Lessons learned from the crisis management of the European Union

Theses of doctoral dissertation

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Contents:

1. Introduction and motivation

The global financial and capital market crisis, starting in 2008, and its severe and protracted consequences regarding the European Union, have given a basis to wide-ranging economic disputes. Namely, the EU's coordination of economic policy was not prepared for a crisis phenomena of such magnitude: the institutional system had not incorporated the findings presented by the optimum currency areas theory (Mundell 1961, McKinnon 1963), as well as the critical remarks expressed at the time of the forming of the monetary union (Krugman 1993, Mundell and Friedmann 2001, Obstfeld 2001, Padoa-Schioppa 2004). The introduction of the single currency created a specific economic environment: the equally cheap financing enabled less developed member states to quickly catch up to the leading economic powers of the EU, however, this process was accompanied by developing current account issues and by forming differences in competitiveness (Marsh 2011, Krugman 2012, Pisani-Ferry 2014). The emerging imbalances have made a certain circle of the member states specifically vulnerable during the time of global demand shock emerging over the years of the crisis (Perluigi and Sondermann 2018). The severity of the development problems was recognized widely only after the outbreak of the crisis (Authers 2012).

Economic theory has also dealt exceptionally often with the causes of global financial and capital market crisis. Numerous arguments can be presented whether the crisis phenomenon a market failure or a policy mistake (Hetzel 2014), or the logical consequence of the global capital market processes (Lin 2013), or the recurrence of the dynamics of the Great Depression (Krugman 2012). In the meantime, it has been found that the European Union had become characterized by specific, unique systemic risks (Marsh 2009, Bastasin 2012), and their management posed the common institutional system a new challenge. The extensive monitoring of the imbalances, implied by the volatile economic growth in the decade preceding the crisis, was only started by the European Commission in 2011, by the entering of the Six-Pack into force, through the Macroeconomic Imbalance Procedure scoreboard and the European Semester system (Csortos and Szalai 2014). By that time, the European Union's institutional system had to react in several other areas to the challenges triggered by the crisis: firstly the bail-out of the excessive, internationally embedded banks (that are "too big to fail"), then the refinancing crisis concerning a certain circle of the member states urged the common institutions to react. At the same time, the Troika consisting of the representatives of the International Monetary Fund, the Commission and the European Central Bank had started negotiating the rescuing of those member states with hopeless refinancing outlook; and the international creditors demanded structural reforms as reimbursement pledges, which created a breeding ground for debates regarding the austerity policies (Konzelmann 2014). Numerous well-known economists lined up their arguments against the austerity policies, proving their counterproductive nature (Blyth 2012, Krugman 2012, Bini Smaghi 2013), while others stood up for the fact that the distressed member states were only capable of recovering their competitiveness through the internal devaluation posed by the austerity (Gros 2011). The peculiar economic environment, often called the Eurozone crisis, also pointed out that the classical macroeconomics' set of instruments is not able to correctly interpret and explain the economic processes in any case, thus the macroeconomic modeling is worthy of renewal (Stiglitz 2014, Summers 2014). The main research issues of this paper are attributed to the economic discourse above.

Regarding personal motivation, the author of this paper is of the view that the deeper understanding of the phenomena is essential, especially because of their occasionally shockingly momentous financial and social effects, affecting society as a whole. Examining the economic crises has been economics concern for centuries: the knowing of their mechanisms, disclosing and predicting the causal links as precisely as possible is a responsibility, and economics as a "dismal science"[1] is liable to the whole of society – this idea was the primary motivation for writing this paper. In the wake of the global money and capital market crisis that began in 2008, the long-unprecedented economic downturn has had an impact in a number of areas: first in the volatile changes in stock exchange rates, later in the turmoil in the government bond market, in the radical reversal of economic growth forecasts and in the appreciation of the importance of credit rating agencies, then on regional and national economic recovery programs, plans and potential threats of state bankruptcy and international financial rescue operations in several EU Member States, finally, through the phenomenon of growing Euroscepticism, the resurgence of protectionism in the Member States, the complex effects of the economic

[1] expression introduced by Carlyle, later gained a wider meaning then originally intended. see Marglin (2008)

crisis can all be examined. Looking at the economic optimism of the European Union before the crisis of 2008, the favorable growth environment more than a decade later seems to be a very distant memory, the growth prospects at the time of writing the manuscript fall far short of the general favorable environment after the introduction of the euro– at the same time, the EU institutional system has undergone a number of reforms and changes in order to be able to support the economies of its Member States as a more efficient institutional environment and to face the next economic crisis more resiliently.

The global money and capital market crisis that erupted in 2008 had a shocking effect on the European Union's economic environment, both in terms of the extent of the downturn and the length of the recovery. The questions of the dissertation are primarily aimed at examining in detail what these effects were and how all this forced the EU institutional system to change. The narrow decade before the crisis, from the introduction of the single currency, provided a favorable economic environment for almost all Member States. The EU's historic goals, including economic prosperity and real convergence of Member States in economic terms, have steadily moved closer – however, is it possible that these favorable economic developments have led to a decline in resilience to crises? How did the Member States react in this environment, how did the common EU institutions react? What have been the results of the new mechanisms that have emerged, covering a wide range of areas, from monetary policy to economic policy coordination to bank rescue programs? Which Member States could successfully be included in crisis management, which failed, and what factors justify this? Can the crisis be divided into well-separated sections and on what basis? Is there a possible unresolved issue of crisis management that would exacerbate the economic downturn again in the event of a subsequent crisis as an institutional weakness? What to expect in the event of a next crisis? In addition to shedding light on the above issues, the aim of the dissertation is to explore one of the most significant economic phenomena of the last decades by exploring the causes of external and internal crises, dividing the crisis into different stages, presenting institutional changes in detail and drawing lessons from crisis management, and its implications for the European Union. As a result, the doctoral dissertation formulates two research questions: on the one hand, how has the EU institutional system changed during the crisis management process, and on the other hand, how has the framework of macroeconomic imbalances, the main institutional innovation of crisis management, been examined?

2. Structure of the thesis

Given the structure, this essay is divided into three main parts. The first logical unit begins with the concept of crisis management and the background of its history of thought, the shift in the role of economic policy in the XX. and XXI. century, and the theoretical frame of over-indebtedness and austerity economic policies. then it concentrates on the causes of the global crisis that started in 2008: not only the EU's but the other developed economies' issues are demonstrated, moreover the relations of the global capital market are presented. These are essential to go over in order to understand and analyze the EU's economic situation (Chapter 2). The subsequent two chapters, as the most significant part of this paper, contains the demonstration of the EU's crisis and crisis management: Chapter 3 chronologically introduces the years of the crisis, identifying the main phases of the crisis, while Chapter 4 focuses on the changes in the European Union's institutional system. The thesis abstains from fully analyzing the member states' unique situation, the presentation of specific events in the member states is only weaved into the argumentation when their effects on the common institutional system justify this. The changes and reforms in the institutional system are completed with a collection of critical arguments, that enables the identification of the unsolved questions concerning the reforms' conceptual deficiencies. As the last unit, examinations at member state-level are brought into focus (Chapter 5). In order to prove the relevant research questions, statistical analysis tools are applied and conclusions are attempted to be drawn in connection with the consequences and causes of each member state's either successful or unsuccessful crisis management, mostly focusing on macroeconomic imbalances, and evaluating the MIP scoreboard's pros and cons. This paper is closed with a summary that once again introduces the extracted research outcomes by wording theses regarding the European Union's specific economic environment and crisis management.

3. Methods used

Concerning substantiation, this paper follows an inductive logic, namely, that it observes the European Union's historical and institutional developments, the shaping and results of its economic policy, and by logically concluding, it attempts to conclude general rules. The author of this paper repeatedly faced the difficulties of analyzing economic policies, that the examples, no matter how convincing and carefully selected, do not necessarily validate general statements, the argumentation tries nevertheless to draw such conclusions. The analytical framework of the dissertation is based on the classic and novel indicators of economic statistics, and aims to exceed the mainstream economic framework by examining the institutional background itself, accepting the fact that the mainstream ideas and alternative economics' observations often lead to different results. The dialogue between these different schools of thought hasn't been established even by the global financial crisis of 2008 (Csaba 2018). So, the theoretical starting point of this essay is that the social and economic institutions' evolution-like advancement is indeed able to affect individual and social behavior, therefore, these changes are worthy of scientific inspection. Furthermore, during the global economic crisis, economics could deliver several new results, from which the economic policy creators have to learn (Voszka 2018). All this is indispensable so that the effects of past crises can be moderated, and future crises can be combated. With this essay, the author of this dissertation wishes to provide bases, consideration, and conclusions for such discourses. Regarding the paper's statistical set of instruments, it is based on the time series analysis of the values of the main macroeconomic indicators and the macroeconomic imbalance scoreboard, calculation of correlation between two time series' values, and the binary logistic regression model that is able to evaluate the likelihood of crises occurring in the member states.

4. Main finding of the thesis

The thesis is focused on the economics of crisis management, and following the demonstration of its theoretical economics approach, the focus is on the causes of the global financial- and capital market crisis and its effects regarding the European Union. As mentioned earlier, the coordination of the economic policy had received numerous theoretical economics-related critiques after the introduction of the single currency, however, the optimism accompanying the euro and the cheap financing it created, outweighed the critical remarks in the end. At the same time, the crisis process starting in 2008 made the economic policymakers react, both on member state- and on union-level. Following the outbreak of the crisis, it became clear that a certain circle of the member states was on an unbalanced, vulnerable growth path, which did not prove to be resistant to the demand shock posed by the global crisis. The economic governance system, operating from 2011, and the additional reforms following it were capable of taking those new tasks and functions into account, the importance of which was pointed out by the crisis's challenges in economic policy. Among the theoretical insufficiencies of the theory of optimum currency areas, in regard to the budget, there was an improvement merely on a conceptual level, regarding the free movement of factors of production only half successes were achieved at most. The new institutions that created the single capital market (the banking union's first steps, such as the Single Supervisory Mechanism and the Single Resolution Mechanism) however, can be considered as serious improvements in the battle against the fragmentation of the capital markets. Then again, there will probably not be enough political space left to establish the common European budget, because of the heterogeneity in the member states' crisis management and the reversal of the convergence between the member states. The classification of the main reform steps of the EU after 2008 is shown in Figure 1.

Figure 1: Classification of the EU’s main reform steps, according to their focus

year	institutional reform	member state crisis management	stabilizing bond markets	strengthening competitive-ness	macroeco-nomic surveillance	strengthening budgetary balance	freedom of capital movement
2008	European Economic Recovery Plan	X					
2010	European stability funds (EFSF, EFSM)		X				
2011	Euro Plus Pact			X			X
2011	Six-Pack				X		
2012	European Stability Mechanism		X				
2013	Fiscal Compact					X	
2013	Two-Pack				X		
2014	Banking Union (Single Supervisory Mechanism)						X

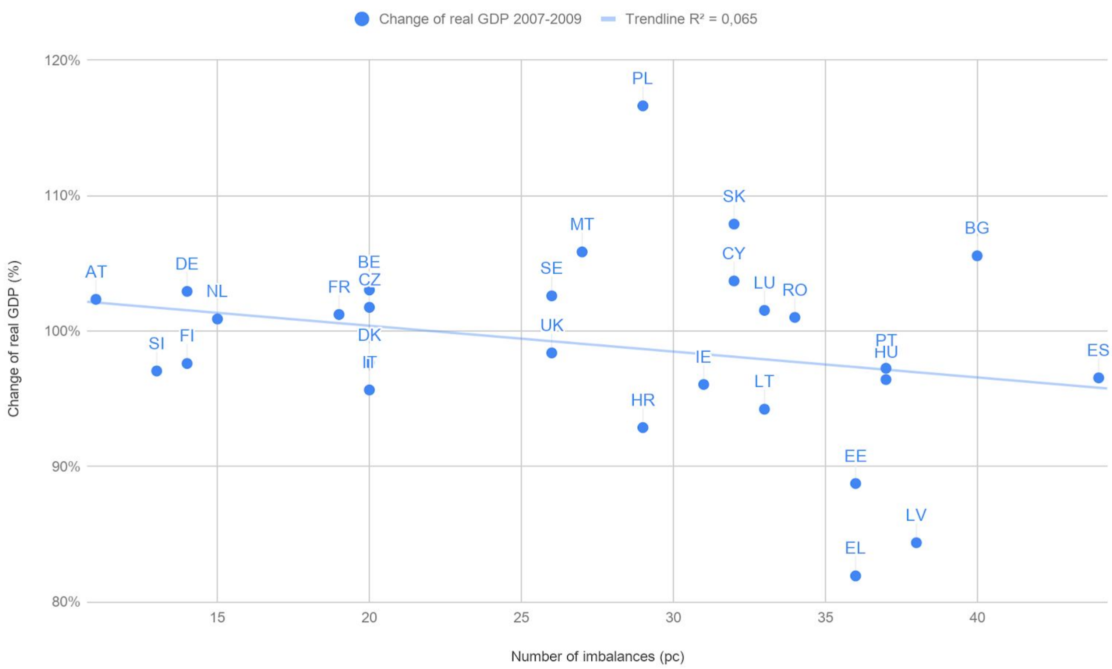
Source: own edition

So, after the global financial crisis, the EU’s economic governance adapted new functions that had not previously proved to be necessary for the integration. At the same time, many economic and theoretical deficiencies against the common institutional system have remained in the common institutional set-up, which cast doubt on the EU's ability to take effective action against unforeseen economic effects in the event of a subsequent economic crisis, ie to have the appropriate institutional set-up and political mandate to be able to act agilely in crisis management. The essay’s first thesis can be phrased based on these arguments:

T1. When managing crises, the European Union’s institutional system adopts the new necessary functions in a late and incomplete manner.

Given the Six-Pack’s entry into force in 2011, the economic governance got several new tools to coordinate the member states’ economic policies, and to sanction the deviant fiscal policies and harmful economic processes. With the help of the Macroeconomic Imbalance Procedure and the European Semester system, the Commission had a say in shaping the member states’ economic policy, so that the unbalanced economic growth paths preceding the crisis would not take place again. The Pack was later fortified by further reforms (e.g., the Two-Pack, the Fiscal Compact). The next step of this dissertation is examining if the macroeconomic imbalance scoreboard is an appropriate tool for identifying the crisis states, which were constrained to endure a sustained fall following the excessive economic growth paths and the outbreak of the crisis. The results of this essay's examinations are diverse: By inspecting those member states that suffered a larger-than-average downturn, persistent imbalances can be detected in the case of Greece, Portugal, Spain, and the Baltic States, and Ireland as well (which executed a quick correction). At the same time, the member states of the Central and Eastern European region, despite their previously numerous imbalances, were mostly able to keep an economic growth higher than the EU as a whole. Owing to the different lessons in the group of countries, merely a weak negative correlation can be observed between the number of imbalances and the economic downturn following the outbreak of the crisis (see Figure 2).

Figure 2: The change in real GDP of the EU's member states (Y axis, %, 2007 – 2009) and the number of their pre-crisis imbalances (X axis, pc, 2004 – 2007)

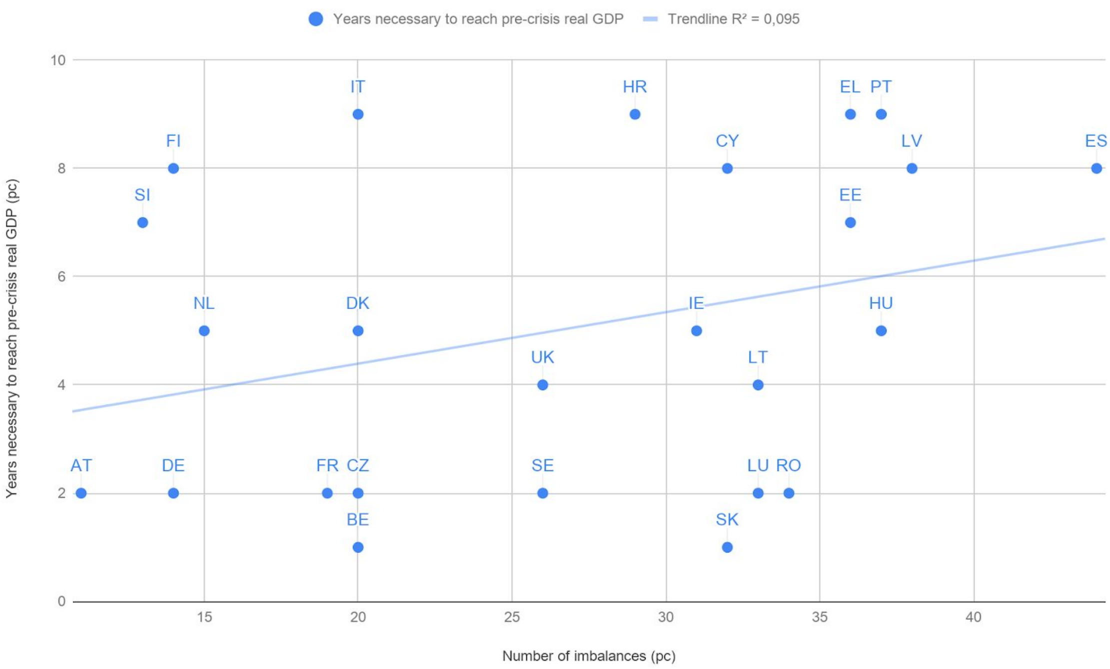


Source: own edition based on Eurostat data

Overall, it counts as an improvement, that the imbalance indicators were considered in the political discourse, and thereby, both the decision-makers in the member states and the Commission pay more attention to the issue of balanced economic growth than before. It can be demonstrated after the Six-Pack's entry into force, that the number of the region's imbalances shows overall a decreasing trend. The question this paper examines next is whether it can be stated that those member states, that had disposed of strong economic fundamentals (that is to say, of less imbalance, according to this essay's definition) before the outbreak of the crisis, were able to reach their pre-crisis gross domestic product (in real terms) in a shorter time. Behind the research issue, there is a differentiation between core and peripheral countries, which had become widely used in the economic literature after the outbreak of the crisis. As previously seen, there was excessive economic growth, persistent current account deficit and a downturn in competitiveness in a certain circle of the peripheral countries, so these member states had to endure larger-than-average economic downturns and longer recessionary processes following the outbreak of the crisis. The central countries (that produced a growth path to a lesser extent but without imbalances prior to the crisis) suffered smaller downturns and reached the level of their pre-crisis real GDP sooner. The numerical comparison is displayed in Figure 3, showing a weak positive correlation between the number of imbalances and the length of the recession. Although, it can be easily foreseeable, that to the member states which had to suffer persistent downturns, (which countries are defined in this essay as follows: they did not reach their pre-crisis level of real GDP by the time the EU average had) mostly a high multiplicity of imbalances was specific before the crisis – once again, the majority of the Central and Eastern European region's member states are present as an exception from this statement. This contrast, however, does not explain the protracted recession and weak growth performance of member states such as Finland and Italy, which endured sustained imbalances after the outbreak of the crisis. The outcome of the examination emphasizes the importance of a member state-level detailed analysis, in order to comprehensively understand the ongoing tendencies. In light of the above, the second thesis of the essay is as follows:

T2. The macroeconomic imbalance scoreboard's set of instruments is adequate to identify and influence crisis states that are potentially experiencing a severe economic downturn.

Figure 3: The years needed for the EU's member states to reach their 2007 level of real GDP (Y axis, pc, 2007 – 2009) and the number of their pre-crisis imbalances (X axis, pc, 2004 – 2007)



Source: own edition based on Eurostat data. Note: the member states, that did not reach their 2007 level real GDP until 2017, are marked with a maximum value (9) on the y-axis, those that did not endure recession, are not displayed.

In the light of the foregoing, it can also be said that the macroeconomic imbalance scoreboard proved to be an appropriate and effective tool for fiscal discipline, and for strengthening the resistance to crises by and large, however, it does not necessarily serve the purposes of convergence. At the same time, the scoreboard's indicators are furthermore flexible: its limits can be amended, the number of indicators is extendable, the Commission can oblige the underperforming member states to correct their macroeconomic processes and sanction those member states that do not fulfill this. Since applying the imbalance-connected procedures, it counts as an important result that all things considered, the number of imbalances in the EU has decreased, compared not only to the aggregated values during the recession years caused by the crisis but also to the values in the years preceding the crisis. In conclusion, during the economic governance commencing in 2011, the European Union's economic growth is – even if to a slower dynamics, than before the crisis, but – undoubtedly more balanced overall.

The analysis of the member states that had to endure sustained economic downturn however illustrates, that decreasing the number of imbalances, and the suppression of the harmful economic processes by forced, sometimes restrictive economic policies did not lead to the desired robust economic growth. The countries that have moderate economic growth prospects are Italy – which has to bear the political crisis as well – and Greece, which is just emerging from an extremely severe economic meltdown; but the growth chances are also moderate and vulnerable in Portugal and Spain. Respecting the regulation of the fiscal discipline incorporates on one hand that it does not jeopardize the financial viability of the European Union's other economies that much (which is a serious result to the refinancing crisis in the years between 2011 and 2013), but it does not mean a compelling force when it comes to implementing the structural reforms required for restoring competitiveness. So, member state-level competitiveness is still primarily the member states' own responsibility, and one part of the member states managed it well (even after the crisis subsided), the other did not. The above is summarized in the essay's following thesis:

T3. The elimination of imbalances is a necessary but not sufficient condition for restoring the growth environment in the Member States of the euro area

Following all this, the next examination of this paper is whether, among the imbalance scoreboard's indicators, there are ones that have such forming limits that increasingly imply the probability of the events of the crisis occurring. The establishment of the binary logistic regression model was preceded by a test of stationarity and cross-sectional correlation analysis, that resulted in excluding the four indicators correlating considerably with the other indicators. The excluded indicators are the special types of unemployment (long term unemployment and youth unemployment), the nominal labor costs which negatively correlated with the unemployment rate, and the net international investor position, which is also highly correlated with other indicators. The binary model uses the difference between the member state-level potential GDP and actual GDP ("output gap") as a dependent variable, in a way, that when the (negative) output gap is higher than the EU-28 group of countries collective value, it is defined as 'crisis', and where the output gap is lower, it is defined as 'no crisis'. The remaining ten imbalance indicators' time series (on the 2004-2018 time horizon) are the regression model's independent variables. It was necessary to omit five more indicators (the real effective exchange rates, the export market share, the changes in lending to the private sector, the governmental indebtedness, and the liabilities of the financial sector) after the running of the statistical analysis because of the exceedingly high significance value. The created model could estimate correctly the likelihood of a crisis occurring with a 73,6% accuracy on the („t=0") time horizon. The formula of the regression model is as follows:

$$P\ (crisis)\ =\ 0,098\ +\ 1,135\ \beta_{\ CAB}\ + 0,903\ \beta_{\ HIP} + 1,004\ \beta_{\ PSD} + \\ +\ 1,200\ \beta_{\ UR} + 0,806\ \beta_{\ AR} +\ \varepsilon$$

The regression equation can be interpreted as follows:

- if the current account balance (CAB) drops by one percentage point over the limit, the probability of a crisis event occurring rises by 13,5%;
- if the private sector debt-to-GDP ratio (PSD) increases by one percentage point over the limit, the probability of a crisis event occurring increase by 0,4%;
- if the unemployment rate (UR) deteriorates by one percentage point over the limit, the probability of a crisis event occurring grows by 20,0%.

Although the private sector debt-to-GDP ratio (PSD) indicator only slightly increases the likelihood of a crisis occurring, this effect is offset by the fact that this indicator ('t = 1', 't = 2', 't = 3').) also demonstrably increases the likelihood of occurrence in a longer term. In addition to this indicator, the unemployment rate in the medium term and the unfavorable development of the real estate price index in the longer term can be considered a good predictive indicator based on the results of the model. According to the statistical analyses, the essay's last thesis goes as follows:

T4. The indicators, that best predict the member state level crises within the EU, are the development of the current account balance, the private sector debt level and the unemployment rate.

5. Further research possibilities

Along with the outcomes of the research of my essay, two potencial future research areas have become clear. On one hand, the macroeconomic imbalances can be further analyzed on member state-level: the connections between economic performance and the development of the imbalance indicators can be the basis of additional observation and creation of groups, and each member state's past economic paths and prospects can be individually analyzed or published, depending on the teachings of the imbalance scoreboard. The extracted implications paired with the set of instruments of comparative economics can become the fundaments of economic policy guidelines for the member states.

In addition, a further research avenue could be the improvement of the statistical model. The binary logistic procedure enables an ever more precise fit, if a longer time series is provided for the model creator or if new recessionary periods occur in the future. Moreover, the statistical model can be deepened partly by using time-shifting approach, which would allow the indicators of the macroeconomic imbalance to esteem the likelihood of crisis events occurring one, two or three years later, and partly by extending it to a multivariate logistic regression procedure, defining several kinds of outcomes. There are several more complex methodologies for analyzing time series, such as the FDL (fine distribution lag), or the ADRL (autoregressive distributed-lagged) models, and the predictive regression models. By a better-suited model, it is possible to – based on the crisis situations, identified by past data – identify future crisis events and to evaluate the probability of them occurring. However, this essay's conclusions, which says that the indicator-like discipline systems can not necessarily target the forming of the real economic fundaments, are valid in this context: the predicting force of the statistical models is not absolute, the dissolution of the persistent imbalances does not necessarily lead to stable economic performance and to achieve the desired growth and convergence. However, with adequate modeling and sanctions, the length and magnitude of crisis events can presumably be reduced, if the outcome of the modeling are accompanied by the formation of economic policy guidelines and by effective implementation of these guidelines. However, only a forthcoming economic crisis and the effectiveness of the related crisis management will be the final test of the EU's institutional changes, which have had mixed results.

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