Economic Development, Technological Change, and Growth

Study on the European Welfare and Tax Systems Models Used to Support Economic Growth and Overcome the Effects of the Crisis

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Abstract: The article presents a theme of great interest for political parties, public administration representatives and researchers as each country tries to implement those policies that bring about economic growth. This study aims to determine the key role of taxation for achieving economic growth and to highlight to what extent the different fiscal levers can influence it. The main issues are the tax systems and policies adopted by the EU members for reaching an optimal yield from implementing their own tax rules. As a result, the paper underlines the best policies in relation to the identification of several tax systems that generate five models. The study of the correlations between the level of taxation, budget deficit and public debt, on the one hand, and the level of economic welfare, expressed by the economic growth rate, according to Eurostat statistics, on the other hand, enables us to establish the influence of public policies on the economic development. The case study represents a quantitative analysis of the variables that have an impact on economic growth, using empirical data on the performance of the EU countries for 2000 – 2012. The research offers a unique approach and the results prove the sustainability of the hypothesis.

Keywords: taxation; fiscal pressure; social welfare; budget deficit; public debt

JEL Classification: E62; H21; O11; O23

1. Introduction

In the recent years, the worldwide economy had to face a severe financial crisis, which was overcome through the implementation of different policies. Among the policies adopted, the fiscal ones had a key role. The EU tax system comprises

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different fiscal policies, each one of these showing specific features. The old member countries present a greater stability in terms of the effectiveness of the fiscal policies than the new member ones. Although the rate of economic growth for the last countries that joined EU had quite high levels until 2008, during the global economic crisis most of these countries have shown weaknesses. This situation led to a significant change in the level of some indicators, so that, the unemployment rate, for instance, has continuously risen. This was the result of the mass dismissals made to reduce budgetary expenditure and, thus, to reduce the enormous budget deficits, while the level of indebtedness grew significantly to cover certain expenses.

Taking into account the relevance of this theme, the article emphasizes, in the first part, the key role of the fiscal policies especially during the economic crisis periods and describes the fiscal policies models introduced in the specific literature in order to group the EU countries. The middle part deals with a comparative study between the welfare and tax system models regarding relevant macroeconomic indicators, i.e. the rates of economic growth, fiscal pressure, budget deficit and public debt. Finally, the last part resumes to some conclusions meant to underline the main results of the research, but also to provide a starting point for further investigation.

2. Literature Review and Research Methodology

Even if fiscal policy is a major issue, it is still very difficult to conceive that the economic growth of a country might be related just to the implementation of the optimal fiscal policy, since it is well-known that it is not enough to optimize a single domain. Optimization should address all the tasks of a state, which means that the fiscal levers should be supplemented by the monetary and credit measures, for instance (Inceu, et al., 2008, pp. 55 - 57). In fact, the decisions are related to the fiscal policy because the main revenues of a country are provided from taxes.

According to the specific literature, there were several models of European welfare regimes identified. One of the models was introduced in 1990 by Espring-Anderson, a Swedish sociologist, who considered that Europe has “three worlds of welfare”, namely: the Nordic welfare model, the Continental or Conservative model and the Liberal (Anglo-Saxon) welfare model (Sengoku, M., 2003). These models were reedited by Espring-Andersen in 2004 with the support of Stephens J. for the Scandinavian welfare model and Standing, G. for the CEE welfare model (Espring-Andersen, G. *et al.*, 2004, pp. 32-45, 225-270). While Espring-Anderson (1990) treats the welfare system among the Nordic, Anglo-Saxon and Western European countries, Ferrera M. (1996) and Bonoli (1997) studies were set on following Liebfried (1992) work on Latin Rim countries (Spain, Portugal, Italy, Greece and France). Ferrera’s study argues that there is a distinctive type of welfare model of the Southern countries, namely a Mediterranean welfare model

(e.g. study on Greek welfare system – Symeonidou, 1997; Italian welfare system – Trifiletti, 1998; Spain and welfare system – Guillen, 1997; Flaquer, 2000; Guillen & Alvarez, 2001). As a result of the fall of the communist block and the process of its integration, a new type of welfare model was born, i.e. the case of the states in Central and Eastern Europe. The post-communist welfare system has captured the attention of various specialists such as Standing (1996), Ferge, Z. (2001), Sengoku (2004), Diamond &, Lodge (2013). By analysing the welfare system in these countries, distinctive features of each CEE state were identified (Fenger, 2007). Using a clustering analysis, the researcher argues that the states in CEE might be divided into three subgroups, which might define different welfare models: first, the model of the former-USSR which comprises Belarus, Estonia, Latvia, Lithuania, Russia and Ukraine welfare systems; second, the Post-communist Europe model associated with the welfare systems from Bulgaria, Croatia, Czech Republic, Hungary, Poland and Slovakia and the third type is the model characteristic for Georgia, Romania and Moldavia.

Regarding the national literature, Mara E. (2009, p. 50) distinguishes five different types of welfare models: the Nordic or Scandinavian model where we find Denmark (DK), Finland (FI) and Sweden (SE), the Continental or Western model which includes France (FR), Germany (DE), Belgium (BE), Netherlands (NL), Austria (AT) and Luxemburg (LU), the Mediterranean or Southern model applied by Italy (IT), Greece (EL), Cyprus (CY), Spain (ES) and Portugal (PT), the Eastern or CEE model belonging to a group of ten European countries - Czech Republic (CZ), Slovakia (SK), Poland (PL), Hungary (HU), Romania (RO), Slovenia (SI), Bulgaria (BG), Lithuania (LT), Latvia (LV) and Estonia (EE) - and the Liberal or Anglo-Saxon model specific to Great Britain (UK) and Ireland (IE). Following these taxonomy, our study intends to emphases which welfare model is the best alternative to sustain economy. We compared them by taking into account the evolution and correlation of the four variables mentioned in the previous section.

3. The Role of Fiscal Policy in the Context of the Economic Crisis

Even though taxes did not influence directly the financial crisis, some aspects of the tax system had a certain impact on raising the risk assumed and the degree of indebtedness of banks, households and companies. In November 2008, European Commission has developed a European Economic Recovery Plan, which included a mix of fiscal and budget measures, which had the purpose to provide support for the economy and to inspire confidence. It was introduced tax incentives worth 200 billion euros, divided between the European Commission (30 billion) and Member States (170 billion). A set of mechanisms were proposed to all the EU members from which they could choose the ones they found suitable (Hemmelgarn & Nicodeme, 2010). Therefore, EU countries had to implement severe fiscal

measures to combat the crisis and to rehabilitate their economic background (e.g. a great majority of states had to cut taxes, while others had to increase taxation).

Table 1. Fiscal Measures Taken by the EU Member Countries

Types of taxes	*Countries where taxation was reduced*	*Countries where taxation was increased*
Personal income tax	AT, DK, FI, FR, DE, HU, LV, LT, LU, MT, NL, PL, PT, SI, SK, SE	EL, IE, UK
Social contributions of the employer	CZ, FI, HU, NL, SE	IE, RO, UK
Social contributions of the employee	CZ, NL, SE, SK	LT, RO, UK
Capital gains	RO	IE
Taxes on wealth and inheritance	EL, ES, IT, LU, PT	
Environmental taxes	DE, NL, RO	FI, IT, LV, LT, SI, UK
Tax profit	EL, LU, PT, SE	IT, LT
The standard rate of VAT	UK	HU, IE, LV, LT
The reduced rate of VAT	BE, CY, CZ, FI, FR, MT, RO	HU, EE, IE, LV, LT

Source: European Commission, Taxation Trends in the European Union, 2009

The fiscal policies focused on reducing taxation on labour and, particularly, on bringing the personal income tax rate. UK was the only EU member that had temporarily reduced the standard rate of VAT. In order to stabilise the financial markets, it was taken into account the introduction of a tax on financial transactions, whose purpose (Hemmelgarn & Nicodeme, 2010) was to solve problems such as the stabilisation of the financial markets by reducing the speculative trade and by increasing the cost of transactions on the derivatives market. Each country tried to minimize the effects of the crisis and return to an upward trend. The most developed states have successfully fulfilled the role of world leaders, managing by their own forces to overcome the crisis. In addition, they were able to provide financial and technical support to the less developed countries, which were seriously affected because their economies were strongly imbalanced. Although on an upward trend, many Southern and Eastern countries, including RO, have failed for a long time to record a real economic growth.

4. Fiscal Policy Models in Ensuring Economic Growth in the EU

The EU's fiscal policy is not a common policy for the member states. It is a system that encompasses all policies and coordinates them in order to achieve better compatibility of taxes, for a proper functioning of the common market. EU tax policy is in fact a process of coordination of all the fiscal policies of the members,

in which each country retains its sovereignty and may adopt similar tax structures mostly from those countries that are defined by similar features.

4.1. The Nordic Model

This pattern is specific to the Scandinavians and is considered to be one of the models that develop the highest degree of social welfare, ensuring a high rate of employment. The public sector is strongly involved in financing those social and economic activities which provide certain benefits and increase social welfare. A specific feature of this model are the high fiscal pressure rate and the fact that social decisions are not defined by laws, but are laid down by collective agreements. That is why in these countries there is no national minimum wage, each union setting its own rules. The model also uses a dual tax system, introduced in the mid-80's, which provides for the income a mixed progressive taxation. This tax system brings about a considerable expansion of the tax base and ensures neutrality of income taxation from capital. Thus, it avoids migration of capital.

4.2. The Continental Model

Many features of this model are similar to those of the Nordic one. For instance, as a result of the help offered to the unemployed (financial support, social care), the level of poverty is low. The fiscal pressure is quite high, but is still below the level described for the Nordic model. A positive effect of introducing high taxes on social care is that it forced businesses to focus on enhancing productivity in order to compensate the cuts in the number of employers. A less favourable measure was that of reducing the retirement age and offer unjustified benefits to the unemployed as their number increased exponentially (Guillemard, 2001).

4.3. The Mediterranean Model

Unlike other models, the Mediterranean one focuses on the social security system in respect of pensions. Although this model is mainly applied by developed countries of the Mediterranean basin, it faces a higher degree of poverty than the previous two, which brings about major differences between social classes. Taking into account only the pension system, the social protection is neglected and the expenses for this area are at the lowest level in comparison with the models discussed so far. At the same time, these countries are characterised by an inefficient public sector (Mara, 2009, p. 51).

4.4. The Eastern Model

This new model includes states in transition, with an average degree of economic development. Their main goal is to catch up the Western developed countries and to raise the level of social welfare, through the policies implemented. It is considered to have appeared in 2004 when former Communist states joined EU. This pattern also includes the Baltic States and, of course, RO and BG. Fiscal

pressure is relatively low in these countries, mainly due to the adoption of the flat tax, which is considered to have created major gaps between the lower and middle class and those who obtain high wages and profits. In fact, the Eastern model is characterized by a low level of effectiveness in terms of social protection, even if contributions are quite high. Specific to these countries is the strong economic growth recorded after joining the EU, until the beginning of the crisis.

4.5. The Anglo-Saxon Model

This last pattern presents unique characteristics as compared to the others. First of all, the degree of social welfare does not reach the same level as in the case of the Nordic model or the Continental model. The poverty level is still quite high and that is why the imbalance between fairness and efficiency is a matter of concern. It is one of the oldest models, which appeared in 1973, and is usually associated with England, New Wales, Scotland and Ireland. It is characterized by low unemployment rates and low amounts of public resources paid for social care.

5. Welfare and Tax System Models Analysis

This chapter reflects the dynamics of the economic growth rate, fiscal pressure rate, budget deficit and public debt using the five patterns previously described. The values were established as an average of the countries that are included in each particular model. We also included in the chart the EU average (the red line). We retrieved the primary data from Eurostat and adapted it for the current research.

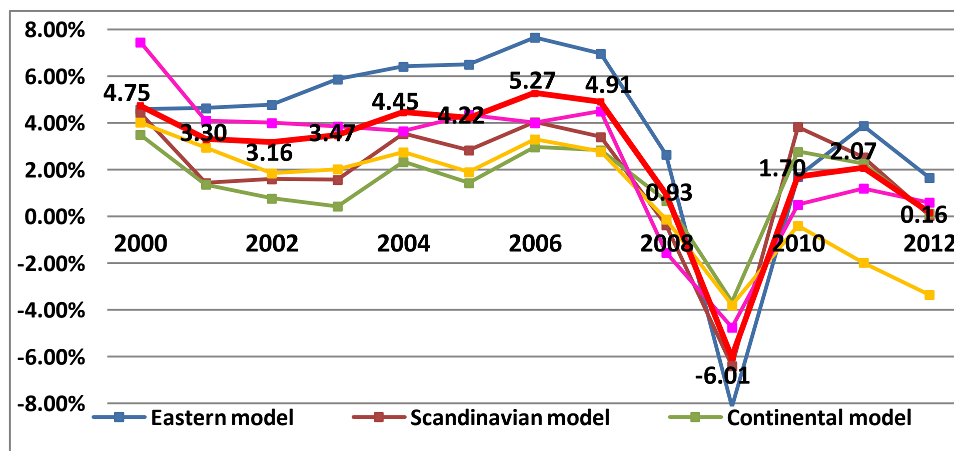

Figure 1. Dynamics of the Economic Growth Rate in EU, 2000–2012

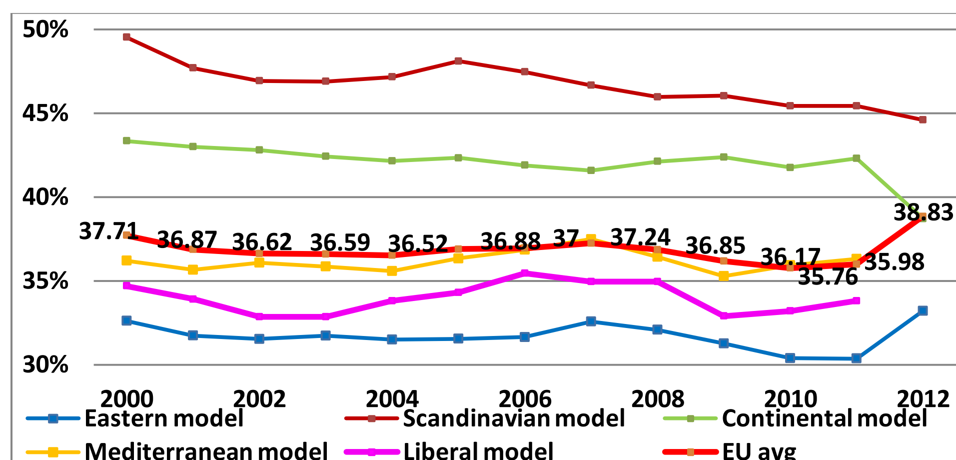

Figure 2. The Evolution of the Fiscal Pressure Rate (% of GDP) in EU, 2000-2012

Figure 1 shows that, for the Eastern model, the indicator presents severe variations: the highest economic growth rate until 2008 and the lowest rate during the crisis as compared to the other models, proving that these states are weak when economic fluctuations occur. According to figure 2, the highest average fiscal pressure rate is recorded among the Scandinavian countries (49.35% DK and 48.88% SE), followed by the countries belonging to the Continental model (Belgium – 48.85%; France – 44.4% and Germany – 40.57%), while those with lower fiscal pressure are the new EU members. The Mediterranean model's fiscal pressure rate is at a lower level than in the other two models, the average value being of 36.55% of GDP. However, these countries are recognised for their high level of tax evasion, because citizens are not willing to pay taxes and fees. The two countries belonging to the Liberal pattern have low fiscal pressure. Ireland uses a share of profit tax of only 12.5% and experienced, lately, high degrees of economic growth to catch up with the other developed countries. In addition, this country is also characterized by a very low tax evasion rate, of about 13% of GDP (Mara, 2009, p. 52).

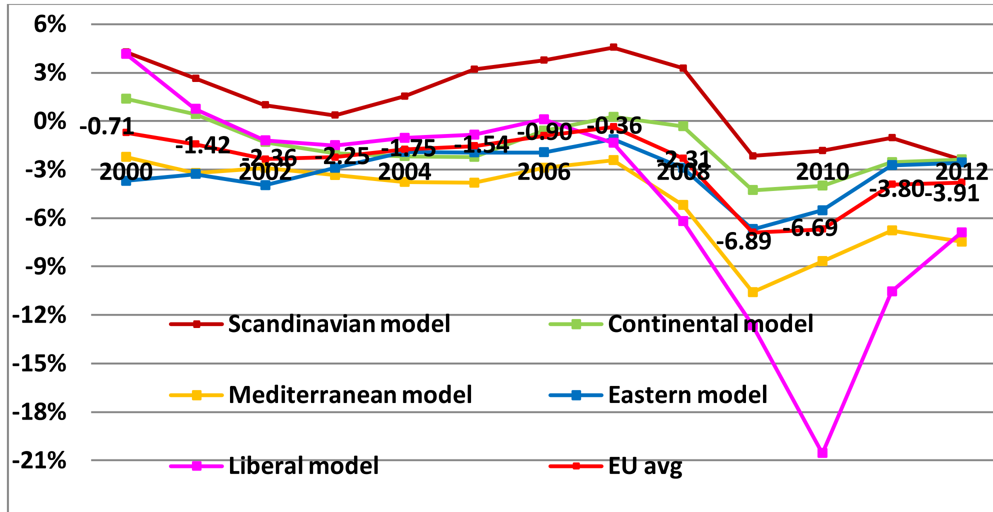

Figure 3. The Evolution of the Budget Deficit (% of GDP) in EU, 2000–2012

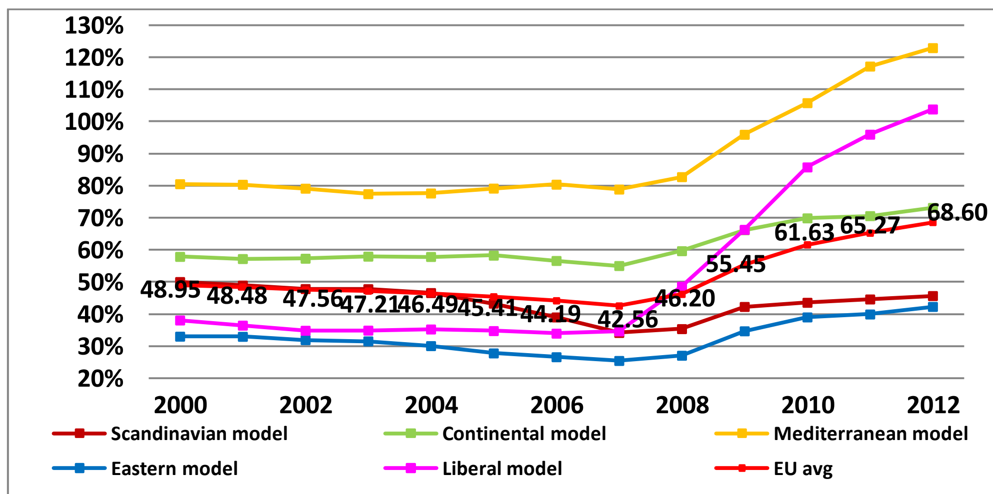

Figure 4. The Evolution of the Public Debt (% of GDP) in EU, 2000 - 2012

We observe in figure 3 two totally different evolutions. Firstly, the Nordic states have budget surpluses and not deficits as most of the other groups, for 2000 – 2009. The drop recorded in 2009 is insignificant (-2.8% in FI, -2.1% in SE and -2% in DK) as compared to the other evolutions. Secondly, we observe the serious public deficit of the Mediterranean and Liberal models recorded since 2008, e. g. for the Liberal countries, 2010 was the worst year in terms of budget revenues collection: UK recorded a negative result of 10.2% of GDP, while IE had an excessive budget deficit of over 30%. The Continental model is comparable to the

Nordic one, the average values of the public deficits for 2000-2012 being relatively close to zero: -0.97% in BE, -2.11% in DE, -3.34% in FR and +1.89% in LU.

Regarding the public debt evolution, the Northern countries did not borrow money excessively as the share of public debts in GDP never reached over 50%. Surprisingly, the Eastern group had a constant evolution regarding both indicators: the budget deficit followed the average EU trend, while the public debt was the lowest of all economies. Still, HU and PL had higher shares, with averages of 62.54% for HU and 44.81% for PL. The Southern countries were severely affected by the crisis so that their degree of indebtedness, which was very high even before the crash (about 80% of GDP), grew to 120% in 2012. It is the case of EL, IT, PT.

6. Correlation Analysis

From the general presentation of the models, we have concluded that the Nordic and Continental patterns are the most efficient as they offer a comfortable standard of living, even though taxation is at a high level. To verify this hypothesis, we measured an important indicator, whose purpose is to diagnose the intensity of the bond between the public indicators presented before and the economic development of each model.

Table 2. The Correlation Coefficient between the Public Variables and Economic Growth

The fiscal policy welfare model	*Fiscal pressure – economic growth*	*Budget outcome – economic growth*	*Public debt – economic growth*
Scandinavian	0.417838	0.498932	0.108498
Continental	0.135109	0.518735	- 0.285236
Mediterranean	0.365256	0.927278	- 0.753471
Eastern	0.162112	0.832683	- 0.459607
Anglo-Saxon	0.321504	0.758087	- 0.572261

Source: Own Interpretation after Eurostat Databases

The strongest bond between fiscal pressure and economic growth is observed for the Nordic model. This means that an increasing taxation was reflected in the evolution in the same direction of the economic growth rate. The same positive correlations are seen for all the other models. Still, we notice the insignificant values of 0.14 for the Western countries and 0.16 for the Eastern states, values that prove that the fiscal pressure rate is not one of the most noticeable influences. The strongest and the weakest correlations are presented in the scatter charts.

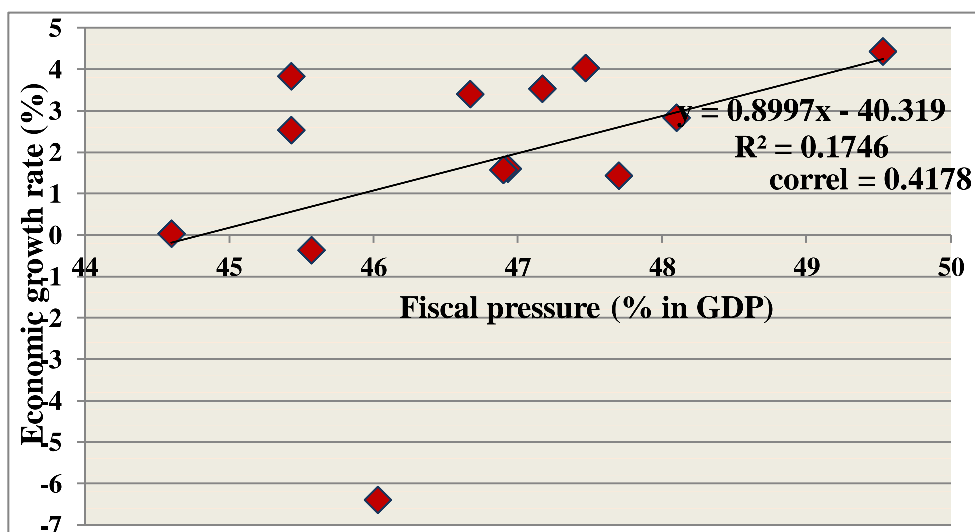

Figure 5. The correlation between the fiscal pressure and economic growth for the Nordic model, 2000–2012

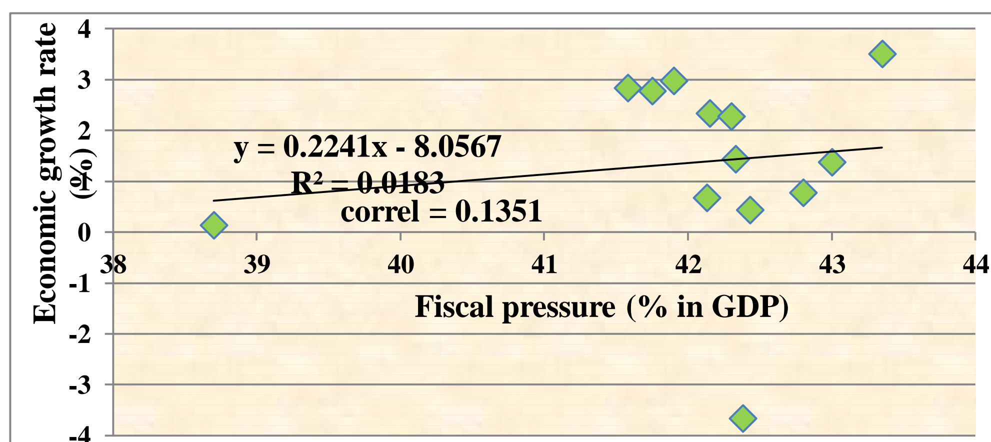

Figure 6. The correlation between the fiscal pressure and economic growth for the Continental model, 2000–2012

In the left figure, the slope has a value of 0.8997, while, in the other graphic, the value is only of 0.2241, so that, the trend line is almost parallel to the abscissa. As a consequence, figure 6 shows the existence of a poor cause-effect relationship: an increase in fiscal pressure by 0.22% is accompanied by an increase in the rate of economic growth by 1%. The weak correlation between fiscal pressure and

economic growth rates for the states included into the Continental model can be also seen from R^2 coefficient which is only 1.8%. In fact, it shows that there are other factors with a higher influence on economic development. Therefore, in addition to public revenues, these countries have to attract other resources, maintain an efficient management of costs and a favourable foreign trade balance.

The deficit or, in some cases, the surplus of the budget are also positively correlated to the economic growth rate. In other words, if the absolute value of the deficit decreases, the economic growth rate goes up. The same happens when the rate of the surplus in GDP increases. The connection established between these indicators is obviously stronger than any other. The coefficients are between 0.50 for the Nordic model and 0.93 for the Southern model. All the other group of countries have significant correlation bonds. In order to reach a sustainable economic growth and overcome as efficiently as possible the effects of the crisis, countries like EL, PT, ES should have been very careful regarding the revenues-expenditures ratio. In their case, the slope is 0.89 and R^2 is 83.83%, which prove that the deficit recorded by the Southern states (especially by EL who had a threatening deficit of 15.6% in 2009) has a major impact on their performances.

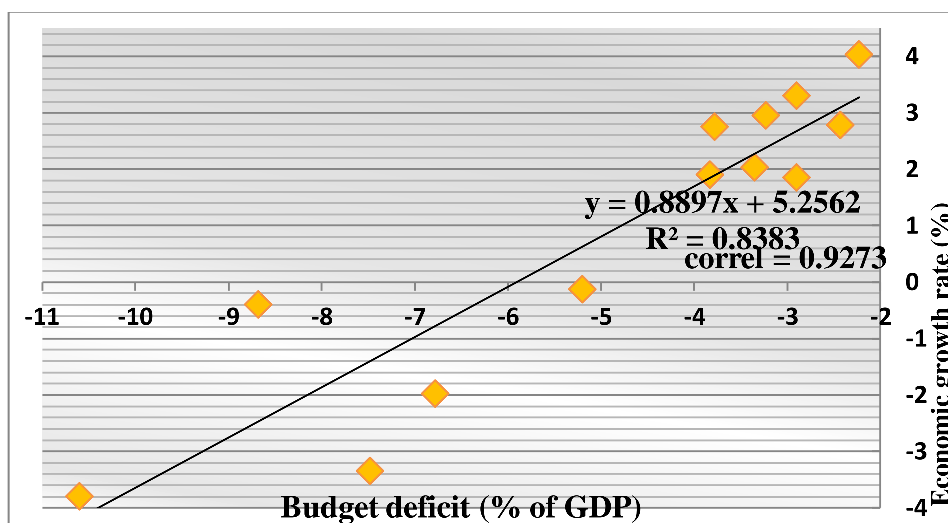

Figure 7. The correlation between the budget outcome and economic growth for the Mediterranean model, 2000–2012

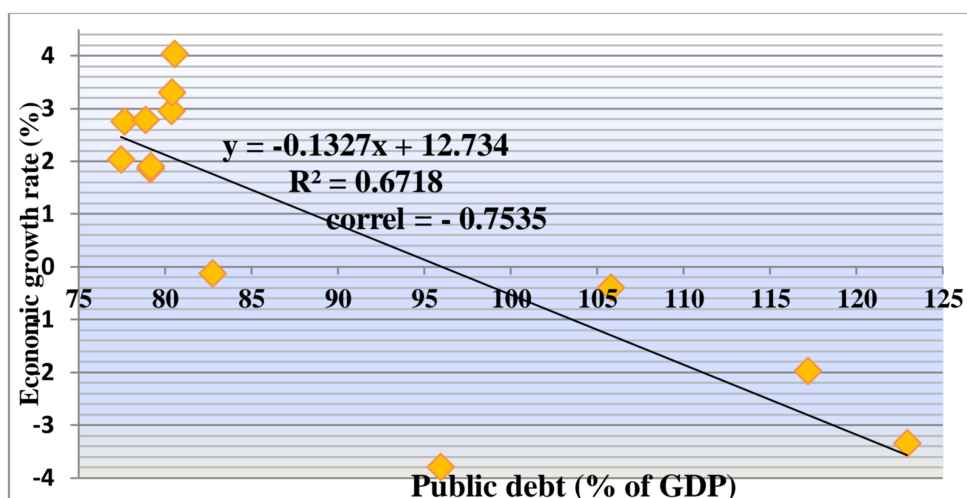

Figure 8. The correlation between the public debt and economic growth for the Mediterranean model, 2000–2012

Public debt and economic growth present a negative correlation for all countries, except for the Nordic ones. For the latter welfare models, the connection between the degree of indebtedness and the economic evolution is positive and extremely weak. Such a situation makes us expect that these countries might borrow money with no constraint because loans do not seem to have an unfavourable effect on economic performance. However, for the other four models, the correlation is stronger and negative. As figure 8 above shows, the same group of states, as for the deficit analysis, present the strongest bond. The Mediterranean countries have a strong negative correlation coefficient of over 75%. A decrease of the public debt by 0.13% will be accompanied by an increase in the rate of economic growth by 1%. Therefore, following the budget deficit, public debt has its own high degree of influence on economic growth, and any change in the level of indebtedness can positively or negatively influence the level of economic growth.

All in all, the correlations emphasized several important trends for 2000–2012. For the Liberal model countries, fiscal pressure and even public debt did not seem to have a major impact on economic growth. Still, these variables produce stronger effects and become a matter of concern during economic crisis. If the coefficient was 0.32 for the fiscal pressure and –0.57 for public debt, the correlation between fiscal pressure and economic growth for 2009 – 2012 becomes 0.82, while the public debt exerts an influence of + 89.50%. So, the fiscal measures implemented contributed to combat the economic drop and, even more, the amounts of money borrowed proved to have been efficiently used by the governments to sustain different economic programmes. The similar strong correlation characterizes also

the CEE countries, whose increasing debt level had the same influences. The index of –0.46, for the years before 2009, became +0.86 for the last years analysed.

7. Conclusion

The analysis highlighted that each welfare model has its peculiarities and that each indicator has a different evolution from one model to another. However, the strongest correlation for nearly all models was the one involving the budget deficit and the rate of economic growth. In order to reach balance in terms of economic development, a single fiscal, economic and social development rule should be implemented at EU level. This is unreachable, because each state (in particular those developed) wants to satisfy its own interests and not those of all EU citizens. Instead, the less developed countries, such as RO, hope to achieve in the future an economic and social convergence and harmonization to increase the standard of living and to provide a prosperous and stable economic climate for all citizens.

The way the optimization process of tax systems should be done raises big question marks for all those responsible. On the one hand, this optimization becomes necessary because the introduction of new taxes usually brings about changes of different nature. On the other hand, for achieving the desired goals by the Government and other institutions alike, all those responsible should identify and apply the most suitable taxation.

Being aware of the importance of the theme, we consider necessary to continue the analysis by highlighting the viable solutions for the Eastern countries and, in particular, for RO. The correlations shown in this paper cover a period of thirteen years, both the years of economic boom, as well as those affected by the crisis. This paper provides a starting point for future studies and can be improved by including in the model other economic indicators (not just the budgetary-fiscal ones) that might exert some influence on economic growth.

8. References

Cobham, A. (2005). *Taxation Policy and Development*. The Oxford Council and Goog Governance. Retrieved from www.oxfordgovernance.org, date: 06.15.2013.

Diamond, P. & Lodge, G. (2013). European Welfare States after the Crisis. Changing Public Attitudes. *Policy Network Paper*. UK, London. Retrieved from www.policy-network.net, date: 09.27.2013.

Espring-Andersen, G. (2004). *Welfare States in Transition. National Adaptations in Global Economies*. London: SAGE Publication. Stephens, J., chapter *The Scandinavian Welfare States* and Standing, Guy, chapter *Social Protection in Central and Eastern Countries.*

Fenger, H. J. M. (2007). Welfare Regimes in Central and Eastern Europe: Incorporating Post-Communist Countries in a Welfare Regime Typology. *Contemporary Issues and Ideas in Social Sciences*. Retrieved from http://journal.ciiss.net/index.php/ciiss/article/viewFile/45, date: 09.27.2013.

Ferge, Z. (2001). Welfare and Ill-fare Systems in Central Eastern Europe, in Skyes R., Palier B. and Prior M. eds. *Globalization and European Welfare States: Challenges and Change.* Basingstoke: Palgrave, pp. 127-152.

Ferrera, M. (1996). The Southern Model of Welfare in Social Europe. *Journal of European Social Policy, Vol.6*-1. pp. 17-37.

Flanquer, L. (2000). Family Policy and Welfare State in Southern Europe. *Institut de Ciències Polítiques i Socials/ The Institute for Political and Social Sciences*. Barcelona. Retrieved from http://www.icps.cat/archivos/WorkingPapers/WP_I_185.pdf, date: 09.27.2013.

Guillemard, A. M. (2001). *Continental Welfare States in Europe Confronted with the End-of-career Inactivity Trap: A Major Challenge to Social Protection in an Aging Society.* Harvard University: Centre for European Studies.

Hemmelgarn, T. & Nicodeme, G. (2010). *Taxation Papers – The 2008 Financial Crisis and Taxation Policy*. Luxembourg: Office for Official Publications of the European Communities.

Inceu, A. M.; Lazar, D. T. & Mara, E. R. (2008). *Finanţe şi Bugete Publice/ Finance and Public Budgets*. Cluj-Napoca: Accent Publishing House.

Mara, E. R. (2009). *Finanţe publice – între teorie şi practică/ Public Finances – between Theory and Practice*. Cluj-Napoca: Risoprint Publishing House.

Sengoku, M. (2004*). Emerging Eastern European Welfare States: A Variant of the "European" Welfare Model?.* Seinan Gakuin University.

Online Sources

European Commission (2009). *Taxation Trends in the European Union.* Retrieved from http://ec.europa.eu/taxation_customs/taxation/gen_info/economic_analysis/tax_structures/index_en.htm, date 06.10.2013.

International Monetary Fund (2009). *World Economic Outlook: Sustaining the Recovery,* Retrieved from http://www.imf.org/external/pubs/ft/weo/2009/02/index.htm, date: 06.10.2013.