EUROPEAN UNION VS ECONOMIC FREEDOM UNDER THE GLOBAL CRISIS IMPACT

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Abstract. *The paper deals with the idea of analyzing the impact of the economic freedom on national economic development. In order to realize this, the analysis is focused on three steps. For the beginning, we determined the place of the EU28 in the global economic freedom approach using the Index of economic freedom and the comparative analysis. The second step of the analysis consists of a TwoStep cluster analysis, supported by SPSS19 software, which is realized in order to support the idea that the economic freedom, connected to the economic development, created three clusters from the Member States. The clustering criterion is BIC (Schwarz's Bayesian Criterion). Finally, the analysis is focused on a forecast of the index of economic freedom till the end of 2020, in order to observe if the disparities across the world economy. The dependent variables in this forecast are the economic freedom rates and the independent variable is time. The forecast method is ARIMA. Whole analysis process and all conclusions of the paper are supported by the latest official statistic data, pertinent tables and diagrams. The main conclusion of the paper is that the economic freedom supports the economic development. Its global trend was positive in 2013-2014. There is not global economic actor in world top 10 according index of the economic freedom. Only two Member States are ranked on the global top 10. Moreover, there are great disparities across the EU28 related to the economic freedom. As a result, the Member States can be grouped into three different clusters. Romania will have a positive trend of the economic freedom score until 2020, better than the global trend of this index. The disparities between EU Member States will not be fixed on short and medium term and the solutions seem to be found at national level.*

Keywords: *economic freedom, rule of low, government size, regulatory efficiency, open markets, economic forecasts.*

1. Introduction

A very sensitive issue for the economists is the economic freedom. There are a lot of approaches related to the indicators able to quantify this freedom and the way of using them.

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An interesting point of view has Niclas Berggren, who considers economic freedom as an intrinsic value, on one side, and as a dependent variable, on the other hand [1].

Other specialists tried to find connections between economic freedom, investment and economic growth. As a result, the economic freedom supports the FDI inflows in the host countries and the result is the economic growth. This approach is available if the host countries are characterised by appropriately skilled labor, liberalized markets and economic stability [2].

The economic freedom is opposite to socialist policies. This is why Hayek criticized socialist policies as the slippery slope that can lead to totalitarianism [3].

Other researches were focused on the idea that there is a relatively large correlation between economic freedom and both per capita income and per capita growth [4].

Goodin, Rice, Parpo, and Eriksson created the measure of discretionary time, as an estimate of how much time people have at their disposal during which they are free to choose the activities in which they participate, after taking into account the time they need to spend acquiring the necessities of life [5].

A recent paper deals with the connection between the economic freedom and globalization. The analysis takes into account the government size, using the total tax revenue and total expenditures as share of GDP, and the economic growth [6].

On the other hand, some papers analyzed the connection between more competitive markets' reforms, lower human rights violation and increase government's respect for human rights [7].

Nowadays, the importance of the economic freedom concept increased. As a result, The Heritage Foundation in Partnership with The Wall Street Journal realized and calculated the Index of Economic Freedom [8]. This index covers 186 countries in 2014. It was estimated since 1995 and is focused on the size of the economic freedom in the world. The global average economic freedom score has reached 60.3, the highest ever recorded in the 20-year history of the Index. World economic freedom has improved by 0.7 point from last year and 2.7 points from 1995.

2. Research methodology

The analysis in the paper follows at least **three steps**. First is that of determining the place of the EU28 in the global economic freedom

approach using the Index of economic freedom and the comparative analysis. This index is built on four components (see Figure 1).

According to Figure 1, there are different elements in the analysis. From the legal point of view, the property rights respecting and the decrease of the corruption are very important for the national economy.

Moreover, the taxation level and the impact of the government expenditures are able to support sustainable development.

Other important element is the effect of the economic policies' implementation, which is quantified by business, labor and monetary freedom.

Last, but not the least, the openness degree of the national economy has positive impact on international trade, investment and finances.

The second step of the analysis is the cluster analysis, which is realized in order to support the idea that the economic freedom, connected to the economic development, created three clusters from the Member States. Moreover, we can talk about a EU28 with three economic development speeds.

The analysis is supported by SPSS19 software, under TwoStep cluster analysis, where the categorial variables are the above four economic indicators and the distance measure is log-likelihood. The clustering criterion is BIC (Schwarz's Bayesian Criterion).
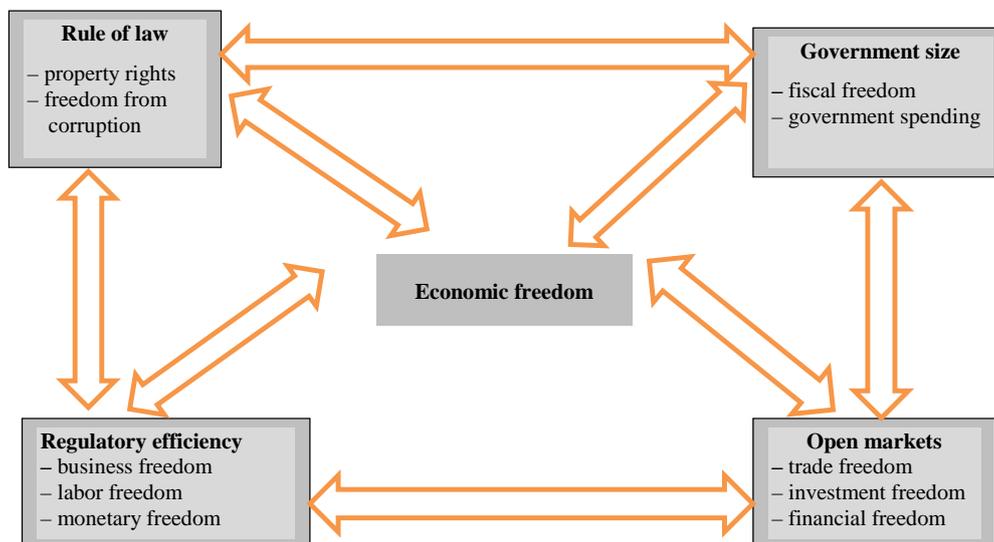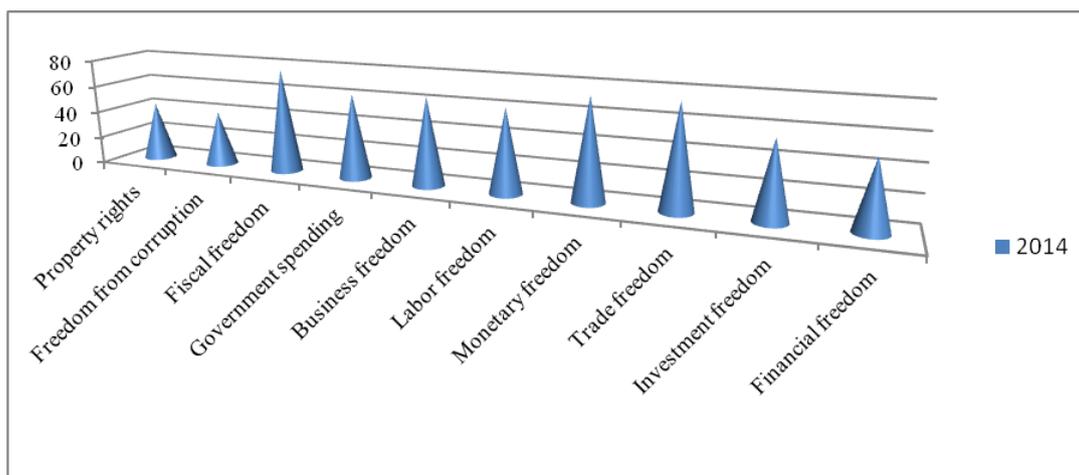

Figure 1. Index of economic freedom approach.
Source: personal contribution.

Finally, the analysis is focused on a forecast of the index of economic freedom till the end of 2020, in order to observe if the disparities across the world economy. The dependent variables in this forecast are the economic freedom rates and the independent variable is time. The forecast method is ARIMA.

3. Results

The global index of economic freedom achieved 60.3 in 2014, the highest value till now, but not all its components had positive trends. The rule of low decreased by 0.3 for each of its two components; the other three elements of the index increased. The highest increased in 2014 was achieved by investment freedom (3.3) and the lowest by fiscal freedom and financial freedom (0.1). The values of ten economic freedoms in 2014 are presented in Figure 2.

Figure 2. Index of economic freedom in 2014.

Source: personal contribution.

According to Figure 2, the most important element which supports the economic development in 2014 is the fiscal freedom (77.3). It is followed by trade freedom (74.8) and monetary freedom (74.2).

Europe achieved above or equal scores to global average for eight components of the index of freedom. The two exceptions are fiscal freedom and government spending.

There are six free national economies in 2014: Hong Kong (90.1), Singapore (89.4), Australia (82.0), Switzerland (81.6), New Zealand (81.2) and Canada (80.2).

12 EU Member States are ranked as mostly free economies, 15 as moderately free economies and one as mostly unfree economy (see Table 1).
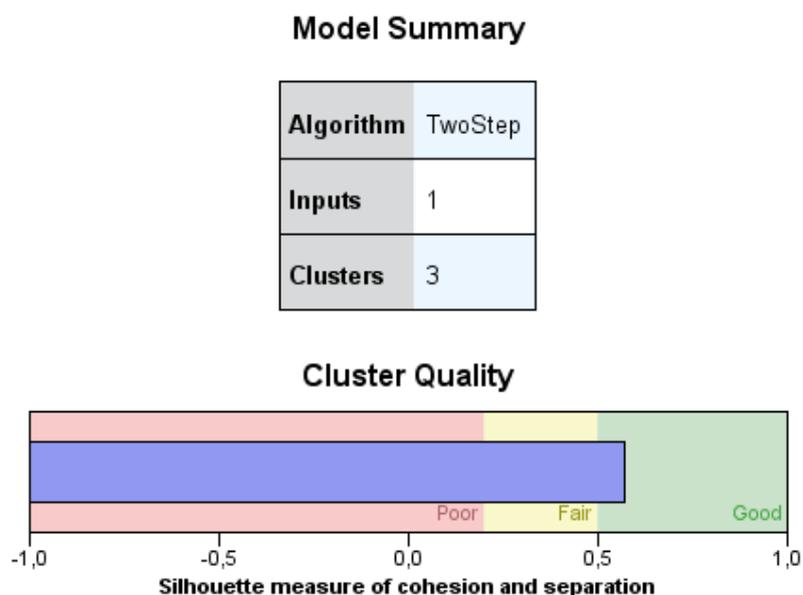
Table 1

EU country rankings.

Rank	Country	Overall	Change
9	Ireland	76.2	0.5
10	Denmark	76.1	0.0
11	Estonia	75.9	0.6
14	UK	74.9	0.1
15	Netherlands	74.2	0.7
16	Luxembourg	74.2	0.0
18	Germany	73.4	0.6
19	Finland	73.4	–0.6
20	Sweden	73.1	0.2
21	Lithuania	73.0	0.9
24	Austria	72.4	0.6
26	Czech Republic	72.2	1.3
35	Belgium	69.9	0.7
42	Latvia	68.7	2.2
46	Cyprus	67.6	–1.4
49	Spain	67.2	–0.8
50	Poland	67.0	1.0
51	Hungary	67.0	–0.3
57	Slovakia	66.4	–2.3
58	Malta	66.4	–1.1
61	Bulgaria	65.7	0.7
62	Romania	65.5	0.4
69	Portugal	63.5	0.4
70	France	63.5	–0.6
74	Slovenia	62.7	1.0
86	Italy	60.9	0.3
87	Croatia	60.4	–0.9
119	Greece	55.7	0.3

mostly unfree

- moderately free   -mostly free
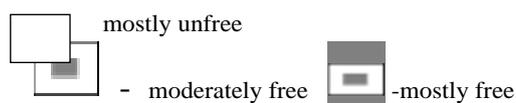
There are only two Member State in world 10 top (Ireland and Denmark) in 2014. Moreover, three Member States achieve better ranks than the main EU economic competitors: USA (12th rank), Japan (25th rank) and China (137th rank). The problem is that these three European economies (Ireland, Denmark and Estonia) are small national economies.

In 2014, 18 Member States improved their ranks, 2 states maintained their ranks and 8 states faced to negative trends. The highest improvement was achieved by Latvia (2.2) and the lowest by Slovakia (-2.3). Greece succeeded in increasing its index of economic freedom by 0.3 in 2014.

According to Table 1, we can divide the Member States into three clusters: states with positive trend of the index of economic freedom, states with no change in economic freedom trend and states with negative trend of the index of economic freedom. In order to support this idea, we used the cluster analysis (see Figure 3).

Model Summary

Algorithm	TwoStep
Inputs	1
Clusters	3

Cluster Quality

Silhouette measure of cohesion and separation

Figure 3. Cluster analysis under Index of economic freedom in 2014.

Source: personal contribution.

According to the trend of the index of economic freedom, the result of the above cluster analysis is good enough to support the idea of three clusters across the EU28.

Romania achieved a score of 65.5 and a growth of 0.4 in 2014. Its rank is supported by fiscal freedom, government spending, labor freedom, trade freedom and investment freedom (see Figure 4).
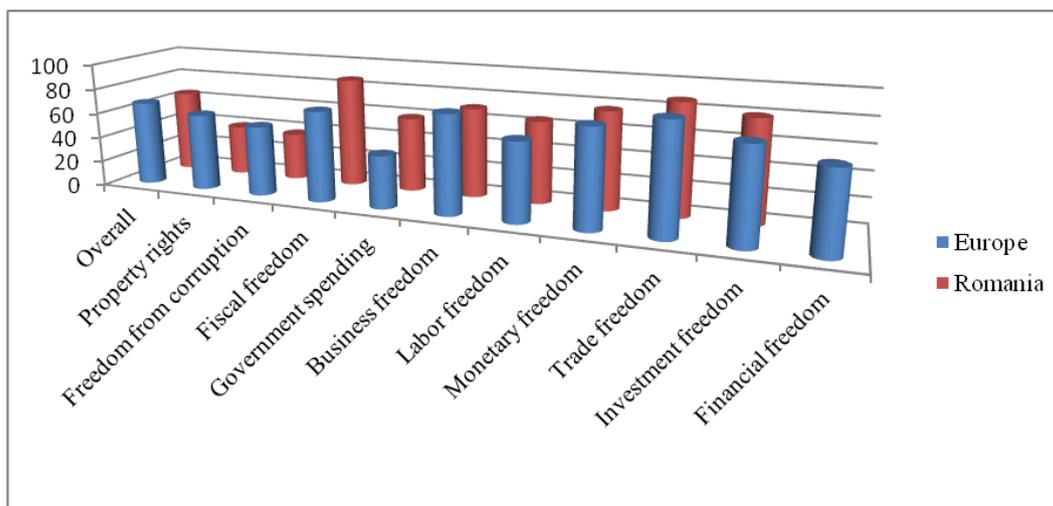
Figure 4. Components of the Index of economic freedom
in Europe and Romania in 2014.

Source: personal contribution.

Worst ranks are those related to propriety rights, freedom from corruption and financial freedom.

4. Discussion

There is no-doubt that economic freedom is essential for the sustainable development in the world economy. On the other hand, different global economic crisis, as that starting in 2007, can have negative impact on the index of economic freedom trend.

This is why the next step of the present analysis is to realize a forecast of the global index of economic freedom until 2020. We used the official data for 1995 to 2014 time period as the base of this forecast [9].
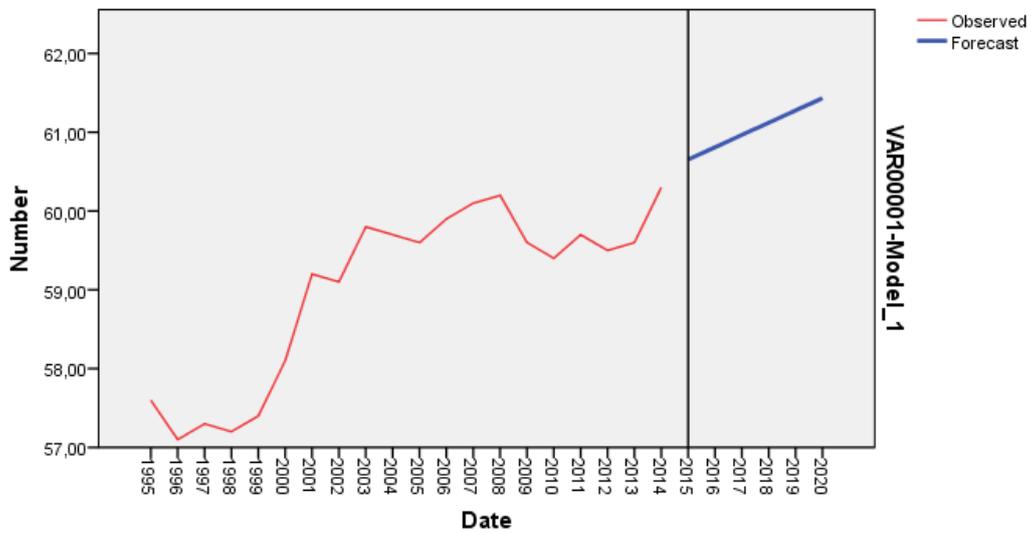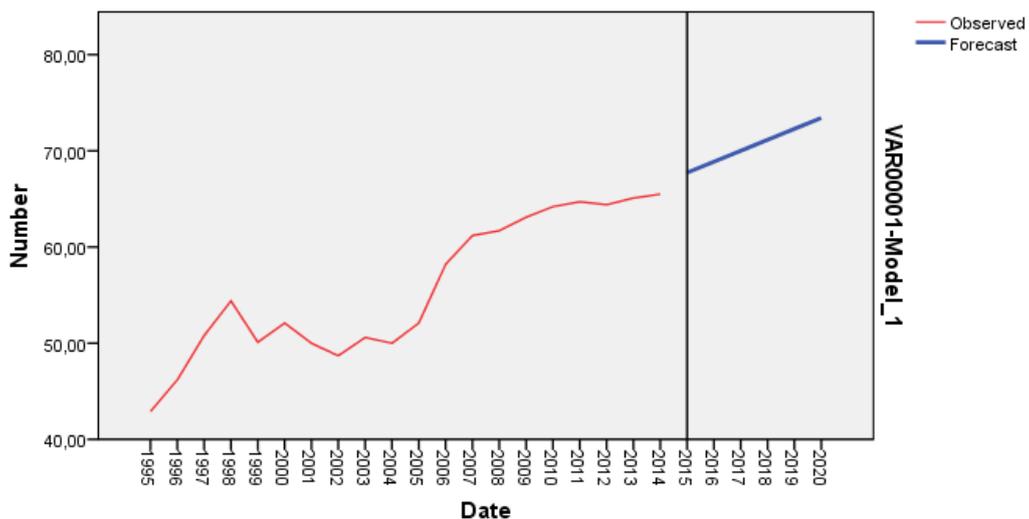
Figure 5. Global index of economic freedom forecast.

Source: personal contribution using SPSS19 software.

According to Figure 5, the economic freedom will increase slowly to 61.5 in 2020. This means an annual average increase of 0.2. Maybe the greatest problems will be in mostly unfree and repressed national economies, which represented 49.43% from the number of analyzed countries in 2014.

What about Romania? The same forecast leads to a positive conclusion (see Figure 6).

Figure 6. Romania's index of economic freedom forecast.
Source: personal contribution using SPSS19 software.

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According to the above forecast, Romania will achieve an index of economic freedom of 70.4 in 2020, greater than the global one.

5. Conclusions

Economic freedom supports the economic development. Its global trend was positive in 2013-2014. There is not global economic actor in world top 10 according index of the economic freedom.

Only two Member States are ranked on the global top 10. Moreover, there are great disparities across the EU28 related to the economic freedom. As a result, the Member States can be grouped into three different clusters.

Romania will have a positive trend of the economic freedom score until 2020, better than the global trend of this index.

The disparities between EU Member States will not be fixed on short and medium term and the solutions seem to be found at national level.

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ANNEXES

1. Index of global economic freedom forecast

```
PREDICT THRU END.
* Time Series Modeler.
TSMODEL
  /MODELSUMMARY  PRINT=[MODELFIT]
  /MODELSTATISTICS  DISPLAY=YES MODELFIT=[ SRSQUARE]
  /SERIESPLOT OBSERVED FORECAST
  /OUTPUTFILTER DISPLAY=ALLMODELS
  /AUXILIARY  CILEVEL=95 MAXACFLAGS=24
  /MISSING USERMISSING=EXCLUDE
  /MODEL DEPENDENT=VAR00001 INDEPENDENT=YEAR_
    PREFIX='Model'
  /ARIMA AR=[0] DIFF=0 MA=[0]
    ARSEASONAL=[0]  DIFFSEASONAL=0  MASEASONAL=[0]
    TRANSFORM=NONE CONSTANT=YES
  /TRANSFERFUNCTION  VARIABLES=YEAR_ NUM=[0] DENOM=[0] DIFF=0
DELAY=0
    TRANSFORM=NONE
  /AUTOOUTLIER DETECT=OFF.
```

Time Series Modeler

[DataSet0]

Model Description

	Model Type
Model ID VAR00001 Model_1	ARIMA(0,0,0)

Model Summary

Model Fit

Fit Statistic	Mean	SE	Minimum	Maximum	Percentile						
					5	10	25	50	75	90	95
Stationary R-squared	,689	.	,689	,689	,689	,689	,689	,689	,689	,689	,689
R-squared	,689	.	,689	,689	,689	,689	,689	,689	,689	,689	,689
RMSE	,635	.	,635	,635	,635	,635	,635	,635	,635	,635	,635
MAPE	,932	.	,932	,932	,932	,932	,932	,932	,932	,932	,932
MaxAPE	1,695	.	1,695	1,695	1,695	1,695	1,695	1,695	1,695	1,695	1,695
MAE	,550	.	,550	,550	,550	,550	,550	,550	,550	,550	,550
MaxAE	1,013	.	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013
Normalized BIC	-,608	.	-,608	-,608	-,608	-,608	-,608	-,608	-,608	-,608	-,608

Model Statistics

Model	Number of Predictors	Model Fit statistics	Ljung-Box Q(18)			Number of Outliers
		Stationary R-squared	Statistics	DF	Sig.	
VAR00001-Model_1	1	,689	71,354	18	,000	0

2. Romania's index of economic freedom forecast

```
PREDICT THRU END.
* Time Series Modeler.
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  /MODELSTATISTICS  DISPLAY=YES MODELFIT=[ SRSQUARE]
  /SERIESPLOT OBSERVED FORECAST
  /OUTPUTFILTER DISPLAY=ALLMODELS
  /AUXILIARY  CILEVEL=95 MAXACFLAGS=24
  /MISSING USERMISSING=EXCLUDE
  /MODEL DEPENDENT=VAR00001 INDEPENDENT=YEAR_
    PREFIX='Model'
  /ARIMA AR=[0] DIFF=0 MA=[0]
    ARSEASONAL=[0]  DIFFSEASONAL=0  MASEASONAL=[0]
    TRANSFORM=NONE CONSTANT=YES
  /TRANSFERFUNCTION  VARIABLES=YEAR_  NUM=[0] DENOM=[0] DIFF=0
DELAY=0
    TRANSFORM=NONE
  /AUTOOUTLIER DETECT=OFF.
```

Time Series Modeler

[DataSet0]

Model Description

			Model Type
Model ID	VAR00001	Model_1	ARIMA(0,0,0)

Model Summary

Model Fit

Fit Statistic	Mean	SE	Minimum	Maximum	Percentile						
					5	10	25	50	75	90	95
Stationary R-squared	,845	.	,845	,845	,845	,845	,845	,845	,845	,845	,845
R-squared	,845	.	,845	,845	,845	,845	,845	,845	,845	,845	,845
RMSE	2,963	.	2,963	2,963	2,963	2,963	2,963	2,963	2,963	2,963	2,963
MAPE	4,237	.	4,237	4,237	4,237	4,237	4,237	4,237	4,237	4,237	4,237
MaxAPE	11,010	.	11,010	11,010	11,010	11,010	11,010	11,010	11,010	11,010	11,010
MAE	2,264	.	2,264	2,264	2,264	2,264	2,264	2,264	2,264	2,264	2,264
MaxAE	5,989	.	5,989	5,989	5,989	5,989	5,989	5,989	5,989	5,989	5,989
Normalized BIC	2,472	.	2,472	2,472	2,472	2,472	2,472	2,472	2,472	2,472	2,472

Model Statistics

Model	Number of Predictors	Model Fit statistics	Ljung-Box Q(18)			Number of Outliers
		Stationary R-squared	Statistics	DF	Sig.	
VAR00001-Model_1	1	,845	47,270	18	,000	0