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**Article**

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# Reflections on the Eurozone's Challenges

Marta Götz<sup>1</sup>

## ABSTRACT

This paper considers the primary challenges faced by the Eurozone and caused by the 2008+ crisis. It suggests that one should distinguish among institutional, conceptual (model/paradigm) and real economic challenges. As a factor that influences progress in other areas, the latter topic is a special focus. It shall be stressed that the classification advanced in this paper is only one of many possibilities. The division into three groups may help navigate the discussion on problems that are occurring or likely to occur in the Eurozone. However, the intertwined character of these challenges and their interdependence is also stressed. Generally, it seems reasonable to agree that the institutional and conceptual challenges will persist and that no easy solution can be expected soon. A simple evaluation of the Eurozone's macroeconomic stability based on available forecasts results in several tentative, overly optimistic conclusions that a slightly increasing internal cohesion is underway. More macroeconomic harmony can be expected. However, bold institutional reforms are required.

## KEY WORDS:

convergence; Eurozone; macroeconomic indicators; institutions; 2008+ economic crisis

**JEL Classification:** E00, A1, F5

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## Introduction

The events that followed the Lehman Brothers collapse, which is traditionally regarded as a trigger for the 2008+ crisis, have been of substantial importance for the Eurozone economies and pose challenges in many aspects of life. A literature review that encompasses academic papers as well as official reports, the business press and economic blogs enables one to discern three broad streams of challenges, or issues to be addressed. First, special attention has been directed toward institutional structures, i.e., the architecture and mechanism of the Economic and Monetary Union. A second topic of increasing importance that is particularly prevalent among scholars is the need for new economic thinking, i.e., the search for a new, better-

suited model of the current economy. Finally, not questioning these profound problems faced, the real macroeconomic performance remains of formidable challenge. The developments in areas such as unemployment, fiscal policy or current account balances seem to determine the stability and cohesion of the entire zone regardless of advances made in other, i.e., institutional or conceptual, areas.

The 2008+ crisis literature that focuses in particular on the Eurozone abounds (Lo, 2012). In addition to academic papers presented during multiple seminars and conferences and published in renowned journals, there is a thriving blogosphere dedicated to these issues and discussing them in more informal ways. All of these contributions cannot be underestimated because they enrich our knowledge on sources, mechanisms, interdependencies and possible solutions of the crisis. Whereas the interest in reasons and mechanism seems to have faded slightly as time has passed, the problems

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that lie ahead and persistent dilemmas regarding how to proceed are gaining attention.

This paper is structured as follows. First, the institutional dimension of crisis solving will be discussed in addition to the search for a new economic paradigm, i.e., the need for some revision of basic macroeconomic tenets. Then, the performance of the real economy of the Eurozone's members will be evaluated. Special focus will be placed on several basic indicators of economic health as proposed in the Stability Pentagon, which provides a snapshot of the fitness of a given economy. The expected developments with respect to *Gross Domestic Product* (GDP) growth, unemployment and inflation levels as well as fiscal policy and current accounts will be discussed in terms of the Eurozone's internal cohesion. Thus, a concept of nominal and sigma convergence will be applied. The paper closes with some tentative concluding remarks that hint at the most acute challenges. It is beyond the scope of this article to name all of the challenges, let alone to discuss them in detail or review possible ways of addressing them. Instead, the paper offers only a "broad brush picture" of what may lie ahead for the Eurozone.

### **Review of the institutional and conceptual challenges of the 2008+ crisis**

Drawing on the most widespread concerns addressed in research papers and, less formally, in the thriving "crisis" blogosphere, I identify three primary areas of challenge. These areas encompass the real economy's performance, i.e., its stability and integrity, complex institutional issues concerning the Eurozone's architecture and more the abstract problem of searching for new economic paradigms. As useful and analysis-friendly as such categorization can be, the mutual dependency of these challenges cannot be obscured. In this respect, Palacio (2013) claims that the primary hindrance to further progress in fighting the crisis is that *two competing narratives seek to explain Europe's economic travails - one centers on the Eurozone's structural flaws and aims at strengthening the institutional framework, whereas the other highlights faulty domestic policies and focuses on austerity. Although often portrayed as irreconcilable opposites, these two approaches to resolving the euro's problems are complementary - indeed, essential - components of any realistic approach to ensuring the Eurozone's future.*

Let me begin with the institutional and conceptual challenges. Institutions can be understood in terms of the standards, regulations and rules that govern socio-economic life as well as in terms of the bodies that have been established to operate the economy (formal and less formal authorities, e.g., groups and councils) (North, 1991). The institutional challenges that the Eurozone is facing can be defined in terms of a need for the administrative redesign of the Economic and Monetary Union (EMU) or, more specifically, as the search for an updated, better-suited EMU architecture that accommodates internal divergences. This redesign must address the perennial problem of ignoring or, at least, disrespecting the basic criteria for the optimal currency area. Flexible labor markets that facilitate workforce mobility and the institution of "lender of last resort", or transnational transfers in case of asymmetric shock, have been absent since the EMU's inception (Kenen, 1969; Mundell, 1961; Obstfeld, Roggoff, 1996). A new institutional arrangement understood as certain rules, regulations and new authorities shall instill much-needed resilience and support the reconciliation of the idiosyncrasies of individual nations with the coherence and stability of the entire zone.

In this respect, one challenge is undoubtedly the design of the banking union. Already the first basic dimension of this idea proves difficult. The correct (i.e., suitable for all partners) single supervisory mechanism (SSM) does not seem easy to achieve (Deutsche Bank, 2012). There is no consensus with regard to its independence within the ECB, its composition, the relations with the European Banking Authority (EBA) and the voting rights of non-euro members (the so-called pre-ins, such as Poland, or the opt-outs, such as Sweden) (Centre for European Reform, 2012). The next stages, i.e., a common deposit guarantee fund and a resolution mechanism for dissolving ailing banks, pose even more profound challenges because they most likely would require certain fiscal backstops.

Universal banks, i.e., the combination of retail and investment banking, are viewed as one of the primary villains of the current crisis. Various proposals on how to end this apparently dangerous symbiosis have been presented, not only in Europe. The most prominent are the following: The Volcker Rule (USA), which seeks to limit the banking activities of banks with deposit operations; the Vickers Commission (UK), which advo-

cates strict regulations for retail banking, effectively separating it from other banking business; or proposals by the Liikanen Group, which focus on individual investment activities (Schröder et al., 2013). These proposals seek to apply “ring fencing” to banking activity, to safeguard the common depositors and to protect taxpayers from bearing the burden of resolving insolvent banks. Nevertheless, certain experts claim that such blueprints are unnecessary because universal banking cannot be blamed for the current crisis. These experts believe that the predominating risk factors for systemic risk are *rapid credit growth, an insufficient capital basis and a large share of short-term capital market financing*. Thus, the idea of a specialist network banking system (as opposed to universal banking) that ignores such elements ... *is rather a minor point in the discussion on reducing systemic risk*.

In fact, rarely a day passes without a new proposal aimed at curbing the greed of the banking sector followed by a warning from the financial industry about overbearing regulation. The “too big to fail” problem proves to be particularly acute. In this area, reform efforts fall into approximately three categories: the need to internalize externalities that cause renewed interest in the idea of a Pigou tax (i.e., attempts to levy systemic surcharges on the world's largest banks according to their size and connectivity), proposals of orderly resolution regimes for banks that could lower the costs of a large bank's default and the previously mentioned “ring fencing”, which targets the scale and structure of banking directly (Haldane, 2013). However, opinions are heard that such downsizing may adversely affect the efficacy and in fact would erode the economies of scale and scope otherwise associated with large banks. Thus, Acharya and Öncü (2013) argue that instead of targeting institutions, instruments shall be given priority: “*in time of crisis, financial regulators were forced to act on systemically important assets and liabilities, rather than just on the individual financial institutions holding them*”. Generally, in the banking area, various often contradictory proposals have been presented by economic experts, politicians and scientists. Ideas that stipulate the obligatory introduction of “last wills” for banks that facilitate a hypothetical orderly restructuring or resolution are worth mentioning. In addition, “bail in” mechanisms, which provide for creditor responsibility and participation in cases of insolvency,

are gaining attention among scholars and practitioners (Snower et al., 2013). Moreover, systemically relevant financial institutions should be required to pay the full cost of the risks that they generate by issuing the debt in the form of contingent convertible bonds (Coco Bonds) that automatically convert debt into equity when the capital ratio falls beneath a trigger level.

The long-forgotten principle of capital controls seems to *be back in vogue*. However, as argued by Klein (2013), *we should distinguish between episodic controls (gates) and long-standing controls (walls)*. *Whereas studies may confirm the effectiveness of the previous ones, the clear role of the temporary barriers imposed or removed, has not been identified*.

In sum, an immediate answer is required to the problem of architecture that can reconcile the “golden cage” in which the Eurozone's member states have placed themselves with sovereign fiscal policies (Razin, Rosefelde, 2012). An uneven road ahead is expected when common fiscal capacity is created, which will substitute for the Eurozone's budget. The several proposals that have been presented hint toward a possible source of contention (Pisani-Ferry, Vihriälä & Wolff, 2013). The four most promising proposals are: a scheme in which access to jointly guaranteed borrowing is combined with a gradual withdrawal of fiscal sovereignty, a support scheme based on deviations from potential output, the novel proposal of an insurance scheme *through* which governments would issue bonds indexed to the GDP, and finally the most ambitious proposal: a federal budget with unemployment and corporate taxes shifted to the euro-area level. The last proposal (a joint budget) can be viewed as a long-term stable solution - a true budget. However, the proposal's drawback relates to substantial difficulties reaching agreement among all of the members primarily regarding the preferences on public goods. An automatic transfer scheme that offers income transfers among members could maximize stability and seems fair to execute. However, its reliance on strict technical assumptions concerning so-called potential output would be questionable. Debt as equity, i.e., the proposition of GDP-indexed bonds, acknowledges the problem of the risky character of government debt and thus the varying degrees of risk ascribed to sovereign bonds. However, this approach is an “untested instrument” that would provide stabilization based only on

non-resident holdings. The final proposal of guaranteed bond quotas stipulates the mutualization of default risk and common borrowing facility. However, it tries to combine the national responsibility for stabilization with the controversial Eurobonds.

According to Frankel (2013), the faulty provisions of the Fiscal Pact require the establishment of independent fiscal forecasting institutions. Such institutions are necessary because of the so-called problem of forecast bias, that is, that the estimation of potential output – and hence the cyclical versus structural decomposition of the fiscal position – is notoriously difficult, even after the fact. It may help that under the fiscal compact the rules are to be adopted at the national level (in contrast to the SGP, which operated on the supranational level). Creating an independent fiscal institution that provides its own budget forecasts would be effective insofar as it reduces the bias in deficit projections.

The European Semester introduced in the EU with the aim of boosting the coordination among member states and EU institutions provides the much-needed better alignment, although certain problems remain. According to Hallerberg, Marzinotto and Wolff (2012), the lack of actual cooperation requires more frequent contacts and the renationalization of European policies or the Europeanization of national policies, i.e., “capitals go to Brussels” or “Brussels goes to capitals”.

The establishment of a new European rating agency can be viewed as another attempt to construct a more resilient Eurozone. Such initiatives have been frequent following the dubious evaluations provided by three American agencies: Fitch, S&P and Moody’s (Handelsblatt, 2013). The initiatives envisage a strict calendar of ratings’ publishing, transparency with respect to method and the prohibition of conflicts of interests. In general, they aim at reducing the importance of ratings as such by redefining them as valuable although less powerful tools for investor decisions.

Some remarks concerning the method of the Macroeconomic Imbalance Procedure (MIP), which was launched by the EU, have also been aired. The adopted construction of the Scoreboard reveals the preferences of the policy makers with respect to their attitudes toward error (Knedlik, 2012). Apparently, to judge by the procedure applied, the European Commission seems to be much more concerned about not reacting than reacting unnecessarily. This tendency is the result of

the EC’s greater relative preference to avoid Type I errors (if thresholds are set too high, looming crises might be overlooked) than Type II errors (if thresholds are set too low, false alarms might be produced). According to experts, these findings suggest that the current Scoreboard is in most cases too alarmist while threshold for two indicators (unit labor costs and the unemployment rate) are set too high. Even more critical with regard to the adopted MIP is Manessa (2013), who argues that the procedure is a “*mere ‘ex-ante’ monitoring device for detecting ‘asymmetries’ which instead of transferring resources to countries suffering shocks, [...] punishes them*”.

Another interesting concept that has been advanced is the proposition of temporary Eurozone membership suspension. Plausible as this idea is, it results in a question of how to regard the euro as a currency if it is backed by a changing number of countries? That is, how can such exclusion, which would undoubtedly provide relief for a crisis-stricken country, be reconciled with the idea of a common currency?

The EMU’s incomplete institutional architecture and the resulting instability of the Eurozone can be traced to the incapacity of EU fiscal rules to promote prudent fiscal policies in good times, the absence of a robust mechanism to prevent (or correct) macroeconomic imbalances within the EU, insufficient coordination of macro- and micro-prudential supervision resulting in a build-up of vulnerabilities in banking sectors and the absence of an effective a crisis-management framework (Coeuré, 2013). In sum, it seems that the institutional challenges faced by the Eurozone reflect the multilevel governance (MLG) character of the entire EU. Thus, the attempts to address these challenges can be reduced to the question of how to reconcile sovereignty with a supranational arrangement.

Regarding conceptual challenges, this paper only seeks to outline the primary concerns that have been raised. These concerns include the various ideas that have been suggested as a response to the deficiencies and failures of traditional models, theories and paradigms. In addition, it seems obvious that feedback occurs between these challenges and the previously mentioned institutional challenges. In fact, drawing the dividing line is more of an academic exercises, although it enables the detection of certain interdependencies. In reality, the practical problem of, e.g., how

to design the banking system requires the adoption of a theoretical framework to guide the changes (Goldstein, Razin 2013; Levine, 1997).

The challenges in this area are the assumptions regarding the functioning of the real economy, i.e., the logic that underlies subsequent actions by market participants (Akerlof, 2013; Blanchard, 2013; Romer, 2013; Stiglitz, 2013). The collapse of earlier, often firmly believed ideas has repercussions. It seems that first phase of questioning and criticizing the orthodox tenets of the economy is now slowly being replaced by more constructive attempts to construct a new conceptual and analytical framework. However, one must agree with those who stress that this paradigm change cannot occur overnight. Nevertheless, a long period of accumulation and selection involving the participation of various economic schools and thinkers can enable a new, coherent and robust concept to attain critical mass.

The rapid development of the economic blogosphere that accompanied the 2008+ crisis (e.g., *Naked capitalism*, *voxeu.org* and *Marginal revolution*) has contributed substantially to the revision of many traditional economic tenets. Some view this activity as an "assault on economy" (The Economist, 2011). The development of the blogosphere results in new ideas, models, *quasi* theories or approaches.

According to Kirman (2012), economic thinking must come to terms with issues such as a distinct micro- and macroeconomic division in which the latter is viewed only as an aggregation of the micro level. Instead of focusing narrowly on effectiveness, questions of coordination need to be properly addressed. Additionally, as has been experienced during the current crisis, regarding the economy as always in equilibrium and only temporarily in disequilibrium because of external shocks no longer seems legitimate. The economy is by nature self-organizing and dynamic.

In mid-2008, DeGrauwe, the father of common currency, warned that "*the macroeconomic models now in use in central banks operate like a Maginot line* (De Grauwe, 2008). *They have been constructed in the past as part of the war against inflation.*

*The central banks are prepared to fight the last war. But are they prepared to fight the new one against financial upheavals and recession? The macroeconomic models they have today certainly do not provide them with the right tools to be successful.*"

A revised attitude toward monetary policy implies the reshuffling of targets. Therefore, a growing group of economists is advocating the need to monitor not only price stability, i.e., the development of inflation but also GDP growth or the labor market. *For all central banks price stability remains a priority, though many of them add a reference to general economic conditions - growth and employment or financial stability. Some are even supposed to work in coordination with the government in setting the target* (Kemal, 2012). Although no central bank as yet decided to set a numerical employment target, this fact may change in the face of increasing unemployment in many developed countries. *Weak labor markets, low inflation, and debt overhang suggest that a fundamental re-ordering of priorities is in order.* Thus, the alternative of targeting the nominal GDP deserves to be seriously considered because this approach seems superior to the *status quo* (Frankel, 2012). Such a new target seems to offer the advantage of a stimulus when it is necessary, *while respecting central bankers' reluctance to abandon their cherished inflation target.* Nevertheless, the opinions on new targeting are divided. Whereas some (e.g., Mohamed A. El-Erian, the CEO and co-CIO of PIMCO, a global investment management firm) claim that inflation is only a means that should lead to certain ends (e.g., economic development and prosperity). Thus, broadening the target seems to take into account the ends rather than only the means. Others argue that combining two categories into one new target would only increase the uncertainty that results from the lack of knowledge of how the economy and GDP would eventually change (Goodhart, Baker, Ashworth, 2013).

In addition, there are claims that the money creation mechanisms taught at universities should be revised. The way money is supplied on markets must be reconsidered against the background of recent initiatives, such as Long Term Refinancing Operations (LTRO), or the paradoxes of capital being "parked" in the ECB because of uncertainty. Additionally, the sovereign crisis seen as the second phase of the 2008+ crisis (following the banking sector collapse) raised the question of how risk-free bonds are.

Special attention has been given to fiscal multipliers (Blanchard, Leigh, 2013a; 2013b). Following the IMF mea culpa report that admitted several faulty assumptions regarding the impact of fiscal consolidation on



the real economy, experts are questioning the earlier concepts (Economic Council of the Labour Movement [ECLM], 2012). The *expansionary fiscal contraction* witnessed during the first days of battle against the crisis seem to have faded away and is now being replaced by *contractionary fiscal consolidation*. It is not only the value of multipliers that is under scrutiny. Recent studies have identified different sizes of multipliers depending on the business cycle period (recession or prosperity), the country under consideration, or the year of the fiscal consolidation process.

The crisis has also revealed that the standard macroeconomic models, which are known as “dynamic stochastic general equilibrium” (DSGE) models, do not accurately represent the financial system or account for the booms and busts observed in the real world (The Economist, 2013). Thus, a wave of initiatives can be observed among scholars aiming at fixing these failings. Among various approaches, these scholars are trying to insert banks into the models, whose exclusion seems one of the primary errors and lessons of the crisis. Additionally, “agent-based modeling” is also being revisited. However, so far, “*nobody has got something so convincing that the mainstream has to put up its hands and surrender*,” says Paul Ormerod, a British economist. “*No model yet produces the frequent small recessions, punctuated by rare depressions, seen in reality*”.

The crisis has unveiled the hidden truth that regulators cannot establish perfect rules and standards, that markets do not operate optimally, that institutions have many drawbacks and that people seldom behave fully rationally (Krugman, 2009). The crisis resulted in not only the thriving blogosphere and new concepts of socio-economic life but also contributed to initiatives that aim at developing new indicators to measure the prosperity of nations (Rybiński, 2012), the latter in particular because, as stated in 2011 by the UN General Assembly, GDP does not adequately convey the happiness and well-being of a people. The crisis also resulted in the establishment of new institutions, such as the *INET Institute for New Economic Thinking*, which is owned by the tycoon George Soros.

Issues raised linked to establishing new institutions and creating new concepts only signal some of the challenges that the Eurozone faces. This list is not exhaustive. Unfortunately, new items can be easily added, so the list itself will expand as a result. For many

reasons, it is difficult to say where the EU stands with respect to overcoming these challenges. Primarily, these reasons involve the complex nature of these issues (which involve legal and sovereignty aspects) and the logic of reaching consensus in the EU. For example, monitoring the decisions concerning the planned banking union as presented in official statements and press releases following a summit can be confusing because leaders seem to easily retreat and withdraw from earlier pledges or to alter the meaning of earlier decisions (Deutsche Bank, 2013).

In sum, it seems that no unique new concept can be expected in the near future. However, such a concept might emerge as a result of a lengthy and cumulative process (a maturation). Nevertheless, it is reasonable to believe that we will observe either the development of one eclectic and hybrid paradigm or the coexistence of various, often contradictory schools and forms of economic thinking. As far as institutional challenges are concerned, it seems that the notorious “muddling through” will continue. The scale, scope and complexity of the problems that must be solved (often involving highly practical matters) heralds an arduous process. Already, reaching consensus among member states has not proved easy. Integration according to the principle of a multi-speed Europe and variable geometry or enhanced cooperation seems the only way to reach agreement among so many partners. Paradoxically, as the next subchapters reveals, against this background, macroeconomic forecasts appear to be quite positive. There is no reason to celebrate. However, at least things should not get worse, and the internal Eurozone’s heterogeneity shall not deteriorate.

## Challenges to Eurozone macroeconomic performance

Compared with more favorable developments in the USA, the economic downturn in Europe seems to be more of permanent character (Manessa, 2013). Whereas based on a cursory analysis, the shock experienced in the USA can be regarded as “*transitory, it is quasi-permanent for Europe*”. With quarterly down-revision of economic forecasts tensions rise and prospects for the survival of the euro are getting worse. Although such pessimistic thinking may not be warranted, the situation when confronted with USA remains bleak. “*The US economy started recovering from 2009, while in the*

*Eurozone recovery has been short-lived. As a result, US GDP in 2012 is above its 2006 level by 7%, while the Eurozone's output in 2012 exceeds its level in 2006 only by 2%. What is even more alarming is the internal situation in Eurozone. Crisis has heightened 'asymmetries' within Europe".* When Italy and Germany are compared, one realizes that in 2012 Italy's GDP is 6% below its level of 2006, whereas in Germany, the GDP is 8% above the 2006 level. Worryingly, this pattern applies in general to the Eurozone. Using the coefficient of variation – the standard deviation normalized by the mean – between the GDPs of the individual US states and between the GDPs of the Eurozone countries, Masson found a remarkable increase in the index of dispersion within Europe (i.e., between the GDPs of the Eurozone countries). Between 2007 and 2012, this index increased by more than 2%, whereas the dispersion between the US states fell from 2007 to 2011 by nearly 1%. This disparity might be explained by asymmetric shocks severely affecting certain Eurozone countries (the so-called PIGS) while leaving other countries unaffected (NL, DE, SE). Other explanations include asymmetric policy responses (e.g., particularly independent but pro-cyclical austerity policies) by certain countries and that different institutions are responsible for market segregation (the labor market being prominent example) with different degrees of employment protection and different systems of wage bargaining.

Mody claims that a third wave of the Eurozone crisis sweeping the continent would mean the breakup of its core (Mody, 2013). This wave will arrive when the core's economic strength is in doubt. It would then undermine the credibility of the safety net that has been supporting the European periphery and jeopardize the entire rescue program. During the first stage, the contagion spread from America to Europe, and banks in the Eurozone came under pressure when interbank tensions increased. During the second stage, the crisis spilled over to the sovereigns as investors became worried that helping banks would strain government finances. Subsequently, the diabolical loop of the sovereign banking crisis appeared. *"Throughout the crisis, it has been widely assumed – at least so far – that the Eurozone core would remain solid, and would continue to write the checks for the periphery's distressed governments and banks".* Economic forecasters continue to promise that growth will revive

and things shall look up during second half of 2013. However, what if such growth does not occur? The track record of charting this recovery has been discouraging. In April, 2010, the IMF projected 1.8% annual GDP growth in Germany and the Netherlands in 2013. In October of last year, the IMF lowered its 2013 growth forecast for Germany to 0.9% and to 0.4% for the Netherlands. Only two months later, the central banks of both countries reported that even these reduced expectations were too optimistic. Why believe that the second half of 2013 will bring more hope and cheer, Mody wonders reasonably.

This part of the paper addresses challenges in the real economy (De Grauwe, Ji, 2012). Based on the available figures and simple calculations, it strives to evaluate the Eurozone's macroeconomic performance. The aim is to offer a snapshot of the economic condition of the entire Economic and Monetary Union, particularly the union's cohesion understood in terms of internal similarity. The paper draws on the concept of sigma and modified nominal convergence and assesses the development of the chief indicators that characterize the economies of the member states. Additionally, it examines designated variables associated with the concept of the macroeconomic stabilization pentagon.

Despite the systematically depreciated (because of the crisis) role of economic forecasting and the reduction from forecasting to "nowcasting", forecasting continues to make sense and be useful. Above all, economic decision making, whether by governments, firms or private citizens, requires at least some familiarity, even if only general, with developments in certain economic categories. Forecasts are not promises but only the most probable scenarios of development, and they constitute one of many factors in decision making. Thus, economic forecasts contribute to rational action by complementing other tools.

Identifying the similarities and differences in the economic situation of two or more countries is important in the context of the introduction of international economic governance and the increased coordination of fiscal policies. Considering the heterogeneous nature of the crisis (different impacts on different countries) and its specific characteristics in the economies that constitute the Eurozone, there may be some concern regarding potential conflict between the integrated regulations of the common market and the needs



of particular countries with respect to using those instruments most effectively from their viewpoint (Gros, 2012). Therefore, information on the subject of developing economic conditions would appear indispensable for the identification of global irregularities and the prevention of potential crises. This belief holds particularly true against the expected reorientation in international economics, which would imply more focus on *Domestic Political Economy* than *International Economic Cooperation* because macroeconomics and spillovers from fiscal and monetary policies adopted in one country would affect other economies (Frieden, Pettis, Rodrik, Zedillo, 2012).

17 countries that constitute the Eurozone have been studied. Statistical bases of the International Monetary Fund that cover important macroeconomic categories during the period 2008-2017 have been used (International Monetary Fund, 2012). The conducted analysis attempts to assess the future economic state of the Eurozone in the context of its convergence / internal cohesion. The study includes variables that briefly describe a given economy while jointly forming the so-called macroeconomic stabilization pentagon (Misala, 2007). This concept includes the following elements: the GDP growth rate in percentage, which represents a synthetic expression of the level of a given country's economic development; the unemployment rate, which is measured as the relationship between the number of employed workers to the number of those able to work; the rate of inflation (consumer price index), which is expressed as a percentage; the ratio of budget balances to GDP; and ratio of current account balances to GDP.

Convergence is a process in which economies gradually become similar, i.e., "catch up" with one another (Próchniak, 2006). The literature distinguishes between nominal and real (structural similarity between economies) convergence, business cycles, and income levels (Magrini, 2004). To assess these convergence processes, sigma convergence has been chosen, and the concept of nominal convergence has been modified. Originally, nominal convergence, which is also known as "level-demonstrating convergence," was most often associated with the requirements to be met before access to the EMU's third stage, i.e., the Maastricht criteria. In this paper, the list of indicators was adapted to the five designated categories of the pentagon. Sigma

convergence occurs when differences in GDP or per capita income decrease over time (Boldrin et al., 2001; Malaga, 2004; Matkowski, Próchniak, 2004). Estimates of nominal convergence require the analysis of the convergence of basic economic categories, whereas estimates of sigma convergence require the calculation of changes in the development of differences in GDP as measured by the standard deviation of  $\ln$  GDP p.c.

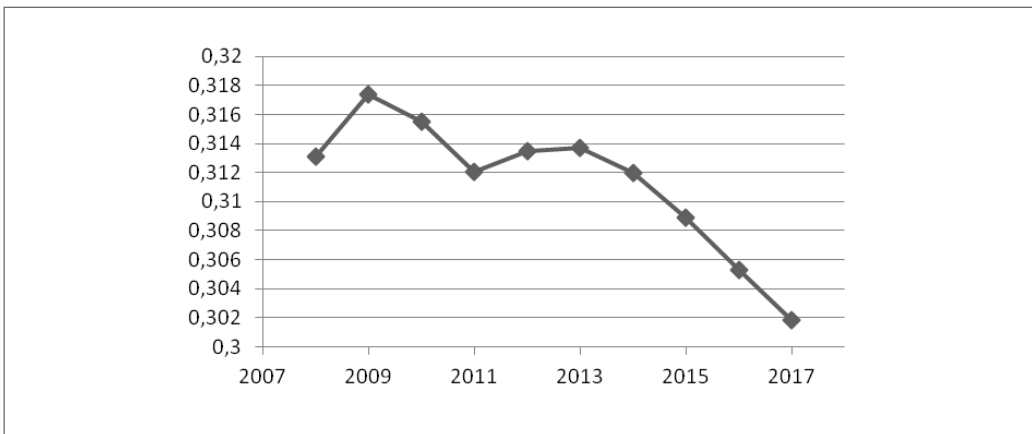
The presented estimates of the macroeconomic condition of the Eurozone economies refer to projections that involve a short time period. Thus, they must be treated cautiously. They do not allow for the robust, unambiguous assessment of economic foundations. Rather, they draw attention to the potential risk of petrifying the current characteristics of the Eurozone and prolonging its internal heterogeneity. This cursory assessment offers a sketch of how the Eurozone's convergence might appear.

## Sigma convergence

Sigma convergence refers to the measurement of differences in the wealth of countries and is associated with the attempt to answer the question regarding long-term trends in the degree of polarization of wealth or income within a group of countries (Malaga, 2004; Matkowski, Próchniak, 2004). The effect of sigma convergence is revealed by decreasing variances, or standard deviations, in the logarithm of the GDP within a given group of countries within a given time frame.

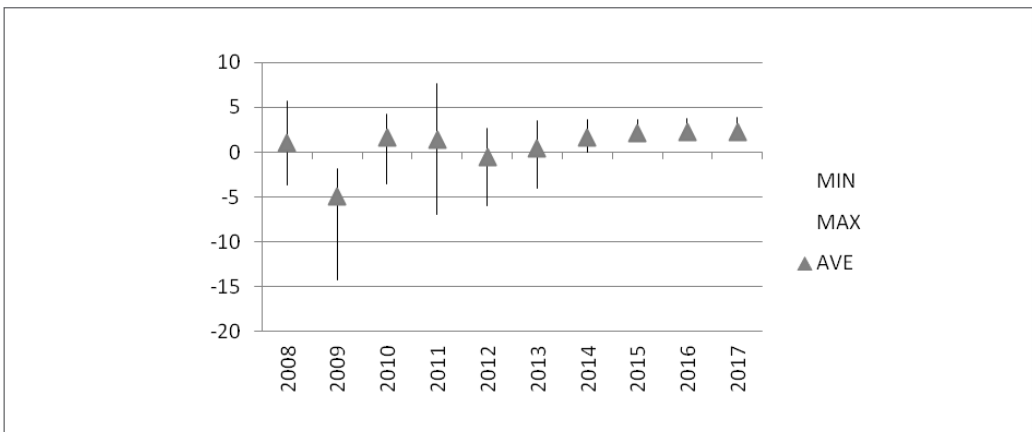
The standard deviation values used to measure the GDP p.c. disparities among the Eurozone members have been fluctuating from 2008 to 2013, increasing and decreasing alternately and do not reveal a clear tendency. However, according to forecasts, GDP p.c. disparities shall decline steadily from 2013 onwards. Thus, the results seem to confirm the possibility of sigma convergence during the period 2013-2017, which would mean a reduction in variations in the level of GDP between member countries of the Eurozone. A steady decrease in dispersion may be expected (Fig. 1).

However, the simple fact that divergence, i.e., increasing differences among the member states as expressed by GDP p.c. levels, should not threaten the Eurozone does not tell us much about the forces likely to be found behind this "catching-up" process. That is, how much might improved Eurozone integrity result



**Figure 1.** Disparities in per capita income levels between Eurozone countries (std. deviation % of GDP)

Note: Author's calculations based on IMF statistics.



**Figure 2.** Variation in economic growth (% change in GDP) within the Eurozone, 2008-2017

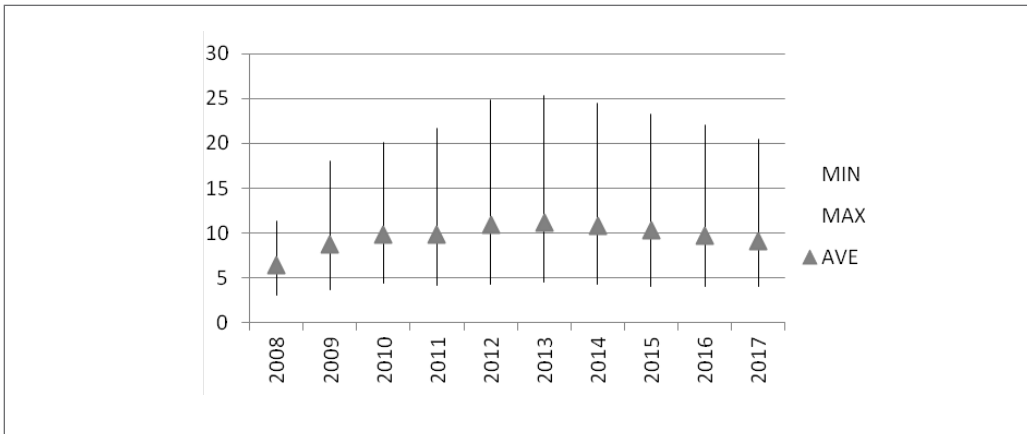
Note: Author's calculations based on IMF statistics (gross domestic product, constant prices, percent change).

from higher economic growth in “poorer” countries, from stagnation/recession in more advanced countries, or from other effects (depopulation)? (Aufbau Ost In Timpelschritten vorwärts; 2004; Berleemann, Thum, 2006).

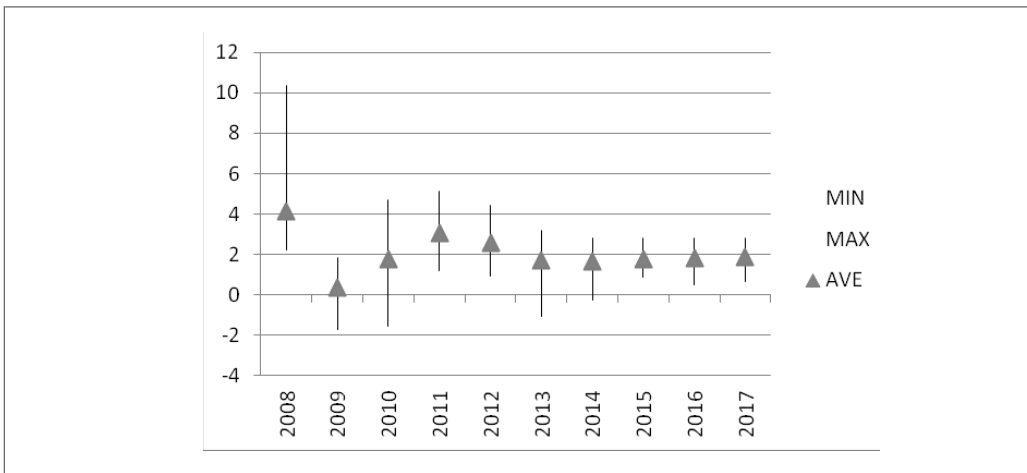
### Nominal convergence

The calculations of nominal convergence presented below are an attempt to assess the size of the differences among the levels of basic macroeconomic indicators recorded in member states.

The average value of annual GDP growth, which fluctuated during 2008-2012, is expected to increase steadily from 2013. However, no regular tendency with respect to the standard deviation of GDP percentage changes can be distinguished. The dispersion of the speed of economic growth among the Eurozone countries alternately increased and decreased during the period 2008-2012. This unclear pattern will supposedly continue in coming years. Nevertheless, the dispersion measured by the difference between maximal and minimal values should decrease significantly. This decreased dispersion



**Figure 3.** Variation in unemployment levels (%) within the Eurozone, 2008-2017  
 Note: Author's calculations based on IMF statistics (unemployment rate, percent of total labor force).



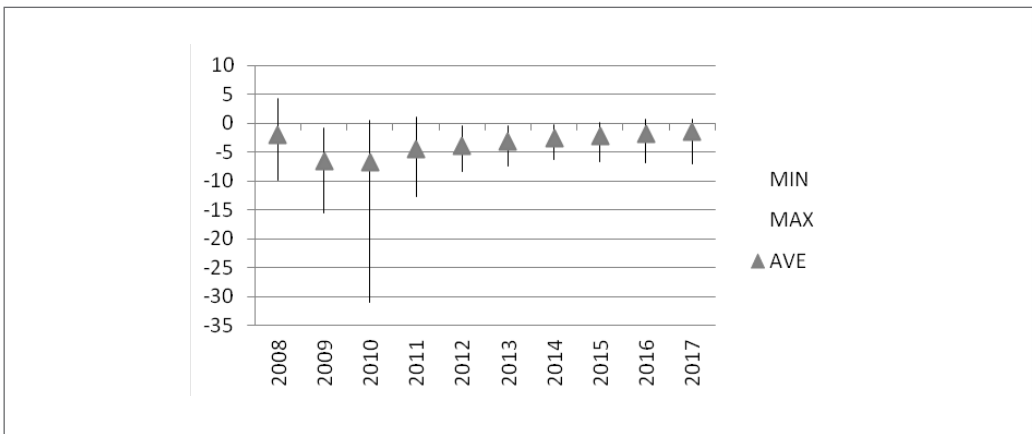
**Figure 4.** Variation in inflation levels (%) within the Eurozone, 2008-2017  
 Note: Author's calculations based on IMF statistics (inflation, average consumer prices, percent change).

would then be associated with the positive tendency of the lowest values becoming higher (i.e., pushing up rather than pulling down) (Fig. 2).

The average value of the unemployment rate in the Eurozone revealed a negative increasing tendency during the period 2008-2012. It reached a peak of more than 11% in 2013 and may as forecast decline annually to approximately 9% in 2017. After 2013, the Eurozone shall be more coherent in terms of unemployment. Whereas dispersion measured by the standard deviation did increase significantly in 2008-2012, culminating in 2013,

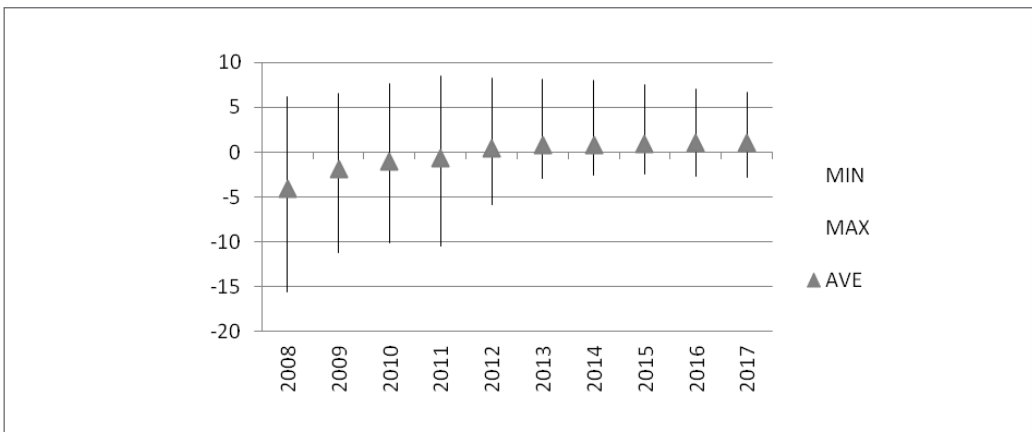
it is expected to decrease in coming years, which implies more cohesion and less differentiation among members. A similar pattern can be detected when measuring the differences between the highest and the lowest levels that were recorded in member countries. This gap is expected to diminish following the 2008-2013 increase, which would primarily result from a positive decrease in maximal values (in contrast to a gap decrease caused by increasing lowest values) (Fig. 3).

With respect to inflation levels, no clear tendency can be detected for the period 2008-2012. However,



**Figure 5.** Variation in fiscal balance (% GDP) within the Eurozone, 2008-2017

Note: Author's calculations based on IMF figures (General government net lending/borrowing, percent of GDP).



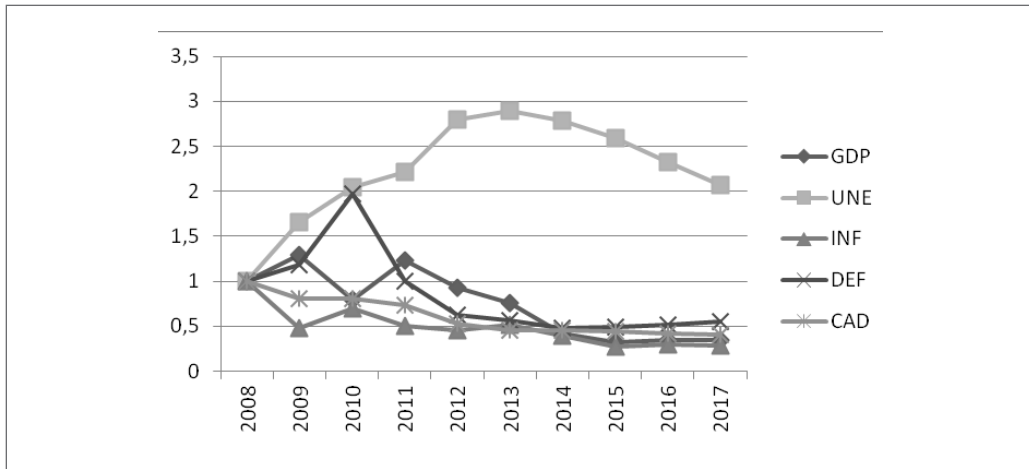
**Figure 6.** Variation in current account balance (% GDP) within the Eurozone, 2008-2017

Note: Author's calculations based on IMF statistics (Current account balance, percent of GDP).

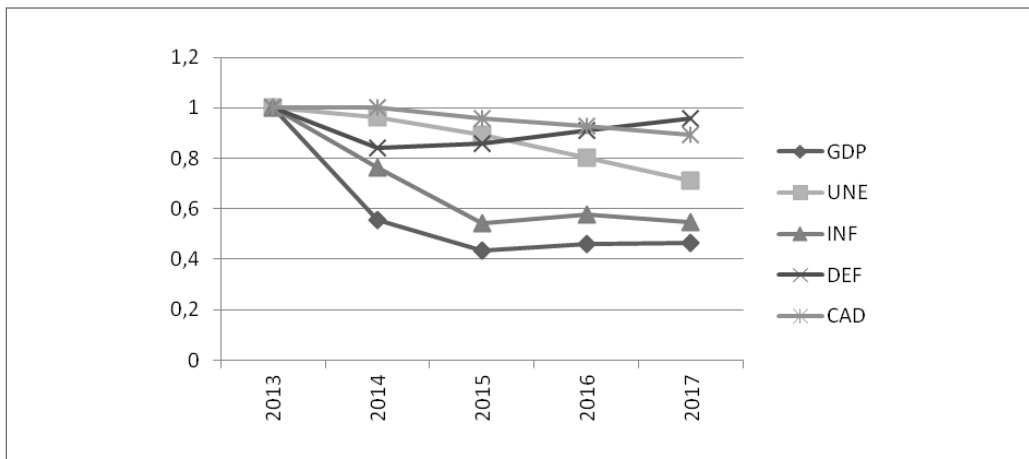
a systematic increase in the average price index for the Eurozone can be expected in coming years. While alternately increasing and decreasing during 2008-2012, the standard deviation of the inflation rates is expected to decrease from 2013 with the exception of 2015-2016. The homogeneity of the Eurozone in terms of similar levels of inflation could also be identified based on the narrowing gap between maximal and minimal values, which would result from the pulling up of both values, the lowest and the highest (Fig. 4).

No clear tendency regarding internal homogeneity expressed in the nominal convergence of fiscal bal-

ances (general government net lending/borrowing) can be detected. In 2008-2012 and 2013-2017, the standard deviation values have been and will be fluctuating. Similarly, changes in the gap between maximal and minimal values, which is a proxy of internal homogeneity, do not enable a clear tendency to be determined and thus confirm a decrease in heterogeneity. Based on the developments of government net lending/borrowing following the turbulent period of 2008-2012 with increasing average values, from 2013, the Eurozone shall witness a steady positive decline of deficit values (Fig. 5).



**Figure 7.** Comparison of the rate of std. deviation decline for each category, Eurozone (2008 = 100%)  
 Note: Author's calculations based on IMF statistics.



**Figure8.** Comparison of the rate of std. deviation's decline for each category, Eurozone (2013 = 100%)  
 Note: Author's calculations based on IMF statistics.

In terms of current account balances (CAB), the Eurozone situation can be regarded as unambiguously positive (Fig. 6).

Falling average deficit values can be identified since 2008. From 2013, the tendency of small increasing surpluses shall continue. Similarly, a positive picture emerges when assessing internal homogeneity

measured by a decreasing CAB standard deviation. This assessment might be confirmed by the expected narrowing of the gap between the largest deficit and the largest surplus. However, this change shall result from decreasing maximal surpluses, not from the alternative, more positive pattern of pushing up the lowest values.

## Relative progress toward increased cohesion

When trying to assess the relative changes of the standard deviations for all of the categories the measure the speed of nominal convergence, significant fluctuations (exception current account balances and unemployment) can be detected, particularly for 2008-2012. However, when the period of analysis is limited with 2013 as its starting point, we can discern a positive fast-decreasing tendency of the standard deviation for unemployment and the current account balances, which suggests a more homogenous Eurozone in terms of the labor market and external trade. A fast decrease, which signals rapid progress away from heterogeneity, may be expected for GDP developments and inflation. However, this positive tendency will most likely reverse in approximately 2015. The public finances of the Eurozone are the most worrying because the expected internal homogeneity would not only occur slowly but also fade with time, with standard deviation's levels toward the end of the period nearly reaching the 2013 levels (Fig. 7, Fig. 8).

Assessing the homogeneity and internal consistency of the Eurozone may serve to enrich the current debate over the future of the common currency area. The results obtained suggest that the Eurozone countries will most likely achieve sigma convergence, and the difference between the levels of the most important macroeconomic variables will systematically decrease. These findings are encouraging although they do not diminish the scale of the challenges that face the common currency area. The macroeconomic situation of the Eurozone, while it need not result in increasing tensions, remains difficult. Fiscal and monetary policy instruments must first of all take into account the internal differences within the group. As demonstrated by the analysis, although there is no danger of further divergence within the Eurozone, at least as measured in basic macroeconomic categories, finding a solution for the accrued imbalances will be a challenge. Certainly, the more coherent the Eurozone is, the fewer the tensions among its members, and the more similar its economies are, the easier it is to pursue the correct monetary policy. The "one size fits all" principle, which is often described as aggravating the "original sin" of the euro, i.e., the asymmetry, would have a better chance to benefit all of the member countries.

Because of the uncertainty of forecasts, the short period of time covered and the aggregated character of the included indicators, the convergence analysis presented here must be treated with caution. It may be regarded as a "preliminary sketch" that provides only an outline of future macroeconomic Eurozone performance in terms of its cohesion and as a departure point for further studies. The obtained results facilitate several tentative conclusions. First, it seems that the Eurozone shall undergo sigma convergence and that nominal convergence of basic macroeconomic factors shall occur. That is, it is reasonable to expect that the member states shall become more similar to one another in terms of levels of selected macroeconomic categories and that the Eurozone shall become more internally coherent. However, the disappearance of differences between economies as measured by the convergence of levels of selected indicators will occur at different speeds. Whereas progress toward a more homogenous Eurozone in terms of unemployment, inflation and GDP development can be reassuring, the speed of the reduction of differences with respect to CAB and the fiscal deficit may disappoint. If these forecasts prove to be accurate, the Eurozone decision makers will continue their struggle with internal imbalances in areas of public finance and current accounts (Lane, Milesi-Ferretti, 2007; Sinn, Valentinyi, 2013).

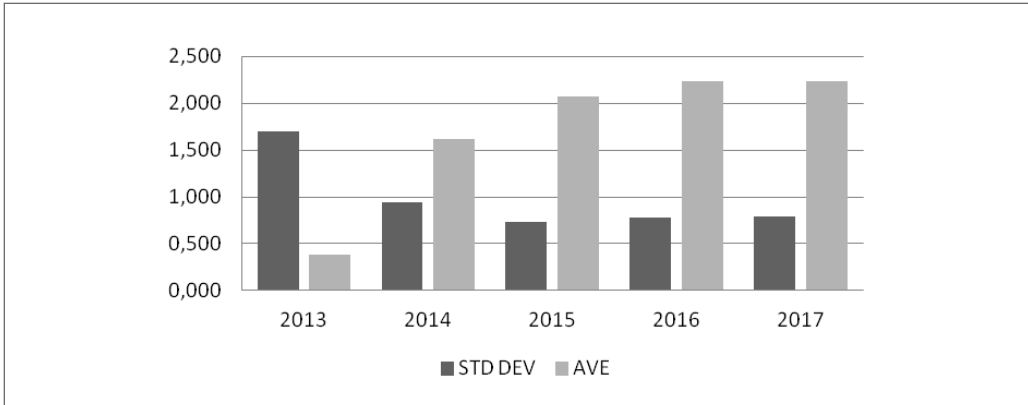
While encouraging, these findings do not minimize the challenges that facing the EU. Although it need not result in increasing tensions, the Eurozone's macroeconomic situation will remain difficult. The future of the Eurozone continues to demand strong political action, i.e., the efficient and immediate implementation of appropriate institutional solutions.

## Concluding remarks

The approach applied in this paper aims to shed light not only on the Eurozone's future macroeconomic performance but also on its internal cohesion. Using IMF statistics, simple analyses of selected major indicators have been conducted (Fig. 9).

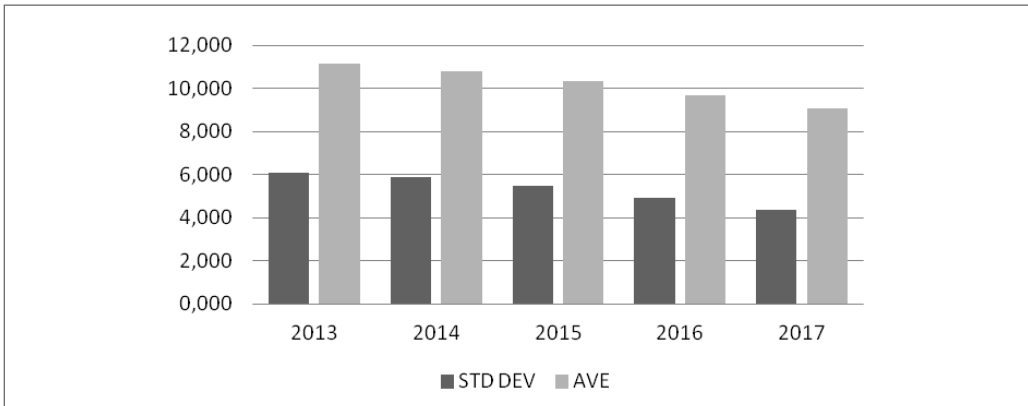
It appears that in 2013-2017 the Eurozone should be rising gradually rising and becoming less heterogeneous with respect to GDP growth rates. The increase in the average annual GDP growth rate shall be accompanied by a positive tendency of declining disparities as measured by standard deviation values (Fig. 10).





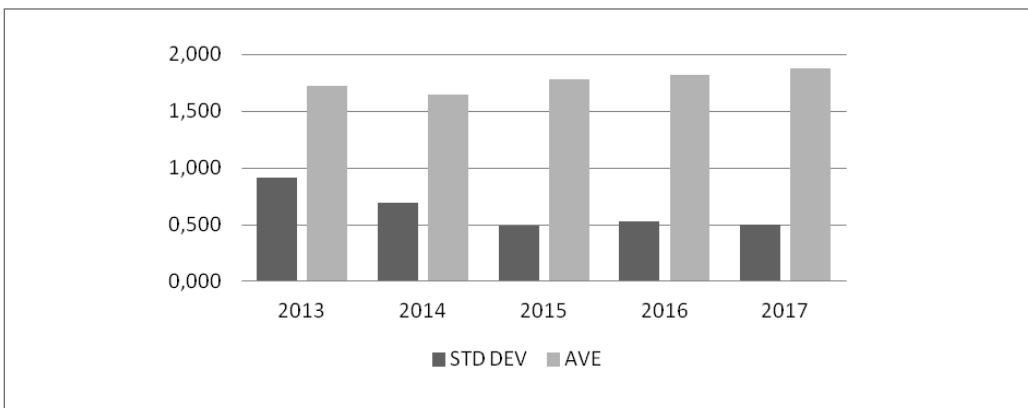
**Figure 9.** GDP: Eurozone average performance and internal cohesion

*Note: Author's calculations based on IMF statistics.*



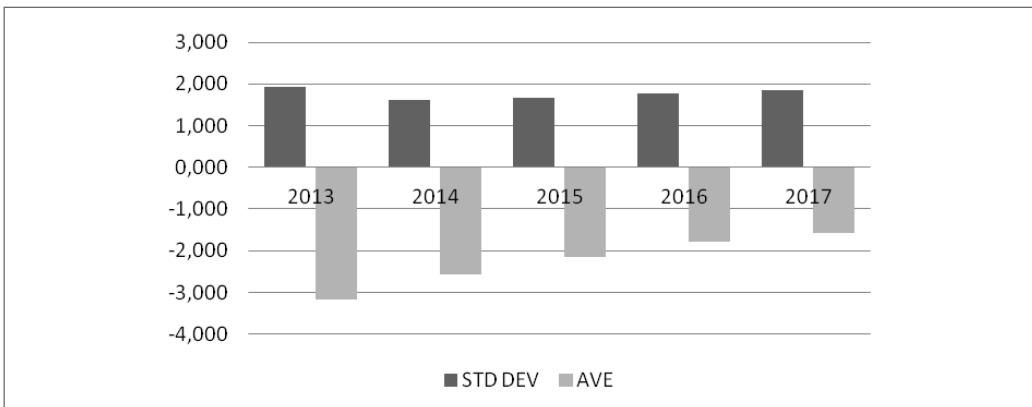
**Figure 10.** Unemployment: Eurozone average performance and internal cohesion

*Note: Author's calculations based on IMF statistics.*



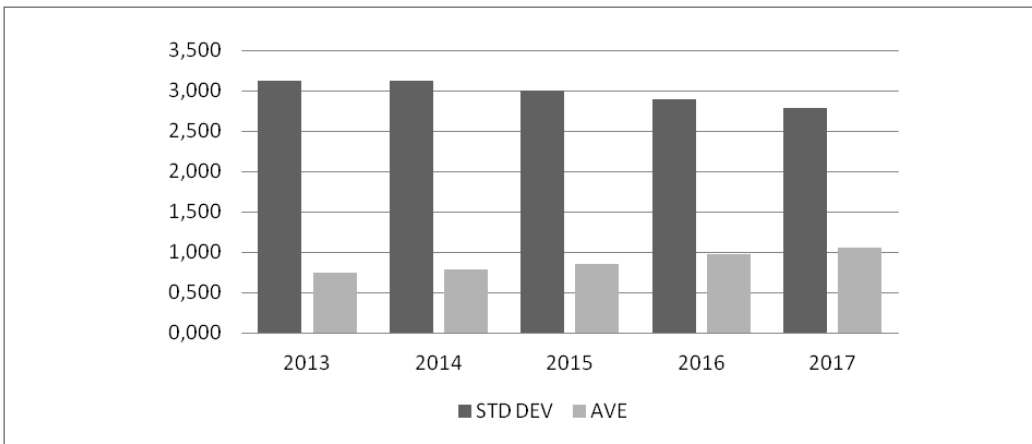
**Figure 11.** Inflation: Eurozone average performance and internal cohesion

*Note: Author's calculations based on IMF statistics.*



**Figure 12.** Government lending/borrowing: Eurozone average performance and internal cohesion

*Note: Author's calculations based on IMF statistics.*



**Figure 10.** Unemployment: Eurozone average performance and internal cohesion

*Note: Author's calculations based on IMF statistics.*

The positive tendency of a simultaneous fall of the average unemployment level and declining internal differences in this respect among member countries may also be expected (Fig. 11).

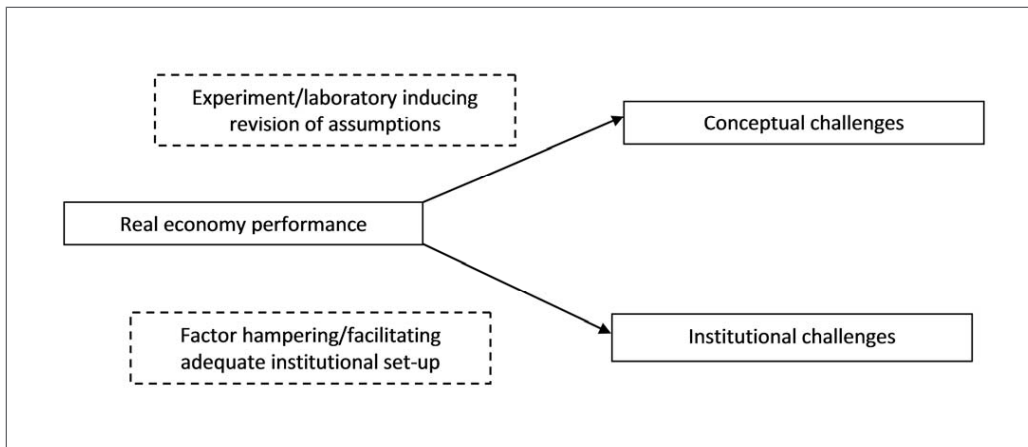
Regarding inflation, a certain level of stability may be observed in coming years with alternately negligibly increasing and decreasing Eurozone average prices and dispersion among the rates recorded in member countries (Fig. 12).

A steady decrease in the Eurozone average government deficit shall be accompanied by an increase in the dispersion of net borrowing/lending among countries. This pattern would suggest that although the consoli-

dation efforts embarked on in Europe should result in a better fiscal stance on average, the increasing differentiation in this area among member countries might offset the progress (Fig. 13).

The Eurozone performance with respect to the current account balance might be cause for a limited amount of optimism. The expected average value of the current account surplus would most likely coincide with a decline of internal heterogeneity as measured by the decreasing standard deviation of CAB among member countries.

In sum, it seems that the Eurozone performance and its internal cohesion might justify moderate sat-



**Scheme 1.** Eurozone's intertwined challenges

isfaction with respect to GDP development, the labor market and the current account balance. The inflation picture is unclear. Additionally, the Eurozone should achieve success regarding declining levels of average fiscal deficit. However, this positive development would be most likely be followed by more heterogeneity, i.e., increasing disparities among countries. Given the recent frequent revisions of economic outlooks, one must be cautious when assessing the macroeconomic performance of any one country. Nevertheless, attempts such as the one undertaken in this paper to evaluate the anticipated cohesion and stability of the Eurozone should not be underestimated. They might contribute to discussion in areas of other challenges and act as an early warning.

All three challenge areas identified in this paper seem interconnected. They influence one another. Because they are intertwined, successes and failures in one area can be easily transmitted to other areas. However, it can be argued that whereas the institutional and conceptual issues might affect the real economy in the long run and thus most likely prevent or mitigate a future crisis if well designed, the real economy provides nearly immediate feedback on such issues. That is, the real economy can be viewed as a laboratory for experimental economy tenets that offer direct answers to current problems and thus influence progress in new economic thinking. In addition, provided a positive, more coherent situation among member states, the real economy can facilitate progress toward a better architecture of the Eurozone and

thus contribute to the solutions for the institutional challenges. This “*re-convergence*” of Europe’s economies when the gap between net debtor and net credit countries would be narrowed (...) would facilitate consensus on a common course of action in the ongoing revamping of the institutional architecture” (Coeuré, 2013). However, paradoxically, according to the principle “only on the brink” that some believe the Eurozone’s behavior to reflect, dire macroeconomic performance can in fact facilitate necessary institutional redesign by applying pressure (“*never allow a serious crisis to go to waste*”) (Scheme 1).

Apart from the observed challenges or those challenges that are likely to occur soon, it seems that the most profound challenge, which affects various areas, is that of a possible “unknown”, i.e., paradoxes, interdependencies and other effects that we are for the time being not aware of.

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This paper offers a review of the challenges faced by the Eurozone and provides a simple classification of them. The division into three groups may help navigate the discussion on problems occurring or likely to occur in the EMU. Nevertheless, the intertwined character of these challenges and the mutual interdependence is emphasized. It seems reasonable to agree that institutional and conceptual challenges will persist and no easy solution can be expected soon. As revealed by a simple convergence analysis, future macroeconomic conditions shall surprisingly not exaggerate existing problems.

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