.1285	0.68	**FDINetInf**	0.2989**	0.1315	2.27
INF	-0.0755	0.0807	-0.94	**INF**	0.2743**	0.1245	2.20
RIR	-0.1073*	0.0625	-1.72	**RIR**	-0.4616**	0.1841	-2.51
UNEMP	-0.3566	0.2278	-1.57	**UNEMP**	-0.3226	0.2275	-1.42
constant	9.1370***	1.8807	4.86	**constant**	3.9013**	1.7146	2.28
Number of obs.	108			**Number of obs.**	96		
Number of groups	9			**Number of groups**	8		
F	2.04			**F**	2.86		
Prob > F	0.0949*			**Prob > F**	0.0283**		
R-sq: within	0.0896			**R-sq: within**	0.2572		
between=	0.0866			**between=**	0.8302		
overall=	0.0624			**overall=**	0.3615		
rho	0.6026			**rho**	0.2092		
Legend	* p<0.10; ** p<0.05; *** p<0.01			***Legend***	* p<0.10; ** p<0.05; *** p<0.01		

3. CONCLUSION AND DISCUSSION

The aim of the study is to investigate the effects of the current crisis on G20 which is divided two groups, G8 and the Rest countries, in terms of economic indicators during 2000-2011 period. According to the results obtained from panel data analysis FDI, inflation and real interest rate are the factors that affect GDP growth for G8 countries. However only real interest rate affects GDP growth for the Rest countries for the period 2000-2011. Although crisis experienced, FDI is still important factor on GDP growth for G8. This can arise due to the differences between G8 and the Rest countries in terms of investment climate, level of technology and scale of production structure. When we examine the some figures such as, low external debt, high reserves, net exports economic view of the Rest countries can be seen optimistic in current crisis period. However this optimistic economic outlook of Rest countries may change easily if they have a fragile economic structure. On the other hand same figures and the results of panel data analyses indicate that economic structure of G8 countries' is stronger than the Rest countries therefore they can fix their economic conditions after crisis period. It is noticed that both positive and negative effects of crisis on the overall countries may change mutually.

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