Sosyo Ekonomi

Ocak-Haziran 2013-1

Budget Deficits and Democracy: The Case of Turkey

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Bütçe Açıkları ve Demokrasi: Türkiye Örneği

Abstract

There is a vast body of literature on the political economy of budget deficits. These studies used different models to explain the political motivations behind budget deficits. There are some studies to explain the budget deficit in developed countries and assume that budget deficit is an expected outcome of fiscal policy in democratic countries. However, the studies have come to conclusion before analyzing whether the democracy affects budget deficit or not. To our knowledge there have not been many studies to explain whether the level of a country's democracy affects budget deficits or not. In this paper, we will show a country's level of democracy has a positive effect on budget deficit using a single country: Turkey.

Keywords : Budget Deficits, Democracy, Political Budget Deficit.

JEL Classification Codes : D72, H61, H63.

Özet

Bütçe açıklarının politik iktisadı alanında geniş bir literatür mevcuttur. Bu alanda yapılan çalışmalar bütçe açıklarının arkasında yatan politik motifleri farklı modeller kullanarak açıklarlar. Gelişmiş ülkelerdeki bütçe açıklarını açıklamaya yönelik çalışmalar bütçe açıklarının demokratik ülkelerde beklenen bir sonuç olduğunu varsayarlar. Ancak bu çalışmalarda demokrasinin bütçe açıklarını etkileyip etkilemediğine dair bir analiz yapılmadan bu sonuca ulaşılmaktadırlar. Bizim bilgimize bir ülkenin demokratikleşme seviyesinin bütçe açıklarını etkileyip etkilemediğine dair pek fazla bir çalışma yapılmamıştır. Bu makalede bir ülkenin demokratikleşme seviyesinin bütçe açığını pozitif yönde etkilediği Türkiye örneğinde gösterilecektir.

Anahtar Sözcükler : Bütçe Açıkları, Demokrasi, Politik Bütçe Açığı.

1. Introduction

In democratic societies budget deficits are expected to occur as a result of democratic government's fiscal policy which takes account of electorates' preferences. Budget deficit was thought to be a phenomenon of democratic societies. Thus many paper focused on budget deficits in OECD countries or European countries.

Early political models stem form Nordhaus (1975) who argued that incumbent's aim is to secure reelection by maximizing its expected vote at the next election. This model is based on the assumption that the voters are backward looking and evaluate the government on the basis of its past achievements. As a result, governments try to expand the economy by higher expenditure in the last year of their term in the office. In recent political business cycles model, signaling is an issue to explain the electoral cycles in fiscal policy (e.g Rogoff and Sibert 1988, Persson and Tabellini 2002, Shi and Swenson 2006). Drazen and Eslave (2006) explain the relationship between opportunistic behavior of government and its expected election outcome in a game theoretic approach. In their explanation public expenditure is used to gain votes. The result is that expenditure rises in an election period. Swing voters vote for incumbent knowing that incumbent's higher expenditures are indeed used to increase the election chances. (see Klomp and De Haan 2013)

The basic reason for deviations occurred in budget balance is the economic policy implemented by decision makers (excluding global crises, natural disaster, etc.) The existing budget deficits are explained by political variables. Explaining the budget deficits by political variables has led the literature of political budget deficits models. Political budget deficits models are evaluated under two headings as Political and Institutional Models (Persson and Tabellini, 1997) and Political Budget Cycle Models (Mink and de Haan, 2006). Political budget deficits models are presented in Table 1.

In Table 1, political budget deficits models and the basic research fields are shown. Political models of budget deficit well surveyed in the literature (for example, Pinho (2004) and Eslava (2011)). In this paper, we can assume that the effect of democracy level on budget deficits can be examined by political system models (Crain and Ekelund, 1978). Crain and Ekelund (1978) emphasize that democracy resulted in a wide budget deficit. Two basic reasons are discussed for this: The first reason is that voters cannot choose their representatives in non- democratic regimes and those voters are not effective in decision making stage and in the provision of public goods and services. The second reason is that the lack of political competition among existing politicians may reduce budget deficits. In the democratic regimes, competition among politicians, uncertainty of reelection and loans made in order to show better performances can be explanations of an increase in budget deficits. Also, in order to influence voters,

undemocratic governments do not expand expenditures causing deficits since they are not confronted with an election pressure. Therefore it can be said that democracy can have a significant effect on budget deficits.

Table: 1
Political Budget Deficits Models

Political and Institutional Models (Persson and Tabellini, 1997)	**Political Budget Cycle Models** (Mink and de Haan, 2006)
1. Political System: How political system affects the behavior of policy makers (Crain and Ekelund 1978; Woo, 2003)	*1. Political Business Cycles*: To maximize the re-election probability, the incumbent governments perform fiscal manipulations (Nordhaus, 1975)
2. Government Fragmentation: Disagreement among various decisions makers (Roubini and Sachs, 1989a; Perotti and Kontopoulos, 2002)	*2. The Adverse Selection*: Political agents are assumed to have a certain level of competence that is known only by the politicians and not by the voters (Rogoff and Sibert, 1988)
3. Ideology: Ideological representation of government might affect the size of budget deficit (Hibbs, 1977)	*3. Moral Hazard*: Each politician is assumed to have competence level that is unknown by either the voters or politicians themselves (Shi and Svensson, 2003)
4. Budget Procedures: Budget institutions affect the budget outcomes (Alesina and Perotti, 1996; Drazen, 2000)	

To our knowledge there have not been many studies to explain whether the level of a country's democracy affects budget deficits or not. Budget deficit was thought to be a phenomenon of democratic societies. For example Brender and Drazer (2004:9) argue that "whether a country is a new or established democracy may have a significant effect on the likelihood that incumbents would use pre-electoral fiscal manipulation to increase the probability of their reelection".

To find an evidence for the Lipset/Aristotle hypothesis, which says that a higher standard of living promotes democracy, Barro (1999) and Muller (1995) analyzed the economic determinants of democracy. While Barro (1999) finds support for the hypothesis that the propensity for democracy rises with per capita GDP, primary schools, Muller (1995) finds a negative impact of income inequality on democratization. However, these studies certainly did not attempt to examine whether the level of a country's democracy affects its fiscal policy.

There is one close work to our paper by Feld and Kirshgassner (2001). They investigate the impact of referendum approval of budget deficits by the voters on the level of public debt in Swiss municipalities. They found that the municipalities with a referendum on the budget deficit had significantly lower debt per tax payer. However, they did not consider whether democracy affect the level of public debt in Swiss municipalities.

In the next section we will present the model and data obtained. Section 3 will present the estimation results. Last section concludes this paper.

2. Data and Model

Budget deficit has been modeled as a function of political and economic variables. Our political variables are democracy, public debts, national and local elections. The economic variables are economic crisis, unemployment, inflation and population. The variables are chosen in consideration of basic work of related literatures. (see Roubini and Sachs, 1989ab; Grilli et al, 1991; Edwards and Tabellini, 1991; Roubini, 1991; Volkerink and de Haan, 2001; Woo, 2001; Diokno, 2007; Gimeno and Jurado, 2011). However our main concern here is the variable democracy which has been neglected in the recent literature.

The values of variables budget deficits and democracy are annual for the period of 1975-2010. The democracy variable is obtained from Freedom House. This variable measures countries' democracy levels on a scale from 1 to 7. It shows that the closer the parameter value is to 1, the more democratic the country is. However, since we do not attempt to compare countries, in this research this variable has been changed to a dummy variable. It takes 1 for the high level of democracy (i.e. 1-3) and 0 otherwise.

Table: 2
National and Local Election Date

National Elections		Local Government Elections	
Election Years	**Election Quarter**	**Election Years**	**Election Quarter**
14.10.1973	1973-4	09.Dec.73	1973-4
05.06.1977	1977-2	11.Dec.77	1977-4
06.11.1983	1983-4	25.Mar.84	1984-1
29.11.1987	1987-4	26.Mar.89	1989-1
20.10.1991	1991-4	27.Mar.94	1994-1
24.12.1995	1995-4	18.Apr.99	1999-2
18.04.1999	1999-2	28.Mar.04	2004-1
03.11.2002	2002-4	29.Mar.09	2009-1
22.07.2007	2007-3		

While we test for the effect of democracy level in Turkey upon the budget deficits we also include the other political factors such as national and local elections to see their effects on budget deficits. In this relation, a dummy variable has been constructed in the analysis to capture the effect of the national and local election period as shown in Table 2. Election dummies are constructed by giving value 1 to the previous year if the election is held within the first half of the year. It is given 1 to the year of election if the election is held within the second half of the year.

Also, to capture the effects of economic crisis, another dummy variable is constructed. It takes the value 1 for the year of 1980, 1994, 1999, 2001 and 2009 when an economic crisis occured, and 0 for the other years. Moreover, as a determinant of budget deficits, variables of public debts, unemployment, inflation and population are also added in the analysis as control variables. In addition, the variables of budget deficits and debts are included as a ratio of national income. The economic variables are obtained from State Planning Organization (SPO) Economy and Social Indicators.

3. Estimation

This research based on a time series analysis covering 35 years between 1975 and 2010. When a time series analysis is applied, in order to avoid spurious regression problems the stationarity of the series should be examined in advance. If all the series are stationeries in level value, the model will be estimated by using Ordinary Least Square Method. However, if at least one of the series is not stationary, it will be analyzed by using VAR (Vector Autoregressive) method.

The stationarity property of time series data is examined by Augmented Dickey Fuller's (ADF) unit root test and the results are given in Table 3. The variables are subjected to the test, taking level values first and then the first differences. Also, the unit root test of each series is made by three different forms: with intercept term, with trend and intercept terms, and without trend and intercept terms. According to the test results in Table 3, all variables used in the analysis are not level [I(0)] values. Therefore the same test was carried out by taking differences of the series. The first differences of the series [I(1)] are understood to be stationary.

Table: 3
Unit Root Test Results

	Intercept term	Probability value	Trend and Intercept term	Probability value	No Trend and Intercept term	Probability value
Budget deficit	-2.077	0.255	-2.047	0.556	-1.041	0.263
Δ Budget deficit	-5.699***	0.000	-5.648***	0.000	-5.779***	0.000
Public Debts	-2.248	0.194	-2.196	0.477	-1.207	0.204
Δ Public Debts	-5.694***	0.000	-5.621***	0.000	-5.783***	0.000
Inflation	-2.204	0.208	-2.515	0.319	-1.126	0.231
Δ Inflation	-6.261***	0.000	-6.360***	0.000	-6.357***	0.000
Unemployment	-1.275	0.628	-2.465	0.342	0.389	0.790
Δ Unemployment	-5.655***	0.000	-5.544***	0.001	-5.593***	0.000
Population	-1.188	0.664	-1.062	0.921	-0.635	0.435
Δ Population	-4.094***	0.004	-9.233***	0.000	-4.582***	0.000

According to the unit root test results, the series are stationary after taking the first differences. This means that there is a dynamic relationship in data. In an analysis of dynamic relationships between variables, it is stated that VAR models are more effective than the other structural models (Greene, 1993). In the VAR method, formulated by Sims (1980) for the first time, dynamic relationship among endogenous variables is predicted without robust priory restrictions.

Table: 4
Lag Length tests

Lag	AIC	SC	H-
0	3.978312	4.398671	4.112788
1	-6.858609	-2.655017	-5.513844
2	-14.76990*	-6.783075*	-12.21485*

** Indicates the appropriate lag level chosen according to the information criteria*

In the VAR method, after stationarity test, the appropriate lag lengths should be determined. There are two different methods in this lag length determination procedure. The first method is that the appropriate lag numbers are generally decided by researchers. In the literature, accordingly, lag values are 12 or 24 in the researches using monthly data; 4 and 8 or 12 for ones using seasonal data; 1,2 or mostly 3 in ones using yearly data (Kadılar, 2000:54). The second method is that lag values are determined by using Akaike Information Criterion: AIC, Schwarz information criterion: SC and Hannan--Quinn information criterion: HQ (Johansen, 1995; Enders, 1995). Because data used in our study is yearly, 2 lags are assumed to be appropriate. To test this assumption, AIC, SC, and HQ criteria tests results are shown in Table 4.

In the literature, it is explained that after determining the lag length appropriate for VAR analysis selected variables are ranked from endogenous to exogenous. This ranking procedure is achieved in the causality test developed by Granger (1969). The null hypothesis that "x does not cause y or vice versa" (H_0) tested by Granger's causality test. Thus, if the test result is statistically significant, it is said that this hypothesis is rejected and there is a relationship between variables and that the variables affect each other. In Table 5, Granger causality test results between budget deficits and other variables are shown. The causality relationship between variables is also given in Appendix 1.

In Table 5, budget deficits and public debts seem to mutually cause each other. Moreover it statistically appears that the budget deficits cause inflation. The variables local election and democracy have effects on budget deficits. According to the test results, the effect of the democracy on budget deficits confirms the aim of this study. The magnitude of this effect is determined by Variance Decomposition which shows how much variables are affected by the change of themselves and other variables.

Table: 5
Granger Causality Tests

Effect		Effected	F-Statistic	Prob.
Public Debts	→	Budget Deficit	3.88540	0.0339
Budget Deficit		Public Debts	3.26343	0.0550
Inflation	→	Budget Deficit	0.87090	0.4292
Budget Deficit		Inflation	3.29627	0.0513
Population	→	Budget Deficit	0.32709	0.7236
Budget Deficit		Population	0.92615	0.4075
Unemployment	→	Budget Deficit	1.29774	0.2885
Budget Deficit		Unemployment	0.23194	0.7945
Local election	→	Budget Deficit	4.34962	0.0223
Budget Deficit		Local election	0.00123	0.9988
Democracy	→	Budget Deficit	2.69825	0.0842
Budget Deficit		Democracy	0.38333	0.6850
National Election	→	Budget Deficit	0.85205	0.4369
Budget Deficit		National Election	0.28406	0.7548
Crisis	→	Budget Deficit	0.69072	0.5093
Budget Deficit		Crisis	0.88021	0.4255

The results of VAR model estimated by appropriate lag lengths are shown in Appendix 2. The results of variance decomposition obtained from VAR model are shown in Table 6. These results in Table 6 show how much budget deficits are affected by their own change and other variables' change in percentage.

Table: 6
Variance Decomposition

Year	S.E.	Budget Deficit	Public Debts	Inflation	Population	Unemp-loyment	Democracy	National Election	Local Election	Crisis
1	0.22	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.31	59.0	10.3	2.35	0.00	10.5	0.30	1.73	15.1	0.48
3	0.41	35.3	6.40	3.76	6.46	20.5	1.30	1.04	24.7	0.34
4	0.53	21.0	6.54	5.75	6.33	41.0	1.73	0.79	16.4	0.33
5	0.57	18.4	7.83	5.65	7.60	42.7	1.73	0.82	14.5	0.54

According to the Table 6 it is certain that the only reason for the budget deficits of the current year is the budget deficit of the previous year. One of the main causes of budget deficits is also past budget deficits. The results confirmed that public debts' effect on budget deficits changes about 7 to 10 percent. It seems that another variable which significantly affects budget deficits is unemployment. On the other hand, the effects of national elections and economic crisis are smaller. It also seems that local elections significantly affect budget deficits. Finally, our results suggest that democracy affects budget deficits by approximately 1 percentage point.

4. Conclusion

In this paper, we analyzed the effect of a country's level of democracy on its fiscal policy. In the literature on the political economics of budget deficit we have not found many papers taking account of democracy as a political variable. Our results suggest that Turkey's level of democracy has indeed effects on budget deficits. We also find evidence that before the local election is held governments uses expansionary fiscal policies in order to increase the reelection probabilities. We will further our research by extending the analysis to OECD countries in order to have robust conclusion about the effect of democracy on budget deficit.

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Appendix: 1
Granger Test Results

Null Hypothesis:	F-Statistic	Prob.
LENF does not Granger Cause LDB_GSYIH	3.34486	0.0516
LDB_GSYIH does not Granger Cause LENF	5.67247	0.0093
LN does not Granger Cause LDB_GSYIH	1.30263	0.2896
LDB_GSYIH does not Granger Cause LN	0.14272	0.8677
LUNE does not Granger Cause LDB_GSYIH	2.76320	0.0824
LDB_GSYIH does not Granger Cause LUNE	1.67338	0.2079
PRD does not Granger Cause LDB_GSYIH	1.33324	0.2817
LDB_GSYIH does not Granger Cause PRD	0.53240	0.5937
YS does not Granger Cause LDB_GSYIH	5.39196	0.0113
LDB_GSYIH does not Granger Cause YS	0.77779	0.4702
GS does not Granger Cause LDB_GSYIH	0.20671	0.8146
LDB_GSYIH does not Granger Cause GS	0.02189	0.9784
CRISIS does not Granger Cause LDB_GSYIH	1.99729	0.1568
LDB_GSYIH does not Granger Cause CRISIS	3.95125	0.0323
LN does not Granger Cause LENF	3.22242	0.0545
LENF does not Granger Cause LN	0.50446	0.6090
LUNE does not Granger Cause LENF	2.76245	0.0798
LENF does not Granger Cause LUNE	1.67453	0.2050
PRD does not Granger Cause LENF	0.38765	0.6821
LENF does not Granger Cause PRD	2.42753	0.1060
YS does not Granger Cause LENF	0.33314	0.7194
LENF does not Granger Cause YS	0.29265	0.7485
GS does not Granger Cause LENF	1.00927	0.3769
LENF does not Granger Cause GS	2.09027	0.1419
CRISIS does not Granger Cause LENF	0.33857	0.7156
LENF does not Granger Cause CRISIS	0.20869	0.8129

LUNE does not Granger Cause LN LN does not Granger Cause LUNE	0.94841 1.80853	0.3990 0.1819
PRD does not Granger Cause LN LN does not Granger Cause PRD	1.91149 0.09863	0.1660 0.9064
YS does not Granger Cause LN LN does not Granger Cause YS	0.40490 0.12511	0.6708 0.8829
GS does not Granger Cause LN LN does not Granger Cause GS	0.67453 0.04607	0.5172 0.9550
CRISIS does not Granger Cause LN LN does not Granger Cause CRISIS	0.71580 0.37061	0.4972 0.6935
PRD does not Granger Cause LUNE LUNE does not Granger Cause PRD	0.10603 1.39821	0.8997 0.2632
YS does not Granger Cause LUNE LUNE does not Granger Cause YS	3.89484 0.33351	0.0318 0.7191
GS does not Granger Cause LUNE LUNE does not Granger Cause GS	2.92872 0.61022	0.0694 0.5501
CRISIS does not Granger Cause LUNE LUNE does not Granger Cause CRISIS	2.47818 0.17739	0.1015 0.8384
YS does not Granger Cause PRD PRD does not Granger Cause YS	0.00104 0.37179	0.9990 0.6927
GS does not Granger Cause PRD PRD does not Granger Cause GS	0.82999 1.83110	0.4461 0.1783
CRISIS does not Granger Cause PRD PRD does not Granger Cause CRISIS	0.59633 1.40586	0.5574 0.2614
GS does not Granger Cause YS YS does not Granger Cause GS	1.02805 0.55564	0.3704 0.5797
CRISIS does not Granger Cause YS YS does not Granger Cause CRISIS	0.93876 0.36973	0.4027 0.6941
CRISIS does not Granger Cause GS GS does not Granger Cause CRISIS	0.21843 1.13945	0.8051 0.3339

Note: GS refers to national election, YS is local election PRD is Democracy, N is Population, UNE is Unemployment, ENF is inflation, PD is Public debts.

Appendix: 2
VAR Analysis Results

	BUDGET DEFICIT	PUBLIC DEBTS	INFLATION	UNEMPLOYMENT	POPULATION (N)	CRISIS	NATIONAL ELECTION (GS)	LOCAL ELECTION (YS)	DEMOCRACY (PRD)
BUDGET DEFICIT (-1)	-0.521536	-0.810167	0.455609	0.073550	-0.000210	0.312971	-0.424336	-0.156114	0.517796
	(0.22592)	(0.18739)	(0.40754)	(0.07671)	(0.00037)	(0.34730)	(0.41993)	(0.46996)	(0.39694)
	[-2.30847]	[-4.32337]	[1.11794]	[0.95875]	[-0.56302]	[0.90115]	[-1.01049]	[-0.33219]	[1.30448]
BUDGET DEFICIT (-2)	0.029790	-0.092331	-1.477534	0.018881	0.000640	0.124070	-0.120517	0.259196	-0.150584
	(0.20916)	(0.17349)	(0.37731)	(0.07102)	(0.00035)	(0.32154)	(0.38878)	(0.43509)	(0.36749)
	[0.14243]	[-0.53219]	[-3.91597]	[0.26584]	[1.85226]	[0.38586]	[-0.30999]	[0.59572]	[-0.40976]
PUBLIC DEBTS (-1)	0.775881	1.014604	-0.683726	-0.019349	0.000668	0.543356	0.001143	0.257146	-0.553736
	(0.26512)	(0.21991)	(0.47825)	(0.09002)	(0.00044)	(0.40756)	(0.49279)	(0.55149)	(0.46580)
	[2.92653]	[4.61383]	[-1.42964]	[-0.21493]	[1.52518]	[1.33320]	[0.00232]	[0.46627]	[-1.18878]
PUBLIC DEBTS (-2)	-0.079769	-0.103177	1.077544	-0.021754	-0.000671	-0.440893	0.219794	-0.103433	0.108653
	(0.14254)	(0.11823)	(0.25714)	(0.04840)	(0.00024)	(0.21913)	(0.26495)	(0.29652)	(0.25044)
	[-0.55961]	[-0.87265]	[4.19057]	[-0.44945]	[-2.85279]	[-2.01204]	[0.82956]	[-0.34883]	[0.43384]
INFLATION (-1)	-0.056970	0.123165	0.722629	0.069854	-0.000409	0.288237	0.025877	0.026709	0.082646
	(0.13742)	(0.11398)	(0.24789)	(0.04666)	(0.00023)	(0.21125)	(0.25543)	(0.28586)	(0.24144)
	[-0.41457]	[1.08054]	[2.91509]	[1.49702]	[-1.80447]	[1.36444]	[0.10131]	[0.09344]	[0.34230]
INFLATION (-2)	-0.020660	0.081937	0.018681	-0.153805	0.000777	-0.345337	-0.206844	-0.287575	-0.317274
	(0.17516)	(0.14529)	(0.31598)	(0.05948)	(0.00029)	(0.26927)	(0.32559)	(0.36437)	(0.30776)
	[-0.11794]	[0.56395]	[0.05912]	[-2.58588]	[2.68612]	[-1.28248]	[-0.63530]	[-0.78924]	[-1.03092]
UNEMPLOYMENT (-1)	1.181512	1.344461	2.217773	0.857698	0.001623	1.186880	-0.947817	0.777508	1.868806
	(0.86099)	(0.71415)	(1.55314)	(0.29236)	(0.00142)	(1.32356)	(1.60036)	(1.79100)	(1.51272)
	[1.37227]	[1.88260]	[1.42793]	[2.93375]	[1.14142]	[0.89673]	[-0.59225]	[0.43412]	[1.23540]
UNEMPLOYMENT (-2)	-2.628755	-3.823301	-3.239039	-0.400097	0.001107	-0.453727	0.554021	1.444177	-1.477300
	(0.90812)	(0.75324)	(1.63815)	(0.30836)	(0.00150)	(1.39601)	(1.68796)	(1.88903)	(1.59552)
	[-2.89473]	[-5.07579]	[-1.97725]	[-1.29751]	[0.73823]	[-0.32502]	[0.32822]	[0.76451]	[-0.92590]
LN (-1)	-153.3545	-129.8808	-45.97548	21.54241	1.667783	52.50776	-108.9609	-45.71806	-10.70137
	(60.0364)	(49.7974)	(108.299)	(20.3858)	(0.09913)	(92.2910)	(111.592)	(124.885)	(105.481)
	[-2.55436]	[-2.60818]	[-0.42452]	[1.05674]	[16.8239]	[0.56894]	[-0.97642]	[-0.36608]	[-0.10145]
LN (-2)	154.0321	130.7910	48.26422	-20.92237	-0.679618	-52.90637	108.8538	43.88074	9.828280
	(58.5949)	(48.6018)	(105.699)	(19.8964)	(0.09675)	(90.0751)	(108.913)	(121.887)	(102.948)
	[2.62876]	[2.69107]	[0.45662]	[-1.05157]	[-7.02436]	[-0.58736]	[0.99946]	[0.36001]	[0.09547]
CRISIS (-1)	-0.229820	-0.357757	-0.016724	-0.044787	1.42E-05	-0.530534	0.153512	-0.497756	-0.236800
	(0.18347)	(0.15218)	(0.33096)	(0.06230)	(0.00030)	(0.28204)	(0.34102)	(0.38165)	(0.32235)
	[-1.25262]	[-2.35087]	[-0.05053]	[-0.71890]	[0.04701]	[-1.88105]	[0.45015]	[-1.30423]	[-0.73461]
CRISIS (-2)	0.092810	0.250901	-0.240957	0.079407	6.69E-05	0.304864	-0.272533	-0.473256	-0.156471
	(0.18481)	(0.15329)	(0.33337)	(0.06275)	(0.00031)	(0.28410)	(0.34351)	(0.38443)	(0.32470)
	[0.50220]	[1.63678]	[-0.72279]	[1.26539]	[0.21925]	[1.07311]	[-0.79338]	[-1.23106]	[-0.48190]
GS (-1)	0.008640	-0.075645	0.109794	-0.071876	-8.30E-05	-0.422212	-0.475060	0.016880	0.074245
	(0.12433)	(0.10313)	(0.22428)	(0.04222)	(0.00021)	(0.19113)	(0.23110)	(0.25863)	(0.21845)
	[0.06949]	[-0.73351]	[0.48953]	[-1.70249]	[-0.40423]	[-2.20903]	[-2.05563]	[0.06527]	[0.33988]
GS (-2)	0.217867	0.168522	0.261594	-0.008012	0.000278	-0.141553	-0.580620	0.025927	-0.139486
	(0.14514)	(0.12039)	(0.26182)	(0.04928)	(0.00024)	(0.22312)	(0.26978)	(0.30192)	(0.25501)
	[1.50106]	[1.39982]	[0.99913]	[-0.16257]	[1.16018]	[-0.63443]	[-2.15219]	[0.08588]	[-0.54699]
YS (-1)	-0.222014	0.004981	0.067026	-0.073922	2.13E-05	0.135110	-0.311836	-0.276051	-0.105711
	(0.15244)	(0.12644)	(0.27498)	(0.05176)	(0.00025)	(0.23434)	(0.28334)	(0.31710)	(0.26783)
	[-1.45641]	[0.03939]	[0.24375]	[-1.42811]	[0.08447]	[0.57656]	[-1.10055]	[-0.87056]	[-0.39470]
Y S(-2)	0.343158	0.257220	0.529121	0.027655	-8.66E-05	0.301969	-0.118615	-0.203270	0.275036
	(0.15385)	(0.12761)	(0.27753)	(0.05224)	(0.00025)	(0.23651)	(0.28597)	(0.32004)	(0.27031)
	[2.23044]	[2.01561]	[1.90651]	[0.52936]	[-0.34083]	[1.27677]	[-0.41478]	[-0.63514]	[1.01748]
PRD (-1)	-0.026075	0.036307	-0.452722	-0.024631	-0.000552	-0.648210	0.312691	-0.578207	0.443477
	(0.17831)	(0.14790)	(0.32165)	(0.06055)	(0.00029)	(0.27410)	(0.33143)	(0.37091)	(0.31328)
	[-0.14624]	[0.24549]	[-1.40751]	[-0.40681]	[-1.87567]	[-2.36485]	[0.94347]	[-1.55890]	[1.41561]
PRD (-2)	-0.505659	-0.163144	0.442436	0.103606	-0.000303	0.429749	-0.652855	-0.022926	-0.018713
	(0.19966)	(0.16560)	(0.36016)	(0.06779)	(0.00033)	(0.30692)	(0.37111)	(0.41531)	(0.35078)
	[-2.53266]	[-0.98514]	[1.22845]	[1.52824]	[-0.91958]	[1.40020]	[-1.75921]	[-0.05520]	[-0.05335]

C	-4.977111	-8.168730	-36.42072	-9.995440	0.208921	4.454403	6.508847	30.21950	16.43099
	(32.0034)	(26.5454)	(57.7308)	(10.8670)	(0.05284)	(49.1973)	(59.4861)	(66.5722)	(56.2285)
	[-0.15552]	[-0.30773]	[-0.63087]	[-0.91980]	[3.95356]	[0.09054]	[0.10942]	[0.45394]	[0.29222]
R-s-uared	0.957356	0.940469	0.917009	0.915037	0.999998	0.686397	0.644031	0.554172	0.762936
Adj. R-s-uared	0.887576	0.843055	0.781206	0.776008	0.999995	0.173229	0.061536	-0.175365	0.375012
Sum s-. resids	0.552941	0.380420	1.799291	0.063754	1.51E-06	1.306678	1.910367	2.392610	1.706864
S.E. e-uation	0.224204	0.185967	0.404440	0.076130	0.000370	0.344658	0.416737	0.466380	0.393915
F-statistic	13.71958	9.654369	6.752471	6.581596	306096.1	1.337568	1.105642	0.759622	1.966716
Log likelihood	17.33737	22.94699	-0.361087	49.74071	209.5251	4.437480	-1.259629	-4.635967	0.429942
Akaike AIC	0.110842	-0.263133	1.290739	-2.049381	-12.70167	0.970835	1.350642	1.575731	1.238004
Schwarz SC	0.998267	0.624292	2.178164	-1.161956	-11.81425	1.858260	2.238067	2.463156	2.125429
Mean dependent	1.252325	1.622117	3.703466	2.157296	17.82249	0.166667	0.233333	0.233333	0.600000
S.D. dependent	0.668673	0.469421	0.864642	0.160857	0.161364	0.379049	0.430183	0.430183	0.498273

Determinant resid covariance (dof adj.)	2.91E-19
Determinant resid covariance	3.49E-23
Log likelihood	392.5485
Akaike information criterion	-14.76990
Schwarz criterion	-6.783075