

## A COMPARATIVE ANALYSIS OF THE POST-CRISIS FISCAL MEASURES AND THEIR EFFECTS, BETWEEN THE CONTINENTAL AND THE CATCHING-UP ECONOMIC MODELS

*Mihaela MITROI*<sup>a\*</sup>

<sup>a</sup> *The Bucharest University of Economic Studies, Romania*

---

**ABSTRACT** *The paper aims at presenting the fiscal policies adopted by the most significant countries that are part of the two European Models of Taxation, the Continental and Catching-up models, as a response to the economic crisis. The outcomes of these policies are monitored for a four-year period starting 2012. The research shows that the Continental Model countries had an active fiscal policy the objectives of which were labour force, social security and protection and tax incentives for the business environment, whereas the Catching-up countries identified measures to cut down taxation without providing incentives to investors or significant protection for the labour market.*

**KEYWORDS:** *economic crisis, fiscal measures, fiscal policy, revenue, tax, tax data, tax structure, tax efficiency, taxation.*

---

### 1. INTRODUCTION

The Continental Model is used in Austria, Belgium, France and Germany. Under this model, employment and salaries are the basis of social transfers. Social partners play an important role in labour relationships, while salaries are negotiated at a centralised level. Redistribution and inclusion of other people from the outside are not a priority.

The Catching-up Model is used in the newest members of the European Union, i.e. Bulgaria, the Czech Republic, Poland and Romania. The countries that are part of the catching-up model mainly use a policy supporting the development of the business environment, through lower corporate income tax rates and tax incentives for start-ups and established businesses and a policy aimed at redirecting the workforce to the private sector, through specific tax incentives.

The global economic crisis hit all the countries in the world, but the impact varied with the economic circumstances of each individual state and with the financial and taxation system at the time.

In order to outline the main changes brought about by the financial downturn on the economic growth of the European countries the author used quantitative data provided by Eurostat, by the European Commission and by the public institutions in charge with finance and taxation in each state. The impact of the steps manifested much later, after 2012.

### 2. LITERATURE REVIEW

As the global economy is changing, the way people, the business environment and the government interact is also changing. Of course, the globalisation comes with opportunities but also with great challenges for all the parties involved in an economy. The "global village" in which we all currently live in, give us the opportunity to interconnect worldwide, to have constantly access to the global

---

\* Corresponding author. E-mail address: [mihaela\\_mitroi@ymail.com](mailto:mihaela_mitroi@ymail.com)

market, while the national boundaries became obsolete. This process has a major impact on national economies, and government need to be prepared for future developments. Unfortunately, not all legislators kept up with the economic reality of today, and it becomes obvious that a tax system developed in the early 60s (even with small amendments over the time) may not be appropriate to address the current complexity of transactions. Li (2006) analysed the impact of tax policies at the industry level both at level of demand and supply. According to the author, the tax system can influence the supply part of labour, capital and technology, while the impact on demand can be seen in consumption and investments.

Moreover, it is important to mention also the changes in countries competitiveness, transposed over the years in restructuring the tax policies. In this respect, the literature is vast and many empirical studies analysed the relation between sustainable economic growths with the structure of the revenues collected by governments. In this context, a number of empirical studies focus on the relationship between tax revenue structure and long-term economic dynamics (Arnold, 2008; Lee & Gordon, 2005; Luković, 2015). In essence, as Galbraith (1975), said the optimal economic system is the one that can deliver the maximum of that people need.

Many researchers were and are still interested in the effect of tax policies on the long-term economic growth. In that respect, the literature showed that by lowering taxes there can be a potential increase on government revenues (Kasprak, N., 2010; Gale & Samwick, 2014, Mitchell, 2017, Pettinger, 2017). Moreover, we need to keep in mind also the economic theory of Laffer's Curve, that basically illustrates the relationship between tax revenues and tax rates.

### **3. RESEARCH ANALYSES AND FINDINGS**

#### **3.1 Financial recovery measures adopted by the two Economic levels**

In terms of measures taken by the Continental Model countries to overcome the economic crisis, it can be noted (table below) the option for protection and support of the citizens, an active labour market and job retention policy, and backing for the business environment. All this helped these countries recover swiftly from the crisis and maintain a high living standard for their citizens.

**Table 1. Main financial recovery measures taken by the Continental Model countries to counter the economic crisis**

Country	Measure taken	Enforcement year	Impact on GDP
Austria	Changes to taxation of individuals	2009	-0,9%
	Family fiscal relaxation package introduced: increase in children allowances	2009	-0,2%
	Increase in allowances for companies from 10% to 13%; cancellation of favourable tax treatment of retained earnings	2010	-0,05%
	Accelerated depreciation of 30% for the investment year	2009-2010	-0,1%
Belgium	Reduced VAT rate on food products, from 21% to 12%	2010	-0,15%
	Reduced VAT rate on private constructions, from 21% to 6%	2009-2010	-0,13%
	Speeding up of VAT refunds	2009	-0,05%
	Reduction in the personal income tax rates	2009	-0,61%
	Higher scope of reduction of taxes for public sector employees	2009	-0,09%
	Increase in overtime hours qualifying for reduction of tax on salary in the public sector	2009	-0,02%
	Adjustment of deduction of cost on fuels for company cars fitted with pollution reduction equipment	2010-2011	-0,10
France	Improving the VAT refund measures	2009	-0,3%
	Reduced VAT on restaurant and food services, 5.5%	2009	-0,3%
	Reduction of tax on low incomes, to 2/3	2009	-0,05%
	A 50% charge on bonuses in excess of a specific sum	2009	-0,05%
	Reduction of local taxes on businesses to 3%	2010	-0,6%
	Tax incentives on reimbursement of taxes	2009	-0,4%
Germany	Reduced VAT rate to 7% on hospitality services	2010	0
	Improvement of deductibility system in the healthcare sector	2010	-0,4%
	Reduction of the minimum taxable threshold for individuals from 15% to 14%	2009-2010	-0,2%
	Enhanced facilities in assessing the tax on personal income	2009	-0,1%
	Increases in children allowances	2009-2010	-0,3%
	Changes in corporate income tax	2009	-0,1%

*Source: Taxation Trend in the European Union, Data for EU Member States, Iceland and Norway, 2010*

The Catching-up Model countries used to be part of the *Communist block* and are trying to bring their economic growth level in line with the European standards. These states joined the European Union at a later stage, and now are making efforts to harmonise their fiscal system with that of the European Union, while also transitioning from the centrally planned economy to the free market one. In the aftermath of the economic crisis, these countries mostly took tax cut measures, but failed to provide incentives to investors or significant protection for the labour market. Yet these states are very reluctant to take drastic measures, as they pursue constant economic growth especially by attempting to create a stable political and economic framework.

**Table 2. Main financial recovery steps taken by the Catching-up Model countries to counter the economic crisis**

Country	Measure taken	Enforcement year	Impact on GDP
Bulgaria	Interest tax deductions introduced	2009-2010	X
	Mandatory reporting of loans contracted from individuals/legal entities (other than banks) in excess of a threshold	2010	X
	Taxable income of sailors reduced by 90%	2010	X
	60% reduction of farming revenue	2010	X
	Reduction of mandatory social security contributions by 2pp in 2009 and another 2pp in 2010	2009-2010	-0,59%
	Increase of the minimum social contributions of freelancers	2010	0,15%
	Increase of the gambling tax from 10% to 15%	2010	0,07%
	Removal of excise duty on cars	2010	-0,22%
	Increase of excise duties on electricity	2010	0,34%
	Increase of tax on luxury products	2010	0,05%
Czech Republic	Increase of the VAT rate to 20%	2010	
	Reduction of mandatory social security contribution rates	2009	
	Reduction of personal income tax from 20% to 15%	2009-2010	
Poland	Changes to VAT refund system	2009	-0,12%
	Simplified taxation of imports	2009	-0,11%
	Increase of the registration threshold for VAT payers	2009-2010	-0,03%
	Increase of the personal income tax from 18% to 32%	2009	-0,6%
	Increase of investment incentives	2009	-0,03%
	Reduction of excise duties on motor fuels	2010	-0,07%
Romania	Reduced VAT rate on contractions from 19% to 5%	2009	X
	Increase of the mandatory social security contributions rates and reduction of the work-related accident contribution to 0.5%	2009	X
	Increase of the deductibility percentage of voluntary health insurance and voluntary pension insurance premiums	2009	X
	Reduction of dividend income tax from 16% to 10%	2009	X
	Income from interest on savings accounts or short term deposits are tax-exempted	2009	X
	Temporary tax exemption for income from transactions in securities	2009-2010	X
	Simplified measures for persons becoming insolvent	2010	X
	Reduction of the environment tax (motor cars)	2009	X
	Increase of excise duties on alcohol, cigarettes and tobacco	2009	X

*Source: Taxation Trend in the European Union, Data for EU Member States, Iceland and Norway, 2010*

### 3.2. Comparative taxation features between the Continental and Catching-Up models

In terms of taxation, the analysis of the data on the countries in the Continental model– Austria, Belgium, France and Germany – showed the following features of the fiscal system:

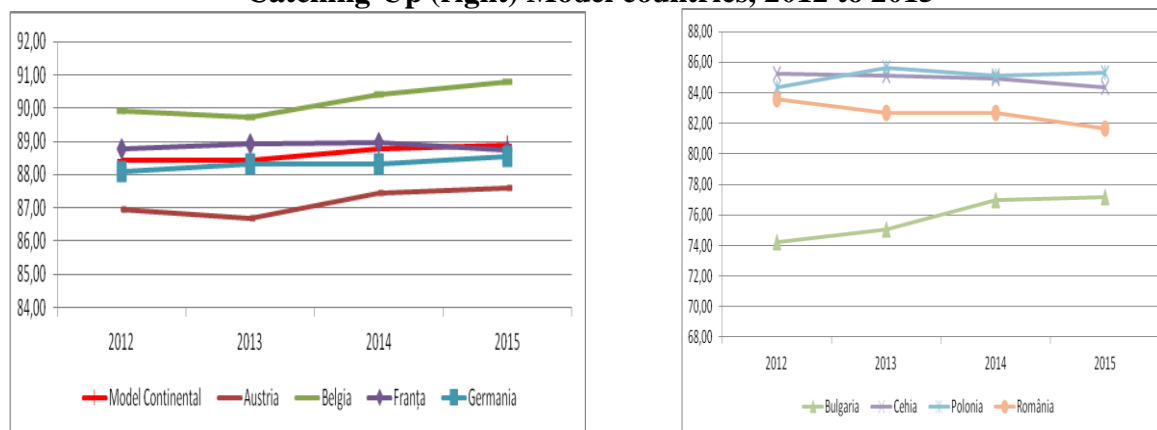
Tax receipts are mainly generated by direct taxation. Tax receipts contribute over 88% to the aggregate public revenues (in 2015 tax receipts as % of aggregate revenues were the highest in

Denmark, 87.7%, followed by Sweden, 87.37%, and the Netherlands, 85.23%). In 2015, the Continental Model ranked second among the models of taxation.

Regarding the taxation features, the analysis of the Catching-up Model countries – Bulgaria, the Czech Republic, Poland, Romania – shows as follows:

Tax receipts contribute 82% (2015) to the aggregate public revenues. In 2015, Poland (85.3%) and the Czech Republic (84.34%) contribute the highest percentages of tax receipts of the aggregate public revenues, with the lowest percentages showing in Bulgaria (77.14% in 2015).

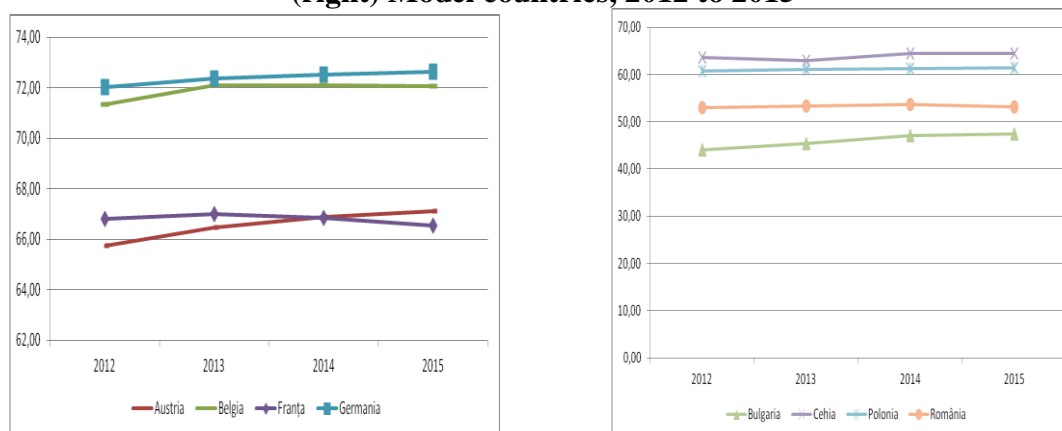
**Figure 1. Tax proceeds as % of aggregate public revenues of the Continental (left) and Catching-Up (right) Model countries, 2012 to 2015**



Source: Calculated based upon Eurostat figures

Public tax revenues rely almost equally on direct and indirect taxes. Yet the percentage of direct taxes is higher (throughout the entire analysed period), 56.6% (in 2015), below the EU-28 average (65.92%), which means these countries are at the bottom of the rankings of the fiscal models analysed. In 2015, among the countries under Catching-Up model, the Czech Republic contributes the highest percentage of direct taxes to tax receipts (64.38%), followed by Poland (61.46%), Romania (53.20%) and Bulgaria (47.37%), it should be notes that Bulgaria and Romania have the lowest direct tax rates.

**Figure 2. Contribution of direct taxes to tax receipts in the Continental (left) and Catching-Up (right) Model countries, 2012 to 2015**



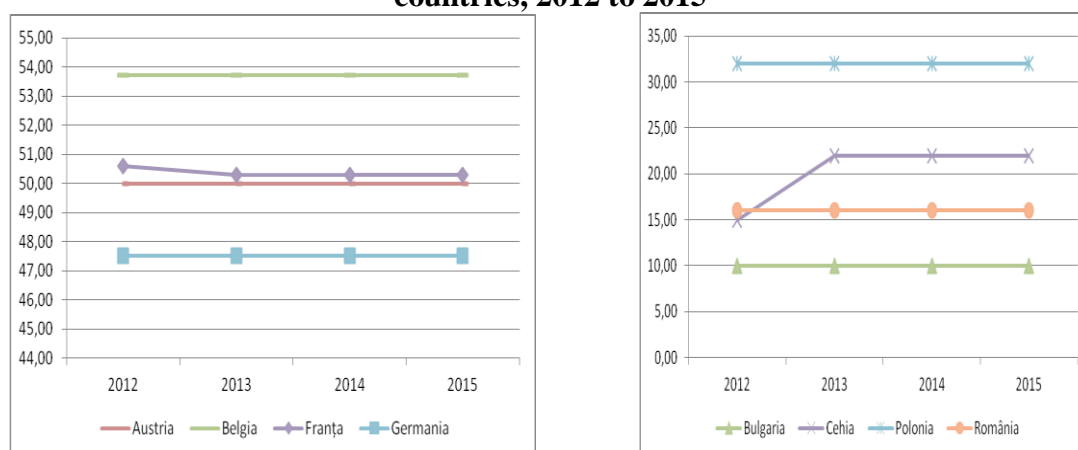
Source: Calculated based upon Eurostat figures

The analysis of the contribution of direct and indirect taxes to tax receipts showed that, throughout the analysed period, their contribution proved to be the highest in the Continental Model countries. Direct taxes contributed over 69% to tax revenues, above the EU-28 average, which means this

model ranks first for this indicator. In 2015, the countries with the highest contribution of direct taxes to tax receipts were Germany, 72.65%, and Belgium, 72.02%.

In the Catching-up Model countries, the contribution of direct taxes to GDP as compared to that of indirect taxes is different. Thus, in the Czech Republic and Poland the percentage of direct taxes contributed is higher than that of indirect taxes (in 2015, in the Czech Republic 21.7% versus 16.8%; in Poland 20.4% versus 17.3%). In Bulgaria and Romania the contribution of direct taxes is substantially lower than that of indirect taxes (in 2015, in Bulgaria 13.3% versus 20.5%, in Romania 14.4% versus 17.7%). The main cause is the difference in tax rates.

**Figure 3. Top personal income tax in the Continental (left) and Catching-Up (right) Model countries, 2012 to 2015**

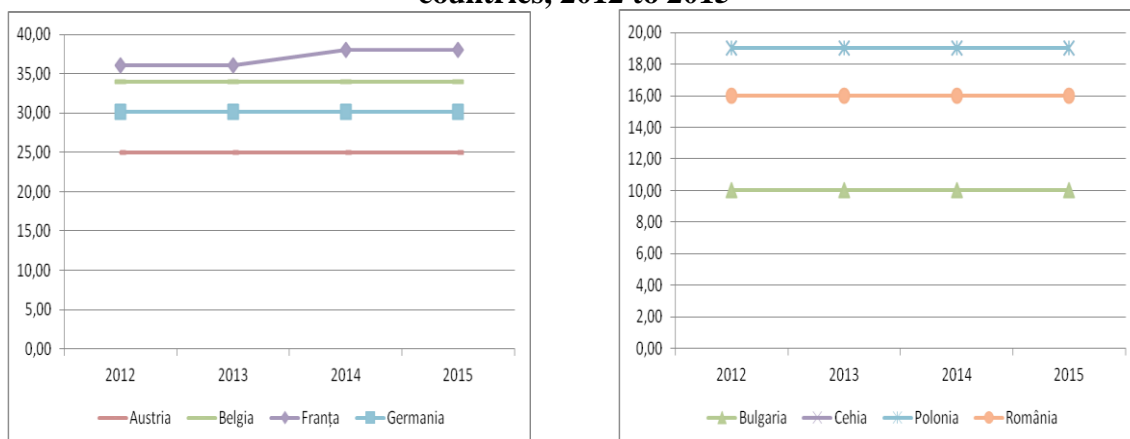


Source: Calculated based upon Eurostat figures

In terms of tax rates, it can be noted that the Continental Model countries levy high rate taxes on personal income (the highest tax rate is in Belgium, 53.7% on the income of individuals, while Austria and France levy a maximum of 50%, and Germany de 47.5% %).

In terms of personal income tax rates, it can be noted that the Catching-up Model countries levy the lowest rates (in 2015, in Bulgaria 10%, Romania 16%, the Czech Republic 22%, Poland 32%), which places this model at the bottom of the rankings (the lowest rates) and much below the EU-28 average (of 39.4%). It is noteworthy that, although the tax rates are low, the salary levels are the lowest in the European area, much below those in the countries under the other fiscal models, and this shows in the social wellbeing.

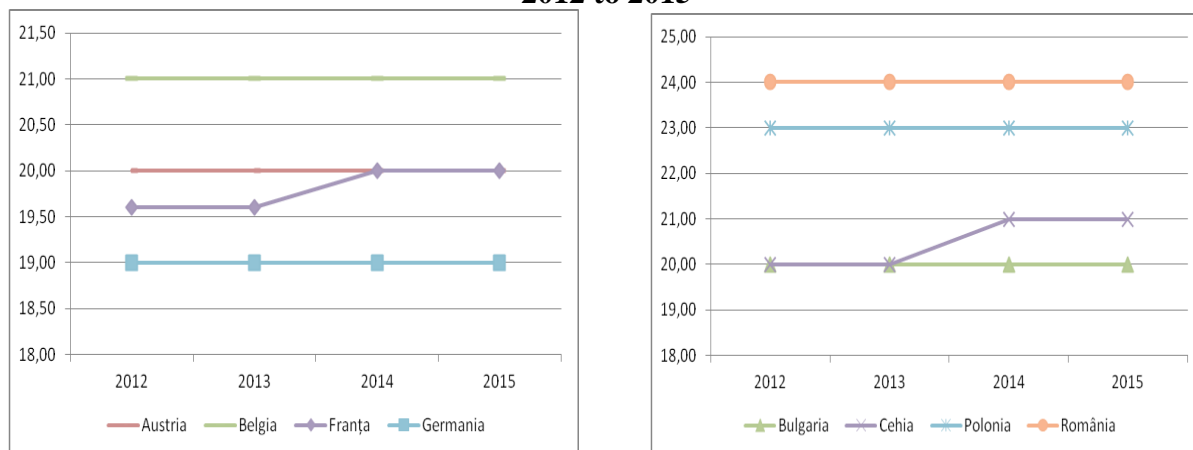
**Figure 4. Top of corporate income tax in the Continental (left) and Catching-Up (right) Model countries, 2012 to 2015**



Source: Calculated based upon Eurostat figures

In terms of corporate income tax, it can be noted that the relevant rates place Continental model countries high in the top among the European fiscal models, with rates ranging between 25% (Austria) and 38% (France) while countries under Catching Up model are placed at the bottom of the European fiscal models rankings, after the Scandinavian Model, with the lowest rates: 10% in Bulgaria, 16% in Romania, 19% in the Czech Republic and Poland. This is indicative of a fiscal policy aiming at job retention and drawing and retaining investors.

**Figure 5. Top VAT rates in the Continental (left) and Catching-Up (right) Model countries, 2012 to 2015**

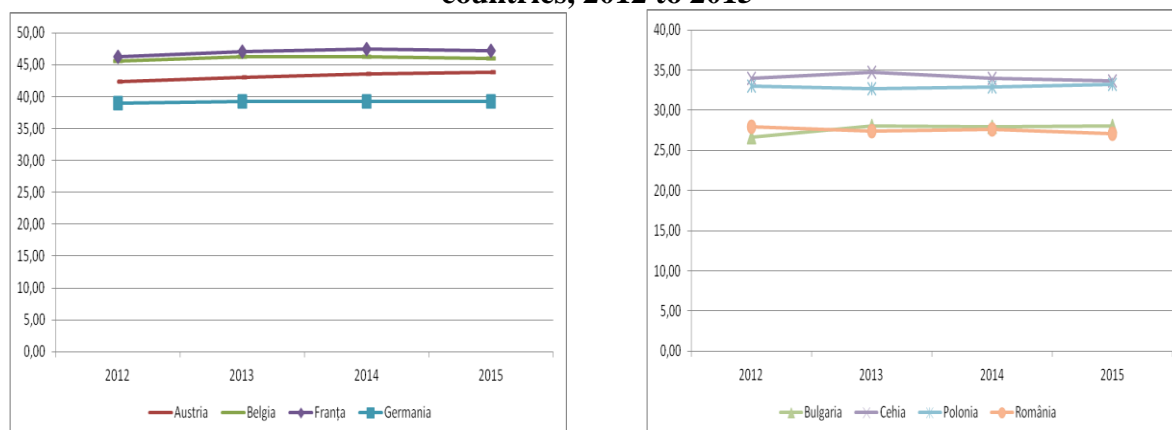


Source: Calculated based upon Eurostat figures

In terms of contributions of indirect taxes to tax receipts, as already mentioned, in the Continental Model countries the figure accounts for a mere 35%. The highest percentage of indirect taxes is that of the value added tax (VAT), in all the analysed countries. The standard VAT rate is the lowest in the Continental Model countries, with an average of 20%, even lower than the EU-28 average. In 2015, Germany has 19% VAT, France and Austria 20%, and Belgium 21%.

As with the majority of countries, VAT accounts for most of the indirect taxes. There is a visible gap between the direct tax rates levied in Bulgaria and Romania and those levied in the Czech Republic and Poland, respectively, but balance is redressed when it comes to VAT. Romania has the highest standard VAT rate (in 2015 - 24%, to be lowered to 19% in 2016), followed by Poland with 23%, the Czech Republic with 21% and Bulgaria with 20% VAT. It can be noted that Bulgaria levies the lowest rates for both direct and indirect taxation.

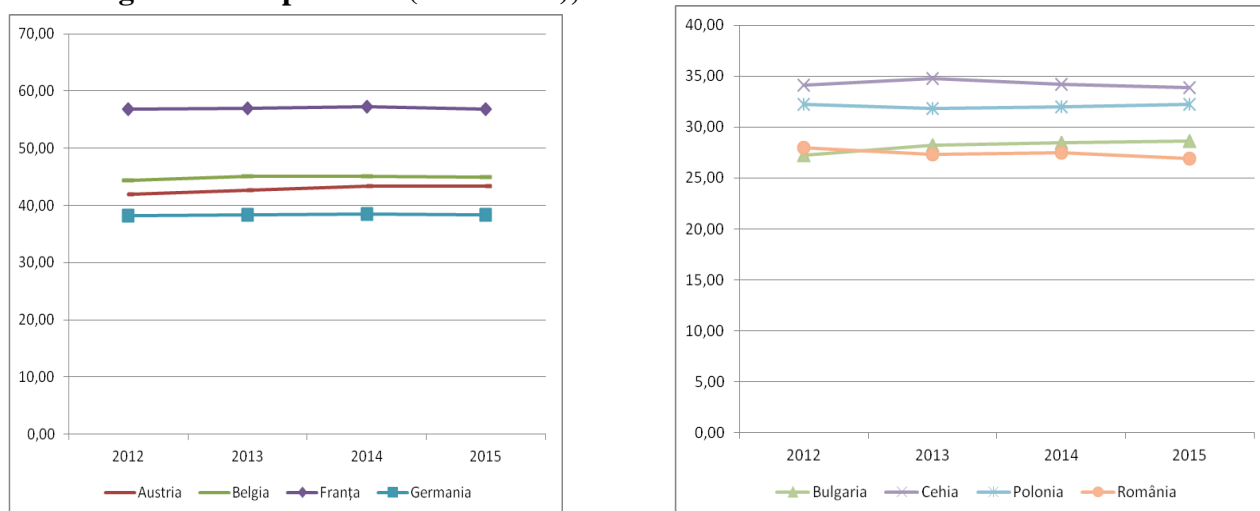
**Figure 6. Taxes as % of GDP in the Continental (left) and Catching-Up (right) Model countries, 2012 to 2015**



Source: Calculated based upon Eurostat figures

In terms of tax receipts contributing to GDP, during the analysed period, it was noted that the percentage was the lowest (30.53% in 2015) as compared to the other European models countries, and compared to the EU-28 average (39.5%). More specifically, in 2015, the figure was 33.7% in the Czech Republic, 33.2% in Poland, 28.1% in Bulgaria and 27.1% in Romania.

**Figure 7. Tax pressure (% of GDP), in Continental Model countries 2012 to 2015**



Source: Calculated based upon Eurostat figures

In terms of tax pressure, the Catching-up Model countries rank last among the European models of taxation, with an average of 30.4% in 2015, and below the EU-28 average (39%). In 2015, Romania had the lowest tax pressure (26.9%), followed by Bulgaria (28.6%). Judging by the very low tax pressure, the wellbeing should be the highest, but this is not the case, because the Catching-up Model countries still have the lowest salary levels in Europe, and a high tax evasion level.

The weaknesses of taxation in these countries are the lack of legislation stability and the high level of tax evasion. The volatility of the exchange rates should be factored in as well.

#### 4. CONCLUSIONS

The low direct tax rates, combined with an active fiscal policy focused on labour market, social security and protection objectives and incentives for the business environment, helped the tax receipts as % of budget revenues grow. This rendered the Continental Model the most efficient in terms of tax receipts contributing to the aggregate budget revenues. Tax revenue contribution to GDP was the highest among the European models of taxation, above 44% (above the EU-28 average of 39%) in 2015. As shown in Figure 6. the causes are the high tax rates, the high degree of tax compliance and the low level of tax evasion. Throughout the analysed period, France and Belgium had the highest taxes as percentages of GDP, around 46 to 47%. Tax pressure in the Continental Model countries places them first in the rankings of the European models of taxation, with 45.9% (in 2015, the tax pressure was 56.9% in France, 44.9% in Belgium, 43.4% in Austria and 38.4% in Germany – as shown in Figure 7. In the Catching-up Model countries, there is a positive GDP growth. Starting in 2014, all countries are on an upward trend (in 2015): 3.3% in Poland; 2.8% in Romania; 2.5% in the Czech Republic and 1% in Bulgaria.

The personal income tax level in the Catching Up model countries is the lowest in the EU-28 states, low salaries (compared with the other EU member states).

In conclusion in the Continental Model, direct and indirect taxes take are the biggest source of the public budget revenues, the implicit tax rate of individuals' income and individual tax pressure are the highest, while the unemployment rate is the lowest. In the Continental Model, the emphasis is

placed on employment, thus the largest share of revenues to the state budget is given by social contributions. The Gross Domestic Product (GDP) has an upward trend, the GDP share of the budget deficit falls within the limits of the Fiscal Stability Pact, but the public debt ratio is still very high, exceeding the 60% threshold.

In the Catching-up model, tax revenue share in the GDP is the lowest compared to the other countries analyzed in this paper, tax revenues are largely from indirect taxes, income taxation is along the smallest, while the unemployment rate is approaching the EU-28 average. The Catching-up countries, we can observe low levels of wages and social welfare (Bulgaria and Romania rank last two among the EU countries). As a result of the technical and financial support provided by international financial institutions and their policies designed to support small and medium-sized enterprises by applying more favorable tax rates for the business community, the Catching-up countries have positive economic growth, a budget deficit and a public debt within the limits set by the Fiscal Stability Pact. However, it should be noted that countries in the Catching-up Model are facing instabilities in their internal tax legislation and with a low level of combating tax evasion.

As a result of our analysis, we have concluded that, as long as they comply with the rules of the European Union, Member States are able to choose their own tax system. A system that is tailored to their needs and preferences. However, the European Union will undertake any action in the field of taxation in order to respect the principles of subsidiarity and proportionality. The European Union only intervenes where Member States cannot come up with efficient solutions to manage a fair and optimal tax system.

## REFERENCES

- Arnold, J. (2008). *Do Tax Structure Affect Aggregate Economic Growth?* OECD Economics Department Working Papers, No 643, pp. 8-24.
- Braconier, H., Holden, S. (2001). *Fiscal policy in the OECD: Measurement and Cyclical Adjustments*. Retrieved July 15, 2018, from <https://pdfs.semanticscholar.org/e143/333fad6e67d8acacb2552b847b76a86cb270.pdf>
- Galbraith, J., K. (1975). *Economics and the public purpose*. New American Libraries, pp. 1-11.
- Gale, W., G., Samwick, A., A. (2014). *Effects of Income Tax Changes on Economic Growth*. Economic Studies at Brooklyn. Retrieved July 15, 2018, from [https://www.brookings.edu/wp-content/uploads/2016/06/09\\_Effects\\_Income\\_Tax\\_Changes\\_Economic\\_Growth\\_Gale\\_Samwick.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/09_Effects_Income_Tax_Changes_Economic_Growth_Gale_Samwick.pdf)
- General Government Data. General Government Revenue, Expenditure, Balances and Gross Debt, Spring 2015, European Commission, Directorate General for Economic and Financial Affairs. Retrieved July 15, 2018, from [http://ec.europa.eu/economy\\_finance/db\\_indicators/gen\\_gov\\_data/documents/2015/spring2015\\_country\\_en.pdf](http://ec.europa.eu/economy_finance/db_indicators/gen_gov_data/documents/2015/spring2015_country_en.pdf)
- International Labour Office (2004). *A fair globalization: Creating opportunities for all*. Retrieved July 15, 2018, from <http://www.ilo.org/public/english/wcsdg/docs/report.pdf> , pp. 25-55.
- Kasprak, N. (2010). *Does Lowering Taxes Increase Government Revenue?* Tax Foundation. Retrieved July 15, 2018, from <https://taxfoundation.org/does-lowering-taxes-increase-government-revenue/>
- Lee, Y., Gordon, R. (2005). *Tax Structure and Economic Growth*. Journal of Public Economics Vol. 89, pp.1025-1045.
- Li, W. (2006). *Impact of tax policy on transition of industry structure: analysis of demand ways*. Shandong University, Taxation and Economy, vol. 144, no. 1, pp. 5–11.
- Li, W. (2006). *Analysis on tax policy and optimization of industrial structure from the aspect of supply*. Shandong University, Taxation Research, vol. 248, no. 1, pp. 38–44.

- Luković, S. (2015). *The Impact of Globalization on the Characteristics of European Countries' Tax Systems*. *Economic Annals*, Volume LX, No. 206, pp. 117-137.
- Mitchell, D., J. (2017). *Lowering Taxes Would Actually Increase Tax Revenue*. Retrieved July 15, 2018, from <https://fee.org/articles/lowering-taxes-would-actually-increase-tax-revenue/>
- Mosteanu, N., R., Mitroi, M. (2015). European Tax Models. *Economics*, 3(1-2), pp.18-30. Retrieved from [http://www.academia.edu/12041387/European\\_Tax\\_Models](http://www.academia.edu/12041387/European_Tax_Models)
- Pettinger, T. (2017). *Does cutting corporate tax rates increase revenue?* Article retrieved July 15, 2018, from <https://www.economicshelp.org/blog/21345/economics/does-cutting-corporate-tax-rates-increase-revenue/>
- Taxation Trend in the European Union, Data for EU Member States, Iceland and Norway*, 2010 Edition. Retrieved July 15, 2018, from [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/gen\\_info/economic\\_analysis/tax\\_structures/2010/2010\\_full\\_text\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2010/2010_full_text_en.pdf)
- UNESCO. *Globalisation*. Retrieved July 15, 2018, from [http://www.unesco.org/education/tlsf/mods/theme\\_c/mod18.html](http://www.unesco.org/education/tlsf/mods/theme_c/mod18.html)