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**PUBLIC INVESTMENT AND ECONOMIC GROWTH IN THE EUROPEAN UNION
MEMBER STATES**

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Abstract

The issue of public investments became a very challenging subject for public decision makers since it incorporates the question of state performance, the quality of public finance and their effects on growth. The quality of public finance (QPF) is a multidimensional concept. It may be regarded as representing all the arrangements and operations regarding the financial politics that sustain the macroeconomic objectives, particularly the long-term economic growth. Financial policies at European level highlight the fact that a concentration of the public expenses in areas that stimulate the economic growth and a more efficient use of the public resources are key methods for sustaining the economic growth. The empirical proofs seem to support the assumption according to which certain types of public expenses can supply incentives and other can negatively influence the economic growth. The paper tries to reveal the effects of capital spending on economic growth (GDP per capita) for the European Union member states. The gross domestic product per capita and the capital expenses (functional classification of public expenses - "COFOG") have been obtained by considering the Eurostat statistics, the measurement unit for the dependent variable and for the independent one is the EURO, while the period of analyze is of 7 years (2000-2006)

Key words: *public spending, performance, efficiency, capital expenses*

I. THEORETICAL BACKGROUND

Discussing the connection between public investments and economic growth primarily means clarifying the concept of "quality of public finance".

The quality of public finance (QPF) is a multidimensional concept. It may be regarded as representing *all the arrangements and operations of financial policies that sustain the macroeconomic objectives, particularly the long-term economic growth*. Thereby, the QPF does not comprise only the policies that ensure consistent budgetary positions and long-term sustainability, but also those that increase the production capabilities and improve the adjustment of economy to eventual shocks. In order to achieve these results, the public resources and spending policies must be used in an efficient and effective manner, supporting efficiently operating markets.

The different dimensions of the QPF, in a framework oriented towards economic growth, indicate that their effect on the economic growth can take place through 6 transmission channels¹:

- (i) the size of the public sector;
- (ii) (ii) the level and sustainability of the financial policies;
- (iii) the structure and efficiency of the public expenses;
- (iv) the structure and efficiency of the public incomes;
- (v) fiscal governance – the fiscal administration (i.e. the contents of tax regulations, procedures, organization of institutions) can have an effect on all 4 dimensions mentioned above.
- (vi) In addition, the public finance can influence the operating manner of various markets as well as the economic environment.

The conceptualization of the QPF as a multidimensional framework is compulsory in order to reflect the complex relations with the economic growth. A one-dimensional approach, such as the exclusive focus on public expenses' influence on productivity increase, would be oversimplified by not considering the heavier tax burden these expenses require. Therefore, a multidimensional perspective helps avoid the “problem of omitting some variables”. It also highlights the fact that pursuing the requirements of the QPF, imposed by the European institutions, may be helpful in fulfilling the growth objective. For example, a higher efficiency of public spending can facilitate the assurance of the fiscal sustainability - directly through additional funds or indirectly through a more significant economic growth, in case this efficiency resulting in a lower fiscal pressure. In a similar way, a less distorted structure of the incomes can have an effect on the economic growth and can also contribute to the attainment of sustainability.

¹ Even though it does not use the term of “quality of the public finance”, the European Central Bank (2001) uses a similar classification of the relations between the fiscal policies and the economic growth.

Table 1

The economic growth and the quality of the public finance: indicators chosen for the EU and OECD countries

	All countries 1980-1989		All countries 1990-2005		EU countries - 27 1990-2005	
	Low growth	Significant growth	Low growth	Significant growth	Low growth	Significant growth
	The mean growth rate of GDP per citizen	2.3%	3.3%	1.3%	3.3%	1.6%
1. The size of the administrative sector						
Governmental expenses	41%	40.1%	40.8%	37.8%	48.6%	42.1%
2. The fiscal deficits and their sustainability						
The size of the deficit	-3.8%	-3.9%	-3.1%	-0.1%	-3.2%	-3.0%
The variability of the deficit	-1.1%	-1.0%	-1.1%	-0.4%	-1.5%	-0.9%
Public debt	50.6%	63.2%	73.8%	57.3%	65.0%	49.8%
3. The structure of the governmental expenses						
Consumption	27.9%	25.7%	26.8%	21.4%	26.5%	23.5%
Investments	2.7%	3.9%	2.9%	3.7%	2.4%	3.5%
4. The structure of incomes						
Fiscal lever afferent to the salary incomes	35.5%	32.1%	34.7%	29.6%	44.8%	39.6%
Indirect charges	9.7%	9.4%	10.0%	11.9%	13.1%	12.2%
Direct charges	12.7%	12.5%	12.9%	10.2%	12.9%	10.1%
5. Fiscal governance						
General index of fiscal regulation					0.0	0.0
Fiscal index of the governmental expenditures					0.1	-0.1
6. Business environment (Fraser Index)						
The level of regulation	5.5	5.5	6.1	6.4	5.6	5.6
The level of credit regulation	7.3	7.4	7.7	8.0	7.7	8.4
The level of the labor	4.3	5.3	5.1	5.4	5.0	5.6

market regulation				
The level of commerce regulation	6.3	6.8	6.4	7.0

Sources: Eurostat, OECD and the Fraser Institute.²

Performance-based budgeting (PBB) has as purpose increasing the quality of public finance through strengthening the connection between budgetary resources and their results and benefits. The mechanism is to transfer the management from controlling entries to a greater focus on results.

The experiences of several countries show that implementing a budgeting approach based on performance, that is usually part of the complex reform programs of public administration, may be difficult. The issues occurring imply defeating a resistance often adverse towards organization changes, obtaining on time the data connected to economic performance and, in general, the measuring degree of performance (see Curristine, 2005), as well as the bottlenecks concerning avoiding the creation of distorted incentives (for example, an over-focus on objectives easily quantified (Smith, 1995)). This explains the fact that very few countries implemented PBB completely and, usually, if this procedure exists, it was made only for chosen areas (usually health and the higher education). Thus, most countries use a budgeting form that takes into account the performance, and those making decisions take in consideration data concerning the performance, but there is no direct connection between them and the budgetary allocation.

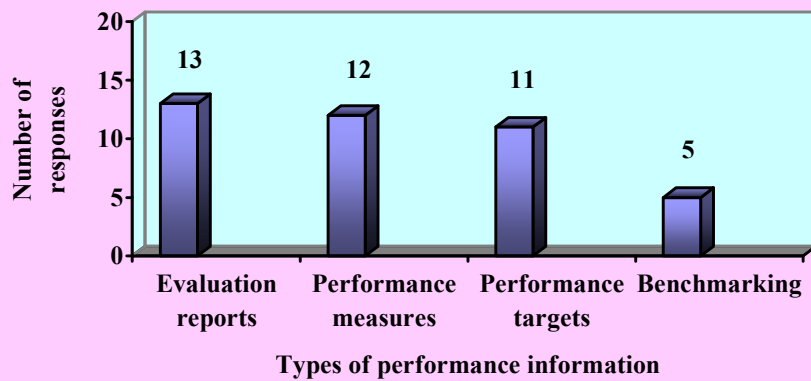
The comparison concerning the manner the European Union member states use the budgetary procedure relying on performance is described below and it is founded on data provided by OECD and World Bank until 2007. While the database shows the manner used by countries for institutionalizing their approach, it can suggest only a vague indication concerning the degree to which performance is due to national organizations. The main results are summarized in figures 1 through 4. The budgeting based on performance is used in 20 member states of the European Union included in databases, (Figure 1). Member states may use evaluation reports, different manners for measuring performance, references to performance targets or benchmarking for analyzing the non-financial performance of the government, but just a few use all the above. Especially benchmarking is not very wide spread. Most

² Note: The mean values are balanced (GDP expressed by the standard purchasing power). All variables are measured as percentage of the GDP, less the fiscal lever, the variables of fiscal governance and the variables of the economic environment. The percentage of the fiscal lever includes the social contributions of the employers. The variables of the economic environment reflect the existing structural rigidity on the labor and capital market and in the economic environment and they are taken from the Fraser database. A high value of the Fraser index indicates a high flexibility of each market analyzed in item 6 of the table. The variability of the deficit is measured by means of the standard deviation of the deficit (or of the surplus), divided to the mean value of the deficit for each country. The non-EU countries are AU, CA, IS, JP, KO, NO, CH, NZ, US.

countries use a combination of measures for outputs and outcomes as indicators of performance and / or objectives, showing on one hand the difficulties occurring as regards identifying some measurable outcomes in all sectors and, on the other hand, the try to avoid using just indicators relying on results that might lead to losing off sight the benefits of fiscal policies that were considered as main objectives at the beginning. These practices are according to the OECD guidebooks (2007f) concerning “Designing and developing budgetary systems that use information connected to performance”.

The formal responsibility for setting out the performance targets belongs to the relevant minister or to the government on its whole in most member states (Figure 2). Only Austria and Denmark state explicitly the administrative manager of the ministry concerned as being officially liable for setting out goals, although in practice this is valid also in several member states. In most countries, the minister of finance is involved informally in setting out performance targets, alone or in collaboration with each single ministry concerned. In Great Britain, the Prime Minister and the Chancellor in the ministry of finance share the responsibility for setting out objectives in practice. In most countries, the relevant minister for a sector is responsible for fulfilling the objectives, except for Poland where the person responsible is the prime minister, and Denmark where the general manager is liable for this. In Finland, the relevant minister and the agency manager are both responsible for fulfilling the objectives because the ministry and the agency are partners in a performance agreement.

The authorities using most frequently the budgeting based on performance are the Central Budgetary Authority, the Ministry of Finance or the ministry concerned (Figure 3). They take into account the performance targets that are available at the time of setting out the budget. Within the national parliaments, using the performance objectives is less frequent, just Finland and France and, to a lower degree Slovakia and Sweden, taking into account regularly the performance objectives within budgetary and sector commissions. When wondering to what degree the budget is set out according to the performance objectives, the European Union member states have very different practices. Some of them involve performance target levels for all expenses (FR, SK, SE), while others do not use any performance target level at the time of setting the budget (AT, DK, LU, PL, SI).



Notes: 20 EU Member states included (no data for BG, EE, CY, LT, LV, MT and RO)

Figure 1- Type of performance information produced to assess the Government's non-financial performance

Source: OECD, 2007

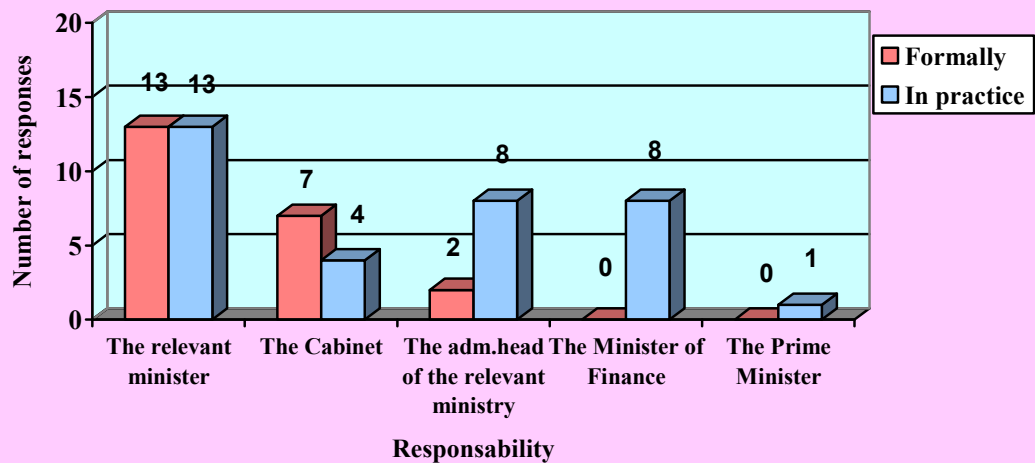
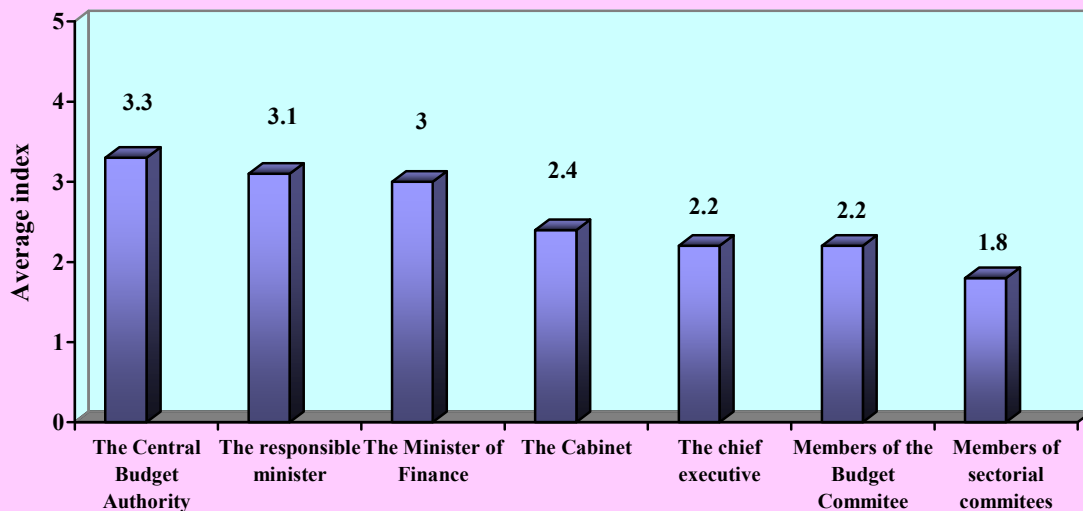


Figure 2 - The responsibility for setting out the performance target levels

Source: OECD, 2007

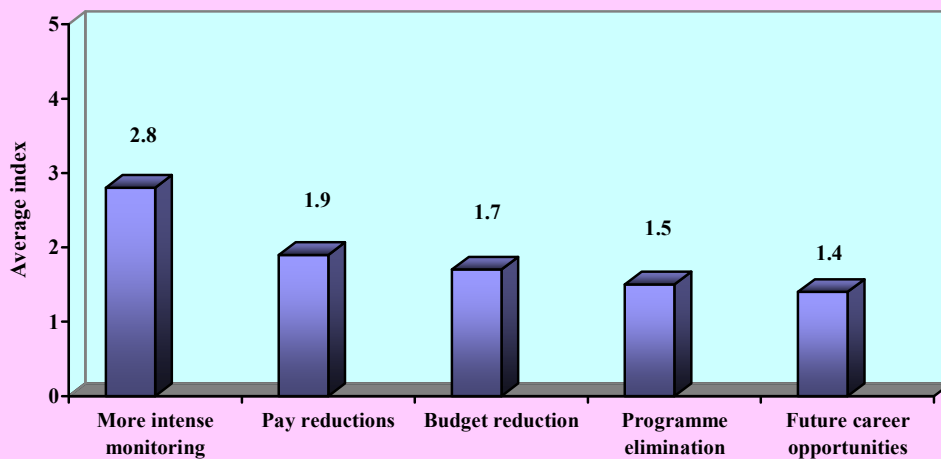


Notes: 20 EU Member states included (no data for BG, EE, CY, LT, LV, MT and RO)

Figure 3 - Using information connected to performance for taking budgetary decisions

Note: The frequency ranges between 1 = almost never (0-20%) and 5 – almost always (81-100%).

Source: OECD, 2007



Notes: 20 EU Member states included (no data for BG, EE, CY, LT, LV, MT and RO)

Figure 4 - Consequences of not fulfilling the performance target levels

Note: The frequency ranges between 1 = almost never (0-20%) and 5 – almost always (81-100%).

Source: OECD, 2007

After analyzing the consequences, penalties and costs due to missing the performance targets, it is confirmed the weak connection between budgeting relying on performance and allocating funds (Figure 4). In general, in the 20 member states taken into account as regards this matter, a budget diminishing takes place very rare (just in 25% of the cases missing the performance target leads to budget diminishes). Other disciplinary penalties, such as lowering salaries or negative consequences for developing the carrier for the responsible employees, as well as giving up expense, are used also rarely. A closer surveillance under the form of an intense monitoring is the most frequent consequence, used in 50% of the circumstances when the performance targets are missed.

Given the difficulty of connecting directly the measurements linked to performance and the budgetary allocations, using some more complex assessment mechanisms is a key element in evaluating programs and sectors. Within all member states, the relevant ministries are the ones developing or authorizing most types of assessment. Involving the legislative power in initiating assessments takes place rarer and it is limited to a few countries (LU, NL, PL, FI, EL and FR).

Also countries that institutionalized PBB to the highest degree focus mostly on taking into account performances, and not direct budgeting according to performances.

During the last years, when the financial policies of the European Union were settled, it was highlighted that a concentration of the public spending in areas that stimulate the economic growth corroborated with a more efficient use of public funds are key ways for sustaining the economic growth. The strategy established in Lisbon for the economic growth and employment refers explicitly to both objectives. The role played by the structure of the governmental expenditures was studied in great detail and the particular experiences of the countries were analyzed in order to come to a constructive conclusion in the area of financial policies.³ It has been widely accepted that public investment (capital expenditures) is definitely enhancing economical growth. Performance based budgeting should determine a growth of those expenses which stimulate growth.

II. EMPIRICAL DATA

While the theory offers a framework for identifying the public spending categories that stimulate economic growth, actually such an assessment is difficult to be made. Theoretically, the public spending used for financing public goods and for mitigating market failures as well as the negative externalities promote economic growth. In an adequate manner, the designations of public

³ The European Commission (2003, 2004), the studies of Deroose and Kastrop (2008).

spending might be, for example, creating the public infrastructure, ensuring the access to loans for households and small and medium-sized companies facing liquidity problems (by subsidizing interest rates), enabling them to invest in human capital and in assets, or to create a social protection system if the market cannot provide it through its own mechanisms. All these types of public spending can lead to increasing the labour and capital productivity.

Generally, as reality shows, the public investments have a higher marginal productivity as against the public consumption. Still, these examples show also that a basic condition for classifying the public spending as “lucrative” is the existence of public goods, market failures and externalities, as well as the capacity of public consumption to solve these problems without creating great economy distortions (Gerson, 1998). Despite these methodological difficulties, empirical studies have identified certain types of governmental expenses leading to a higher economic growth. Consequently, the governmental expenses were divided according to their economic or functional classification (or, in some cases, in a combination of these ones).

When the economic classification was used, the results of public investments were mixed. (Gerson, 1998), who mentions a number of empirical studies, states that the relation between total public investments and the economic growth was found only in few cases. More recent studies have, also, reached inconclusive results. For example, Romero de Avila and Strauch (2003) argue that the public investments have a positive effect on the growth in the European Union, while Afonso and Furceri (2008) did not find that public investments have a significant impact in explaining the EU and OECD economic growth. On the other hand, the public transfers and the consumption are usually believed as having a negative effect on the economic growth. There are two possible explanations for these results. Firstly, the percentage of public investments in EU is relatively low, reaching approximately 3% of the GDP, which limits its potential effect on the long-term economic growth. On the other hand, the public consumption has a high percentage of 21%. Consequently, the empirical studies including both variables in the regressions made on the economic growth have better chances to obtain the negative result of the administrative system size than the one due to the structure of governmental expenses. Secondly, it seems that properly oriented governmental expenses, and not particularly general public investments, stimulate the economic growth. This result is reached by studies combining the economic and functional classification and emphasizing that investments performed in certain areas, especially in transportation and communications, seem to be connected systematically to a higher economic growth (see Gerson, 1998).

Figure 5 shows the data for the European Union and for the non-EU similar countries during 1995-2007, indicating, *caeteri paribus*, a bi-varied slightly-positive correlation between the total public investments and the economic growth.

By using a functional classification, the types of public spending that boost economic growth vary a lot according to the sample used. Some studies revealed that just education, research-development and the public infrastructure spending stimulate economic growth, while others include also health, public order, safety and environment protection spending (European Commission, 2003, 2004).

For illustration purposes, we have used a more limited composition of efficient expenses in figure 6 (research-development, public transportation and education). In this case, the percentage in the total basic public consumption varies between 13% in Germany (among the countries for which complete data were available) and 24% in Latvia. There can be seen that most transition economies allocate a high part of public resources to these areas which might partially reflect their need to diminish the gap between them and the other states, as well as the support obtained through fiscal cohesion programs.

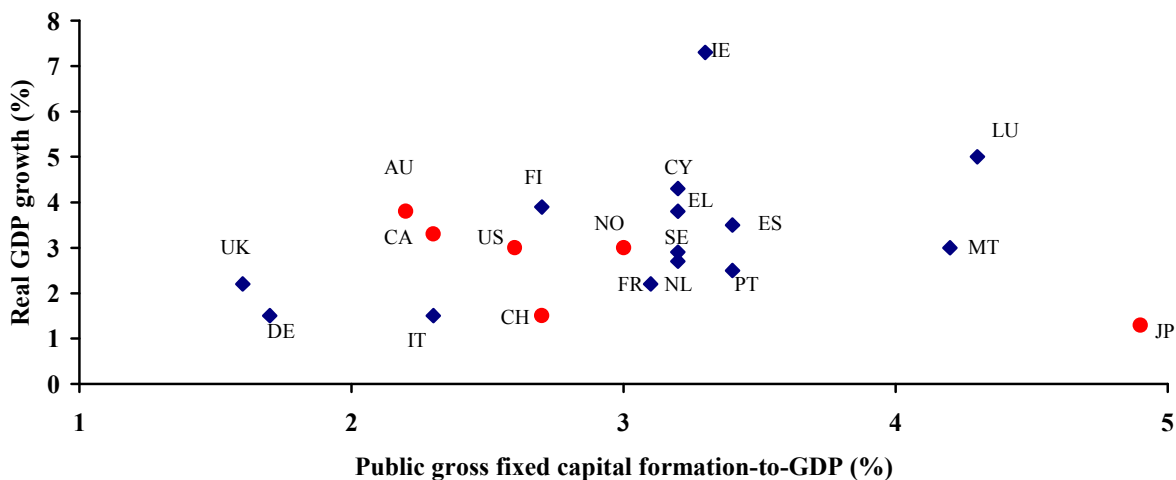


Figure 5 - Public investments and economic growth in the industrialized EU members states and in EU non - members, 1995-2007

Source: Eurostat

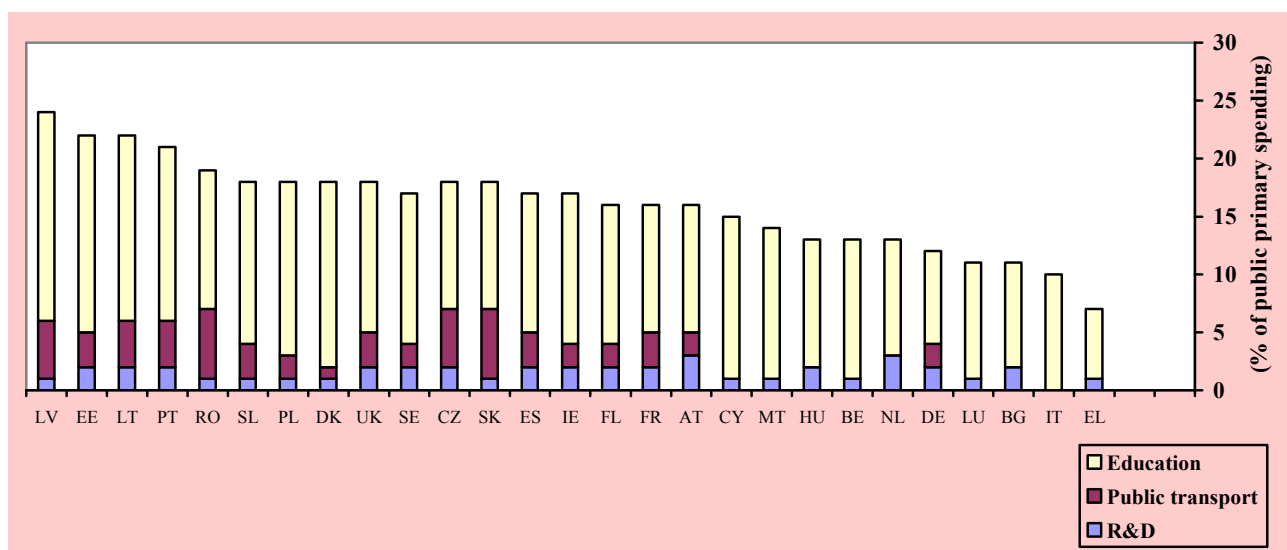


Figure 6 -Percentage of lucrative public expenses in the total public expenses, 2005

Note: 2005 or more recent available data

Source: Eurostat

On a whole, the empirical proofs seem to support the assumption according to which certain types of public expenses can supply incentives and other can negatively influence the economic growth. The second case is when the expenses are not directed adequately and their financing leads to creating negative externalities (through high levels of the public debt or through taxation and distortion-leading charges). Therefore, a simple reallocation of the public resources cannot be a sufficient strategy for improving the quality of public expenses, but it must be accompanied by a more efficient use of public resources which will also allow diminishing the size of public sector and that will create fiscal space for other expenses.

III. ECONOMETRIC STUDY CONCERNING THE INFLUENCE OF CAPITAL EXPENSES ON THE ECONOMIC GROWTH

The dependant variable used in the analysis is the gross domestic products per capita; the independent variable is the capital expenses. The capital expenses are considered as lucrative expenses (following several analyses made by the World Bank and by other economic institutions), and therefore they should positively influence economic growth. The gross domestic product per capita and the capital spending (functional classification of public expenses - “COFOG”) have been obtained by

considering the Eurostat statistics and the measurement unit for the dependent variable and for the independent one is the EUR. The analysis interval is 2000-2006 (given the availability of time series) and concerns 26 European Union member states (25 European Union old member states and Romania). The econometric model achieved is a pool data type.

$$Y_{it} = \alpha + \beta_{it} \times X_{it} + \varepsilon_{it} \quad (1)$$

The (simplified) model will be the following:

$$GDPcapita = \beta Exppub + \varepsilon \quad (2)$$

Where:

GDPcapita= gross domestic product per capita

ε = errors specific to the estimation

α = global constant of the model

β = independent variable coefficient

Exppub= total public capital expenses

The results obtained after modeling the statistical data series are the following:

Dependent variable: GDP				
Method: Pooled EGLS (Cross-section weights)				
Sample: 2000-2006				
Included observations: 7				
Cross-sections included: 26				
Total pool (balanced) observations: 182				
Linear estimation after one-step weighting matrix				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
_AU--CHE_AU	4.063483	0.632218	6.427350	0.0000
_BE--CHE_BE	4.938259	1.332634	3.705638	0.0003
_CY--CHE_CY	224.1988	18.35435	12.21502	0.0000
_DA--CHE_DA	43.55793	1.704418	25.55589	0.0000
_ES--CHE_ES	165.1360	18.01163	9.168299	0.0000

_FL--CHE_FL	53.12300	2.979777	17.82784	0.0000
_FR--CHE_FR	2.174507	0.033092	65.71088	0.0000
_GE--CHE_GE	0.786215	0.023794	33.04243	0.0000
_GR--CHE_GR	4.432030	0.502284	8.823757	0.0000
_NE--CHE_NE	8.964570	0.680106	13.18114	0.0000
_HU--CHE_HU	3.817782	0.596821	6.396862	0.0000
_IR--CHE_IR	25.21039	0.901497	27.96502	0.0000
_IT--CHE_IT	0.735088	0.117342	6.264509	0.0000
_LE--CHE_LE	21.40204	3.874703	5.523530	0.0000
_LI--CHE_LI	4.477287	2.990103	1.497369	0.1364
_LU--CHE_LU	154.9026	8.885294	17.43359	0.0000
_MA--CHE_MA	141.2098	51.75227	2.728573	0.0071
_PO--CHE_PO	3.520411	0.519377	6.778148	0.0000
_POR--CHE_POR	7.216551	0.386619	18.66578	0.0000
_RO--CHE_RO	2.754289	0.249447	11.04157	0.0000
_SC--CHE_SC	9.955542	1.546572	6.437166	0.0000
_SP--CHE_SP	1.600719	0.075430	21.22120	0.0000
_SL--CHE_SL	39.15579	4.588700	8.533091	0.0000
_SW--CHE_SW	30.47394	2.356206	12.93348	0.0000
_UK--CHE_UK	1.314517	0.229374	5.730878	0.0000
	Weighted Statistics			
R-squared	0.965358	Mean dependent var	34335.23	
Adjusted R-squared	0.959815	S.D. dependent var	31337.42	
S.E. of regression	6281.961	Sum squared resid	5.92E+09	
F-statistic	174.1656	Durbin-Watson stat	1.626923	
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.805469	Mean dependent var	20184.57	
Sum squared resid	5.92E+09	Durbin-Watson stat	1.802260	

Analyzing the results

The determination coefficient R has a very high value (0.96), which proves the validity of the model taken into account. Moreover, specific to “pool” type regressions, the Durbin-Watson test value is 1.80 (although there are self-correlations of the residual results to the left) confirms the global quality of the model.

The stationarity tests for the residual variables suggest that at the level of unitary roots certain individual “unit root” type of processes can be identified and, consequently, there are certain systematic deviations in the assessments made according to this empirical model. The result of the stationarity test reveals that the probability for the series to be non-stationary is very low (this was shown also by the ADF and PP tests).

Exogenous variables: Individual effects				
Automatic selection of maximum lags				
Automatic selection of lags based on MHQC: 0 to 1				
Newey-West bandwidth selection using Quadratic Spectral kernel				
			Cross-	
Method	Statistic	Prob.**	sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.40344	0.0000	26	147
Breitung t-stat	-1.76389	0.0389	26	122
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.43749	0.3309	26	147
ADF - Fisher Chi-square	57.1913	0.2256	26	147
PP - Fisher Chi-square	98.6236	0.0000	26	150
Null: No unit root (assumes common unit root process)				
Hadri Z-stat	6.73394	0.0000	26	175

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

On a whole, the quality of the model can be described as satisfactory and it allows formulating some conclusions according to the model estimated.

The results regarding the significance level of the coefficients corresponding to the independent variable taken into account (capital expenses) show that for 2 of the 26 countries the estimated coefficients of the independent variable are not completely relevant from a statistical point of view. These countries are Lithuania and Malta, with the comment that just for Lithuania can be said that in the statistical testing we have non-favorable coefficients for an interpretation. The sign of independent variable coefficients reveals the type of the connection existing between the dependent variable and the independent variable.

Thus, for all states undergoing the analysis, the results obtained show that between the evolution of the gross domestic product and the capital expenses there is a direct relation meaning that, in time, an increase of capital spending determines an increase of the gross domestic product per capita. The most significant evolution are in Denmark, Ireland, Finland, Estonia and Latvia that registered, during the analyzed interval, a significant growth rate of the gross domestic product per capita. The effect of 1 Euro capital public expenditure lead to an even greater growth effects in countries like Cyprus, Luxemburg and Malta, but considering the size and population of those countries, the results of the study may not suit the policy of the larger countries. Anyway all those results are revealing the importance of this type of expenditure but there shouldn't be neglected the reform of the public spending in some developed European Union countries (Ireland, Finland, Denmark). In highly developed countries such as Germany, Italy or Great Britain the influence of capital expenses on the GDP per capita is more significant than the influence of total spending, remaining sub-unitary for Germany and Italy (0.78 and 0.73, respectively). There should be noticed that during the analyzed period the percentage of capital expenditures in the entire public expenditures diminished.

IV. CONCLUSIONS

The conceptualization of the quality of public finance as a multidimensional framework is necessary in order to reflect the complex relations between the quality and the economic growth. During the last years, the ones that settled the financial policies on the European level highlighted the fact that a concentration of the public expenses in areas that stimulate the economic growth and a more

efficient use of the public resources are key methods for sustaining the economic growth. The strategy established in Lisbon for the economic growth and employment refers explicitly to both objectives.

By using a functional classification, the types of public spending that stimulate economic growth vary a lot according to the sample used. Some studies revealed that just education, research-development and the public infrastructure are areas stimulating the economic growth, while others include here the expenses in the health, public order and safety and environment protection areas (European Commission, 2003, 2004).

In our study, we try to reveal the effects of capital spending on economic growth (GDP per capita) European Union member states. The gross domestic product per capita and the capital expenses (functional classification of public expenses - "COFOG") have been obtained by considering the Eurostat statistics, the measurement unit for the dependent variable and for the independent one is the EURO, while the period of analyze is of 7 years (2000-2006) .

Thus, for all states undergoing the analysis, the results obtained show that between the gross domestic product evolution and the capital expenses evolution there is a direct relation meaning that, in time, an increase of capital expenses determines an increase of the level of gross domestic product per capita. The most significant evolution are in Denmark, Ireland, Finland, Estonia and Latvia that registered a significant growth rate of the gross domestic product per capita. The effect of 1 Euro as capital public expenditure determined in Estonia a GDP growth per capita of 165 Euros and in Denmark of 43 Euros according to the econometrical testing of our model. All those results are revealing the importance of this type of expenditure but there shouldn't be neglected the reform of the public spending which some developed countries of the European Union (Ireland, Finland, Denmark) have implemented in the recent years.

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Appendix 1

Capital expenses in the member states of the European Union (mill. Euro 2000-2006)

obs	CHE_AU	CHE_BE	CHE_CY	CHE_CZ	CHE_DA	CHE_ES	CHE_FL	CHE_FR	CHE_GE	CHE_GR	CHE_HU	CHE_IR
1	4690.2	2858.7	55	1618.7	906.8	20.7	490	10411	30050	3646.1	1500	1063.5
2	5173.5	2209.3	50.7	3742.5	829	23.2	580	11103	34850	3689	1746.2	1302.8
3	4612.7	2377.4	64.3	3902.1	759.3	54.1	566	11674	34370	2815	2906	1273.6
4	4706.8	3897	78.6	3088.4	727.9	41.2	417	11307	36010	3481	1679.5	1245.2
5	11713.7	1970.7	69	2271.5	814.1	27.6	457	12530	33830	4579	1301.7	1294.3
6	5283.3	9991.1	64.2	2432.9	819.4	40.4	642	13469	34760	2881	1306.5	1518
7	5881.2	2954.6	111	2091.5	874.1	57.7	535	12869	30750	2522	1739.9	1863

CHE_IT	CHE_LE	CHE_LI	CHE_LU	CHE_MA	CHE_NE	CHE_PO	CHE_POR	CHE_RO	CHE_SC	CHE_SL	CHE_SP	CHE_SW	CHE_UK
16669	201.3	1000	238.4	20.7	2879	700	1657.1	400	180	335.7	9008	925.6	9910.1
22176	202.5	1200	301.3	29.8	4168	800	1934	500	200	429.2	9677	793.3	13155.5
24168	220.9	159.5	292.9	13.2	3318	1034.8	1628.4	613.9	250	262	10693	844.7	13876.6
25007	11.3	86.1	340.9	140.4	3362	1995.9	1669.9	758.9	321	347.8	10213	947.6	17230
20975	73.9	115.9	453.3	34.9	3208	947.3	2035.6	1450.6	426.3	314	15306	798.2	15985.9
24620	249.1	92.8	477.7	40.7	2984	2090.5	2251.7	1331.7	877.5	280.6	12433	1454.1	37910.2
54963	333.9	107.4	457.6	35.3	2625	2229	1590	1500	1000	235.6	13535	1105.7	21215.1

Source: Eurostat, OECD

Appendix 2

GDP per capita (Euro) in the member states of the European Union (2000-2006)

obs	GDP_AU	GDP_BE	GDP_CY	GDP_CZ	GDP_DA	GDP_ES	GDP_FL	GDP_FR	GDP_GE	GDP_GR	GDP_HU
1	25900	24600	14500	6000	32500	4400	25600	23700	25100	12600	5100
2	26400	25200	15400	6800	33500	5100	27000	24500	25700	13400	5800
3	27100	25900	15700	7800	34400	5700	27700	25100	26000	14300	6900
4	27500	26500	16300	7900	35000	6400	28000	25700	26200	15500	7400
5	28500	27800	17200	8600	36500	7100	29100	26600	26800	16800	8100
6	29700	28800	18000	9800	38300	8200	30000	27500	27200	17800	8800
7	31100	30200	19000	11100	40500	9700	31700	28600	28200	19100	8900

GDP_IR	GDP_IT	GDP_LE	GDP_LI	GDP_LU	GDP_MA	GDP_NE	GDP_PO	GDP_POR	GDP_RO	GDP_SC	GDP_SL	GDP_SP	GDP_SW	GDP_UK
27600	20900	3600	3500	50200	10800	26300	4900	12000	1800	4100	10800	15700	30000	27200
30300	21900	4000	3900	51100	10900	27900	5600	12600	2000	4400	11400	16700	28300	27800
33200	22700	4200	4300	53800	11300	28800	5500	13100	2200	4800	12300	17700	29600	28800
34900	23200	4300	4800	57200	11100	29400	5000	13300	2400	5500	12900	18600	30800	27700
36700	23900	4800	5300	60100	11300	30200	5300	13700	2800	6300	13600	19700	32000	29600
39100	24400	5700	6100	65000	11900	31500	6400	14100	3700	7100	14400	20900	32600	30400
41700	25100	7000	7100	71800	12500	33000	7100	14700	4500	8300	15400	22300	34500	32000

Sursa: Eurostat, OECD