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CORRELATION BETWEEN
PUBLIC FUNDING AND
NON-FERROUS INDUSTRY.
EVIDENCE FROM CEE
AND ROMANIA

Empirical Studies

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JEL Classification

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Abstract

The paper aims at presenting important approaches of the influence of the public funding to industry, especially non-ferrous, in the Countries from Eastern Europe (CEE) and Romania. Studies presented in the paper show that the industry funding had been sustained by the European Commission in the community area, but particularly in CEE area. The impact of industry funding will never be exactly measured, but important data can be presented in order to foresee the future development of the European industry. Specific for non-ferrous industry, in the article there are presented important items, as turnover, value added cost, exports, production, which are correlated to EU funds absorption in order to measure the efficiency of the public funding for 2007-2013 period (national and EU funds) and the welfare of the CEE and Romanian non-ferrous sector.

INTRODUCTION

The decreasing of the public funds absorption in the industry leads to the idea that one of the problems is not knowing enough about the different types of funding and investments (Heinemenn, 2002; Herring, 2001; KPMG, 2015). Consequently, it is necessary for the actors of the non-ferrous industry to know about the funding opportunities. The development of mining and quarrying industry, especially non-ferrous, in the 2007-2013 period, was influenced by the investments and funding of this sector. Public funding occupies a special place in CEE non-ferrous industry progress. (Bonollo, 2014)

Even the number of the CEE mining and quarrying enterprises has been decreased in this period, value added at factor cost, turnover, production value, and exports have considerably increased. The influence of public funding was decisive, especially in 2007-2013 period where the CEE mining and quarrying industry experienced a lot of problems because of the lack of private investors. In this context, public funding is a sustainable solution for non-ferrous industry. Both national as well as EU funding in the non-ferrous industry may work together to improve the efficiency of the industry ratio in CEE area. The new programming period 2014-2020 offers a lot of opportunities for the CEE countries, which have to be known by the non-ferrous industry actors. The article is structured as follows: the second section itemizes the problem formulation and methods and data, presenting the CEE non-ferrous increased exports as a result of the CEE mining and quarrying industry funding and enterprises, especially non-ferrous; the third section presents public funding for non-ferrous industry in the CEE and Romania, showing the importance of the EU funds 2007-2013 related to turnover for CEE and Romanian industry activities; the fourth section concludes the most important ideas from the paper and proposes actions and directions to be followed from now on. The article is based on exploratory research and statistical calculation. Mainly, the analysis for the quantitative part of the paper is univariate, supplemented by bivariate for the qualitative one. In addition, with these types of research, a variety of secondary sources – particularly journals, books and reports on the industry and non-ferrous sector have been used in the paper.

The research is exploratory and statistics calculus oriented, and the conception is related to dynamics of the public funding in non-ferrous industry in CEE, especially in Romania. The paper inflexion point is the efficiency of the EU funding on non-ferrous industry.

PROBLEM FORMULATION. METHODS AND DATA

The problems of the non-ferrous industry funding are complex and related to issues on boosting demand, improving access to foreign markets and ensuring fair trade for imports of commodities and exports of metallurgic products, supervision of the scrap market, energy prices, the implementation of policies on climate change, innovation promotion, using of structural funds. All these must be achieved to attenuate the social impact of restructuring metallurgical sector etc. (METBER, 2013; Bredimas, 2014)

The methods used are multi-approach, utilizing primary and secondary research through exploratory data from official website regarding non-ferrous industry, as EU Statistics (EuroStat), International Trade Centre which is support platform for the United Nations (UN), World Trade Organization (WTO), United Nations Conference on Trade and Development (UNCTAD) and IndexMundi with data from World Bank. Based on statistical calculus, the paper offers a longitudinal view on public funding in the non-ferrous industry in CEE, EU and Romania.

As it can be seen in Table 1, in 2007-2013 period mining and quarrying industry data in the CEE has decreased in enterprise numbers about -9.03%, but increased at turnover or gross premium written (7.51%), production value (3.90%) and value added at factor cost (102.39%). Deduction is that mining and quarrying, especially non-ferrous industry, have increased in efficiency. Turnover increasing of the non-ferrous industry shows that non-ferrous sector strengthened its position on the CEE market and changed positively the dynamics of its activity, developing new opportunities and consolidating the importance of the enterprises at sector level. (Turcas, p. 366)

Value added at factor cost in CEE mining and quarrying, in 2007-2013 period, has increased by the commodities prices reduction, especially non-ferrous. In the context of the 2007-2009 financial crisis, where the non-ferrous prices experienced in some months significant reduction (for example, according to IndexMundi (2016) the aluminum price has decreased in October 2008 with -15.93% and in December 2008 with 18.99%), the considerable rising of value added at factor cost shows that some of the public funds for mining and quarrying have been efficient, especially in countries as Bulgaria (+110.64%), Estonia (+168.94%), Latvia (+136.90), Hungary (311.63%), Poland (114.00%), Romania (119.23%) and Slovakia (129.31%) (Table 1). The value added by efficiency could be connected with the production, taxation, allocation of taxes and changes regulation (Bredimas, 2014). In this sustaining, Kishori Lal (1999) presents a study

where he discussed the value added by industry into the light of international comparison. Lal (1999) shows that “the allocation of taxes on products by industry for the value added calculation closely reflects the regulations and practices that determine which industry is liable for tax collection during the periods the taxes were imposed”.

The CEE situation is similar to Romanian and EU. In 2010, year when most funds in mining and quarrying were contracted, metallurgical industry in Romania has achieved added value of approximately 562 €M (0.93% of the EU level) with an apparent labor productivity of 14800 Euro / employee (only 25% of the EU average). At the EU level, metallurgical industry, with 18 thousand companies that worked with around 1 million employees, has achieved an added value of about 60.7 billion Euro in 2010 and apparent labor productivity expressed in value added / employee was 60682 EUR / employee. (METBER, 2013)

Regarding CEE enterprise data for non-ferrous industry, in table 2 we can observe that the average of the enterprises number were 4000 units and the employee's number were 211000 units. Turnover and value added were significant increasing in 2007-2013 period, having averages of 3202 €M, respectively 508 €M, well above the average of mining and quarrying industry. In this analyzed period, non-ferrous industry was very efficient; this is the main reason of why it was given special attention. Associated with the metallurgical industry, all the factors described above are applicable to non-ferrous sector. In addition, turnover rising of the non-ferrous industry shows that buying power has considerably increased in CEE area. In this sense, public funding and investments are important in the development and competitiveness of the CEE non-ferrous industry.

Development of the CEE non-ferrous industry is, also, the result of the international trade activity. Exports are important in the current analysis, because of the positive influence on non-ferrous industry. In table 3 data for non-ferrous metals in 2007-2013 period are presented. Except for zinc exports decrease (-34.79%), aluminum, copper, lead, tin and nickel exports are considerable increased with 24.36%, 64.40%, 19.01%, 452.49%, respectively 492.17%. Positive evolution of the CEE non-ferrous industry exports is the expression of private and public funding, especially public funding for production development and environment protection against non-ferrous scrap. (Amato, 2014)

Detailed for each non-ferrous metal, CEE exports in 2007-2013 has the following variation: Bulgaria excels to tin (1420.83%) and nickel (3893.44%), Croatia to cooper (4.86%) and nickel (469.14%), Czech Republic to tin (620.11%) and nickel

(469.14%), Estonia to cooper (33%) and tin (259.91%), Hungary to cooper (79.47%) and tin (105.10%), Latvia to cooper (103.01%) and tin (1100%), Lithuania to aluminum (144.57%) and cooper (304.23%), Poland to tin (102.93%) and nickel (226.95%), Romania to tin (344.38%) and nickel (131.80%), Slovakia to lead (197.23%) and nickel (629.76) and Slovenia to cooper (2.43%) and tin (896.58%). As presented above, tin and nickel had in 2007-2013 period the most important exports development. (ITC, 2016a; ITC, 2016b)

PUBLIC FUNDING FOR NON-FERROUS INDUSTRY IN THE CEE AND ROMANIA AREA

As others commodity industries, non-ferrous industry can be financed through private or public funds. Private funds can be subject of self-financing, loans from financial institutions or capitalization from commodities market. Even the public funding presented in the following paragraphs are accessible for the whole industry, the paper refers to non-ferrous sector. Public funding opportunities, where non-ferrous industry is eligible, can be subject of national or international funding. (Makhacek, 2014)

Public funds for industry, especially non-ferrous, in the previous programming period, 2007-2013, influenced positively the CEE competitiveness. A comparative study between CEE countries show the non-ferrous industry with the greatest development and had the best private or public financing.

As seen in the table 4, EU funds in the CEE countries are directly correlated to turnover for industry activities. At the CEE level EU funds for 2007-2013 were about euro 16.66 billion, the distribution per GDP had an average of 16.20% and a variation of turnover for industry, related to EU funds, about 5.29%. Looking at the gap between EU funds 2007-2013 and the variation of the EU turnover for industry, some countries used efficiently funds for industry, some others did not. In countries as Bulgaria, Estonia and Latvia the impact of the EU funds were high. With low financing of euro 6.67 billion, euro 3.40 billion and euro 4.54 billion, turnover variation in 2008-2013 for industrial activities was overwhelming, respectively 16.53%, 51.65% and 40.24%. Instead, other countries having important funding sources, as Lithuania (euro 6.77 billion), Romania (euro 19.18 billion) and Slovakia (euro 11.65 billion), did not succeed to create efficient turnover variation for 2008-2013 period, respectively 1.38%, 1.51%, -9.64% and -5.08%. The most disastrous situation for EU funds 2007-2013 were in Czech Republic (euro 26.30 billion), Hungary (euro 24.92 billion) and Poland (euro 67.19 billion), where the turnover

variation for industry were -28.28%, -20.65% and 1.51%. (ITC, 2016a; ITC, 2016b)

European Funds attracted for non-ferrous industry in CEE countries were from the following programs environment, competitiveness, regional development, SMEs financing. Projects referring to aluminum funding were in Lithuania, Latvia and Romania; cooper funding in Estonia, Hungary, Lithuania and Slovenia; lead funding in Slovakia, Latvia and Poland; tin funding in Czech Republic and Latvia; zinc funding in Lithuania and Poland; nickel funding in Bulgaria, Czech Republic, Poland and Slovakia.

As presented before 2007-2013 non-ferrous funding was directly correlated with exports increasing, rising of every metal exports being encountered in countries where funds increased. At the same time, national budget funds were a very strong funding opportunity.

Below we presented some Romanian national programs, applicable to industry too, which were available for 2007-2013 and will be accessible for 2014-2020 period.

According to the Ministry for Economy, Trade, Industry and the Business Environment (METBER, 2013), funds for industry are from Industry/Production, Research and Development, Energetic efficiency/Environment. Specific, the programs launched in 2016 are:

1.Trade for limited companies where SME or SME-D are available. The amount which can be taken for the financing of one project is 135000 lei, and 10% must be co-financed by the beneficiary. The funding can be used for the non-ferrous trade.

2.Micro-industrialization for limited companies dedicated to SME or SME-D. The funding can be used for non-ferrous investments in amount of 250000 lei, 10% being co-financed by the beneficiary.

3.Business incubators for limited companies, primary for SME-D. The maximum amount of the funding is about almost 90500 lei, where 30% is co-financed by the beneficiary. The funding can be used for developing a new business in non-ferrous industry.

4.Start 2016 for limited companies dedicated to SME or SME-D. The maximum funding amount is 120000 lei, and 10% co-financed by the beneficiary. The funding can be used for developing a new business in non-ferrous industry.

5.SME-D 2016 for limited companies, where the maximum funding amount is 45245 lei, and 50% must co-financed by the beneficiary. The funding can be used for developing a new business in non-ferrous industry made by a young man.

6.Woman Manager 2016 for existing or proposed limited companies where the maximum funding is 50000 lei, and 10% co-financed by the beneficiary. The main administrator must be a woman and

could use this funding for any activity, inclusively for non-ferrous activities.

CONCLUSIONS AND PROPOSALS

In the CEE and Romania the non-ferrous industry development can be subject of other funding than environment, competitiveness, regional development and SMEs financing. There are programs for 2014-2020 which can be used for non-ferrous industry, as human capital in order to initiate and enhance learning, infrastructure for transport network rehabilitation, research and development in order to innovate products and ways of environment protection and regional funds for aggregation of the resource networks.

High quality of non-ferrous funding in CEE preponderant depends on the policies of the countries governments. Concluding, there are solutions for better funds using that only the public administration from the CEE countries can take, like: establishing inter-ministerial, inter-regional and SEE regional committees for efficient funding management and environment protection; establishment of a joint working group to improve cooperation between industry and authorities, under the coordination of the committees mentioned before, and to organize working groups to discuss non-ferrous industry issues; adopting measures to establish funds dedicated to research within each pole of competitiveness by creating tax incentives from the states; attracting funds to cover a significant percentage of co-financing international research projects; encouraging economic agents who financially support the development of international projects by reducing some taxes; provision of financial and tax compensations to avoid discrimination in the global competition on the non-ferrous market; measures for superior processing of raw materials and commodities, including tax, especially for export, in order to keep jobs in the country and to export more value added. The European Union implements industry programs and energy-climate change package, leading to additional costs for companies in the non-ferrous industry, costs that are not found in other countries outside the EU. The measures must be promoted by the public administration of the CEE countries in order to better knowing and implementation of the non-ferrous industry activities.

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Annexes

Table No. 1

Enterprise statistics of the CEE mining and quarrying industry in the 2007-2013

	Number of enterprises 2007-2013 (% variation)	Turnover or gross premiums written 2007-2013 (% variation)	Production value 2007-2013 (% variation)	Value added at factor cost 2007-2013 (% variation)
Bulgaria	26.97	8.17	12.79	110.64
Czech Republic	-30.99	0.57	-6.68	81.98
Estonia	48.39	74.06	72.85	168.94
Spain	-30.30	-40.53	-40.66	59.27
Croatia	-	-	-	-
Latvia	59.46	46.63	48.60	136.90
Lithuania	32.88	5.93	4.68	87.55
Hungary	0.00	10.75	4.84	311.63
Poland	17.35	31.03	25.04	114.00
Romania	18.72	-0.27	-5.30	119.23
Slovenia	0.96	-6.56	-9.17	79.36
Slovakia	52.43	17.73	20.52	129.31
CEE total	-0.76	17.29	13.35	111.70
CEE average	-9.03	7.51	3.90	102.39

Source: Data processed by the author based on Eurostat statistics

Table No. 2

Enterprise statistics of the CEE non-ferrous industry in the 2007-2013

	No. of enterprises (thd.)	No. of employees (thd.)	Turnover (€M)	Value Added (€M)
Bulgaria	0.2	13.3	3180.7	223.7
Croatia	-	-	-	-
Czech Republic	1.2	45.4	7233.3	1009.4
Estonia	0.0	0.4	40.8	8.0
Hungary	0.3	16.5	2443.6	444.8
Latvia	0.0	3.0	432.9	50.0
Lithuania	0.0	0.9	64.4	8.9
Poland	1.0	62.1	9147.6	1636.8
Romania	0.5	37.9	4027.2	562.1
Slovakia	0.4	22.9	4180.0	845.5
Slovenia	0.1	8.6	1269.6	290.7
CEE total	3.7	211.0	32020.1	5079.9
CEE average	0.4	21.1	3202.0	508.0

Source: Data processed by the author based on Eurostat statistics

Table No. 3
CEE exports of the non-ferrous industry. Variation 2007-2013 (%)

	Aluminum	Cooper	Lead	Tin	Zinc	Nickel
Bulgaria	4.73	61.20	-5.76	1420.83	-53.61	3893.44
Croatia	-3.93	4.86	-28.09	-17.57	-68.94	469.14
Czech Republic	15.83	66.64	37.77	620.11	-31.44	111.34
Estonia	23.47	33.00	-11.81	259.91	-65.08	-81.22
Hungary	-2.08	79.47	17.49	105.10	-20.29	10.59
Latvia	40.61	103.01	90.79	1100.00	-22.73	62.50
Lithuania	144.57	304.23	-63.79	-49.17	67.97	-8.39
Poland	19.57	37.28	35.92	102.93	11.66	226.95
Romania	26.01	0.50	-23.76	344.48	-96.85	131.80
Slovakia	12.94	15.76	197.23	194.22	-56.62	629.76
Slovenia	-13.81	2.43	-36.89	896.58	-46.79	-32.06
CEE average	24.36	64.40	19.01	452.49	-34.79	492.17

Source: Data processed by the author based on International Trade Centre, 2016a. *Trade Competitiveness Map*. <http://legacy.intracen.org/marketanalysis/TradeCompetitivenessMap.aspx>
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Table No. 4
EU funds 2007-2013 related to turnover for industry activities. Evidence from CEE

	EU funds 2007-2013 (EUR billion)	EU funds 2007-2013 per GDP (%)	EU turnover for industry. Variation 2008-2013 (%)
Bulgaria	6.67	16.70	16.53
Croatia	1.00	2.30	-
Czech Republic	26.30	17.60	-28.28
Estonia	3.40	18.50	51.65
Hungary	24.92	25.40	-20.65
Latvia	4.54	19.40	40.24
Lithuania	6.77	19.60	1.38
Poland	67.19	17.20	1.51
Romania	19.18	13.40	-9.63
Slovakia	11.65	16.20	-5.08
Slovenia	11.65	11.60	-
CEE average	16.66	16.20	5.29

Source: Data processed by the author based on KPMG in Central and Eastern Europe, EU Funds in Central and Eastern Europe: Progress Report 2007-2013