



PŔVODNÝ VEDECKÝ ČLÁNOK

**DECENTRALIZATION OF PUBLIC SPENDING AND ECONOMIC GROWTH: AN EMPIRICAL STUDY ON THE EUROPEAN UNION**

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**ABSTRACT**

The goal of this paper is to analyze the impact of fiscal decentralization on the economic growth in the European Union. The emphasis has been put on the public spending carried out at a local level. The empirical investigation is based on regression analysis. The regression model includes the GDP growth rate as a dependent variable and fiscal decentralization indicators as independent variables. The results support the conventional understanding among scientists and politicians for a positive impact of spending decentralization on the economic growth.

**Key words:** fiscal decentralization, local expenditures, local revenue, economic growth

**JEL:** C33, H71, O40

**INTRODUCTION**

The relationship between fiscal decentralization and economic growth as a subject of the empirical work is a relatively new phenomenon in the economic thought. Economists<sup>1</sup> note that while theoretical examinations started with the conceptual model of Tiebout<sup>2</sup>, and the publications of Musgrave and Oates<sup>3</sup>, empirical analysis regarding the impact of economic growth on fiscal decentralization started at the end of the 1970s and estimations concerning the direct impact of fiscal decentralization on economic growth have only been conducted since the end of the 1990s (starting with

<sup>1</sup> FRITZ, B. - ELLER, M. (2004): Fiscal decentralization and economic growth: is there really a link?, In: *Journal for Institutional Comparisons*, 2004, Vol. 2, No. 1, p. 3.

<sup>2</sup> TIEBOUT, Ch. (1956): A pure theory of local expenditures, In: *Journal of Political Economy*, 1956, Vol. 64, No. 5, pp. 416-424.

<sup>3</sup> See the literature cited by FRITZ, B. - ELLER, M. (2004): Fiscal decentralization and economic growth: is there really a link?, In: *Journal for Institutional Comparisons*, 2004, Vol. 2, No. 1, p. 3.

the report of W. Oates at the Annual World Bank Conference on Development Economics in 1995<sup>4</sup> and the article of Davoodi and Zou in 1998<sup>5</sup>).

The first contributions to empirical analysis on this topic have been made by Oates in 1995 and the collectives of Xie, Zou, and Davoodi in 1995 (published in 1999)<sup>6</sup>, Devarajan, Swaroop and Zou in 1996<sup>7</sup>, and Davoodi and Zou in 1998. Next significant attempts for research were made in the report of R. Ebel and S. Yilmaz in 1999<sup>8</sup>, the studies of U. Thiessen in 2000<sup>9</sup>, 2001<sup>10</sup> and 2003<sup>11</sup>, and the elaborate approach applied in the study of Desai, Freinkman, and Goldberg in 2003<sup>12</sup>. The most recent analyses were made by Malik, Hassan and Hussain in 2006<sup>13</sup> on provinces of Pakistan and Samimi, Lar, Haddad, Alizadeh in 2010<sup>14</sup> on provinces of Iran.

The empirical methodology, which is applied in this paper, is based on regression analysis. The regression models are constructed through a linkage of measures for fiscal decentralization and chosen variables from a given endogenous model of economic growth. The most widely accepted endogenous models are the Barro's growth model<sup>15</sup> and the model of R. Solow<sup>16</sup>. Most of the studies use the former one.

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<sup>4</sup> OATES, W. E. (1996): Comment on 'Conflicts and Dilemmas of Decentralization' by Rudolf Hommes, in BRUNO, M. – PLESKOVIC, B. (eds.): *Annual World Bank Conference on Development Economics 1995*. Washington, DC, 1996. pp. 351-353. ISBN: 0-8213-3280-5.

<sup>5</sup> DAVOODI, H. - ZOU, H. (1998): Fiscal Decentralization and Economic Growth – A Cross-Country Study, In: *Journal of Urban Economics*, 1998, Vol. 43, pp. 244-257.

<sup>6</sup> XIE, D. - ZOU, H. - DAVOODI, H. (1999): Fiscal Decentralization and Economic Growth in the United States, In: *Journal of Urban Economics*, 1999, Vol. 45, pp. 228-239.

<sup>7</sup> DEVARAJAN, S. - SWAROOP, V. - ZOU, H. (1996): The composition of public expenditure and economic growth, In: *Journal of Monetary Economics*, 1996, Vol. 37, pp. 313-344.

<sup>8</sup> EBEL, R. - YILMAZ, S. (1999): Intergovernmental Relations: Issues in Public Policy. [Online.] Working paper of the World Bank. In: *A Partnership of the Asian Development Bank and World Bank Institute*, Manila, 11-15 Oct. 1999.

<sup>9</sup> THIEßEN, U. (2000): Fiscal federalism in Western European and selected other countries: centralization or decentralization? What is better for economic growth?. [Online.] In: *Deutsches Institut für Wirtschaftsforschung*, Berlin. Discussion Paper No. 224. 2000.

<sup>10</sup> THIEßEN, U. (2001): Fiscal decentralization and economic growth in high-income OECD countries. [Online.] In: *European network of economic policy research institutes*, Working paper No.1. 2001.

<sup>11</sup> THIEßEN, U. (2003): Fiscal decentralization and economic growth in high-income OECD countries, In: *Fiscal Studies*, Sep 2003, Vol. 24, No. 3, pp. 237-274.

<sup>12</sup> DESAI, R.M. - FREINKMAN, L.M. - GOLDBERG, I. (2003): Fiscal Federalism and Regional Growth, Evidence from the Russian Federation in the 1990s. [Online.] In: *World Bank Policy Research Working Papers*, No. 3138. 2003.

<sup>13</sup> MALIK, S. - HASSAN, M. - HUSSAIN, Sh. (2006): Fiscal Decentralisation and Economic Growth in Pakistan, In: *The Pakistan Development Review*, 2006, Vol. 45, No. 4, Part II, pp. 845-854.

<sup>14</sup> SAMIMI, A. - LAR, S. - HADDAD, G. - ALIZADEH, M. (2010): Fiscal Decentralization and Economic Growth in Iran, In: *Australian Journal of Basic and Applied Sciences*, 2010, Vol. 4, No. 11, pp. 5490-5495.

<sup>15</sup> BARRO, R. (1990): Government Spending in a Simple Model of Endogenous Growth, In: *Journal of Political Economy*, 1999, Vol. 98, pp. 108-125.

However, the results of empirical work are still ambiguous and relatively unreliable. The main causes for such a picture are 1) different models of decentralization across the analyzed countries, 2) different income levels, 3) low explanatory power of the regression models, 4) lots of omitted variables in the regressions, 5) statistically insignificant regression coefficients and the different signs of these coefficients. Thus, we were not able to make robust conclusions about the character of the relationship between fiscal decentralization and economic growth.

The basic economic argument in favour of fiscal decentralization is based on two complementary assumptions: 1) decentralization will increase economic efficiency because local governments are better positioned than the national government to deliver public services as a result of information advantage; and 2) population mobility and competition among local governments for delivery of public services will ensure the matching of preferences of local communities and local governments<sup>17</sup>.

There are objective limitations for the analytical work on this topic, therefore it is recommended that our expectations are modest. The purpose of this paper is to analyze the impact of fiscal decentralization on the economic growth in the European Union countries for the period 2000-2010. Thus, we could estimate the efficiency of the decentralization model in the EU-27. Moreover, the tendency among the EU members to achieve an approximately similar redistribution of GDP through state budget<sup>18</sup> makes this approach suitable. It additionally makes this group of countries very appropriate for analysis. The paper is structured in three parts: 1) conceptual framework, 2) empirical methodology, and 3) regression results. The last section includes the conclusions.

## 1 Conceptual framework

The analytical framework of this study has been developed by Xie, Zou, and Davoodi (1995), Devarajan, Swaroop and Zou (1996), and Davoodi and Zou (1998).<sup>19</sup> These analyses follow the endogenous growth model of Barro (1990). According to the model, the production function has two inputs: private capital and public spending. However, Davoodi and Zou<sup>20</sup> depart from the Barro's model by assuming that public spending is carried out by three levels of government: federal, state, and local. Let  $k$  be private capital stock,  $g$  total government spending,  $f$  federal government spending,  $s$  state government spending, and  $l$  local government spending, all measured on a per capita basis:

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<sup>16</sup> SOLOW, R. M. (1956): A Contribution to the Theory of Economic Growth, In: *The Quarterly Journal of Economics*, 1956, Vol. 70, No.1, pp. 65-94.

<sup>17</sup> DAVOODI, H. - ZOU, H. (1998): Fiscal Decentralization and Economic Growth – A Cross-Country Study, In: *Journal of Urban Economics*, 1998, Vol. 43, p. 244.

<sup>18</sup> STOILOVA, D. (2010): *Financial Decentralization in Bulgaria*. Sophia: Avangard Prima, 2010. p. 94.

<sup>19</sup> The same conceptual framework has been used by the author in the article: STOILOVA, D. - PATONOV, N. (2012): Fiscal decentralization: Is it a good choice for the small new member states of the EU?, In: *Scientific Annals of the „Alexandru Ioan Cuza” University of Iasi, Economic Sciences Section*, 2012, Vol. 59, No. 1, pp. 125-137.

<sup>20</sup> DAVOODI, H. - ZOU, H. (1998): Fiscal Decentralization and Economic Growth – A Cross-Country Study, In: *Journal of Urban Economics*, 1998, Vol. 43, pp. 245-247.

$$g = f + s + l \quad (1)$$

The production function is Cobb-Douglas:

$$y = k^\alpha f^\beta s^\gamma l^\omega \quad (2)$$

where  $y$  is per capita output,  $1 > \alpha > 0$ ,  $1 > \beta > 0$ ,  $1 > \gamma > 0$ ,  $1 > \omega > 0$  and  $\alpha + \beta + \gamma + \omega = 1$ .

The allocation of consolidated or total government spending  $g$  among different levels of government takes the following form:

$$f = \theta_f g; \quad s = \theta_s g; \quad l = \theta_l g \quad (3)$$

where  $\theta_f + \theta_s + \theta_l = 1$  and  $0 < \theta_i < 1$  for  $i = f, s$  and  $l$ . Thus, if  $\theta_f$  is the share of federal government in total spending,  $\theta_s$  the share of state government and  $\theta_l$  the share of local government. Consolidated government spending  $g$  is financed by a flat income tax at rate  $\tau$ :

$$g = \tau y \quad (4)$$

The representative agent's preferences are given by

$$U = \int_0^\infty \frac{c^{1-\sigma} - 1}{1-\sigma} e^{-\rho t} dt \quad (5)$$

where  $c$  is per capita private consumption, and  $\rho$  is the positive time discount rate.

The dynamic budget constraint of the representative agent is

$$\frac{dk}{dt} = (1 - \tau)y - c = (1 - \tau)k^\alpha f^\beta s^\gamma l^\omega - c \quad (6)$$

Davoodi and Zou<sup>21</sup> further assume a constant tax rate along the balanced growth path.

Given total government spending  $g$ , a constant tax rate  $\tau$ , and the shares of spending by different levels of governments ( $\theta_i'g$ ,  $i = f, s, l$ ) the representative agent's choice of consumption is determined by maximizing (5) subject to (6) and the government's budget allocation. Along the balanced growth path, the solution for the per capita growth rate of the economy is given by

$$\frac{dy/dt}{y} = \frac{1}{\sigma} \left[ (1 - \tau) \tau^{1-\alpha/\alpha} \alpha \theta_f^{\beta/\alpha} \theta_s^{\gamma/\alpha} \theta_l^{\omega/\alpha} - \rho \right] \quad (7)$$

<sup>21</sup> DAVOODI, H. - ZOU, H. (1998): Fiscal Decentralization and Economic Growth – A Cross-Country Study, In: *Journal of Urban Economics*, 1998, Vol. 43, p. 246.

Equation (7) shows that the long-run growth rate of per capita output is a function of the tax rate and the shares of spending by different levels of government. It forms the basis for our empirical analysis of the relationship between fiscal decentralization and growth. Following the literature on fiscal federalism, we regard a country as more fiscally centralized if it has a higher value of the federal spending share  $\theta_f$ .

It is important to note that, for a given share of total government spending in GDP, a reallocation of public spending among different levels of governments can lead to higher economic growth if the existing allocation is different from the growth-maximizing expenditure shares. To show this point, we maximize the growth rate in equation (7) by choosing  $\theta_f$ ,  $\theta_s$ , and  $\theta_l$  subject to the constraint  $\theta_f + \theta_s + \theta_l = 1$ . The growth-maximizing government budget shares are:

$$\theta_f = \frac{\beta}{\beta + \gamma + \omega} \quad (8)$$

$$\theta_s = \frac{\gamma}{\beta + \gamma + \omega} \quad (9)$$

$$\theta_l = \frac{\omega}{\beta + \gamma + \omega} \quad (10)$$

Therefore, as long as the actual government budget shares are different from growth-maximizing shares, the growth rate can always be increased without altering the total budget's share in GDP. (See more in the study of Davoodi and Zou, 1998)

## 2 Empirical methodology and data

The quantitative effects of fiscal decentralization on economic growth are estimated by the means of the specification of equation (11):

$$y_{it} = b_1 + b_2\theta_{it} + b_3\tau_{it} + b_4X_{it} + b_5D_{it} + \varepsilon_{it} \quad (11)$$

where  $y_{it}$  is the annual growth rate of GDP for each country and year,  $\theta_{it}$  is the measure of fiscal decentralization – the subnational share of total government expenditure,  $\tau_{it}$  – the ratio of local government revenue to GDP,  $X_{it}$  – quantitative indicators – investments of private sector, inflation rate for each country and year, population growth for each country and year measured in percentage,  $D_{it}$  – dummy variable – qualitative indicator – this kind of variable in this case is the membership of concrete country in the Euro area. This variable receives a value “one” for years of membership and “zero” for all others.  $\varepsilon_{it}$  expresses the error term of distribution. The parameters of the regression model are  $b_1$ ,  $b_2$ ,  $b_3$ ,  $b_4$ . The source of quantitative data is Eurostat<sup>22</sup>.

<sup>22</sup> EUROSTAT (2013): <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>.

Annual data is used for calculation of regression coefficients. The estimation procedure is the Ordinary Least Squares method. The procedure is also applied on a three-year-average data panel.

### 3 Regression results

The regression results are presented in the Tables 1 and 3. Tables 2 and 4 show the tests for normal distribution of residuals across the models. Table 1 includes the regression results from the estimating procedure applied to an annual-data panel for the European Union. The separate variants of the model specification are constructed by excluding explanatory variables from equation (11). Thus, we get Models 1 to 5.

Table 1: Regression results for the EU-27 with year data for the period of 2000 – 2010

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
(Constant)	-3.076** (-2.548)	-3.806*** (-3.161)	-3.745*** (-3.167)	-3.687*** (-3.118)	1.637*** (3.595)
Subnational share of total government expenditure (%)	0.221*** (3.416)	0.266*** (4.147)	0.263*** (4.159)	0.272*** (4.340)	0.393*** (6.587)
Ratio of local government revenue to GDP (%)	-0.433*** (-3.496)	-0.519*** (-4.225)	-0.515*** (-4.228)	-0.537*** (-4.454)	-0.784*** (-6.930)
Investment rate (ratio to GDP)	0.291*** (4.773)	0.289*** (4.667)	0.289*** (4.678)	0.298*** (4.848)	-
Inflation rate (%)	0.040 (0.760)	0.066 (1.239)	0.061 (1.211)	-	-
Population growth rate (%)	0.388 (1.246)	0.085 (0.283)	-	-	-
Euro area	-1.448*** (-3.193)	-	-	-	-
R-squared	0.235594	0.208728	0.208510	0.204538	0.140720
Adjusted R-squared	0.219779	0.195133	0.197668	0.196394	0.134875
Durbin-Watson	1.357452	1.303514	1.304572	1.311870	1.313129
F-statistics	14.89662	15.35249	19.23116	25.11321	24.07349
Prob (F-statistics)	0.000000	0.000000	0.000000	0.000000	0.000000
Observations	297	279	297	297	297

Source of data: Eurostat, author's calculations.

Note: t-test in parentheses.

\*\*\* significant at 1%; \*\* significant at 5%; \* significant at 10%.

The explanatory power of the model is not very high. Across the different specifications the values of adjusted R-squared vary from 0.22 to 0.13. The empirical values of F-statistics for each model are higher than its theoretical values. Therefore, the regressions are adequate and their results can be considered a reliable empirical

evidence. According to the results from Durbin-Watson statistics for each model, there is a weak positive serial correlation.

The regression coefficient estimated shows a reliable empirical evidence for positive impact of the subnational share of total government expenditure on the economic growth in the European Union. The coefficient for each variant of specification is statistically significant at 1% level. This result is consistent with conventional expectations. The last three decades the EU has a clear policy for an effective decentralization of state government. The intentions to build a working decentralization model have been incorporated in acts of the European Union law. The member states have adopted these fundamental acts and developed their principles. Thus, achievements of the EU law contribute to national efforts for an effectively decentralized public sector.

The positive sign of the regression coefficients means an increase in efficiency of the public expenditure. Efficiency gains are direct results from the optimization of the transfer of spending powers to subnational authorities. The subnational shares of total government expenditure are close to maximizing growth shares. The last fact results from the expenditure pattern, in which the production of public goods is financed at the level of their provision. Thus, the local conditions and preferences are taken into account in the public goods provision.

The form of the relationship between subnational share of total government expenditure and the economic growth in the European Union is linear. It means a strong influence of this measure for decentralization on economic development.

Table 2: Tests for normal residuals' distribution of the specifications from Table 1

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Mean	1.58e-15	2.11e-15	1.03e-15	1.77e-15	7.12e-16
Median	0.601787	0.593007	0.619551	0.565537	0.667111
Maximum	6.112878	6.309334	6.295999	6.316324	7.572092
Minimum	-21.47219	-21.32170	-21.38633	-21.42629	-22.40860
Std. Dev.	3.380878	3.439777	3.440251	3.448872	3.584551
Skewness	-2.286466	-2.110300	-2.128447	-2.119050	-2.133714
Kurtosis	12.08655	10.95143	11.06280	10.98247	11.27960
Jarque-Bera	1280.530	1002.854	1028.732	1010.806	1073.689
Probability	0.000000	0.000000	0.000000	0.000000	0.000000

Source: Eurostat, author's calculations.

The impact of the local governments revenue is statistically significant at 1 % level. The relationship between the ratio of local government revenue to GDP and economic growth has a linear form.

Local governments revenue negatively affects the economic growth in the EU-27. The sign of the regression coefficient is due to the depressing effect of taxation on the economic activity of the business-agents. An increase in tax burden will lead to a decrease in the resources on hand in firms. Thus, the investment activity is depressed. These factors hamper the GDP growth.

The results from the test for normal distribution of residuals in equation (11) for the EU in terms of annual data are presented on Table 2. Hypothesis for normal

distribution is not confirmed for each model due to a lot of factors affecting economic growth, which are not included in the regression model.

Table 3 presents the regression results for the EU estimated in terms of three-year-average data. The explanatory power of different models increases due to the elimination of the negative impact of the trends in annual data. The values of the adjusted R-squared vary from 0.34 to 0.17 across the specifications. The empirical values of F-statistics of the models are higher than their theoretical values. According to results from Durbin-Watson statistics for each model, hypotheses for serial correlation are not confirmed.

The subnational share of total government expenditure again has a positive impact on the economic growth. There are small differences in the values of coefficients between the estimations in terms of annual data and three-year-average data. While the results for most of the models are statistically significant at 1%, the level of significance for Model 1 is 5%. Thus, the empirical results are reliable and unambiguous evidence.

Table 3: Regression results for the EU-27 with three-year-average data for the period 2000 – 2010

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
(Constant)	-5.470*** (-3.476)	-5.781*** (-3.691)	-5.309*** (-3.395)	-5.332*** (-3.366)	1.172* (1.862)
Subnational share of total government expenditure (%)	0.202** (2.213)	0.249*** (2.929)	0.221*** (2.610605)	0.244*** (2.873)	0.398*** (4.728)
Ratio of local government revenues to GDP (%)	-0.388** (-2.283)	-0.466*** (-2.884)	-0.422*** (-2.609)	-0.472*** (-2.922)	-0.782*** (-4.954)
Investment rate (ratio to GDP)	0.372*** (4.313)	0.337*** (4.058)	0.344*** (4.091)	0.370*** (4.413)	-
Inflation rate (%)	0.164** (2.114)	0.186** (2.436)	0.143* (1.943)	-	-
Population growth rate (%)	1.064** (2.302)	0.769** (1.853)	-	-	-
Euro area	-1.016 (-1.421)	-	-	-	-
R-squared	0.375578	0.363094	0.363094	0.317528	0.189755
Adjusted R-squared	0.338483	0.331873	0.331873	0.297842	0.174322
Durbin-Watson	1.817403	1.804151	1.804151	1.906860	2.201734
F-statistics	10.12492	11.62986	11.62986	16.12908	12.29521
Prob (F-statistics)	0.000000	0.000000	0.000000	0.000000	0.000016
Observations	108	108	108	108	108

Source of data: Eurostat, author's calculations.

Note: t-test in parentheses.

\*\*\* significant at 1%; \*\* significant at 5%; \* significant at 10%.

The empirical evidence for a negative impact of local governments revenue is confirmed in terms of three-year-average data. Excluding Model 1, where the coefficient is statistically significant at 5%, the level of significance is 1%, i.e. the

probability for error in distribution is less than one percent. Consequently, a reliable empirical evidence for this negative relationship is available.

Table 4 shows the test for normal distribution of the residuals of unexplained deviation in the equation (11) in terms of three-year-average panel. The normality hypothesis for each model is not confirmed.

Table 4: Tests for normal residuals' distribution of the specifications from Table 3

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Mean	-1.56e-15	-3.09e-15	-2.75e-16	-1.97e-15	4.81e-16
Median	0.302978	0.260837	0.314709	0.464756	0.580469
Maximum	5.642288	5.741910	5.096354	4.589225	4.918789
Minimum	-10.29890	-10.15420	-10.92625	-11.25750	-12.75874
Std. Dev.	2.555686	2.600123	2.643519	2.691527	2.932679
Skewness	-1.025623	-0.893545	-1.226927	-1.258902	-1.529858
Kurtosis	5.229412	4.726048	5.524078	5.516143	6.415253
Jarque-Bera	41.30049	27.77821	55.76569	57.01639	94.61616
Probability	0.000000	0.000001	0.000000	0.000000	0.000000

Source: Eurostat, author's calculations.

The negative signs of the skewness show that there are factors negatively affecting the growth rate of GDP, which are not taken into account in our model. Their identification will be a subject of future empirical research on the relationship between fiscal decentralization and economic growth.

## CONCLUSIONS

The most important conclusions we could draw are regarding the influence of fiscal decentralization on economic growth. We have seen that decentralized public expenditure leads to increase in the efficiency of the expenditure as well as total public sector and economy. The transfer of spending powers to the subnational governments catalyzes annual GDP growth. According to the expectations, the increase in the local budget revenue would depress economic activity of private firms and thus negatively affect the GDP growth rate.

In general, we could conclude that the model of spending decentralization in the EU is working and effective. It contributes to efficiency gains in public sector and catalyzes economic growth in the member-states.

The question regarding the optimal degree of fiscal decentralization for each country remains under discussion. The government of each country must assess the efficient shares of local authorities expenditures and revenues, taking into account the macroeconomic specifics of their countries.

## REFERENCES:

1. BARRO, R. (1990): Government Spending in a Simple Model of Endogenous Growth, In: *Journal of Political Economy*, 1999, Vol. 98, pp. 108-125.

2. DAVOODI, H. – ZOU, H. (1998): Fiscal Decentralization and Economic Growth – A Cross-Country Study. In: *Journal of Urban Economics*, 1998, Vol.43, pp. 244-257.
3. DESAI, R. M. – FREINKMAN, L. M. – GOLDBERG, I. (2003): Fiscal Federalism and Regional Growth, Evidence from the Russian Federation in the 1990s. [Online.] In: *World Bank Policy Research Working Papers*, No. 3138. 2003. [Cited 13.07.2013.] Available online: <[http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/10/09/000160016\\_20031009172913/Rendered/PDF/wps3138.pdf](http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/10/09/000160016_20031009172913/Rendered/PDF/wps3138.pdf)>
4. DEVARAJAN, S. – SWAROOP, V. – ZOU, H. (1996): The composition of public expenditure and economic growth. In: *Journal of Monetary Economics*, 1996, Vol. 37, pp. 313-344.
5. EBEL, R. – YILMAZ, S. (1999): Intergovernmental Relations: Issues in Public Policy. [Online.] Working paper of the World Bank. In: *A Partnership of the Asian Development Bank and World Bank Institute*, Manila, 11-15 Oct. 1999. [Cited 13.07.2013.] Available online: <<http://www.frp2.org/english/Portals/0/Library/Intergovernmental/Intergovernmental%20Relationsissues%20in%20Public%20Policy.pdf>>
6. EUROSTAT. (2013): Available online: <<http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>>
7. FRITZ, B. – ELLER, M. (2004): Fiscal decentralization and economic growth: is there really a link? In: *Journal for Institutional Comparisons*, 2004, Vol. 2, No. 1, pp. 3-9.
8. MALIK, S. – HASSAN, M. – HUSSAIN, S. (2006): Fiscal Decentralisation and Economic Growth in Pakistan. In: *The Pakistan Development Review*, 2006, Vol. 45, No. 44, Part II, p. 845–854.
9. OATES, W. E. (1996): Comment on ‘Conflicts and Dilemmas of Decentralization’ by Rudolf Hommes. In BRUNO, M. – PLESKOVIC, B. (eds.): *Annual World Bank Conference on Development Economics 1995*. Washington: World Bank, 1996. pp. 351-353. ISBN: 0-8213-3280-5.
10. SAMIMI, A. – LAR, S. – HADDAD, G. – ALIZADEH, M. (2010): Fiscal Decentralization and Economic Growth in Iran. In: *Australian Journal of Basic and Applied Sciences*, 2010, Vol. 4, No. 11, pp. 5490-5495.
11. SOLOW, R.M. (1956): A Contribution to the Theory of Economic Growth. In: *The Quarterly Journal of Economics*, 1956, Vol. 70, No. 1, pp. 65-94.
12. STOILOVA, D. (2010): *Financial Decentralization in Bulgaria*. Sophia: Avangard prima, 2010, 210 pages. (published in Bulgarian). ISBN: 978-954-323-691-6.
13. STOILOVA, D. - PATONOV, N. (2012): Fiscal decentralization: Is it a good choice for the small new member states of the EU?, In: *Scientific Annals of the „Alexandru Ioan Cuza” University of Iasi, Economic Sciences Section*, 2012, Vol. 59, No. 1, pp. 125-137.
14. THIEBEN, U. (2000): Fiscal federalism in Western European and selected other countries: centralization or decentralization? What is better for economic growth?. [Online.] In: *Deutsches Institut für Wirtschaftsforschung*, Berlin.

- Discussion Paper No. 224. 2000. [Cited 13.07.2013.] Available online: <[http://www.diw.de/documents/publikationen/73/diw\\_01.c.38643.de/dp224.pdf](http://www.diw.de/documents/publikationen/73/diw_01.c.38643.de/dp224.pdf)>
15. THIEßEN, U. (2001): Fiscal decentralization and economic growth in high-income OECD countries. [Online.]In: *European network of economic policy research institutes*, Working paper No.1. 2001. [Cited 13.07.2013.] Available online: <<http://www.enepri.org/Publications/WP001.pdf>>
  16. THIEßEN, U. (2003): Fiscal decentralization and economic growth in high-income OECD countries. In: *Fiscal Studies*, 2003, Vol. 24, No. 3, pp. 237-274.
  17. TIEBOUT, C. (1956): A pure theory of local expenditures. In: *Journal of Political Economy*, 1956, Vol. 64, No. 5, pp. 416-424.
  18. XIE, D. – ZOU, H. – DAVOODI, H. (1999): Fiscal Decentralization and Economic Growth in the United States. In: *Journal of Urban Economics*, 1999, Vol. 45, pp. 228–239.

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