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MULTIPLIERS OF ROMANIAN ECONOMIC STRUCTURE: AN ANALYSIS IN TERMS OF INPUT-OUTPUT MODEL*

This paper analyzes the structure of Romanian economy in 2006 and 2008 to identify the economic sectors for investment using the European structural and cohesion funds. Thus, we calculate the values of multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import. For this analysis we use the input-output model on the aggregate structure of Romanian economy with 15 sectors for which we recommend to invest European structural and cohesion funds.

Keywords: *input-output analysis, multipliers, economic sectors, European structural and cohesion funds.*
JEL Classification: *C67.*

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МУЛЬТИПЛІКАТОРИ В ЕКОНОМІЧНІЙ СТРУКТУРІ РУМУНІЇ: АНАЛІЗ МОДЕЛІ "ВИТРАТИ-ВИПУСК"

У статті проаналізовано структуру румунської економіки в 2006 р. і 2008 р. для визначення галузей економіки для інвестицій з використанням Європейського структурного фонду – Фонду об'єднання. Обчислено значення мультиплікаторів для проміжного вжитку, валової доданої вартості, оплати праці робітників, кінцевого вжитку, валового накопичення основного капіталу, експорту та імпорту. Для аналізу використано модель "витрати-випуск" відносно сукупної структури економіки Румунії, її 15 галузей, у які рекомендується вкладати засоби Європейського структурного фонду – Фонду об'єднання.

Ключові слова: *аналіз витрат-випуску, мультиплікатори, галузі економіки, Європейський структурний фонд, Фонд об'єднання.*
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МУЛЬТИПЛИКАТОРЫ В ЭКОНОМИЧЕСКОЙ СТРУКТУРЕ РУМЫНИИ: АНАЛИЗ МОДЕЛИ "ЗАТРАТЫ-ВЫПУСК"

В статье проанализирована структура румынской экономики в 2006 г. и 2008 г. для определения отраслей экономики для инвестиций с использованием Европейского структурного фонда – Фонда сплочения. Вычислены значения мультипликаторов для промежуточного потребления, валовой добавленной стоимости, оплаты труда работников, конечного потребления, валового накопление основного капитала, экспорта и импорта. Для анализа использована модель "затраты-выпуск" относительно совокупной структуры экономики Румынии, ее 15 отраслей, в которые рекомендуется вкладывать средства Европейского структурного фонда – Фонда сплочения.

Ключевые слова: *анализ затрат-выпуска, мультипликаторы, отрасли экономики, Европейский структурный фонд, Фонд сплочения.*

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1. Introduction. The Cohesion Policy represents the EU's main instrument to achieve harmonious development of the European Union. This is based on a broad vision that encompasses not only economic development of poor regions and support for vulnerable social groups, but also environmental sustainability and respect of territorial and cultural characteristics of different parts of the EU. This wide vision is reflected in the variety of programs, projects and partners receiving support based on this policy.

The European structural and cohesion funds, as it was demonstrated by the experience of member states that joined the EU in the '80s (Spain, Portugal, Greece and Ireland), had a strong impact on their EU economies. For Central and Eastern Europe countries that joined the EU, Popa (2012) presents an overview of the literature regarding the impact of the structural and cohesion funds, as well as the factors that influenced the absorption rate. How European structural and cohesion funds were absorbed and the distribution depending on destination – for infrastructure, human capital development or direct for economic actions – have produced a distinct impact in each member state receiving these funds.

The Cohesion Policy influences the economy through a combination of the demand and supply channels. The demand short-term effects occur as a consequence of political decisions to increase the revenues and expenditures related to cohesion policy initiatives. Through multiplier effects, these will propagate in all components of the domestic consumption (e.g., total investment, private consumption, imports etc.) and internal output and national income, too.

Romania can not report performance in terms of European funds absorption. What remains to do for the programming period 2007–2013 is the implementation of the priority measures concerning the administrative capacity, communication and human resources (Popa, 2011), leading to a genuine "leap of absorption" and an effective use of these resources. Regarding the next programming period 2014–2020, it is necessary to identify the economic sectors for investment using European structural and cohesion funds and to elaborate the National Reform Plan that has to represent the master plan of economic and social development of Romania in the mentioned period.

Given these goals, the objective of this paper is to analyze the structure of Romanian economy in order to establish the economic sectors for investment using European structural and cohesion funds. Thus, we calculate on the aggregate structure of Romanian economy with 15 sectors the multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import. For this we used the input-output model.

The paper is structured in 5 chapters.

The second chapter briefly describes the input-output model and the representative applications of this model in Romanian economy.

The third chapter presents the methodology and the data used with the focus on specific components of the aggregated structure used.

The fourth chapter is reserved for the analysis of the results obtained by calculating the multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import.

The last chapter is reserved for conclusions.

2. Overview of the model. The input-output model allows among others to estimate the cumulative impact (direct and indirect or induced) of various components of final demand on the productive sector. The propagated effects of final demand can be determined starting from the so-called technical coefficients matrix or Leontief matrix (named after the Nobel laureate for economics), who used it for the first time in the economic analysis of inter-branch connections).

Also, the input-output model can find resolution for a very complex theoretical and practical problem, namely the interdependencies between the compartments structures within the national economy. In addition, the structural economic models try to quantify, using some coefficients, the intensity of flows between the branches of national economy, and to catch the trend of the economic structural changes. These analyses provide valuable elements to determine the conditions required to comply with the rational proportions of normal functioning of the economic complexity.

We can use several ways to calculate the multipliers by input-output model. In this study we use the version applied by L. Voinea et al. (2010). According to them, the estimation of the propagated effects is made through the inverse matrix resulted from the solution of the intersectoral relations system, built in turn on the technological coefficients matrix. The basic equation of this system, that has to be solved, written in a matrix form, is as follows:

$$Ax + y = x, \tag{1}$$

where A is the technical coefficients matrix; x is the column vector of branches total production, and y is the vector of final demand. By algebraic transformation we obtain:

$$(I - A)x = y, \tag{2}$$

where I is the unit matrix.

We can estimate the production vector through y multiplier, as follows:

$$x^* = (I - A)^{-1} y, \tag{3}$$

where $(I - A)^{-1}$ is the inverse matrix of $(I - A)$ matrix. The condition that the system can be solved and accordingly the multiplier has real values, is the determinant of the later to be non-zero.

The structure of the input-output model has been incorporated into national accounts in many developed countries. Also, it has been used to study the regional economies within a nation and to measure the economic impacts of events, investments or public programs.

Several authors have used the input-output model, as A. Matei (2007) approached the problem of local development using the public utility services within the general framework of the input-output analysis, as vectors of development. The empirical application carried out by Braila Municipality refers especially to the multiplying effects of some activities or services within local economic development, as well as the studies of impact and forecast on short or medium term.

L. Voinea et al. (2010) estimated the values for the final demand multipliers and for its main components (household consumption, public consumption, investments, exports) and they examined various correlations between indicators, using an aggregated sectoral structure with 43 sectors, for the period 2000–2007.

V. Gaftea, A. Popa (2012) also analyzed the intersectoral relations, the stability of each sector and established the sectors with the highest driving effect on an aggregated sectoral structure with 15 sectors for 2006 and 2008.

To pursue these studies and to analyze the structure of Romanian economy to establish the economic sectors which we recommend for investment of European structural and cohesion funds, the paper aims to determine the values of multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import, for an aggregate sectoral structure with 15 sectors of Romanian economy.

3. The methodology and data. Basing on the data from the input-output table, published annually for 105 branches of the national economy by the National Institute of Statistics, we calculated the values of multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import for 2006 and 2008. We choose the years 2006 and 2008 because these are the reference years for Romanian economy, namely 2006 is the pre-accession year and 2008 is the first year after accession, as well as a reference year before the economic crisis.

To achieve this study, 105 branches of the national economy were aggregated into 15 sectors deemed representative for the current configuration of Romanian economy (Dobrescu, 2009). Table 1 explains the correspondence of the initial classification (105 branches) with the new more aggregated classification (15 sectors).

Table 1. **The aggregated sectoral structure**

sector Code	sector name	Branch codes (of the classification based on 105 branches) included in the respective sector
1	Agriculture, forestry and fishing	1....6
2	Mining	7.....17
3	Food, beverages and tobacco	18...27
4	Strong labor intensive sector	28....32, 77
5	High energy intensive sector	33, 35....40, 43...59
6	Machinery, equipment and complex technological lines	60....65
7	High-tech sector	34, 67....71
8	Transport sector	72.....76
9	Production and distribution of electric and thermal power	79....82
10	Other industry sectors	41, 42, 66, 78
11	Constructions	83
12	Trade and business	84, 96...97
13	Tourism	85, 86, 93
14	Transports, post and telecommunications	87...92, 94...95
15	Public services	98...105

The aggregated sectoral structure takes into account the main features of the respective sectors. Thus, the first group includes the branches that significantly depend on the climate conditions. The production of the second one uses unskilled human resources and advanced medium technology, its production being essentially influenced by the peculiarities of mineral deposits. All industries linked to agriculture are integrated into the third group. The fourth comprises a large variety of labour intensive sectors – textiles, leather, pulp and paper, wood processing, furniture. The next one includes the industries that use a very high level of energy resources (signif-

icantly higher that the national average). The sixth group covers the machine building branches, the seventh brings together the electrical and optical equipment industries, as well as publishing houses, polygraphy, recording and copying, and the eighth includes the industries for increasing the speed and/or the security of transportation. This group of sectors has a crucial role in the investment process and modern civilization. The ninth group represents the quasi-generally used energy utilities. The rest of manufacturing, characterized by a great heterogeneity, constitute the seventh group. All infrastructures, productive and civil constructions are included in the next group. The twelfth aggregates the service activities. Travel services are reflected separately in the thirteenth group. The fourteenth one is dedicated to transport and telecommunications. Finally, the fifteenth group aggregates the public service activities.

4. The results regarding the multipliers of the national economy sectors. The multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import were obtained based on the ratio of the weight of the analyzed indicators in production and inverse matrix $(I - A)^{-1}$ from input-output model.

The values regarding the weight of the analyzed indicators in production for the two years, 2006 and 2008, are presented in Tables 2 and 3, namely: the weight of intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, exports and imports in total production of each branch (x).

Table 2. **The weight of the analyzed indicators in output for 2006,** *%*

sector	CI/Q	GVA/Q	Comp empl/Q	FC/Q	GFCF/Q	Exp/Q	Imp/Q
1	50.00	49.49	12.24	48.74	0.30	3.12	3.33
2	65.00	34.90	25.15	0.39	0.00	3.45	133.08
3	62.00	37.64	11.00	98.88	0.00	2.35	14.22
4	59.00	41.05	30.53	43.54	4.70	97.23	61.78
5	75.00	25.00	14.29	39.60	0.00	51.02	54.80
6	60.00	40.18	25.82	8.78	75.82	43.61	101.65
7	57.00	42.67	17.85	47.19	59.85	54.85	120.81
8	58.00	42.14	15.84	58.58	94.34	38.21	83.54
9	79.00	20.62	11.86	25.09	0.00	1.42	1.37
10	57.00	42.81	20.80	188.43	0.00	35.40	170.87
11	54.00	45.62	15.86	5.70	73.60	1.35	1.28
12	38.00	62.09	17.03	34.91	0.00	0.62	0.94
13	54.00	45.66	13.47	85.72	0.00	13.44	15.26
14	43.00	56.43	21.83	27.61	0.00	21.35	6.22
15	46.00	54.17	36.41	66.58	3.28	3.00	5.10

Source: Authors' own computations.

To determine the inverse matrix $(I - A)^{-1}$ from input-output model, first we calculate the values of the matrix A (the data would be provided by the authors upon a request). The analytical valences indicated by the matrix A is limited to direct interdependencies between the branches of the national economy, and the inverse matrix $(I - A)^{-1}$ add the indirect interdependencies.

In the case of inverse matrix $(I - A)^{-1}$, the coefficients on the vertical, expressed in prices can be summed up. In fact, they approximate the output of all industrial

branches induced by one unit of final demand addressed to the sector relative to the vertical in question. Thus, in the inverse matrix $(I - A)^{-1}$, the coefficients on the main diagonal have over unit values. The vertical sums of the inverse matrix $(I - A)^{-1}$ are called output multipliers.

Table 3. **The weight of the analyzed indicators in output for 2008,** *%*

sector	CI/Q	GVA/Q	Comp empl/Q	FC/Q	GFCF/Q	Exp/Q	Imp/Q
1	48.00	47.00	14.44	46.90	0.28	5.73	5.73
2	42.00	38.00	37.90	0.53	0.00	4.67	200.78
3	53.00	37.00	13.61	98.63	0.00	3.07	14.99
4	41.00	42.00	35.79	44.79	10.08	88.28	53.84
5	55.00	27.00	17.21	34.40	0.00	48.76	57.05
6	43.00	41.00	30.46	7.27	85.64	41.27	104.06
7	43.00	42.00	22.16	47.49	59.20	60.53	120.87
8	32.00	43.00	16.70	44.34	104.26	39.90	79.71
9	49.00	20.00	12.89	22.58	0.00	1.94	2.33
10	30.00	44.00	25.63	216.04	0.00	32.60	162.10
11	23.00	47.00	14.81	7.22	73.87	1.01	1.27
12	23.00	59.00	17.50	34.49	0.00	1.48	1.15
13	34.00	46.00	15.15	86.02	0.00	14.09	11.34
14	12.00	57.00	23.49	27.87	0.00	20.88	9.87
15	17.00	55.00	38.77	63.33	3.32	4.76	3.04

Source: Authors' own computations.

The output multipliers express the driving effect of that sector in the economy. The higher is the indicator value the greater is the driving effect. Thus, both in 2006 and 2008, among the sectors with the highest driving effect are: sector 9 – production and distribution of electric and thermal power, sector 5 – high energy-intensive sector, sector 2 – mining and sector 6 – machinery, equipment and complex technological lines.

According to the results, based on the inverse matrix $(I - A)^{-1}$, we calculated the values of the multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import. The figures below present the absolute values of the results.

Analyzing the results we find that the sectors with the higher value of the intermediate consumption multiplier are: sector 2 – mining, sector 5 – high energy-intensive sector, sector 9 – production and distribution of electric and thermal power.

The sectors with the highest GVA multiplier, which shows a high economic efficiency of these sectors, are: sector 2 – mining, sector 5 – high energy-intensive sector, sector 9 – production and distribution of electric and thermal power, sector 12 – trade and business, sector 14 – transport, post and telecommunications, sector 15 – public services.

The results concerning the compensation of employees multiplier indicates that the following sectors have the highest values: sector 2 – mining, sector 5 – high energy-intensive sector, sector 9 – production and distribution of electric and thermal power, sector 14 – transport, post and telecommunications, sector 15 – public services.

The sectors with the highest values for the final consumption multiplier are: sector 3 – food, beverages and tobacco, sector 5 – high energy-intensive sector, sector 15 – public services.

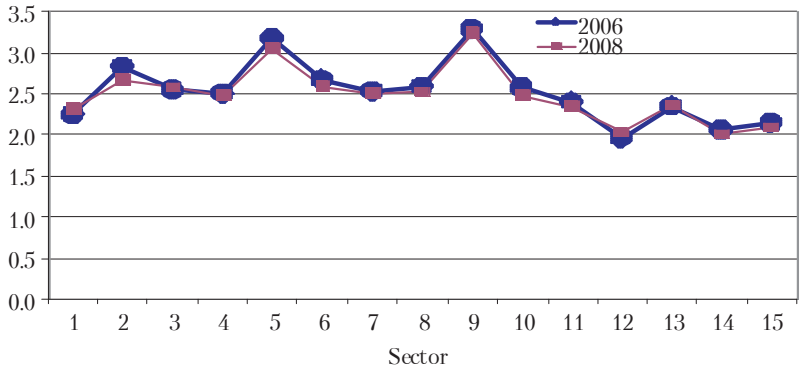
Table 4a. **Inverse Coefficients Matrix** $(I - A)^{-1}$ **for 2006**

Sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.46887	0.01627	0.39473	0.14746	0.02303	0.01566	0.01539	0.01805	0.01636	0.04186	0.01935	0.06489	0.17933	0.01210	0.02861
2	0.12304	1.64308	0.12978	0.15943	0.67211	0.29292	0.21147	0.24421	0.95073	0.23042	0.18554	0.10741	0.12151	0.12695	0.13322
3	0.06428	0.02376	1.38201	0.04561	0.03691	0.02809	0.03063	0.02727	0.02840	0.03765	0.02836	0.15009	0.29065	0.02341	0.05734
4	0.02426	0.02864	0.03998	1.35337	0.03683	0.02841	0.02617	0.05838	0.02683	0.13925	0.06935	0.05143	0.06810	0.01980	0.06190
5	0.22883	0.31664	0.19546	0.24916	1.56780	0.45701	0.36963	0.45390	0.25670	0.42836	0.33625	0.17464	0.17077	0.19014	0.19529
6	0.06952	0.11685	0.04594	0.05847	0.10549	1.24852	0.10975	0.10212	0.09044	0.05637	0.08101	0.03980	0.03734	0.04821	0.04633
7	0.02345	0.07317	0.02932	0.03704	0.06124	0.07988	1.32516	0.09500	0.08900	0.04979	0.04585	0.04036	0.03936	0.07519	0.08150
8	0.01135	0.02023	0.00859	0.01046	0.01656	0.01445	0.00917	1.11668	0.01475	0.00958	0.00822	0.00743	0.00860	0.02710	0.00881
9	0.08028	0.25580	0.10755	0.12858	0.28796	0.18764	0.12283	0.15772	1.45694	0.15094	0.10797	0.06930	0.10087	0.10619	0.10761
10	0.01026	0.01394	0.00998	0.01605	0.01507	0.01191	0.01103	0.01345	0.01371	1.16176	0.01319	0.01032	0.01625	0.00884	0.05253
11	0.01735	0.01547	0.01293	0.01334	0.01671	0.01458	0.01093	0.01525	0.01813	0.01228	1.18197	0.02161	0.03597	0.01272	0.01382
12	0.02239	0.03917	0.03496	0.04462	0.04698	0.04763	0.04357	0.04370	0.04772	0.03233	0.05671	1.09230	0.05336	0.03837	0.05142
13	0.00674	0.01378	0.01145	0.01360	0.01603	0.01478	0.01542	0.01318	0.01392	0.01695	0.00857	0.00734	1.05513	0.01154	0.02138
14	0.03392	0.08479	0.05392	0.06211	0.08872	0.07617	0.07147	0.07132	0.07007	0.07968	0.04736	0.05265	0.07720	1.24891	0.06958
15	0.05724	0.16210	0.09151	0.15534	0.18015	0.15130	0.14953	0.16128	0.19140	0.12112	0.21020	0.06091	0.09371	0.10536	1.20814

Table 4b. **Inverse Coefficients Matrix** $(I - A)^{-1}$ **for 2008**

Sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.54926	0.01650	0.41704	0.16487	0.02273	0.01526	0.01535	0.01664	0.01587	0.04200	0.01993	0.06637	0.17798	0.01181	0.02773
2	0.11241	1.54215	0.12885	0.15558	0.59287	0.24495	0.19742	0.22036	0.93875	0.19273	0.16598	0.10742	0.12319	0.10806	0.12269
3	0.07156	0.02306	1.39582	0.04262	0.03790	0.02813	0.02992	0.02756	0.02632	0.03594	0.02772	0.15717	0.30073	0.02209	0.05478
4	0.02435	0.02733	0.03413	1.26315	0.03452	0.02378	0.02397	0.04090	0.02434	0.13360	0.06640	0.04888	0.05559	0.01953	0.05793
5	0.23408	0.29548	0.20564	0.28098	1.57817	0.40510	0.37361	0.44285	0.24454	0.38759	0.33665	0.18987	0.18360	0.17809	0.18788
6	0.05357	0.12465	0.04579	0.06632	0.11419	1.30453	0.11870	0.11079	0.09816	0.06265	0.08380	0.04458	0.03949	0.04854	0.04507
7	0.02103	0.07020	0.02575	0.03583	0.05332	0.07653	1.29894	0.08392	0.07104	0.04719	0.03849	0.03864	0.03542	0.06727	0.07949
8	0.00881	0.02095	0.00823	0.01445	0.01776	0.01510	0.01002	1.11009	0.01576	0.01042	0.00863	0.00853	0.00928	0.02444	0.01212
9	0.07752	0.22362	0.11696	0.12605	0.25877	0.17077	0.13045	0.15603	1.48195	0.13824	0.10015	0.07633	0.11301	0.09496	0.10895
10	0.00896	0.01111	0.00816	0.01845	0.01155	0.00915	0.00881	0.01047	0.01016	1.14682	0.00981	0.01224	0.01504	0.00743	0.03859
11	0.01179	0.01672	0.01173	0.01448	0.01483	0.01235	0.01062	0.01198	0.01821	0.01237	1.17610	0.03102	0.03551	0.01202	0.01337
12	0.03954	0.04772	0.04536	0.04987	0.05320	0.05576	0.04662	0.05021	0.05103	0.04217	0.06130	1.11426	0.06294	0.04124	0.05243
13	0.00549	0.01276	0.01014	0.01137	0.01330	0.01327	0.01536	0.01154	0.01179	0.01544	0.00645	0.00741	1.03422	0.00995	0.01591
14	0.03570	0.08750	0.05499	0.07175	0.09502	0.08115	0.07965	0.08358	0.07307	0.09168	0.05065	0.06155	0.08478	1.25073	0.07444
15	0.05617	0.14596	0.06942	0.15331	0.15177	0.12784	0.14275	0.14440	0.15505	0.11161	0.19066	0.06283	0.08331	0.10901	1.19915

Source: Authors' own computations.



Source: Authors' own computations.

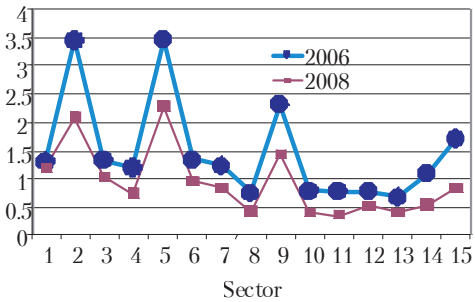
Figure 1. **Output multipliers**

Regarding the gross capital formation multiplier, the sectors with the highest values are: sector 5 – high energy-intensive sector, sector 6 – machinery, equipment and complex technological lines, sector 7 – high-tech industries, sector 8 – means of transport industries, sector 11 – constructions.

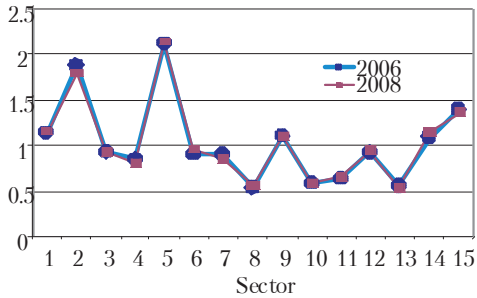
In terms of export multiplier, the following sectors have the highest values: sector 2 – mining, sector 4 – strong labor intensive industries, sector 5 – high energy-intensive sector, sector 7 – high-tech industries, sector 9 – production and distribution of electric and thermal power; in terms of import multiplier, the sectors with the highest values are: sector 2 – mining, sector 5 – high energy-intensive sector, sector 7 – high tech industries.

Analyzing the data we can observe the key appearance of sector 2 – mining, sector 5 – high energy-intensive sector, sector 9 – production and distribution of electric and thermal power, which means, unfortunately, that Romanian economy continues to be in a loop of underdevelopment. At this point, we consider that Romania is currently at the technology assimilation stage, rather than in the technology creation stage. However, no matter the wish to "burn" the development stages, we must take into account the structural gap that separates us from European model. The direct effect of the development level of Romanian economy is the extension of the period necessary to become comparable with European model. Basically, the leap favored by the insider condition of Romania will not be at the expected size and consequences on citizens' welfare. Romania's structural persistence in the periphery of the EU is a serious challenge for European model of integration and an historical emergency for Romanian people and their status in the pre-global world of tomorrow (Dinu, Socol, 2007).

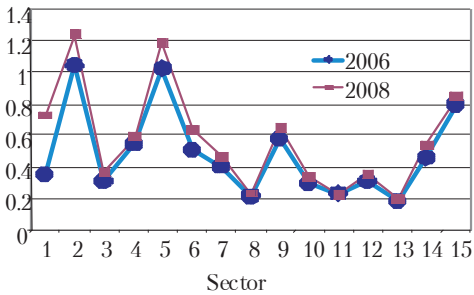
Considering European model which assumes economic growth, social cohesion and convergence, Romania needs to channel the resources from European structural and cohesion funds for the operation on the trinomial "growth – development – modernization". Thus, we consider appropriate to invest European structural and cohesion funds in the following economic sectors: sector 6 – machinery, equipment and complex technological lines, sector 7 – high-tech industries, sector 8 – means of transport industries, sector 12 – trade and business, sector 13 – tourism, sector 14 – transports, post and telecommunications.



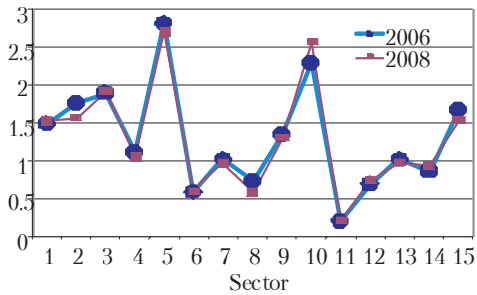
a. Intermediate consumption multiplier



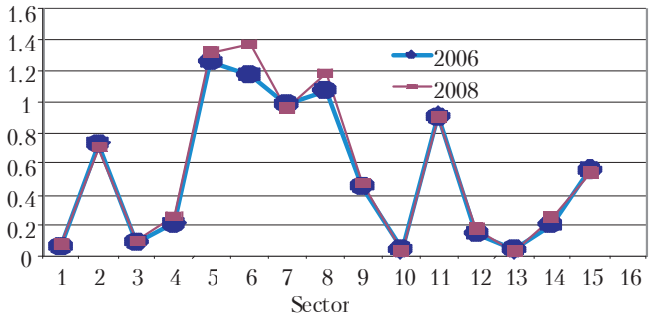
b. GVA multiplier



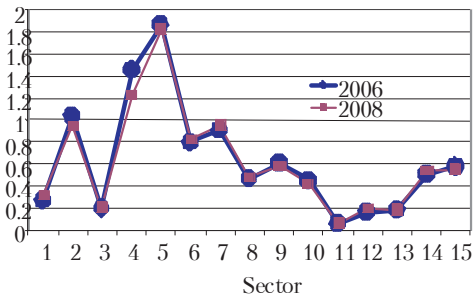
c. Compensation of employees multiplier



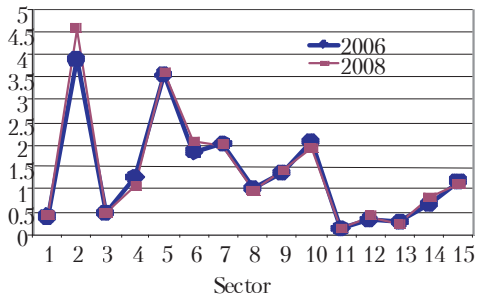
d. Final consumption multiplier



e. Gross fixed capital formation multiplier



f. Export multiplier



g. Import multiplier

Source: Authors' own computations.

Legend: The abscissa represents the 15 sectors of the aggregate structure of the national economy; The ordinate contains the absolute values of the multipliers.

Figure 2. **Multipliers of the structure of Romanian economy**

5. Conclusions. We analyzed the structure of Romanian economy in 2006 and 2008 to identify the economic sectors for investment using European structural and cohesion funds Thus, we calculated the values of multipliers for intermediate consumption, gross value added, compensation of employees, final consumption, gross fixed capital formation, export and import. For this analysis we used the input-output model.

In the years under analysis we find no significant differences regarding the evolution trends of the multipliers, which shows a relative stability of Romanian economy in 2006–2008.

Also, analyzing the results we can observe the key appearance for sector 2 – mining, sector 5 – high energy-intensive sector, sector 9 – production and distribution of electric and thermal power, which means, unfortunately, that we have an economy that continues to be underdeveloped.

Considering European model which assumes economic growth, social cohesion and convergence, Romania needs to channel the resources from European structural and cohesion funds for the operation on the trinomial "growth – development – modernization". For the next programming period, we consider that the absorption of European structural and cohesion funds must rely on endogenous growth of human capital, knowledge, research development and innovation. Thus, we consider appropriate to invest European structural and cohesion funds in the following economic sectors: sector 6 – machinery, equipment and complex technological lines, sector 7 – high-tech industries, sector 8 – means of transport industries, sector 12 – trade and business, sector 13 – tourism, sector 14 – transports, post and telecommunications.

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