# Procyclical, Countercyclical and Acyclical Fiscal Policies

Alina Daniela Vodă
*"Lucian Blaga" University of Sibiu, Sibiu, Romania,*
Gabriela Dobrotă
*"Constantin Brâncuşi" University of Târgu-Jiu, Romania*
Loredana Andreea Cristea
*"Lucian Blaga" University of Sibiu, Sibiu, Romania,*
alina.voda3@yahoo.ro
gabi.dobrota70@gmail.com
crs.loredana@yahoo.com

**Abstract**

*This study is limited to aspects related to the nature of the applied fiscal policy. An analysis with theoretical elements contributes to the understanding of the characteristics of procyclical, countercyclical and acyclic fiscal policies. Moreover, a description of them based on the fiscal instruments used (government revenues and expenditures) facilitates the capture of the main features and implications on the economies of emerging countries compared to developed countries. The study also includes an analysis of the manifestation of gross domestic product before and after the economic crisis of 2008. The data used are quarterly, seasonally adjusted and deflated by GDP deflator to be expressed in real terms. The results indicated that the shock of the economic crisis destabilized gross domestic product for more than three quarters. The need to implement a fiscal policy optimized according to national specifications is a desideratum in terms of economic growth.*

**Key words:** procyclical fiscal policy, countercyclical fiscal policy, acyclical fiscal policy, fiscal instruments, economic development.
**J.E.L. classification:** E62, F43, F63.

## 1. Introduction

Within the economic theories there are a series of controversies regarding the applicability of fiscal policies and the role of government in alleviating fiscal shocks. The causal relationship between fiscal policy and the government has led to the emergence of fiscal policies aimed at redressing the imbalances that have emerged depending on the phases of the existing economic cycle. In practice, governments apply fiscal policies through the use of two general categories of fiscal instruments. These are identified in the form of government revenue and expenditure and act in the sense of increasing or decreasing.

In the empirical literature, certain characteristics of emerging countries compared to developed countries in terms of fiscal policy have been determined. Thus, emerging countries are inclined to apply a pro-cyclical fiscal policy in order to increase revenues and decrease expenditures in times of recession. In contrast, developed countries tend to adopt a countercyclical fiscal policy, reducing revenues and increasing spending in times of recession. Identifying optimal fiscal policies remains another utopia in the context of interstate differences in the field of fiscal legislation, as well as existing fiscal administration mechanisms. In this respect, an example is given by the economic framework of the European Union, which has created a monetary union precisely in order to standardize and balance the discrepancies between Member States. Although the existence of a fiscal union has been analyzed in the specialized literature, the divergences identified on this subject have counterbalanced the possibility of its rapid implementation or the benefits brought.

In this study we aim to contribute to the understanding of the main types of fiscal policies, as well as how they use government revenues and expenditures in the sense of economic recovery. Understanding the management mechanism of these instruments facilitates their application according to the specific characteristics of each economy. A detailed analysis of procyclical, countercyclical and acyclic fiscal policies, as well as how they contribute to the functioning of the economy in different phases will be useful to both specialists and practitioners in the field. This study is structured as follows: section two includes a foray into the literature, section three includes the research methodology, section four refers to the types of existing fiscal policies, followed by a section that includes the conclusions of this study.

## 2. Literature review

The clear delimitation of the characteristics of fiscal policies is the common subject for a multitude of studies. In this context, Vodă et al. (2020) states that fiscal policies applied at European level have shown a particular interest in addressing the spectrum of risk issues in terms of business maturity and lack of sustainable economic development. Cristea et al. (2019) analyzes the implications of tax revenues in terms of fiscal policies, taking into account current economic conditions. Regarding the implications of government spending on fiscal policy, Castro and Martins (2018) conducted an in-depth analysis of their functional components.

The results obtained by Gootjes and Haan (2020) suggest that EU member states apply a pro-cyclical fiscal policy, but the applied tax rules seem to reduce fiscal pro-cyclicality. Another empirical analysis whose main objective is to identify the effect of fiscal rules is performed by Misra and Ranjan (2018). An extensive study on pro-cyclical fiscal policy is conducted by Ihori and Kameda (2018) who consider a broad theoretical framework to bring arguments to the type of fiscal policy that promotes economic growth and eliminates or reduces fiscal shocks.

Niemann and Pichler (2020) discuss the existence of an optimal fiscal policy modeled by sovereign risk - both fundamental and self-fulfilling. Regarding countercyclical fiscal policies, Aghion and Sharroubi (2007) analyze their effects on economic growth and the results suggested that countercyclicality arising from discretionary fiscal policy is more important for growth than countercyclicality arising from automatic stabilizers.

## 3. Research methodology

This paper contributes to the completion of the information system related to the applicability of fiscal policy in a complete transnational framework. In order to interconnect a number of theoretical and empirical elements and to integrate them into the existing fiscal circumstances, it was necessary to use two research methods, namely the comparative method and the critical analysis method.

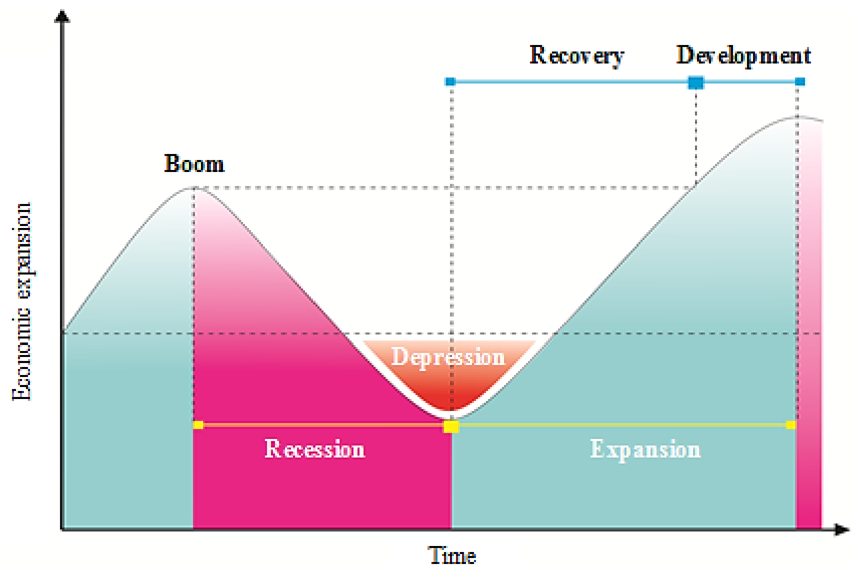
Comparative method. This is an epistemological method that allows the limits of knowledge to be advanced in comparative economics studies. The basic principle of this method is given by knowing the purpose pursued so that two opposable elements can be compared by reaching a common point. The first comparative method will be used to identify differences in fiscal policies and how they contribute to reducing fiscal shocks.

Critical analysis method. The use of the critical analysis method as a procedure for extracting the analytical components from a series of hypotheses, arguments or empirical results to obtain a rational conclusion, is the way in which the final sections of each chapter will be prepared. By using this method it will be possible to express a personal opinion on all the theoretical and empirical aspects analyzed in the paper. The inclusion of reasoning proving the nullity or validity of a presumption will be a constituent part in the successful application of the critical analysis method.

## 4. Theoretical foundations regarding the principles and roles of taxation

Fiscal policy has a slow course, but also a difficult one, as its current application can have demobilizing effects on future generations, with the risk of changing forecasts because the whole process of economic evolution can not be linear, there is a cycle of economic phases by moving from economic expansion to depression and vice versa, as exemplified in *Figure 1*.

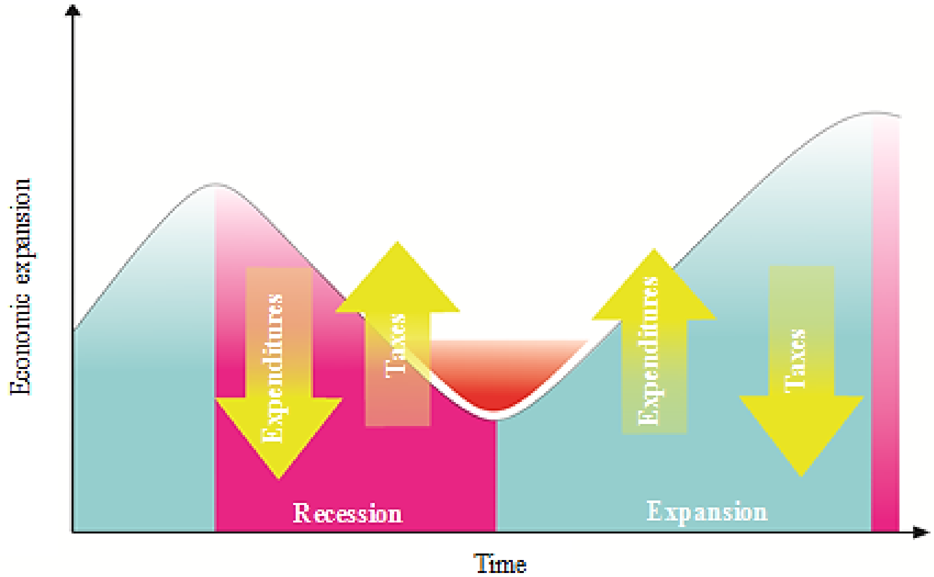
*Figure no. 1. Phases of the economic cycle*




*Source:* Author's processing in the Corel Draw vector graphics editor

Identifying the nature and functionality of fiscal policies does not provide sufficient understanding of their effects on the economy. Their impact in terms of economic development or balance is present in the form of fiscal stimuli. They have the role of reducing economic shocks and directing the whole process towards achieving sustainability. In practice, not all varieties of fiscal policies are defined by a positive effect on the economy. Thus, the answer to the success of economic rebalancing through fiscal stimuli is given by the attributes of fiscal policies that can be pro-cyclical, counter-cyclical and acyclic. Gross domestic product is the macroeconomic indicator underlying the establishment of such effects of fiscal policies. Thus, procyclical fiscal policy is defined as the positive effect of economic recovery in response to fiscal incentives applied by increasing taxes and reducing government spending due to fluctuations in the economic cycle in the recession, aspects presented in *Figure 2*.

*Figure no. 2. Procyclical fiscal policy*

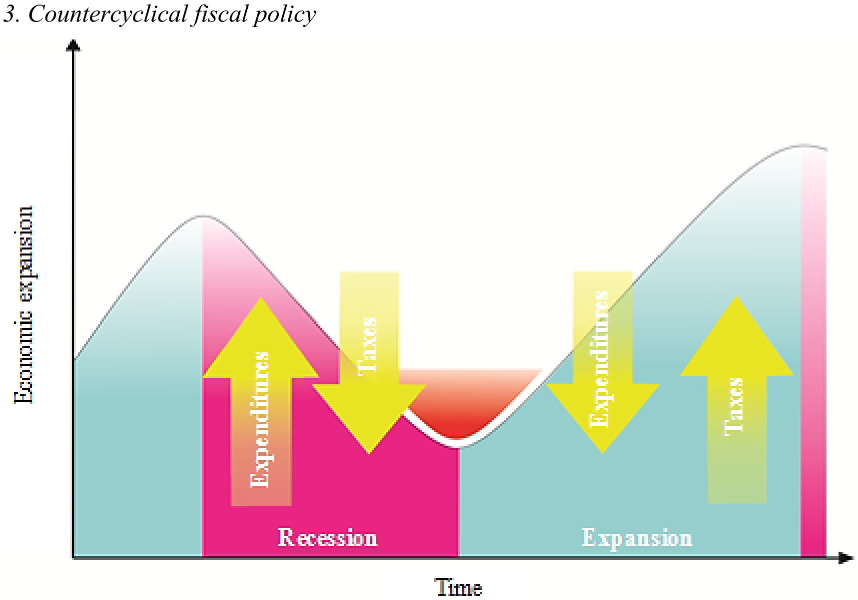



*Source:* Author's processing in the Corel Draw vector graphics editor

Fiscal policies applied to reduce an economic shock will result in an increase in gross domestic product. This increase can validate the economy's receptivity to fiscal stimuli. Alesina and Tabellini (2005) state that many countries, especially developing ones, pursue pro-cyclical fiscal policies, namely, expenditures increase and taxes decrease in the expansion phase, and expenditures decrease and taxes increase in the recession phase. The identified empirical results are also supported by Ilzetzki and Végh (2008) who support the idea that in developing countries pro-cyclical fiscal policy is, in fact, truth and not fiction.

In order to increase the capacity to forecast and mitigate these disruptive effects of economic development, countercyclical policies have been developed which involve the adoption of opposite macroeconomic measures by increasing expenditures and reducing taxes and in the recession phase, respectively reducing expenditures and increasing taxes during periods. of economic expansion, according to *Figure 3*.

*Figure no. 3. Countercyclical fiscal policy*

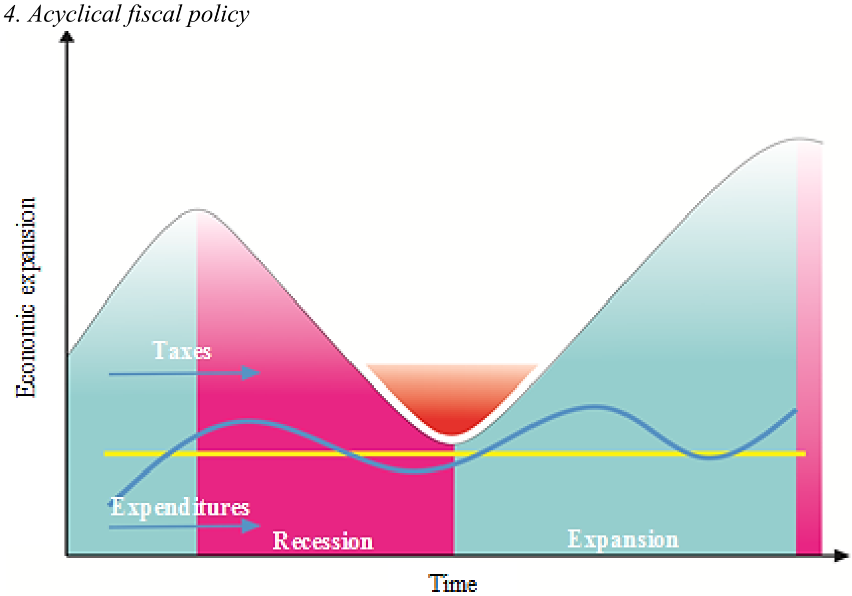



*Source:* Author's processing in the Corel Draw vector graphics editor

In this context, according to Keynesian theory, the application of countercyclical fiscal policies is a measure that can have beneficial effects on the entire economy in times of recession. In a baseline study on the integration of fiscal policy in Europe, Galí and Perotti (2003) concluded that fiscal policy became much more countercyclical in the member countries of Economic and Monetary Union after the adoption of the Maastricht Treaty. To assess whether fiscal policy is indeed pro-cyclical or counter-cyclical, Mencinger and Aristovnik (2013) conducted an empirical analysis to assess the fiscal position of 14 euro area countries. The results showed that the fiscal position in most countries is expansionary when production is above the potential level, which implies a pro-cyclical predisposition in periods of prosperity, and when production is below its potential level the fiscal policy position tends to be predominantly countercyclical.

In contrast to the two types of fiscal policies mentioned above, the acyclic fiscal policy is characterized by the absence of fiscal stimuli during the economic cycle. The volume of government spending and the tax rate will remain constant as they will not contribute to economic recovery or development, as shown in *Figure 4*.

*Figure no. 4. Acyclical fiscal policy*




*Source:* Author's processing in the Corel Draw vector graphics editor

According to the results of the analysis carried out by Mesea (2013), pro-cyclical fiscal policies are a characteristic of developing countries, and counter-cyclical and acyclic fiscal policies are a characteristic of developed countries. Regarding the effect of discretionary fiscal policies, as well as those that function as an automatic stabilizer, Kabashi (2016) identifies their character through an applied study on transition countries in Central, Eastern and South-Eastern Europe. It has been shown that the discretionary fiscal policy of the transition teeth is pro-cyclical, and the automatic stabilizers are acyclic, unlike the countries in Western Europe where both discretionary fiscal policies and automatic stabilizers are acyclic. However, fiscal policy is used by the state as a means of stimulating economic growth, by boosting business activities and increasing budget revenues. It is based on several common objectives, regardless of the time and place of application, such as: creating a business environment conducive to the development of economic activity, improving tax mechanisms at the national level, economic recovery by influencing taxes that can be used to act favorably on the economy, redistribution of national revenues by respecting the principle of equity, economic stabilization and legislative regulation.

## 5. Research results

Through a non-parametric approach, the unfavorable periods that each member state of the European Union faced in the period 2000 quarter I - 2019 quarter IV were highlighted. Figure 5 allows a visualization of the trend given by the negative changes of the economic growth rate of the real gross domestic product. The red areas highlight the bad times and the neutral areas highlight the good times. The global financial crisis that began in the United States in 2007 would have consequences in the countries of the European Union only towards the end of 2008. Since 2009 they have been in decline, represented by the financial crisis that would affect all economies in the coming years. years. In the second quarter of 2008, only 53% of countries were affected by the financial crisis, and the percentage will increase exponentially by the end of the year. Thus, in the third and fourth quarters of 2008, the countries were affected by 78% and 89%, respectively. The height of the financial crisis in the European Union was reached in the first quarter of 2009 as 96% of states were already on the brink of recession. In other words, only one country, Poland, recorded a growth rate of gross domestic product of 1.7% in that quarter. In the following quarters, a decrease in the percentage of countries affected by the financial crisis could be observed.

## 6. Conclusions

The need to identify a way to alleviate or eliminate fiscal shocks has led to the emergence of various types of fiscal policies that adapt to different phases of the business cycle. This study was dedicated to a theoretical analysis of the characteristics of fiscal policies, contributing to the understanding of their functionality. A number of specific features have been identified regarding the direction of the volume of government revenue and expenditure used. In this context, reducing or increasing the revenue received in the general consolidated budget is an action whose effects are fully understood. Instead, the use of expenditure as a tool for implementing fiscal policy has received special attention in the literatureThe effects they produce in the sense of increasing or decreasing are still a subject that is not fully known. This is due to the specificity of the economies that lead to the impossibility of applying a unitary fiscal policy.

Although it is known that only emerging countries are inclined to pursue a pro-pro-fiscal policy, recent studies have shown that developed countries also tend to pursue such a fiscal policy. In retrospect, most EU Member States have acted to increase the level of taxation and government spending in combating the effects of the 2008 economic crisis. However, other factors that may contribute to economic recovery must be considered. . The government must consider the positive implications that public and private investment can have on boosting economic growth. Making an investment stimulates the growth of production and as a result the growth of gross domestic product.

The theoretical elements presented in this study show that the government must be aware of the nature of fiscal policy to be implemented both in times of recession and in times of economic expansion. Issues related to fiscal pressure or, conversely, uncontrolled fiscal easing can also have negative effects on the economy.

*Figure no. 5. Good times and bad times in the Member States of the European Union*

| Country | | Austria | Belgium | Bulgaria | Cezech Republic | Cyprus | Croatia | Denmark | Estonia | Finland | France | Germany | Greece | Ireland | Italy | Latvia | Lithuania | Luxembourg | Malta | United Kingdom | Netherlands | Poland | Portugal | Romania | Slovakia | Slovenia | Spain | Sweden | Hungary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2000 | I | 1,03 | 0,71 | 8,66 | 1,24 | 1,70 | N/A | 0,98 | 4,25 | 3,04 | 0,95 | 1,42 | 0,38 | 0,94 | 1,16 | 0,38 | 2,81 | 5,06 | N/A | 0,76 | 0,62 | -0,56 | 2,23 | 0,99 | 1,08 | 1,07 | 1,60 | 0,83 | 0,91 |
| | II | 0,81 | 0,72 | 0,90 | 1,40 | 3,46 | 0,68 | 1,14 | 1,68 | 0,10 | 0,94 | 0,84 | 0,91 | 2,78 | 0,66 | 0,53 | 0,90 | -0,96 | 3,17 | 0,56 | 1,12 | 1,19 | -0,53 | 1,38 | 0,98 | 1,44 | 1,25 | 2,33 | 1,07 |
| | III | 0,58 | 0,46 | 0,82 | 1,32 | -2,40 | 2,03 | 0,28 | 1,33 | 1,56 | 0,65 | -0,04 | 1,84 | 2,92 | 0,68 | 2,29 | 1,01 | 1,54 | -2,01 | 0,27 | 0,83 | 0,42 | 1,46 | -1,52 | 0,59 | 1,19 | 1,08 | 0,87 | 0,81 |
| | IV | 0,87 | 0,98 | 0,90 | 0,57 | 1,00 | 2,97 | 0,98 | 2,05 | 1,14 | 0,81 | -0,32 | 1,42 | 1,11 | 1,46 | -1,10 | 1,73 | 0,81 | 2,36 | 0,16 | 1,30 | 3,19 | 0,67 | 0,67 | 0,56 | 0,71 | 1,03 | -0,25 | 1,65 |
| 2001 | I | -0,12 | 0,06 | 0,78 | 0,80 | 1,34 | -2,40 | -1,09 | 0,62 | 0,99 | 0,55 | 2,02 | 1,28 | 0,79 | 0,53 | 2,17 | 2,90 | 1,58 | -1,48 | 1,43 | 0,11 | -1,59 | -0,31 | 2,58 | 0,71 | 1,21 | 1,06 | 0,48 | 0,91 |
| | II | -0,09 | 0,02 | 0,97 | 0,43 | 1,56 | 1,97 | 0,49 | 1,53 | -0,41 | 0,12 | -0,03 | -0,30 | 1,30 | -0,29 | 5,56 | -0,17 | -1,99 | 0,59 | 0,84 | 0,51 | -0,44 | 0,97 | 0,93 | 1,06 | 0,31 | 0,74 | -0,13 | 0,87 |
| | III | 0,18 | -0,19 | 1,33 | 0,39 | 1,93 | 0,65 | 0,90 | 2,43 | 0,65 | 0,38 | -0,20 | 1,62 | 0,22 | -0,24 | -3,03 | 2,08 | 1,51 | 1,41 | 0,80 | 0,17 | 0,81 | 0,15 | 1,98 | 0,42 | 0,59 | 0,93 | 0,37 | 0,85 |
| | IV | 0,33 | -0,10 | 1,34 | 0,48 | 0,16 | 2,45 | -0,20 | 1,25 | -0,28 | 0,03 | -0,10 | 0,29 | 1,52 | -0,08 | 3,35 | 2,57 | 2,24 | -2,10 | 0,37 | 0,32 | 0,36 | 1,40 | 0,84 | 2,15 | 0,96 | 0,69 | 0,93 | 0,84 |
| 2002 | I | 0,68 | 0,86 | 1,62 | 0,11 | 0,85 | 0,52 | -0,03 | 1,07 | 0,58 | 0,27 | -0,52 | 0,80 | 2,44 | -0,04 | -0,06 | 0,27 | 1,28 | 4,40 | 0,44 | -0,61 | 0,11 | 0,18 | 2,23 | 0,31 | 1,35 | 0,43 | -0,10 | 2,26 |
| | II | 0,37 | 0,85 | 1,56 | 0,27 | 1,58 | 1,12 | -0,01 | 2,80 | 1,42 | 0,54 | 0,43 | 2,24 | 0,67 | 0,46 | 4,61 | 2,99 | 1,73 | -0,80 | 0,51 | 0,35 | 0,94 | -0,46 | 1,05 | 1,01 | -0,09 | 0,82 | 1,52 | 0,50 |
| | III | 0,41 | 0,54 | 1,50 | 0,80 | -0,74 | 1,75 | 0,34 | 1,81 | -0,30 | 0,36 | 0,51 | 0,58 | 2,22 | 0,21 | 0,63 | 1,73 | -1,30 | 0,44 | 0,76 | 0,16 | 1,25 | -0,45 | 0,40 | 2,23 | 1,14 | 0,62 | 0,49 | 0,99 |
| | IV | 0,16 | 0,37 | 0,99 | 0,73 | 2,23 | 0,60 | -0,33 | 0,91 | 0,79 | 0,05 | -0,18 | 0,76 | 0,78 | 0,38 | 3,89 | 1,18 | -0,15 | -1,15 | 0,86 | 0,15 | 0,12 | -0,75 | 1,76 | 0,69 | 1,68 | 0,76 | 0,26 | 1,01 |
| 2003 | I | 0,13 | -0,27 | 1,39 | 1,11 | 0,01 | 2,31 | 0,54 | 2,34 | -0,81 | 0,12 | -1,48 | 2,07 | -1,41 | -0,39 | 0,86 | 4,78 | -0,96 | 2,64 | 0,66 | 0,02 | 0,36 | 0,11 | -1,65 | 1,78 | -0,04 | 0,93 | 1,04 | 0,82 |
| | II | 0,16 | 0,21 | 0,95 | 0,79 | -0,33 | 1,61 | -0,93 | 2,28 | 1,51 | -0,22 | 0,11 | 1,78 | 0,82 | -0,11 | 2,57 | 1,40 | 2,70 | 0,23 | 0,94 | -0,35 | 2,11 | -0,89 | 1,36 | 1,49 | 0,23 | 0,52 | -0,41 | 1,17 |
| | III | 0,44 | 0,41 | 1,15 | 1,13 | 1,80 | 0,52 | 0,34 | 0,94 | 1,60 | 0,69 | 0,78 | 0,63 | 1,34 | -0,07 | 1,99 | 2,73 | 0,41 | 0,64 | 1,03 | 0,09 | 1,12 | 0,89 | 2,12 | 0,40 | 1,41 | 0,66 | 1,29 | 1,11 |
| | IV | 0,32 | 0,70 | 2,03 | 1,07 | 1,05 | 0,56 | 1,86 | 2,63 | 0,33 | 0,78 | 0,27 | 2,13 | 5,20 | 0,92 | 1,05 | 1,72 | 2,98 | 0,89 | 0,85 | 0,54 | 0,28 | 0,38 | 0,30 | 1,67 | 0,63 | 0,86 | 0,71 | 1,16 |
| 2004 | I | 1,27 | 1,50 | 1,17 | 1,12 | 1,79 | 2,01 | 0,48 | 2,26 | 0,70 | 0,87 | -0,16 | 1,84 | -0,01 | 0,34 | 3,74 | 1,08 | -0,86 | -0,95 | 0,54 | 0,91 | 3,10 | 0,90 | 4,57 | 1,30 | 1,02 | 0,60 | 1,62 | 1,29 |
| | II | 0,43 | 0,96 | 1,97 | 0,91 | 0,64 | 0,28 | 0,59 | -0,62 | 1,25 | 0,66 | 0,50 | 0,00 | 1,70 | 0,29 | 1,24 | 1,71 | 0,48 | -1,39 | 0,36 | 0,48 | 0,81 | 0,57 | 1,91 | 0,69 | 1,22 | 0,98 | 0,63 | 1,11 |
| | III | 0,71 | 0,87 | 2,11 | 1,67 | 1,58 | 0,66 | 0,24 | 2,20 | 0,78 | 0,35 | -0,20 | 1,34 | 0,15 | -0,01 | 0,42 | 0,56 | 1,35 | 0,97 | 0,17 | 0,15 | -0,46 | 0,04 | 3,36 | 2,30 | 0,97 | 0,94 | 0,67 | 1,15 |
| | IV | 0,17 | 0,36 | 1,37 | 1,89 | 1,08 | 1,83 | 1,08 | 2,09 | 1,94 | 0,74 | -0,09 | -0,37 | 2,38 | 0,18 | 2,41 | 2,66 | 1,42 | 3,82 | 0,33 | 0,22 | 1,08 | -0,30 | 1,58 | 1,54 | 0,38 | 0,68 | 0,92 | 0,48 |
| 2005 | I | 0,30 | 0,53 | 2,18 | 1,67 | 1,54 | -1,30 | -0,36 | 1,77 | -0,11 | 0,24 | -0,01 | -0,63 | 1,19 | -0,10 | 2,60 | 1,89 | -0,61 | -1,64 | 0,84 | 0,32 | 1,04 | 0,77 | 0,35 | 1,24 | 0,98 | 0,98 | 0,41 | 1,13 |
| | II | 1,36 | 0,60 | 1,40 | 1,57 | 0,60 | 3,74 | 1,97 | 3,92 | 0,48 | 0,18 | 0,56 | 0,26 | 1,89 | 0,71 | 2,49 | 1,54 | 1,29 | 2,92 | 1,24 | 0,70 | 0,18 | 0,37 | -0,42 | 2,09 | 1,68 | 0,88 | 0,68 | 1,66 |
| | III | 0,54 | 0,39 | 1,31 | 1,45 | 1,56 | 1,34 | 0,11 | 2,42 | 0,51 | 0,49 | 0,83 | 1,38 | -0,16 | 0,65 | 4,78 | 2,85 | 1,88 | 0,21 | 1,14 | 1,34 | 1,89 | -0,47 | 1,96 | 1,64 | 0,86 | 0,97 | 1,14 | 0,77 |
| | IV | 0,92 | 0,77 | 1,67 | 1,57 | 0,95 | 1,03 | 0,32 | 2,27 | 0,41 | 0,73 | 0,47 | 0,49 | 3,31 | 0,12 | 3,68 | 2,24 | 0,05 | 0,82 | 1,50 | 0,63 | 1,86 | 0,13 | 2,49 | 1,47 | 1,78 | 1,01 | 0,75 | 1,17 |
| 2006 | I | 1,02 | 0,61 | 1,55 | 2,25 | 1,25 | 0,49 | 1,26 | 2,29 | 2,66 | 0,81 | 0,96 | 3,29 | 0,83 | 0,29 | -0,53 | 0,48 | 2,59 | -0,87 | 0,40 | 0,62 | 1,52 | 0,82 | 1,50 | 2,38 | 0,73 | 1,15 | 1,51 | 0,94 |
| | II | 0,65 | 0,36 | 1,73 | 1,79 | 1,48 | 1,32 | 2,98 | 2,09 | -0,09 | 1,01 | 1,74 | 0,28 | -0,06 | 0,64 | 4,85 | 2,25 | 0,04 | 0,96 | 0,25 | 1,50 | 2,30 | 0,96 | 3,51 | 2,33 | 2,14 | 0,97 | 1,65 | 1,32 |
| | III | 1,07 | 0,88 | 2,13 | 1,23 | 0,61 | 1,42 | -0,67 | 2,26 | 0,91 | -0,01 | 0,76 | 0,47 | 2,08 | 0,42 | 3,21 | 1,74 | 1,10 | 0,41 | 0,10 | 0,60 | 1,66 | -0,11 | 0,94 | 1,91 | 1,69 | 0,93 | 1,09 | 0,64 |
| | IV | 1,21 | 1,13 | 1,65 | 1,38 | 1,29 | 1,48 | -0,27 | 2,53 | 1,02 | 0,75 | 1,53 | 2,54 | 1,24 | 1,17 | 4,44 | 2,92 | 2,48 | 1,47 | 0,52 | 0,82 | -1,43 | 0,71 | 1,41 | 2,79 | 2,21 | 0,96 | 0,61 | 0,89 |
| 2007 | I | 0,75 | 1,42 | 1,37 | 1,67 | 1,81 | 2,31 | 0,33 | 3,27 | 2,12 | 0,78 | 0,05 | -0,76 | 4,26 | 0,00 | 1,93 | 3,11 | 3,95 | 2,68 | 0,93 | 1,15 | 4,51 | 1,05 | 1,25 | 2,12 | 1,86 | 0,92 | 1,10 | -1,28 |
| | II | 1,16 | 0,46 | 1,95 | 0,84 | 0,67 | 0,69 | -0,45 | 0,43 | 1,23 | 0,76 | 0,84 | 2,89 | -1,69 | 0,12 | 2,03 | 2,81 | 2,08 | -1,37 | 0,62 | 0,51 | 1,16 | 0,44 | 2,32 | 2,48 | 1,27 | 0,90 | 0,53 | -0,14 |
| | III | 0,28 | 0,77 | 1,22 | 1,51 | 1,25 | 0,26 | 0,94 | 0,18 | 1,03 | 0,36 | 0,51 | -0,63 | -2,07 | 0,18 | 1,74 | 2,69 | 0,31 | 1,31 | 0,78 | 1,12 | 1,69 | 0,21 | 1,36 | 2,37 | 2,02 | 0,77 | 0,75 | 0,56 |
| | IV | 0,70 | 0,41 | 2,14 | 1,28 | 1,70 | 0,15 | 1,01 | -0,66 | 1,79 | 0,23 | 0,65 | -0,47 | 5,55 | -0,32 | -1,25 | 1,87 | 0,18 | 0,36 | 0,47 | 1,35 | 1,31 | 1,12 | 3,84 | 6,34 | 0,22 | 0,64 | 0,96 | 0,38 |
| 2008 | I | 1,37 | 0,43 | 1,73 | 0,24 | 1,28 | 2,33 | -0,04 | -2,15 | -0,44 | 0,43 | 0,66 | 0,60 | -4,33 | 1,04 | 2,00 | -0,95 | -0,40 | 1,46 | 0,54 | 0,33 | 1,99 | 0,01 | 2,60 | -2,75 | 1,60 | 0,22 | -0,29 | 0,84 |
| | II | -0,52 | 0,06 | 1,10 | 0,82 | 0,62 | 0,61 | -0,92 | 0,98 | -0,16 | -0,44 | -0,26 | -0,64 | -2,38 | -0,90 | -3,55 | 1,08 | -0,63 | 1,71 | -0,55 | 0,49 | 0,37 | -0,49 | 2,56 | 1,24 | 1,62 | 0,11 | -0,15 | 0,52 |
| | III | -0,56 | -0,59 | 1,04 | 0,28 | -0,05 | -1,58 | -0,58 | 0,14 | -0,79 | -0,32 | -0,63 | -0,10 | -0,46 | -1,19 | -4,11 | -1,21 | -0,88 | 1,00 | -1,56 | -0,12 | -0,45 | -0,08 | 1,29 | 1,39 | -0,54 | -0,18 | -0,52 | -0,16 |
| | IV | -1,88 | -2,17 | 0,30 | -1,68 | -0,67 | -2,69 | -2,36 | -11,76 | -1,59 | -1,42 | -1,60 | -1,41 | -3,08 | -2,47 | -2,45 | -1,00 | -3,18 | -2,07 | -2,07 | -0,66 | 0,25 | -1,29 | -0,60 | 1,15 | -3,73 | -1,61 | -3,84 | -3,25 |
| 2009 | I | -1,53 | -0,97 | -3,94 | -3,49 | -1,43 | -4,47 | -1,42 | -2,60 | -6,59 | -1,66 | -4,68 | -4,75 | -1,25 | -2,80 | -3,64 | -12,70 | -1,39 | -3,00 | -1,75 | -3,59 | 1,70 | -2,52 | -7,89 | -9,41 | -4,42 | -2,61 | -0,81 | -4,23 |
| | II | -0,89 | 0,05 | -0,19 | -0,79 | -0,33 | 0,15 | -1,94 | -3,31 | -0,15 | -0,08 | 0,14 | 2,79 | -0,30 | -0,32 | -5,66 | -1,25 | -1,76 | 0,65 | -0,24 | 0,00 | 0,01 | 0,09 | 0,63 | 1,57 | -1,09 | -0,01 | -0,19 | -0,15 |
| | III | 0,33 | 1,26 | 0,67 | 0,49 | -0,23 | -1,29 | 0,35 | -1,88 | 0,46 | 0,18 | 0,57 | -0,71 | -1,14 | 0,48 | -4,95 | 0,28 | 1,69 | 0,81 | 0,07 | 0,40 | 0,62 | 0,88 | 1,73 | 1,61 | 0,24 | 0,21 | -0,17 | -0,03 |
| | IV | 1,05 | 0,80 | -3,11 | 0,22 | 0,60 | 0,72 | 0,09 | 0,51 | -0,30 | 0,69 | 0,75 | 0,12 | 0,05 | 0,31 | 0,28 | -1,35 | 1,87 | 1,22 | 0,30 | 0,60 | 2,42 | 0,05 | 1,28 | 1,81 | -0,13 | -0,02 | 0,26 | -0,04 |
| 2010 | I | -0,79 | 0,52 | 0,93 | 0,75 | 1,04 | -1,06 | 0,86 | 1,45 | 0,59 | 0,36 | 0,80 | -1,65 | 1,57 | 0,32 | -0,61 | 1,04 | 1,36 | 1,03 | 0,64 | -0,18 | -0,60 | 0,82 | -6,42 | 1,57 | -0,12 | -0,03 | 3,55 | -0,21 |
| | II | 1,66 | 0,98 | 1,49 | 1,00 | 0,13 | -1,04 | 0,68 | 1,33 | 2,61 | 0,54 | 2,24 | -3,03 | 0,58 | 0,74 | -0,74 | 1,29 | 2,02 | -0,03 | 1,00 | 0,43 | 1,47 | 0,55 | 0,75 | 1,07 | 1,77 | 0,15 | 1,79 | 0,73 |
| | III | 0,96 | 0,42 | 0,64 | 0,53 | 1,04 | 1,52 | 1,59 | 1,53 | 0,32 | 0,60 | 0,83 | -3,51 | 0,86 | 0,48 | -0,52 | 0,00 | -0,14 | 1,59 | 0,66 | 0,43 | 1,44 | 0,08 | -0,47 | 1,06 | 0,27 | -0,05 | 1,01 | 0,63 |
| | IV | 0,65 | 0,51 | 1,03 | 0,52 | 0,38 | -1,28 | -0,23 | 2,17 | 1,92 | 0,70 | 0,82 | -1,17 | -0,26 | 0,59 | 1,27 | 2,40 | 0,73 | 0,89 | 0,06 | 1,13 | 0,99 | -0,19 | 1,95 | 0,66 | 0,53 | 0,07 | 1,53 | 0,13 |
| 2011 | I | 1,45 | 0,48 | 0,26 | 0,74 | -0,07 | -0,63 | 0,22 | 2,08 | 0,31 | 1,02 | 1,92 | -2,94 | 0,23 | 0,34 | 1,61 | 2,25 | 1,96 | -0,25 | 0,63 | 0,59 | 1,28 | -0,66 | -0,41 | 0,45 | 0,64 | -0,16 | 0,71 | 0,85 |
| | II | 0,21 | 0,21 | 1,04 | 0,19 | 0,50 | 1,59 | 1,00 | 1,95 | -0,29 | 0,08 | 0,10 | -1,52 | 0,19 | 0,12 | 3,56 | 1,31 | -1,00 | -0,86 | 0,10 | -0,09 | 1,30 | -0,43 | 0,21 | 0,78 | -0,50 | -0,32 | 0,09 | -0,02 |
| | III | 0,01 | 0,29 | 0,06 | -0,14 | -1,76 | -0,36 | -1,24 | 1,63 | 0,33 | 0,24 | 0,86 | -2,08 | -0,74 | -0,47 | 2,05 | 0,71 | 0,71 | 0,83 | 0,31 | -0,01 | 1,34 | -0,78 | 2,12 | 0,58 | -0,18 | -0,65 | 1,03 | 0,33 |
| | IV | 0,16 | 0,29 | -0,18 | 0,19 | 0,63 | -0,65 | 0,82 | -0,02 | 0,22 | 0,27 | -0,27 | -4,01 | -0,13 | -0,88 | 0,25 | 1,10 | 0,03 | 1,56 | 0,19 | -0,60 | 0,81 | -1,48 | -0,84 | 0,89 | 0,06 | -0,65 | -1,17 | 0,87 |
| 2012 | I | 0,87 | 0,21 | 0,43 | -0,13 | -0,76 | -1,21 | -0,07 | 0,56 | -0,12 | 0,06 | 0,20 | -0,99 | 0,55 | -1,13 | 1,91 | 0,19 | -1,31 | -0,51 | 0,64 | -0,22 | 0,14 | -0,55 | 0,95 | 0,48 | -0,65 | -0,94 | 0,19 | -2,03 |
| | II | -0,65 | 0,00 | -0,29 | -0,52 | -1,77 | -0,80 | 0,07 | 1,15 | -1,75 | -0,16 | 0,17 | -1,89 | 0,46 | -0,77 | -0,28 | 0,75 | 1,01 | 1,28 | -0,08 | 0,06 | -0,21 | -1,35 | 1,00 | 0,27 | -1,74 | -0,96 | 0,11 | -0,33 |
| | III | 0,11 | 0,24 | -0,17 | -0,52 | -1,30 | 0,30 | 0,09 | 0,46 | -0,25 | 0,20 | 0,29 | -1,26 | -0,93 | -0,55 | 1,05 | 2,71 | -0,32 | 1,24 | 1,22 | -0,43 | 0,44 | -1,13 | -0,24 | 0,16 | 0,19 | -0,51 | -0,28 | 0,36 |
| | IV | -0,08 | -0,05 | -0,18 | -0,30 | -1,87 | -0,93 | -0,16 | 0,85 | -0,39 | -0,07 | -0,42 | 0,01 | 0,91 | -0,80 | 0,31 | 0,38 | 0,94 | 1,47 | -0,15 | -0,71 | -0,39 | -1,58 | 0,47 | -0,08 | -2,00 | -0,76 | -0,45 | -0,24 |
| 2013 | I | -0,49 | -0,28 | 0,06 | -0,45 | -2,38 | 0,61 | 0,56 | 0,43 | 0,09 | -0,06 | -0,47 | -2,21 | -1,77 | -0,85 | 0,79 | 0,34 | 0,53 | 0,15 | 0,64 | 0,33 | 0,21 | 0,42 | 0,94 | -0,04 | 0,19 | -0,32 | 1,11 | 0,56 |
| | II | 0,51 | 0,58 | 0,01 | 0,15 | -2,19 | -0,02 | 0,07 | -0,23 | 0,07 | 0,70 | 1,05 | 0,06 | 2,10 | 0,01 | 0,10 | 0,94 | 2,41 | 2,85 | 0,54 | -0,18 | 1,08 | 0,76 | 1,30 | 0,32 | 0,30 | -0,09 | -0,11 | 0,86 |
| | III | 0,22 | 0,31 | 0,65 | 0,31 | -0,17 | -0,67 | 0,63 | -0,27 | 0,00 | 0,01 | 0,54 | 0,43 | 2,78 | 0,18 | 1,24 | 0,96 | 1,70 | 0,69 | 0,95 | 0,61 | 0,82 | -0,14 | 1,10 | 0,47 | 0,00 | -0,05 | 0,45 | 1,28 |
| | IV | 0,49 | 0,22 | 0,37 | 1,29 | -0,36 | -0,15 | 0,20 | -0,02 | -0,76 | 0,46 | 0,34 | -0,63 | -0,59 | -0,20 | 0,76 | 1,24 | -1,45 | 0,28 | 0,53 | 0,63 | 0,12 | 1,10 | 1,24 | 0,59 | 1,95 | 0,17 | 0,91 | 1,07 |
| 2014 | I | -0,02 | 0,43 | 0,20 | -0,14 | -0,65 | -0,04 | 0,25 | 1,60 | 0,10 | 0,06 | 0,97 | 0,78 | 3,77 | 0,11 | -0,09 | 1,19 | 4,15 | 4,13 | 0,66 | -0,10 | 1,07 | -0,64 | 0,44 | 0,69 | 0,06 | 0,37 | 0,70 | 0,84 |
| | II | 0,00 | 0,26 | 0,87 | 0,93 | -0,31 | 0,51 | -0,07 | 0,45 | -0,30 | 0,18 | -0,03 | -0,17 | 3,31 | -0,01 | 0,62 | 0,60 | -1,93 | 2,55 | 0,66 | 0,59 | 1,13 | 0,33 | 0,44 | 0,75 | 0,86 | 0,46 | 0,90 | 1,25 |
| | III | 0,22 | 0,69 | 0,58 | 1,28 | -0,31 | -0,43 | 1,67 | 1,27 | 0,70 | 0,49 | 0,49 | 1,29 | 0,95 | 0,14 | 0,52 | 0,12 | 2,16 | 0,84 | 0,58 | 0,25 | 0,84 | 0,09 | 1,43 | 0,91 | 0,60 | 0,74 | 0,67 | 0,88 |
| | IV | 0,28 | 0,52 | 1,08 | 1,31 | 0,29 | 0,84 | 0,36 | 1,46 | -0,14 | 0,09 | 0,86 | -1,12 | 0,49 | -0,21 | 0,68 | 0,25 | 0,81 | 3,18 | 0,56 | 0,90 | 0,58 | 0,81 | 0,84 | 1,03 | 0,13 | 0,86 | 0,84 | 0,63 |
| 2015 | I | -0,11 | 0,52 | 1,10 | 1,60 | 1,35 | 0,66 | 0,69 | -1,12 | -0,49 | 0,43 | -0,20 | 0,37 | 23,25 | 0,21 | 0,71 | 0,81 | 2,84 | 3,60 | 0,53 | 0,59 | 1,23 | 0,64 | 1,14 | 1,75 | 0,48 | 1,15 | 1,29 | 1,73 |
| | II | 0,65 | 0,67 | 0,85 | 1,48 | 1,69 | 0,87 | 0,47 | 1,70 | 0,84 | -0,04 | 0,63 | 0,07 | -2,34 | 0,40 | 1,45 | 0,78 | 0,42 | 2,58 | 0,71 | 0,32 | 0,70 | 0,30 | 0,21 | 1,13 | 0,69 | 1,07 | 0,97 | 0,22 |
| | III | 0,50 | 0,19 | 1,25 | 1,10 | 0,42 | 1,15 | 0,30 | 0,74 | 0,25 | 0,44 | 0,45 | -1,94 | 3,25 | 0,23 | 0,99 | 0,44 | -0,96 | 1,62 | 0,43 | 0,34 | 1,15 | 0,12 | 1,63 | 1,09 | 0,59 | 0,91 | 1,34 | 0,73 |
| | IV | 0,09 | 0,42 | 0,81 | 0,63 | 2,08 | -0,21 | 0,22 | -0,45 | 0,51 | 0,21 | 0,44 | 1,24 | 0,14 | 0,49 | -0,42 | 0,24 | 1,66 | 2,65 | 0,75 | 0,02 | 1,20 | 0,48 | 1,17 | 0,73 | 0,14 | 0,97 | 0,85 | 1,03 |
| 2016 | I | 0,80 | 0,18 | 1,00 | 0,29 | 2,53 | 1,58 | 1,15 | 1,08 | 0,53 | 0,62 | 0,80 | 0,02 | -0,40 | 0,31 | 1,09 | 0,40 | 1,04 | 0,37 | 0,17 | 0,91 | -0,21 | 0,46 | 1,18 | 0,03 | 1,09 | 0,68 | 0,19 | -0,62 |
| | II | 0,42 | 0,67 | 0,95 | 0,35 | 1,01 | 0,65 | 1,35 | 0,06 | 1,01 | -0,29 | 0,57 | -0,58 | 0,42 | 0,17 | -0,58 | 0,49 | 2,30 | 0,51 | 0,53 | 0,22 | 1,29 | 0,31 | 1,47 | 0,42 | 1,13 | 0,42 | 0,11 | 1,38 |
| | III | 0,54 | 0,24 | 0,66 | 0,47 | 1,16 | 1,09 | 0,85 | 1,32 | 0,76 | 0,24 | 0,21 | 0,32 | -0,22 | 0,56 | 0,20 | 1,43 | 1,05 | 1,70 | 0,45 | 1,14 | 0,21 | 1,18 | 0,33 | 0,46 | 0,98 | 0,89 | 0,44 | 0,57 |
| | IV | 0,92 | 0,51 | 1,14 | 0,68 | 2,15 | 0,89 | 0,72 | 1,73 | 0,84 | 0,61 | 0,36 | 0,17 | 10,97 | 0,35 | 1,31 | 1,20 | 1,37 | 2,60 | 0,65 | 0,86 | 2,19 | 0,92 | 2,04 | 0,63 | 0,77 | 0,46 | 0,60 | 0,84 |
| 2017 | I | 0,40 | 0,77 | 0,81 | 1,41 | 0,51 | 0,43 | 0,54 | 1,70 | 0,84 | 0,80 | 1,19 | 0,08 | -5,79 | 0,58 | 1,39 | 1,09 | -1,85 | 2,22 | 0,58 | 0,50 | 1,11 | 1,21 | 2,29 | 0,85 | 1,74 | 0,76 | 0,40 | 1,44 |
| | II | 0,84 | 0,32 | 0,85 | 2,44 | 0,96 | 1,02 | 0,52 | 1,53 | 0,56 | 0,69 | 0,56 | 1,14 | 3,52 | 0,37 | 1,18 | 0,94 | 0,53 | 0,41 | 0,25 | 0,90 | 0,97 | 0,48 | 1,59 | 0,84 | 1,36 | 1,03 | 1,19 | 1,24 |
| | III | 0,77 | 0,13 | 0,82 | 0,49 | 0,79 | 0,82 | -0,89 | 0,66 | 0,42 | 0,69 | 0,86 | 0,48 | 5,19 | 0,38 | 0,74 | 1,06 | 1,75 | 1,83 | 0,34 | 0,69 | 1,17 | 0,71 | 1,97 | 0,84 | 0,83 | 0,53 | 1,23 | 0,94 |
| | IV | 0,45 | 0,81 | 0,72 | 0,64 | 0,95 | 0,55 | 0,97 | 1,22 | 1,15 | 0,76 | 0,73 | 0,45 | 3,55 | 0,54 | 0,53 | 0,97 | 1,15 | 0,66 | 0,40 | 0,77 | 1,48 | 0,78 | 0,77 | 1,18 | 2,05 | 0,69 | 0,13 | 1,46 |
| 2018 | I | 0,80 | 0,21 | 0,61 | 0,49 | 1,56 | -0,20 | 1,20 | 1,27 | 0,46 | 0,22 | 0,13 | 0,59 | -0,60 | 0,09 | 1,77 | 0,65 | 1,59 | 1,91 | 0,06 | 0,61 | 1,34 | 0,52 | 0,49 | 0,93 | 0,31 | 0,49 | 0,76 | 1,29 |
| | II | 0,27 | 0,28 | 0,91 | 0,59 | 1,09 | 2,03 | 0,30 | 1,19 | 0,04 | 0,17 | 0,39 | -0,13 | 2,26 | -0,10 | 1,39 | 1,16 | -0,73 | 2,62 | 0,53 | 0,67 | 1,35 | 0,75 | 1,40 | 1,24 | 1,16 | 0,55 | 0,64 | 1,12 |
| | III | 0,33 | 0,16 | 0,92 | 0,63 | 0,28 | 0,40 | 0,66 | 1,16 | -0,09 | 0,30 | -0,10 | 1,09 | 1,85 | -0,16 | 1,32 | 0,60 | 0,42 | 2,62 | 0,59 | 0,26 | 1,35 | 0,36 | 1,57 | 0,97 | 1,09 | 0,50 | -0,47 | 1,52 |
| | IV | 0,79 | 0,80 | 0,89 | 0,89 | 0,56 | 0,28 | 0,85 | 1,25 | 0,04 | 0,48 | 0,21 | 0,03 | 0,28 | 0,11 | 0,74 | 1,34 | -0,03 | 0,46 | 0,21 | 0,51 | 0,41 | 0,40 | 0,77 | 0,46 | 0,64 | 0,56 | 1,16 | 1,08 |
| 2019 | I | 0,48 | 0,04 | 1,12 | 0,59 | 1,40 | 1,21 | 0,00 | 1,00 | 0,57 | 0,31 | 0,47 | 0,38 | 2,99 | 0,22 | -0,35 | 1,16 | 0,66 | 0,07 | 0,61 | 0,43 | 1,51 | 0,60 | 1,08 | 0,63 | 0,58 | 0,53 | 0,03 | 1,37 |
| | II | 0,08 | 0,34 | 0,86 | 0,61 | 0,97 | 0,54 | 1,04 | 0,77 | 0,85 | 0,36 | -0,24 | 1,28 | -0,06 | 0,07 | 0,76 | 0,87 | 2,09 | 1,56 | -0,18 | 0,37 | 0,80 | 0,57 | 0,82 | 0,31 | 0,00 | 0,36 | 0,23 | 1,10 |
| | III | 0,11 | 0,44 | 0,76 | 0,40 | 0,41 | 0,75 | 0,38 | 1,00 | 0,71 | 0,26 | 0,08 | 0,58 | 1,68 | 0,06 | 0,71 | 0,33 | 0,22 | 1,43 | 0,42 | 0,44 | 1,33 | 0,28 | 0,54 | 0,37 | 0,77 | 0,41 | 0,28 | 1,15 |
| | IV | 0,29 | 0,40 | 0,34 | 0,43 | 0,55 | 0,22 | 0,85 | 1,15 | -1,23 | -0,08 | 0,15 | -0,92 | 1,45 | -0,17 | -0,27 | 1,26 | 0,25 | 1,01 | 0,21 | 0,41 | 0,24 | 1,05 | 1,63 | 3,91 | 0,40 | 0,53 | 0,28 | 0,93 |

*Source:* Author's processing in the Excel spreadsheet.

## 7. References


- Aghion, P., Kharroubi, E., 2007. Cyclical macro policy and industry growth: the effect of counter cyclical fiscal policy. *WP Harvard University*.
- Alesina, A., Tabellini, G., 2005. Whyis fiscal policy of ten pro cyclical?. National Bureau of Economic Research, *NBER WorkingPaperSeries*, no. 11600.
- Castro, V., Martins, R., 2018. Politically driven cycles in fiscal policy: In depth analysis of the functional components of government expenditures. *European Journal of Political Economy*, 55, pp. 44-64.
- Cristea L.A., Vodă A.D., Ungureanu D. M., 2019. Determinant Factors of Fiscal Revenues, underCurrent Economic Conditions, *Proceedings of the 16th International Scientific Conference European Financial Systems 2019*, Web of ScienceDatabase CPCI-SSH (Conference Proceedings Citation Index Social Science & Humanities), ISBN:978-80-210-9338-6, WOS:000503222600009.
- Galí, J., Perotti, R. 2003. Fiscal policyandmonetaryintegration in Europe. National Bureau of Economic Research, *NBER WorkingPaperSeries*, no. 9773.
- Gootjes, B., de Haan, J., 2020. Procyclicality of fiscal policy in European Union countries. Journal of International Money andFinance, no.102276.
- Ihori, T., Kameda, K., 2018. *Procyclical Fiscal Policy*. Springer Singapore.
- Ilzetzki, E., Végh, C.A., 2008. Procyclical fiscal policy in developing countries: Truth or fiction?. National Bureau of Economic Research, *NBER Working Paper Series*, no. 14191.
- Kabashi, R., 2016. The cyclicalcharacter of fiscal policy in transition countries. *National Bank of the Republic of Macedonia*, WorkingPaper, no. [2016-03].
- Mencinger, J., Aristovnik, A., 2013. Fiscal policy stance in the European union: the impact of the euro. *InzinerineEkonomika-EngineeringEconomics*, 24(1), pp. 52–62.
- Mesea, O. E., 2013. The Analysis on the Cyclical Behaviour of Fiscal Policy in the EU MemberStates. *Procedia Economics and Finance*, 6, pp. 645-653.
- Misra, S., Ranjan, R., 2018. Fiscal rules and pro cyclicality: An empirical analysis. *Indian Economic Review,* 53(1-2), pp.207-228.
- Niemann, S., Pichler, P., 2020. Optimal fiscal policy and sovereign debt crises. *Review of Economic Dynamics*, 37, pp. 234-254.
- Vodă, A.D., Dobrotă, G., Cristea, L.A., Ciocanea, B., 2020. Do Fiscal RulesConstrain Fiscal Policy in Romania?. *KnE Social Sciences*, pp.17-33.