

The Crisis of the Part

“Everything within the unconscious wants to become an event,
and personality too wants to evolve,
coming out of its unconscious conditions, and living itself as a whole”
C.G. Jung

The attachment of university students to the ideas sufficient to specialization constitutes the syndrome to a crisis. It is the crisis of the fragmentation of knowledge in the decadent phase of modernity.

For sure, it is not just them suffering from contamination. The symptoms are visible generally among the intellectuals. The superficial analyses, mostly textualist, lodged in details - often irrelevant to the context, the pretentious formalism which obscures the essential through the obsession for simplification are the characteristics of the malady called postmodernism.

For the university students the crisis has a hard to spot effect: one way or the other it will transfer from generation to generation. Not being a one-phase crisis, it can take place in successive waves, reproduce at the level of the structures of thought generation after generation. Otherwise, it is not at all a fluke that postmodernism is being perceived as a crisis which has already been lasting for at least half a century. Which means that the horizon of generational expectations has been exceeded around three times.

The fixation in comfortableness, the shape which the crisis takes as viewed among university students, is very little discussed due to the assumption that it would pertain to the intellectual standards specific to the academic environment. Unfortunately, the dissimulation in tradition of the postmodernist crisis of higher education appropriates to itself for resistance sectarian theoretical constructions of the type of the utilitarian performance of narrow specialization.

In fact, the complicated part of the crisis lies in the unilateralization of intellectual formation to the apocalyptic stage of incapacity of verbal communication. The transmission of the crisis virus to the students was done, for instance, through the generalization of the multiple-choice tests as a means of examining their knowledge. The horror did not go its course in relation to reducing the ability for communication, but there can already be seen failures with regard to socialization, through the multiplying deviant attitudes with regard to learning.

The most counter-productive part of the interval of university student comfortableness is the depleting of human resources in fundamental research. The pendant of this failure is the mimicking of research, the invariable application of preformed analysis schemes to isolated cases, the copying of solutions from one case to the next. The recoil of learning precedes the knowledge crisis. The illusion of performance through the exclusive focusing on detail and the quantitative in research sustains the comfort of the analysis, but annuls the satisfaction of synthesis. We are

geniuses for making the detail measurable and retards for understanding the context. The danger could be, if everything lasts, of death to the relevance of research.

In economics, both quantitative and qualitative models are relevant. For the economies of scale and everything that supposes macroeconomic analysis, using only quantitative models leads to conclusions which are sufficient only to themselves, and not to the good going of reality.

In an order of prevalence, the explicative models for macroeconomic analysis carry a greater weight in legitimizing solutions. At this level of complexity however, quantitative models give approximative information, somewhat distorted by not measuring the effects of many factors. Approximation remains the only possibility of reaching the truth, which means the interpretation of data in the context defined by the referentials of an aggregate economic theory.

This truth is not respected where it is not known. For things are not different in the economic university environment where the sufficiency of quantitative approaches are functioning, as well as the econometric-type models which in an absolute way make abstraction of the explicative model and the theoretical fundamentals adequate to the need of explaining the pursuit of one solution or the other.

Today it is obvious, for those who are serious and wish to see, the huge need for explicative models for the post-communist transitive models of integrative nature, mostly for the behavior of emerging economies. The perception that in reality distortions are spotted, is supported right by the feeble preoccupation for the explicative models, on which strategies of change should be built.

A strange aspect of the situation is that there is an active belief in the existence of two parties: one correct, which works with quantitative instruments which it considers a value in themselves, and another, unpopular because it stubbornly continues to propose explicative models as if doing it for declaring quantitative models useless. It looks like a conflict, though it is more likely about an understanding founded – on both sides – on sufficiency. The parties, although formally and noisily refute each other, are in essence complementary. The collaboration between parties could be an alternative for coming out of the crisis. Another way, maybe more substantial, would be for both parties to complete their spiritual horizon with both perspectives on the approach, especially to serve knowledge in a durable way and to appease their egos constructively.

...Qui suiipsius spiritus tam multa devorat...

Marin Dinu

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Importance of Non-banking Financial Institutions and of the Capital Markets in the Economy. The Case of Romania

■

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***Abstract.** Deep and broad financial markets facilitate savings mobilization, by offering both individuals and insitutional savers and investors additional instruments and channels for placement of their funds at more attractive returns than are available on bank deposits. Bank and non-bank financial intermediation are both key elements of a sound and stable financial system. Both sectors need to be developed as they offer important synergies, meant to foster economical growth. While banks dominate the financial systems in most countries, business, households, and the public sector rely on the availability of a wide range of financial products to meet their financial needs. Such products are not provided only by banks, but also by insurance, leasing, factoring, and venture capital companies as well as mutual funds or pension funds.*

Key words: financial intermediation; capital market; economical growth.

■

JEL Codes: G21, G32.

REL Codes: 8E, 11B, 11E.

1. The development of the financial system and the economical growth

The financial system unifies the capital demand and offer through banks, capital markets, and other financial intermediaries like mutual funds, pension funds, leasing companies or factoring companies. An efficient and well-functioning financial system mobilizes collects the saving realized by the entities that, after they satisfy their own objectives of investment and consumption, have a financing capacity for channeling it towards those units that, for realizing their investing objectives, need financing. In the same time, the financial system offers an efficient payment and clearing system, in this way facilitating the financial transactions. One of those economists who have opted for this kind of thought is Ross Levine who assures the fact that “a theoretical as well as an empirical constant work volume tends to make even the most skeptical to believe that the development of the financial system is a determinant of the economical growth, and not only a passive answer to this growth.” Levine and the others that share his opinion believe that there are inherent relations between financial intermediate and productivity and, as the amelioration of the productivity level produces on a long-term benefic effects on the level of economic development, it can be said that also the financial intermediate generates economical growth. Moreover, Levine suggests that the development of the financial system has an important positive effect over the economical growth saying that “it can be eliminated a third of the already existent

inequality between the countries with an important growth and those with a slow growth through the development of the financial intermediation for the latter ones until they reach a developing level comparable with the one of the countries with a quick development”. The positive association between the degree of development of the financial system and economical growth was at large analyzed also by Demirgüç-Kunt (2006), as well as Beck, Demirgüç-Kunt, Levine and Maksimovic (2000, pp. 2-12). Moreover, they prove that regarding a country with a developing financial system the degree of financial development is correlated not only with the current growth, but also with the future economical growth.

Access to finance is crucial for the creation and maintaining a certain position on the market, as well as sustaining the private sector of an economy. The lack of alternatives in reaching adequate finance resources make it almost impossible to develop in well conditions the current activities of a firm and, most of all, to realize those investments required for developing its activity. A survey realized by World Bank in 2000⁽¹⁾ upon 80 firms from developed and developing countries reached the conclusion that, after taxes, financing represents the secondly most important obstacle in initiating and developing the normal activities of a firm. Having a wider range of financial products, the firms have an increased growth. Starting from this survey, recent research

has proven the fact that financing is the main constraint in reaching economical growth (Ayyagari, Demirgüç-Kunt, Maksimovic, 2002, pp. 2-10). More precisely, they mention that developing the financial system leads to an increased productivity of the firm, increased competition and innovation and lower costs of transactions. These, further, lead to economical growth. According to some recent studies, increasing the percent of the banking assets, respectively the percent of the market capitalization of a country in its GDP, has been positively correlated with increasing the GDP per capita. This thing is easy to understand taking into consideration the fact that a significant growth and a well-functioning financial system is essential for the economical growth and prosperity of a nation⁽²⁾.

For the maintaining of a healthy and stable financial system, both banks and non-banking financial intermediaries have to be well-developed and offer a varied range of financial products. The necessity of further developing the activity of the non-banking institutions is essential for any developing economy, including the Romanian economy. Through providing alternative and varied financial services, they assure the medium and long-term financing, which represents most of the times a challenge for the bank-based economies. In the same time, they increase the competition, competing with the banks for attracting those medium and long-term funds, sustaining in this way the development of capital market, leasing, factoring and others. Those institutions that collect the savings permit a better diversification and allocation of the risks for those willing to bear it,

reducing systemic risk and offering advanced techniques of portfolio management.

2. Recent evolutions of the non-banking financial intermediaries and of the capital market in Romania

As far as concerns the Romanian financial system, this one suffered, in the last decades, a series of reforms meant to create a more and more competitive environment, for the benefits of the users of this system, and this also led to the development of the economy. With one year of entering the European Union, Romania is making progress in developing the financial non-banking intermediaries and the capital market in the economy, in order to reach the level of economical development and financial development of the other EU member states. One of the main objectives is the one of having a similar mature financial market, capable of offering modern financial services.

If we take into consideration the above statements and if we analyze at the level of the current Romanian financial system (Figure 1), we can notice that the activity of the banking system, as well as the one of the Romanian capital market had an upward trend which is correlated with the economic growth of Romania from the last few years. But for having a stable and healthy financial system the non-banking intermediaries as well as the banking ones have to develop for realizing important synergies at a national level. While in Romania the banks are dominant over the financial system, the traded companies, individuals, and the

public sector as entities with financing needs have to have a variety of financial instruments in order to reach their financial objectives. Unfortunately, the degree of choosing other financing sources except the traditional ones is very small.

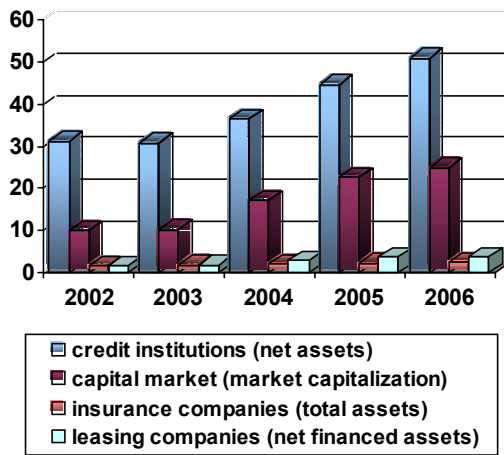


Figure 1. Principal components of the financial system (% in GDP)

The capital market is the only that started to be attractive for those with surplus capital and this is, lately, a growing tendency favorable to the Romanian economy. In our opinion, this thing was due to the favorable modifications in the local economic environment, to the growth of the incomes of the population and to some rearrangements in the investors' structure. But for encouraging this fact it is necessary the growth of the stock market's transparency, sustaining the principles of corporative government, providing a wide and adequate offer of financial instruments on the stock market and the adoption of adequate costs structure. All of these could lead the domestic capital market to a more and more important place in the European stock markets. A more liquid and efficient stock market will allow the Bucharest Stock

Exchange to increase its presence between the international financial organizations and to maintain more and more tight contacts with the other European stock markets.

With a pretty devious evolution, the joint-stock market seems to have got to a certain maturity which can lead to future quantitative, but especially qualitative growth. Regarding the bond market, Romanian capital market is characterized by an insufficient development of the bond primary market and secondary market. In April 2008, at The Stock Exchange Bucharest there were only 26 bonds quoted, of which only 4 corporate bonds, the other 20 municipal bonds and 2 international bonds. Moreover, analyzing the value of the transactions that took place in the first four months of 2008, we can see that only 2% of this is due to the bonds, the listed actions at BVB having a contribution of 98%⁽³⁾. It is obvious the fact that the bonds transactions are not as far as attractive as the stock ones, thing that determines a reduced liquidity for the investors of this kind of securities.

Another positive fact associated with the Romanian capital market noticed by the statistics is the fact that in the last period took place a growth in the number of companies relevant for the issuers from the regulative market: reducing the concentration of the capitalization of the market. The concentration of the market capitalization is one of the characteristics to the emergent capital markets, category where there are also included the capital markets from Central and Eastern Europe. The year 2006 followed a tendency imprinted two years before. If in 2004 the first five listed companies cumulated over

83% from the total of the market capitalization, and in 2005 these cumulated only 80%, at the end of the last year exchange capitalization of the most important five companies from BVB got under 75% from the total of the market⁽⁴⁾. With the access on the market of many Romanian companies, there are premises of a higher reduction than these percentages.

The economical growth of Romania⁽⁵⁾, remarkable for the emergent countries, had as a consequence the growth of the market capitalization. After this indicator and the one of the volume of transactions (Euro), the Romanian capital market gets the fourth place in a ranking made with the capital markets of the countries from Central and Eastern Europe⁽⁶⁾. The growth potential of the Romanian capital market is extremely high, due to the new companies expected to move from Rasdaq to BVB, but also to the increase in the level of economical and financial performances of the current issuers. On the other hand, the recent trends in the financing patterns of the European economies show that prove that the role of financing the economy by the capital market began to increase significantly in the last years and suggest a transformation of the bank-based economies in market-based ones. Although the current financial structure of the EU-27 is based mainly on banks, the growth pace of the capital market overtakes the growth pace of the banking sector⁽⁷⁾. The banking assets had a positive trend, but this trend is decreasing, indicating a continuous and more visible process of financial disintermediation.

The unsatisfactorily situation revealed by the Romanian non-banking financial

intermediaries activity is also presented in the following figure, meant to be a comparative illustration with the main EU-15 non-banking financial intermediaries situation. We notice that in 2004 they had a much more important weight in GDP than the one this sector realizes in Romania (Figure 2).

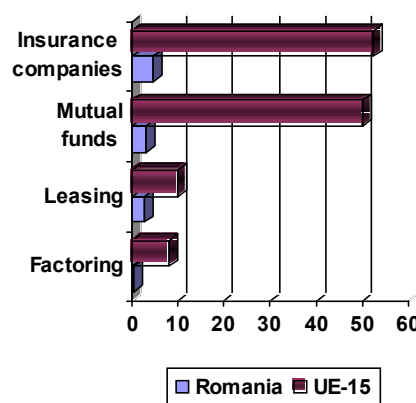


Figure 2. Principal categories of non-banking financial intermediaries and the percent of their assets in GDP- comparative analysis Romania-EU-15 (2004)

The situation of the non-banking intermediaries is considerably improving at a national level. The economical growth experienced by Romania in the last years is the main factor that influenced this improvement and it led to a growth of the incomes.

On the leasing market there is a significant development which confirms the statute of the leasing as financial product complementary and competitive to other banking products and capable of sustaining the development of the various sectors of the national economy. Therefore we can say that leasing has become a mean financing source capable to sustain the development of the different sectors of the national economy to competitive financial costs.

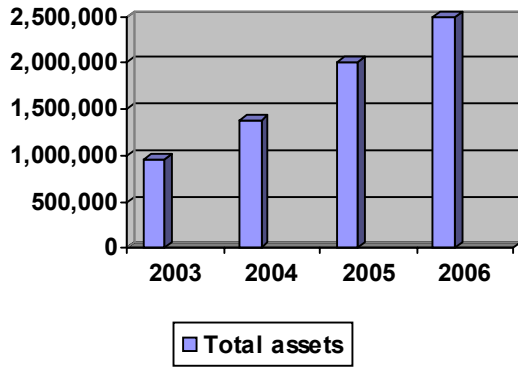


Figure 3. Evolution of leasing market in Romania between 2003-2006

The factoring is present in the Romanian legislation from 2002 and it is extremely useful especially in import-export operations where the need of liquidities and the recovery in short time of the invested funds are in equilibrium. Through factoring, the companies that make trade transactions also benefit by the fact that they can concentrate on the development of the activity, while the agent follows up the cashing and the evidence of the invoices of the factoring. The Romanian companies started to cope with this kind of market in 2001 because there was a lack of the banking offer and the macro-economic conditions were not so good. But the present tendency is of an accentuated growth and the local factoring market is split between BRD (27%), BCR (23%), Rieffeisen (23%), Unicredit (19%), and ABN Amro (12%)⁽⁸⁾.

The pension system reform implied the extension of the bases of the pension system through adding another two pension pillars, along the public pension, stimulating the development of the activity of the private pension funds in their try to achieve a higher volume of compulsory and optional private pensions. In 2016 is predicted that the percentage from the monthly income of any employee for the private pension will

increase with 6%. This thing influences also the local capital market. The experience of the other countries shows that the social security system reform has a significant potential influence over the capital market. The existence of the two pillars is a premise of the intensification of the institutional investors' activity embodied in the private pension funds in their try to find adequate investment instruments. This thing inevitably leads to the creation of some diversified instruments on the capital market, the increase of the liquidity on the market, and a deepening of the financial market as well.

Regarding the local market of the mutual funds, it has a high potential although it is on a reduced level in comparison with other countries in the region. With the decrease of the bank interest rates, the mutual funds start to possess a stronger position on the market. Presently, on the Romanian market there are four categories of mutual funds (monetary, bonds-based, diverse, and stock-based), and the efficiency they offer is in high competition with the one offered through bank deposits. The below table (Table 1) illustrates the predicted growth of the financial assets of the mutual funds between 2006 and 2008, from which we can easily notice that they have the highest growth level predicted for this period.

Annual average growth rate of the financial assets in the period 2006-2008

Table 1

	Annual average growth rate (%)
Cash	15
Bank deposits	17
Stocks	17
Mutual funds	44
Insurance funds	29
Pension funds	0

3. Conclusions

In conclusion, Romania would gain from the development of the non-banking financial intermediaries, from developing its domestic capital market, and the financial system in general. The reforms from the Romanian financial system have to go on for developing an efficient financial intermediation which is necessary for a sustainable economical growth.

The fact that the Romanian financial market is more and more mature and the trust in its different sectors is constantly growing is also noticeable from the point of view of the reorganization of the assets held by the population. This change has already started and

we can notice that the portfolio of the population has a higher and higher weight towards the acquisition of stocks, bonds, and investment funds titles. This changing was influenced especially by the decreasing tendency of the interest rates. Restructuring the population's assets' portfolio is accompanied by risks and pleads for the need for initiating actions by the authorities for increasing the degree of financial education of the population. The economical entities that function in the economy have started to become aware of the other financing alternatives than the classical ones offered by the banking system and they concentrate more and more on the non-banking financial intermediaries and the capital market.

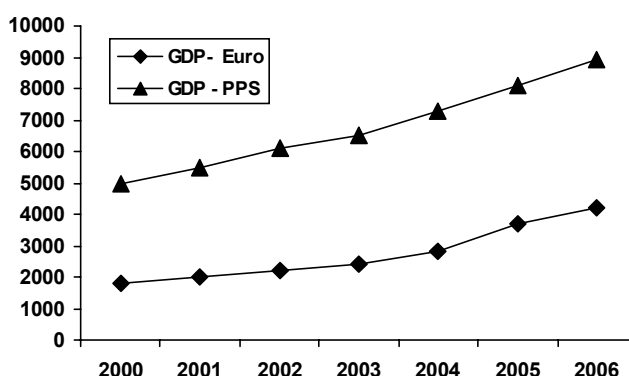
Notes

- (1) World Business Environment Survey, 2000.
 (2) The relationship between financing and growth has been deeply analyzed by Honahan (2001).
 (3) Authors' calculations based on data from BSE (Bucharest Stock Exchange).
 (4) 2006 Annual report of BVB.
 (5) Appendix 1.
 (6) Appendix 2.
 (7) Appendix 3.
 (8) 2006 Annual report of NBR.

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GDP/capita evolution in the period 2000-2006



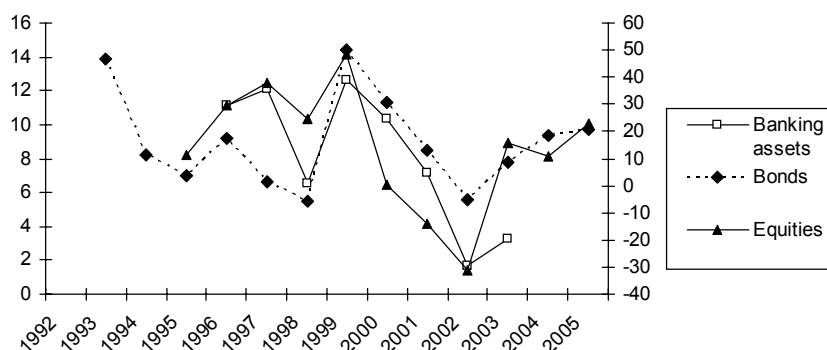
Source: NBR (National Bank of Romania).

The current state of the Romanian capital market in comparison with the other countries from Central and Eastern Europe, members of the European Union

Country	GDP 2006 (bl. Euro)	Market capitalization (bl. Euro)	Market capitalization/GDP (%)	Volume of transactions 2006 (bl. Euro)	Volume of transactions/Market capitalization 2006 (%)
Cyprus	14.5	12.3	84.5	3.343.3	27.3
Czech Republic	112.6	34.7	30.8	30.015.4	86.5
Estonia	12.8	4.6	35.7	766.5	16.8
Hungary	89.2	31.7	35.5	24.625.5	77.7
Latvia	15.5	2.0	13.1	87.7	4.3
Lithuania	23.3	7.7	33.1	1.606.7	20.8
Malta	4.8	3.4	70.9	205.1	6.0
Poland	267.4	112.8	42.2	43.235.2	38.3
Slovakia	43.9	4.2	9.6	70.1	1.7
Slovenia	29.4	11.5	39.1	1.451.5	12.6
Bulgary	24.3	7.8	32.2	1.176.0	15.0
Romania	96.9	22.9	23.7	2.801.7	12.2

Source: Annual report 2006 BVB.

Growth in bank assets, bond markets and equity markets (%)



Source: Author calculations on dates provided by BIS, OECD, FESE, EC.

The Leading Economic Sectors Building Comparative and Competitive Advantages in Romania's Foreign Trade

■

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***Abstract.** For now on, as a member state of the EU, Romania and the Romanian commercial operators should maximize the foreign trade's opportunities given by the rich portfolio of free trade agreements of the European Union and try to reorient our exports towards countries where the products of which the structure of our Romanian exports is consisted of hold a comparative and competitive advantage, in order to reduce the Romanian long-term trade balance deficit. Therefore, this paper focuses on finding out the leading sectors with high potential to maintain and consolidate the comparative and competitive advantages of the Romania's foreign trade.*

Key words: Romania's foreign trade comparative and competitive advantages; foreign trade specialization.

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JEL Codes: F14, F15, O24.

REL Codes: 10D, 10E.

1. Introductory remarks – some theoretical approaches

The evolution in time of the trade specialisation is a phenomenon reflecting structural changes in the entire economic system of a country. In general, it needs time to make these changes because the comparative advantages in trade are not gained in a short time, especially because they are structural by definition. Of course that, if the phenomenon is a rule, there are some exceptions, for example, when there are drastic changes in the ways of production as being determined by external factors, such as the spreading of a complete technology or vast institutional changes (for example, to take into consideration the situation of former communist countries which acceded to the EU in 2004 and 2007, respectively).

A major importance in studying the foreign trade's performance of an economy is given by the profile of the specialisation, usually measured with the help of the comparative advantage. In spite of all these, a country's specialisation in a certain sector can be measured by different indicators, their choice depending on several factors, which relay on the main features of its economy. As a result, the specific analysis carried on in this paper implied the use of several indicators attentively selected and calculated (i.e. *the indicator of Revealed Comparative Advantage - RCA*, *Michaely indicator*, *Lafay indicator*, *Grubel-Lloyd inter-branch trade indicator*), pointing out advantages and disadvantages of each indicator from the point of view the

characteristic aspects and influences of the Romanian foreign trade in the analyzed period.

For these considerations, the use of the *Indicator of the Revealed Comparative Advantage (RCA)*, proposed by B. Balassa in 1965, was found appropriate for our analysis, being well known that it compares the relative size in a sector in a certain country in the total of exports made by that country with the relative size of the exports of a certain sector in a certain area given the exports of that particular area. This indicator, referring to the international specialisation of an economy, has the following formula:

$$RCA = \frac{\frac{x_j^i}{\sum_{j=1}^N x_j^i}}{\frac{x_j^{W_i}}{\sum_{j=1}^N x_j^{W_i}}} \quad (1)$$

where:

x_j^i – represents the exports from product j of the country i , and

$x_j^{W_i}$ – represents the aggregate world export from product j .

The concept of *Apparent* or *Revealed Comparative Advantage - RCA* is widely used in practice to determine the weak or strong sectors of a country. If RCA is higher than 1, the country for which the indicator is computed has a comparative advantage in the product (or sector) j , because this product is more important for the exports of that particular country than on the world level.

But considering the entire world a group of reference has certain gaps due to the fact that the results obtained might be unsatisfactory in the case of some comparisons among countries. This is due to the fact that the countries perform external trade in the best conditions with countries in the geographical proximity so that taking into account the world exports could not always be relevant. Due to this reason, Balassa indicator suits much better to the situation when to the denominator is considered a reduced group of countries as reference, a group to which that particular country belongs to. Balassa's apparent comparative advantage represented the starting point in the methodology of internal or external comparative advantage expression which has the import also in its computation formula. *The internal apparent comparative advantage* can be computed thus according to the following formula:

$$RCA = \ln(X_{ir}/M_{ir}) / (X_r/M_r) \quad (2)$$

where:

i – represents the product or the group of products;

r – region;

X – Exports;

M – Imports.

If we follow the efficiency relative to the partner country, then the external apparent comparative advantage can be computed according to the formula:

$$RCA = \ln(X_{ir}/X_r)_{(1)} / (M_{ir}/M_r)_{(2)} \quad (3)$$

Formula 3 reflects the share of exports of the good i in the exports of that particular country (country 1), in relation to the share

of the good in the imports of the partner country (country 2). The analysis of the comparative advantages allows the identification of opportunities and instruments meant to support the exports in the future. Thus, the highest importance in characterising the foreign trade of a country is represented by the computation of the internal comparative advantage which allows the emphasising of the comparative advantage of the trade from a group compared to the total foreign trade.

Beginning with these arguments regarding the manner of computation of the revealed (apparent) comparative advantage, by considering a more reduced group of reference to which the country for which the analysis is made belongs, CEFTA could have been considered well suited to the computation of Romania's comparative advantage indicator in the relation with the countries in the particular free trade area. In this view, many Romanian authors (e.g. L. Voinea, D. Dăianu, B. Păuna, M. Stănculescu, F. Mihăescu in Dăianu D., 2002, p. 230) were coming out, with valuable studies for the specialty literature and conclusions referring to the trend of Romania's comparative advantage in the relation with the CEFTA member countries. Referring though to the current situation, we considered that due Romania turning out CEFTA, this analysis does not present relevance anymore in computing Romania's apparent comparative advantage in the relation with the neighbouring countries and other countries of the region which are more important from a commercial and economic point of view, especially because in 2004 they left CEFTA, as a result of their accession to the EU.

In the specialty literature though we found some computations regarding Romania's comparative advantage in the relation with the EU, to whose conclusions we are to some extent reluctant. This reluctance is due to the fact that Romania, in the period analysed in these studies, did not belong to the EU, and Balassa's rationale, regarding the computation of the comparative advantage, was oriented to a comparative advantage of the country in its relation to the *world* from which, obviously, that particular country belonged to, in order to observe the part-whole relation. The Association Agreement and the higher and higher liberalization of the Romanian foreign trade with the EU at the time can constitute a reason for which in the specialty literature there are computations regarding this indicator.

Due to comparability reasons between the comparative advantage with the EU and the comparative advantage with the world at a whole, we have also reduced the reference group, in this view coming to our mind the arguments of those who criticised the computation of a global indicator, due to the fact that it would not take into consideration the basic criterion in the external commercial exchanges, that is the criterion of geographical proximity. Indeed, it is difficult to refer to a comparative advantage with the entire world as long as in our country, as the official statistics also suggests, we perform the highest part of exchanges with the European Union countries.

The comparative advantage indicator reflects the extent to which Romania capitalised its cost relative advantages.

Based on this indicator, we can draw conclusions regarding the apparent capacity of Romania to capitalise its advantages in comparison with other of its sectors and those of the EU, but also regarding the weight of the main sections of products in generating the commercial deficit. One must point out however that the comparative advantage indicator does not take into consideration the implications of the other factors of production, such as: technological or energetic intensity, the labour force consumption, the supply with domestic raw materials, investment efforts. In spite of all these, the indicator is relevant to the extent to which it reflects the sections of domestic products we are specialised in and which we export preponderantly. Based on the results then should not be difficult anymore to draw out some objective conclusions regarding the labour force consumption that they require and the technological equipment.

2. The analysis of the Romania's external trade comparative advantages during 1991-2006

In what follows we are going to present the results we obtained regarding Romania's comparative advantage during 1991-2006, while trying to join the EU, for all the sections of products classified upon the Combined Nomenclature (CN). The computations were made based on the official statistic data stated in ECU/Euro, for the entire period taken into consideration. With regards to the statistic datum made use in this paper, which are so useful along this kind of analyses, I exactly considered the

international and Romanian trade reference sources, namely INSSE (National Institute of Statistics - Romania), BNR (National Bank of Romania), ANV (National Customs Authority – Romania), Foreign Trade Department of Romania (DCE), UNCTAD, WTO, OECD and EXTRASTAT. Of course, these elementary data needed supplementary calculations and adjustments because they were nowhere accurately supplied in economic publications as to be used in the intended analysis cover the 1990-2006 period. Here we refer to a unitary system of indicators – foreign trade volume, export volume, import volume, export per inhabitant, etc. – for each year belonging to analyzed period, all these being included in a compact and harmonized personal created statistic data basis.

As it regards the interpretation of the results below, we remind the fact that the results obtained from the computation formula of the comparative advantage (Formula 2) are favourable, if the value of the indicator is positive, if the group of products or the product considered is more efficiently commercialised, compared to the trade in total, and unfavourable if the indicator's value is negative, case in which the group or that particular products register comparative disadvantages. In Table 1, we marked as bold figures the sections of products which register comparative advantages, the positive values of the indicator, respectively.

It can be noticed therefore only a few sections of products for which the results are positive in the entire period considered. Principally, the section of *Wood and articles of wood products (Section IX)*, *Textiles and*

textile articles (XI), *section of Footwear (XII)*, *section of Base metals and articles of base metal (XV)*, respectively – excepting the year 2006, when it has a negative value, and the *section of Miscellaneous manufactured articles*, mainly *furniture (XX)* registers positive values of the comparative advantage. For the rest of the sections, even though it registers positive values, too, these are small and most of the times the trend is descending so that they become negative. If for the section of *Wood and articles of wood products (Section IX)*, the tendency is ascending until 1999, only at the end of the period– 2000-2006 – noticing lower values, descending, for section XX (mainly furniture), the trend is continuously descending, an explanation residing in the fact that at exports, the price of furniture highly depends on the raw material prices which, if ascending, are reflected in the unfurling of the internal producers; activity which diminishes the domestic production of furniture. Moreover, the domestic production did not correspondingly re-adapt to the tendencies registered by the market demand. As for example, the years 2000-2005 were dominated by a preponderant demand for synthetic wood furniture (PAL), but the domestic industry has not the necessary technology to produce a sufficient quantity from this material; as a result, it was massively imported and as used to satisfy the internal demand for such furniture, due to which the exports registered reductions in the comparative advantage and competitiveness, our country being mostly specialised and externally well-known for its traditionally production of massive wood furniture.

The evolution of Romania's external trade apparent comparative advantage, 1991-2006

Table 1

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I		1.69	1.10	1.16	0.92	0.35	1.04	1.49	-1.12	-0.07	-0.20	-1.05	-0.92	-0.44	-0.92	-1.78	-1.91
II		-2.28	-3.10	-2.83	-0.91	0.39	1.15	-0.04	-0.33	0.15	-1.05	-0.85	-0.59	-1.70	-1.34	-0.67	-0.44
III		-1.08	-2.57	1.42	0.52	1.35	1.64	1.74	0.31	0.66	-0.69	-0.42	-2.50	-0.97	0.29	0.09	-0.41
IV		-3.11	-3.19	-2.87	-2.04	-2.73	-2.44	-1.86	-2.47	-2.34	-2.37	-2.40	-2.09	-2.34	-2.55	-2.68	-2.87
V		-1.97	-1.82	-1.58	-1.14	-1.59	-1.92	-1.77	-1.71	-1.14	-1.05	-1.42	-0.85	-1.18	-1.32	-1.06	-1.14
VI		-0.51	0.03	-0.53	-0.17	-0.33	-0.51	-0.70	-1.59	-1.36	-0.92	-1.21	-1.46	-1.45	-1.38	-1.31	-1.71
VII		-0.47	-1.06	-1.23	-0.54	-0.86	-1.19	-1.17	-1.53	-1.19	-1.18	-1.63	-1.30	-1.23	-1.07	-1.18	-1.32
VIII		0.46	-1.63	-1.57	-1.14	-1.79	-2.28	-1.91	-2.27	-1.91	-1.63	-1.74	-1.65	-1.72	-1.66	-1.83	-1.92
IX		1.60	2.24	2.35	2.44	1.99	2.48	2.51	2.65	2.47	2.40	2.15	1.85	1.86	1.73	1.40	1.38
X		-0.79	-2.42	-2.19	-1.63	-1.32	-2.21	-1.84	-2.72	-2.12	-1.61	-1.63	-1.56	-1.79	-1.80	-2.35	-2.75
XI		0.68	-0.30	0.23	0.41	0.34	0.36	0.29	0.24	0.15	0.20	0.24	0.23	0.31	0.34	0.35	0.33
XII		0.89	0.80	1.61	1.79	1.81	1.99	1.67	1.60	1.59	1.60	1.85	1.79	1.89	1.86	1.87	1.90
XIII		0.02	0.66	0.61	0.55	0.37	0.06	0.07	-0.05	0.04	-0.14	-0.40	-0.47	-0.70	-1.06	-1.58	-2.09
XV		1.31	1.43	1.66	1.29	1.25	0.81	1.13	1.00	0.80	0.77	0.39	0.39	0.29	0.40	0.20	-0.06
XVI		-0.26	-0.84	-1.29	-1.19	-1.52	-1.86	-1.69	-1.76	-1.17	-1.00	-1.01	-0.81	-0.96	-0.88	-0.97	-1.00
XVII		1.68	0.68	0.48	0.19	0.10	0.09	0.21	-0.18	0.09	-0.11	-0.40	-0.34	-0.52	-0.98	-0.93	-0.97
XVIII		-2.68	-2.60	-3.08	-2.72	-3.41	-3.34	-3.15	-2.83	-2.57	-2.70	-2.61	-2.47	-2.53	-2.16	-2.10	-2.18
XX		3.47	2.80	2.21	1.57	1.50	1.43	1.23	1.18	1.10	0.99	1.09	1.02	1.05	1.09	0.84	0.64
XXII		0.70	-1.03	0.40	0.06	-0.86	-1.61	-1.92	-1.66	-0.09	0.25	0.48	1.18	1.24	0.71	0.43	0.18

Source: Personal computations based on statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

The comparative advantage is positive and ascending for the *section of Footwear (XII)*, a group whose exports and production register increases every year. This sections' comparative advantage was given by the cheap and skilled labour force which attracted foreign investors in our country (preponderantly Italians) and who brought

with them performing technological lines. The disadvantage consists in the fact that their investments are not on long-term, and in case of not necessarily major changes in the market conditions, they can easily relocate the production to other countries, determining thus losses for the Romanian comparative advantage for this group of

products, as a result of the fact that the production technological lines do not belong to us (see as argument the tendency of section XVI, technology intensive – *Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles*). The section of metals (group XV) registers comparative advantages, too, highly due to the restructuring in the field, but as it can be noticed in the table, the values are on a descending trend, registering even a negative value at the level of 2006.

For the technology intensive group of products, *section XVI - Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles* - respectively, the fact that Romania registers a comparative disadvantage is not at all surprising. Section XVI is the technology intensive group of products, and if the comparative advantage indicator registered positive values, it would mean a more advantageous trade for this group compared to the total trade. This situation would be a desirable one for Romania, having in view the fact that the sections where we have comparative advantages are preponderantly intensive in labour force. Therefore, the evaluation of the *apparent comparative advantage* shows that Romania is slightly competitive in the traditional branches and non-performant in the industries based on high technology.

Next, we will make this analysis based on Romania's external trade with the EU, the results being presented in Table 2. It results that on the relation with the EU the comparative advantage is maintained for sections IX, XI, XII, XV and XX, but they are maintained partially, because in the last year there were negative values, too (for section XV, even in the last two years). For sections I and II from the Combined Nomenclature (*Live animals; animal products and Vegetable products*) positive values are registered (which can be explained based on the Asymmetric Concessions of the Association Agreement with the EU), but also negative values. The situation is different though towards the end of the period analysed, when the first group registers negative values, and the second group positive values, which can be explained by the cancellation of the barriers in the trade with agricultural products with the European Union, which had an unfavourable impact on the Romanian agricultural sector connected to cattle rearing, but, in exchange, a favourable one in the trade with cereals.

Therefore, we find interesting the fact that the accession of many of the main CEFTA member countries to the EU in 2004 led to a surplus of agricultural products compared to 2003 and 2004, the explanation residing only in the fact that the accession determined these countries to restructure their economy, their imports, respectively, which could lead to an increase of our country's exports to these countries, being affected also by the natural calamities that both these countries, as well as our country faced in the reference years. For

sections III and IV, the negative values for the entire period in the case of the Romanian total foreign trade (excepting 1993-1999 and 2004-2005), but also in the case of the external trade with the EU demonstrate that we do not own comparative advantages at all for these sections. For the products of section V (*Mineral products*) the situation on the relation with the EU is strongly contrasting starting with 2001 compared to the global one, because in the commercial exchanges with the EU we registered systematically positive values in the last years, which reflects the restructuring by sector, but also the fact that the main investor in this sector is an European one. For the group of chemical products (Section VI), it clearly results that on the relation with the European Union, the values are unfavourable, a proof of the fact that the much awaited restructuring leaves much to be desired, its lack being reflected in the unitary cost of labour force in the chemical industry, which surpasses the average labour cost on the total of industry.

Section IX (Wood products, exclusively furniture) registers descending values of the comparative advantage starting with 1999, which means that on the EU oriented trade relation it was not advantageous to perform exchanges with wood products, in raw form, a thing confirmed as a matter of fact by the negative values registered in the last two years. We must mention here that the descending started together with the drastic enforcement of some trade barriers of non-tariff type (contingents etc.) for the export

of such products, a thing we cannot appreciate as being negative and it could be transformed into an advantage if the descending tendency of this group were found in an increase of the group XX (furniture); but unfortunately it did not happen like this, and this group registered clearly descending tendencies towards 2006, even though they maintain themselves positive. Yet, the situation of this section on the relation with the European Union is good, the values being higher than those at the global level, which means that furniture represents one of the sectors bringing profit on the relation with the European Union countries.

For section XI, the comparative advantage registered again high values, which means that in this sector the trade with the EU was more favourable than the global trade, but the tendency is clearly descending towards 2006. It can be noticed that section XII (footwear) registered the best comparative advantage on the relation with the EU in the analysed period, with values in continuous increase since 1999 onwards. Therefore, the situation of this section, just like that of the previous one, is otherwise explainable by the reduced labour force cost in this sector (light industry), and, actually, to the export mainly in *lohn* – for section XII. It is worth noticing that the difference of results between a *lohn* type activity and one induced by direct foreign investments: while in the first case the tendency of the comparative advantage is more and more descending, in the second case is reversed, and the tendency is ascending.

The comparative advantage of Romania's external trade with the European Union, 1991-2006

Table 2

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	I		0.57	0.32	0.24	0.44	0.24	0.44	0.88	-0.41	0.38	-0.03	-0.46	-0.74	0.14	-0.73	-1.37
II		-1.61	-3.15	-2.99	-0.03	0.47	-0.06	0.25	0.10	0.73	-0.14	0.31	0.40	-0.41	-0.41	0.10	0.34
III		-0.87	-2.57	0.13	-1.96	-0.62	-3.22	-2.90	-3.30	-1.00	-3.34	-2.31	-5.12	-2.17	-0.05	-0.37	-1.15
IV		-1.92	-2.70	-2.31	-1.56	-2.13	-1.87	-1.71	-2.38	-1.88	-1.60	-1.34	-1.49	-1.66	-2.04	-2.25	-2.61
V		0.45	-0.41	0.72	0.79	-0.31	-0.38	-0.92	-0.42	-0.64	-0.84	0.07	1.52	1.10	0.78	0.31	0.20
VI		-1.17	-1.70	-1.94	-0.89	-1.21	-1.49	-1.65	-2.28	-2.30	-1.82	-2.25	-2.37	-2.23	-2.19	-1.38	-1.80
VII		-0.74	-1.31	-1.51	-0.85	-0.69	-0.98	-1.02	-1.20	-1.17	-1.09	-1.43	-1.34	-1.31	-1.31	-2.25	-2.63
VIII		0.74	-1.81	-1.66	-1.13	-1.84	-2.18	-2.03	-2.15	-1.81	-1.59	-1.64	-1.52	-1.53	-1.45	-0.20	-0.18
IX		0.88	1.61	1.19	1.15	0.83	1.21	1.38	1.99	2.02	1.90	1.78	1.56	1.73	1.02	-0.52	-0.69
X		0.43	-2.11	-2.48	-1.55	-1.40	-2.19	-2.21	-2.77	-2.26	-1.78	-1.50	-1.70	-1.80	-2.21	-2.94	-3.61
XI		4.73	2.50	2.85	2.10	2.36	2.55	2.61	2.55	2.24	2.31	2.45	2.45	2.68	2.79	0.44	0.47
XII		0.91	0.81	2.19	1.82	1.87	1.79	1.72	1.70	1.58	1.61	1.73	1.74	1.80	1.90	2.23	2.44
XIII		0.43	1.98	1.80	1.31	1.28	1.15	1.12	1.25	1.23	0.97	0.68	0.64	0.60	0.19	-1.35	-1.93
XV		1.96	2.01	1.99	2.02	2.50	2.21	3.00	2.85	2.47	2.48	2.01	1.58	1.42	1.33	-0.38	-0.71
XVI		-1.06	-2.17	-2.19	-1.28	-1.42	-1.47	-1.14	-0.86	-0.37	0.06	-0.07	0.04	0.05	0.19	-0.69	-0.72
XVII		-1.31	-1.97	-2.01	-1.09	-1.30	-1.02	-1.30	-1.31	-0.66	-0.88	-1.04	-0.84	-0.72	-0.73	-1.03	-1.08
XVIII		-1.34	-3.15	-3.02	-2.50	-2.82	-2.83	-2.72	-2.47	-2.22	-2.02	-1.83	-1.72	-1.86	-1.85	-1.71	-1.85
XX		5.82	6.02	4.71	2.70	2.57	2.44	2.32	2.34	2.18	2.01	2.23	2.14	2.11	1.96	1.06	0.96
XXII		-1.61	2.11	0.60	-1.72	-2.37	-3.66	-4.28	-3.00	-1.32	0.06	0.61	1.05	1.20	0.44	-0.37	-4.91

Source: Personal computations based on statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

Section XIII (*Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware*) registers also comparative advantages, but these have gone on a descending slope since 1998 onwards, reaching negative values in 2005 and 2006. This trend is given by the explosive growth of the real estate constructions sector in our country, thus accelerating the imports. An important role is held in this situation the proliferation of real estate credits in the last years. For the

technology intensive group of products (*Section XVI – Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles*) the negative trend is also maintained, except for the years 2000 and 2002-2004 when we registered positive values. But the situation is much better compared to the global foreign trade situation, a proof that where it is desirable

to maintain a comparative advantage, especially with the EU, even though we have comparative disadvantages. The situation can be improved and it would have been improved if another instrument of banking policy had not interfered – the consumption credits which reached very high values in 2005 and even 2006, leading to an increase of the demand for products from this

category which was covered by the Romanian imports from EU. The trade relation with the European Union generally reflects comparative advantages or comparative disadvantages similar to those registered on the global market, exceptions being registered for sections II, V, IX, XI and XXII respectively, as it is emphasised in Figure 1.

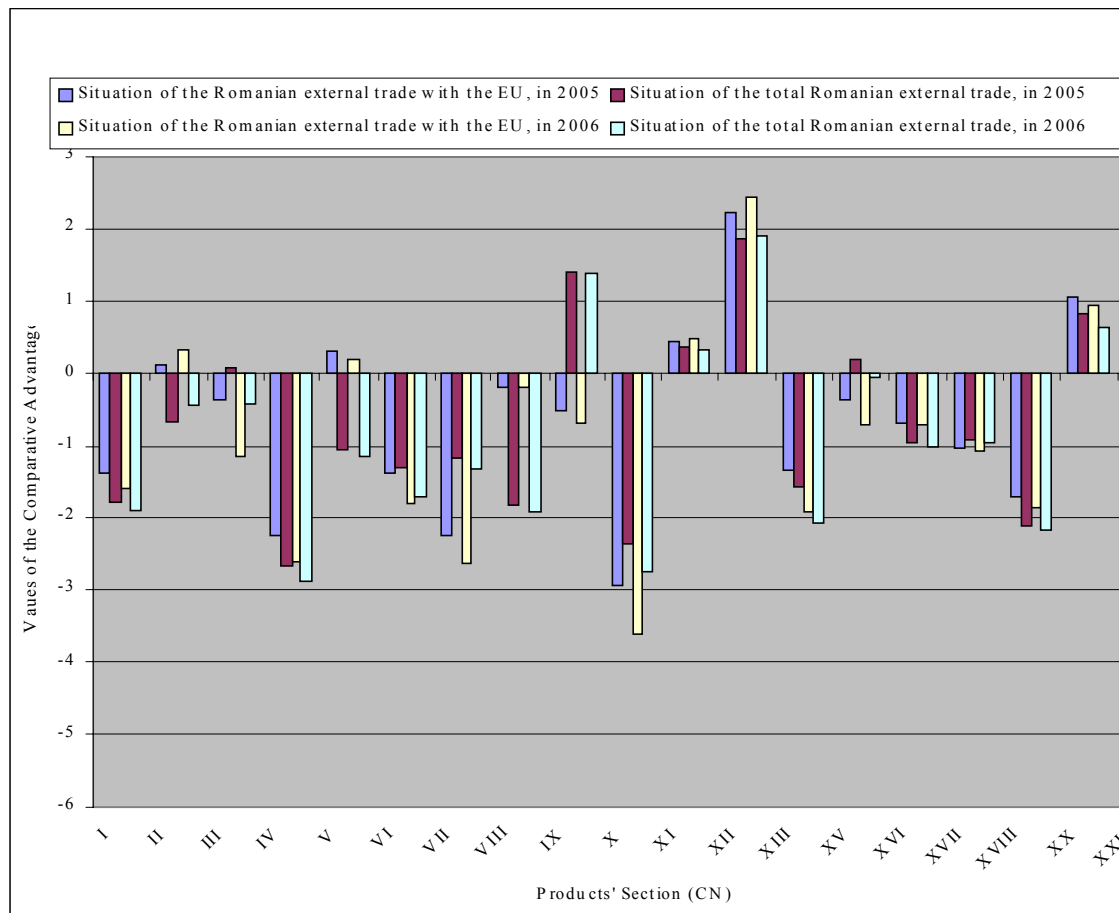


Figure 1. The situation of Romania's external trade comparative advantages in 2005 and 2006

Source: Data recorded in Table 2.

Of course, the discrepancies in the values obtained results from the shares of exports, of imports, to, respectively, from the EU, from each group of products, in the total of exports and imports and we explained them when analysing each group individually. What we consider very serious though is the fact that

our comparative advantage on the relation with the EU was reduced continuously for all sections of products except for XII (Footwear), so that at the level of 2006 only for 5 sections we still had a comparative advantage in our commercial relations with the EU, more exactly – apart from the

exception already mentioned – for sections II (Vegetal products), V (Mineral products), XI (Textile materials and articles) and XX (Furniture). Their values, apart from being descending, are already sub-unitary. These data come to support the idea that a rapid geographical reorientation of our foreign trade is necessary, so that, until we manage to completely reform our economy so that to be able to produce competitive products to be delivered on the developed markets, to find outlets for our current products. Therefore, the extremely high current share of our trade with the EU in our total external trade must be reduced as soon as possible, so that the markets like those of Africa and South America to become our main commercial partners at export, and we should import from the EU developed countries mainly the technology necessary to increase our domestic production's productivity.

Important to state here is the fact that if the group of products for which we identified the comparative advantage in the Romanian total external trade registers a high weight at export or import to and from the EU, but also in the total export and import, this thing is a first clue that the comparative advantage is maintained. We were interested in this context that during the period analysed to follow exactly which are the sections registering significant shares in the Romanian foreign trade with the EU, in the total of imports, of exports, respectively, thus computing these shares in the total of that particular section (the results of these computations are found in Annex 1). The data convince us again that almost at all sections (with some exceptions) Romania exports, imports respectively, in a quite high

weight from and to the European Union. But the data in Annex 1 would not mean anything if it were not corroborated with the data in Table 2, referring to the comparative advantages. Therefore, we can notice that, mainly, for at least one of the components (export or import), for the sections where we found that, there were a comparative advantage, the share is above 50% in the total of Romanian exports or imports from that particular section of products. The relevance of this computation is important to the extent to which it is followed to what extent Romania's external trade comparative advantage with the European Union is exploited, respectively what weight the Romanian export or import with the EU occupies on sections, in the total of export and import.

In completing this analysis we must bring other computation referring to the shares held by each section for import and export, in the total Romanian import and export on the trade relation with the EU, so that we made these computations in the tables of the Annex 2. In those tables we marked again the sections registering ascending tendencies at export, at import respectively, regarding the shares in the total of exports, of imports respectively on the relation with the EU. The annex provides supplementary information regarding the structure of the Romanian foreign trade on the relation with the EU, because the computation of the comparative advantage does not require the presentation of the structure on the sections of merchandises. Thus, it can be observed that high shares in the Romanian exports to the EU are held by the following categories of products: Textile materials and confections

(section XI); footwear (section XII), machines and equipments (XVI); common metals and articles (XV); means and materials of transport (XVII), furniture (XX). Regarding the import from the EU, we have high weights for the sections: chemical products (VI), textile materials (XI), common metals (XV) and machineries and equipments (XVI). A part of the sections of products registering high weights at export and/or import were identified as

being sections with comparative advantages (IX, XI, XII, XV, XX).

We were interested to follow group XVI intensive in technology which registers ascending weights at export and import, with a higher weight at import. The fact that on the trade relation with the EU, the share of imports from the technology intensive section of products in the total of imports is high cannot be but a favourable sign, if these particular imports would serve the production for exports.

The values registered by the Michaely indicator applied onto the Romanian total foreign trade, 1991-2006

Table 3

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	I		2.60	2.90	2.30	2.20	0.90	1.30	1.80	-0.60	0.20	0.10	-0.70	-0.60	0.00	-0.40	-1.20
II		-4.40	-5.70	-6.10	-0.90	1.10	3.20	0.50	0.20	0.80	-0.90	-0.60	-0.30	-1.70	-1.00	-0.10	0.30
III		-0.10	-0.50	0.90	0.30	0.70	0.70	1.20	0.40	0.30	-0.10	0.00	-0.30	-0.10	0.10	0.10	0.00
IV		-5.00	-5.90	-5.10	-4.40	-4.70	-4.00	-2.50	-3.30	-3.20	-3.00	-2.70	-2.20	-2.20	-2.20	-2.00	-2.00
V		-28.70	-19.30	-16.80	-15.20	-14.90	-15.00	-13.70	-8.20	-5.90	-6.60	-7.40	-4.20	-5.30	-6.20	-4.50	-3.50
VI		-0.40	3.10	-0.80	0.10	0.10	-0.10	-1.70	-4.60	-5.40	-3.30	-3.40	-4.90	-4.20	-3.90	-3.00	-3.60
VII		0.00	-0.90	-1.50	-0.90	-1.20	-1.50	-1.70	-2.20	-2.40	-2.30	-2.90	-2.90	-2.70	-2.10	-2.10	-2.00
VIII		0.30	-0.70	-1.00	-1.20	-1.40	-1.60	-1.70	-1.80	-2.10	-1.80	-2.00	-2.20	-1.90	-1.50	-1.30	-1.00
IX		2.00	3.00	3.10	3.30	2.70	3.20	3.60	4.10	5.20	4.80	3.90	3.70	3.70	3.50	2.80	2.60
X		-0.10	-1.10	-1.10	-1.40	-1.20	-1.70	-1.50	-2.10	-1.90	-1.50	-1.30	-1.40	-1.50	-1.30	-1.40	-1.40
XI		4.90	1.50	6.00	7.50	8.10	9.70	9.20	10.60	7.50	7.80	10.10	8.90	10.50	9.70	8.70	7.80
XII		1.20	1.00	2.50	4.10	4.40	5.20	5.10	5.70	6.20	5.90	7.00	6.80	6.70	5.30	4.70	4.30
XIII		0.5	1.10	1.10	0.80	0.80	0.60	0.50	0.50	0.40	0.20	0.00	-0.20	-0.30	-0.60	-0.90	-1.10
XV		10.10	12.50	15.30	12.40	12.80	9.40	12.50	12.50	8.90	9.10	6.00	5.50	5.20	7.10	6.00	5.10
XVI		1.70	-3.00	-8.60	-11.90	-12.30	-13.60	-14.30	-13.50	-12.10	-10.70	-7.90	-7.20	-7.90	-6.20	-5.70	-4.00
XVII		8.50	6.20	3.90	1.70	1.60	1.80	1.90	1.10	1.30	0.70	0.10	0.00	-0.50	-2.90	-2.30	-1.70
XVIII		-1.80	-0.90	-1.50	-2.00	-2.50	-1.80	-2.00	-1.80	-2.10	-2.30	-2.10	-2.00	-1.80	-1.30	-1.10	-1.00
XX		8.40	7.60	7.00	5.50	5.50	5.10	4.40	4.30	3.90	3.30	3.60	3.50	3.70	3.60	3.00	2.60
XXII		0.90	-0.90	0.70	0.30	-0.40	-0.80	-1.40	-1.10	0.10	0.20	0.20	0.30	0.40	0.20	0.30	0.20

Source: Personal computations based on official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

To complete our study, we consider important, the computation of the *Michaely indicator* too, based on which we made the computations whose results are presented in Table 3. From this table it results that the sections for which we do not register deficits of the balance of trade are: IX, XI, XII, XV and XX, the results for this indicator being practically in accordance with what we computed for other indicators, because these sections were those we identified as being sections with positive signals, almost in all the cases. Permanent commercial deficits, negative values respectively in each year (excepting 1991 for some of them) for Michaely indicator can be seen for the following sections: section IV (foods, beverages, tobacco); section V (mineral products); section VII (plastic masses, rubber and articles made of these), section VIII (raw leather, taw skins, furs and products made of these), section X (paper); section XVI (machines and equipments), and section XVIII (optical instruments and equipments), respectively.

Also, for completing our analysis, we computed Michaely indicator for the trade relation with the EU to see if there is a group for which we have commercial deficit on the global trade relation and eventually commercial surplus on the relation with the EU. Of course, so far we have had all the signals that the sections presenting surpluses are approximately the same, but we consider that our analysis becomes even more valuable if, related to the empirical aspect, we manage to fully convince which are the sections registering surpluses both in the total of the Romanian foreign trade as well as in that with the EU and, moreover,

we obtain another clue necessary for the future of our foreign trade as a EU member.

Therefore, Table 4 presents the results of Michaely indicator for the Romanian external trade with the EU wherefrom we can notice that unlike our global trade relations, in the trade relation with the EU, Romania registered a permanent surplus also for section XIII (*Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware*). Moreover, still unlike the global trade relation where our country registered permanent high deficits in the period analysed, our foreign trade with mineral products (section V) registers surplus in the trade relation with the EU in ten out of the sixteen years analysed, more exactly in the first four years of the interval, and more important, in the last six. The results of the sections V and XIII reveal the fact that the global external trade deficit registered by Romania in these cases is not due to the commercial exchanges with the European Union, in which we seem to export more than import for these categories of products, but to the commercial relations with other states, such as Russia for group V. Regarding the rest of the sections, the situation is relatively similar, which we expected taking into consideration the share of our foreign trade with the EU in the total of the Romania's external trade. We must signal hereby also the fact that it can be noticed a considerable diminution for group XV (metals) in the last years, a proof that the restructuring in the field has become absolutely necessary (an important role in the subsequent bringing was held by the privatization of Sidex Combine group of enterprises Galați) and

that the surpluses registered for group XI are almost equal to those on the global relation, which indicates us that the lohn activity in the field of textiles is unfurled

preponderantly with the EU states. This is not a positive thing at all if we think of a possible liberalization of trade with these products between the EU and Asia.

The values of the Michaely indicator for the Romanian external trade with the EU, 1991-2006

Table 4

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	I	1.80	1.80	0.70	0.60	0.40	0.60	0.80	-0.10	0.40	0.10	-0.30	-0.70	0.30	-0.50	-1.00	0.20
II	-7.50	-6.50	-7.60	0.00	0.50	0.20	0.40	0.30	1.00	0.00	0.40	0.40	-0.20	-0.10	0.40	0.40	
III	-0.30	-0.70	0.30	-0.40	-0.10	-0.30	-0.40	-0.40	-0.20	-0.20	-0.20	-0.30	-0.20	0.00	0.00	0.00	
IV	-6.70	-3.60	-3.20	-3.60	-3.60	-3.20	-2.00	-2.30	-2.10	-1.40	-1.20	-1.20	-1.30	-1.80	-1.70	0.10	
V	8.50	2.70	6.20	3.70	-0.30	-0.50	-1.50	-0.20	-0.60	-0.80	0.50	4.20	1.70	2.00	1.30	0.60	
VI	-7.20	-3.40	-5.80	-5.70	-5.60	-7.40	-6.60	-7.50	-8.70	-7.30	-7.40	-8.40	-7.50	-7.30	-4.60	0.80	
VII	-1.10	-0.70	-1.60	-2.20	-1.30	-2.20	-2.00	-2.20	-2.90	-2.90	-3.70	-4.20	-4.40	-4.20	-5.70	0.30	
VIII	0.30	-0.80	-1.40	-2.50	-2.70	-3.70	-3.30	-3.20	-3.60	-3.40	-3.90	-4.00	-3.60	-2.30	0.50	1.10	
IX	1.50	2.50	1.50	1.30	1.10	1.40	1.60	2.20	3.40	2.80	2.40	2.20	2.50	2.10	-0.10	0.30	
X	0.30	-0.50	-0.80	-1.40	-1.20	-2.00	-1.70	-1.90	-1.80	-1.60	-1.40	-1.70	-1.80	-2.00	-2.30	0.10	
XI	12.00	15.80	28.00	28.80	27.20	32.50	32.70	32.40	31.80	30.50	31.60	31.00	31.20	24.00	11.20	7.00	
XII	1.50	1.80	5.40	8.00	7.60	9.00	8.90	8.80	9.20	9.20	10.10	9.90	9.50	7.30	8.00	2.10	
XIII	1.00	2.90	2.40	1.80	1.70	1.60	1.40	1.40	1.30	1.00	0.80	0.70	0.60	0.40	-1.20	0.20	
XV	9.80	11.00	8.50	9.90	15.10	13.90	15.40	14.50	10.90	11.10	7.70	5.70	5.20	7.00	0.10	1.00	
XVI	-9.20	-8.50	-13.20	-16.90	-13.20	-16.40	-9.00	-5.60	-3.00	2.50	1.40	2.20	3.10	6.30	-5.00	4.00	
XVII	-5.20	-3.20	-4.30	-4.20	-4.30	-3.50	-3.40	-4.20	-2.70	-3.80	-4.90	-4.50	-3.70	-3.20	-4.80	1.20	
XVIII	-0.70	-1.00	-1.50	-2.60	-2.30	-2.60	-2.30	-2.00	-2.10	-1.90	-1.60	-1.70	-1.80	-1.50	-1.10	0.20	
XX	16.90	17.80	13.90	10.70	9.60	9.00	7.30	6.40	6.40	5.50	5.80	5.60	5.70	5.40	4.40	1.10	
XXII	-2.30	0.50	0.10	-0.90	-1.00	-1.80	-2.40	-2.20	-0.50	0.10	0.20	0.20	0.20	0.10	-0.10	0.00	

Source: Personal computations based on official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

For section XVI, a positive factor is that the commercial deficit has been registering a descending tendency in the last years, except for 2005, which means that there is a potential in this direction which should be used. The more detailed study of this group is highly necessary because we have

to know if really technology intensive products are exported from this group, due to the fact that our country would rather need import of technology for a sustainable and supporting economic growth. Therefore, section XVI is made up of two chapters: 84 - *Nuclear reactors, boilers,*

machinery and mechanical appliances; parts thereof – and chapter 85 – *Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles*. The detailed presentation of the Michaely indicator's evolution in 1991-2006 of the products enclosed in the two chapters is presented in Table 5. The data in Table 5 indicate both the exports as well as the imports from the two chapters register an ascending trend but showing a deficit and from chapter 85 we export and import products in a high value and we even have registered a positive trade balance for 2006. The data reflect also the fact that we export and import more within products comprised in chapter 85, a thing which we can consider less favourable

because the higher degree of detailed presentation on products points out that chapter 84 is more technology intensive because it contains more machineries and equipments, and chapter 85, comprising parts and accessories and radiotelegraph, radio or TV broadcasting devices, generally final usage goods. If these kind of manufactured products are the most imported, they cannot subsequently contribute to the exports. Furthermore, the degree of detailed presentation of this group is high, on a considerable number of products (see the Combined Nomenclature Classification for a better detailed presentation, on groups and subgroups of products comprised in these chapters). No matter it is about chapter 84 or chapter 85, there are deficits because in all the cases the imports exceed the exports.

The values of Michaely indicator applied for the Romanian total foreign trade with products from section XVI of the CN, chapters 84 and 85, 1991-2006

Table 5

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	XVI		-9.20	-8.50	-13.20	-16.90	-13.20	-16.40	-9.00	-5.60	-3.00	2.50	1.40	2.20	3.10	6.30	-5.00
84		4.50	0.40	-5.00	-7.70	-8.80	-9.80	-9.20	-7.60	-6.50	-5.30	-6.00	-6.50	-7.40	-5.90	-5.60	-3.60
85		-2.70	-3.40	-3.60	-4.30	-3.50	-3.80	-5.10	-5.90	-5.50	-5.30	-1.90	-0.70	-0.50	-0.40	-0.10	0.90

Source: Personal computations based on official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

In the foreign trade statistic bulletins, for some products, the statistics are stated in items or tons, and therefore we consider that the details also have their own role, to catch the substance and to extract some valid conclusions, but from the empirical

point of view, a detailed presentation on several figures of the classification of the sections presents the inconvenience of a difficult comparability due to the quantitative expression of data for some of the chapters.

For section XVI, we wanted to be to a certain extent more detailed, because we were interested in finding from where the trade balance deficit of this group comes from, for which quite high weights for export and import were found together with sections IX and XI. But for these latter sections, we obtained comparative advantage (see Table 1), a thing which would have been desired for group XVI – intensive in technology – too. Because one of the objective of this paper is not only to see how the comparative and competitive advantages of the Romanian foreign trade has evolved in the context of European integration, but also to see what the problems characteristic to this evolution are and what should be done in order to improve our foreign trade exchanges while changing of our status into that of member state of the European Union, and, therefore, a developed country and a part of the biggest world trader, but yet with a high deficit of the trade balance, we therefore consider that in this context, section XVI – intensive in technology – presents a major importance, because the imports, the exports respectively from this section could contribute to an long-term economic growth of the country and to a equilibrium of the foreign trade balance regarding the new challenges of globalisation.

Next, based on statistic data provided by the International Trade Center – from where we took over some of the products of this group, considered significant in presenting the profile for imports and exports – regarding the first 40 products in the top of Romanian exports, according to

the SITC HS 4 – digit classification, among which we also found products belonging to group XVI, we considered only the products from the top 40 at least for two years in the interval 2000-2005 and we presented them in Table 6 (if in the table there is no value, it means that the product is not anymore in the *top 40* of exported products in that particular year).

The detailed presentation of chapters reflects the fact that the products among the first 40 products exported by Romania from section XVI are: parts and accessories (8431), ball bearings (8482), wires, cables and other electric conductors (8544), electric devices for telephones (8517), broadcasting devices for radio-telephoning (8525), and in a smaller value engines and electric generators are exported (8501). Considerable values register group 8544 – Insulated (including enamelled or anodised) wire, cable (including coaxial cable) and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables, made up of individually sheathed fibres, whether or not assembled with electric conductors or fitted with connectors, which otherwise remained in the top 40 of products during the entire period considered. The wire, cable and electric conductors export can be considered as products needing a certain processing but their added value is not high. Moreover, we must consider the fact that the automobile industry uses on a large scale the countries with cheap and skilled labour force to supply these products, and therefore Romania is – unfortunately – framed into this category.

Products exported from the section XVI, according to HS 4 - digit classification, found in the top of the first 40 Romanian exported products in 2000-2005, stated in thousands of US dollars

Table 6

Code Chapters of Section XVI	Year					
	2000	2001	2002	2003	2004	2005
8431	-	57	71.7	-	104.9	148.8
8482	94	112	111.2	130.5	157.8	206.9
8501	65	70	75.6	101.9	133.6	147.9
8517	95	197	179.3	138.1	129.9	83.5
8525	76	89	-	114.2	85.4	84.5
8544	168	277	497.8	748.2	1078.7	1425.9

Source: ITC, 2006, site: <http://www.intracen.org/index.htm>

For imports, the same detailed presentation of the technology intensive group presents in the period 2000-2005, the following situation:

Products imported from the section XVI, according to HS 4 - digit classification, found in the top of the first 40 Romanian imported products in 2000-2005, stated in thousands of US dollars

Table 7

Code Chapters of Section XVI	Year					
	2000	2001	2002	2003	2004	2005
8471	195	227	265	388	464.7	636.3
8473	66	81	90	132	174.8	259.9
8481	62	84	92	117	159.0	196.7
8504	82	77	99	123	145.1	192.6
8517	296	246	182	159	262.9	256.5
8525	106	165	196	258	418.8	623.8
8536	84	124	163	253	330.1	454.1
8542	336	172	309	351	338.9	261.9
8544	195	186	224	292	402.0	528.9

Source: ITC, 2006, site: <http://www.intracen.org/index.htm>

In the case of imports, we therefore found several products from section XVI being in the *top 40* of products imported by Romania, which actually means a higher diversification of the imports situated in the top, within this section. For imports, the structure on significant products is presented by the final usage goods, such as the products 8471 (machines processing data and their parts) or components of the final usages goods, such as the product

8473 (parts and accessories). Also, we import interception devices for radio and telephones, radio emission and television, generally final usage goods which, unfortunately, cannot contribute to the exports (product 8525) and subsequently to the economic growth. A positive signal could be though the growth of imports from product 8504 (electric transformers, electrostatic converters) or from the other products based on electricity because these

could highly contribute to performance and intensive exports in technology. In spite of all these, the above presentation strengthens our opinion regarding the commercial exchanges of this group especially on the relation with the EU, being a proof more of

the fact that together with the proliferation of the consumption credits, starting with 2004, the commercial exchanges with the products from this section have intensified due to the Romanians' increasing need for electrical appliances or mobile telephony.

The evolution of the Lafay indicator for the total Romanian foreign trade and with the EU, during 1991-2006

Table 8

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I		1.25	1.38	1.11	1.08	0.44	0.61	0.87	-0.30	0.10	0.04	-0.32	-0.30	-0.01	-0.20	-0.56	-0.44
EU		0.88	0.82	0.32	0.31	0.21	0.29	0.38	-0.04	0.22	0.04	-0.17	-0.35	0.13	-0.23	-0.47	-0.33
II		-2.16	-2.76	-2.97	-0.46	0.56	1.54	0.22	0.12	0.42	-0.46	-0.28	-0.14	-0.84	-0.47	-0.05	0.12
EU		-3.74	-3.04	-3.66	0.01	0.26	0.08	0.19	0.15	0.51	-0.01	0.19	0.18	-0.12	-0.07	0.22	0.40
III		-0.04	-0.23	0.45	0.17	0.36	0.32	0.57	0.18	0.17	-0.04	0.00	-0.15	-0.04	0.07	0.05	0.02
EU		-0.16	-0.34	0.13	-0.21	-0.05	-0.15	-0.18	-0.20	-0.08	-0.12	-0.09	-0.17	-0.09	0.01	0.00	-0.02
IV		-2.42	-2.88	-2.51	-2.19	-2.33	-1.92	-1.23	-1.61	-1.58	-1.46	-1.34	-1.11	-1.09	-1.05	-0.98	-0.96
EU		-3.36	-1.69	-1.53	-1.80	-1.78	-1.59	-0.98	-1.15	-1.04	-0.71	-0.59	-0.59	-0.65	-0.88	-0.84	-0.74
V		-14.01	-9.32	-8.23	-7.54	-7.33	-7.26	-6.71	-3.99	-2.94	-3.24	-3.62	-2.08	-2.60	-3.03	-2.17	-1.65
EU		4.22	1.27	3.01	1.83	-0.12	-0.26	-0.74	-0.10	-0.28	-0.39	0.23	2.09	0.84	0.99	0.65	0.63
VI		-0.19	1.48	-0.39	0.03	0.05	-0.05	-0.85	-2.25	-2.66	-1.61	-1.67	-2.43	-2.07	-1.88	-1.45	-1.70
EU		-3.62	-1.60	-2.77	-2.85	-2.76	-3.65	-3.25	-3.70	-4.33	-3.65	-3.66	-4.21	-3.75	-3.60	-2.24	-1.98
VII		-0.02	-0.43	-0.71	-0.43	-0.61	-0.74	-0.86	-1.08	-1.17	-1.12	-1.39	-1.43	-1.30	-1.02	-1.00	-0.94
EU		-0.54	-0.33	-0.79	-1.12	-0.62	-1.08	-0.98	-1.07	-1.46	-1.42	-1.83	-2.10	-2.18	-2.06	-2.78	-2.49
VIII		0.13	-0.32	-0.50	-0.59	-0.68	-0.80	-0.82	-0.89	-1.04	-0.90	-0.99	-1.10	-0.95	-0.71	-0.61	-0.47
EU		0.16	-0.38	-0.68	-1.23	-1.33	-1.83	-1.63	-1.59	-1.79	-1.71	-1.96	-2.01	-1.77	-1.11	0.25	0.46
IX		0.96	1.46	1.54	1.62	1.33	1.56	1.74	2.00	2.57	2.37	1.93	1.81	1.80	1.70	1.34	1.25
EU		0.73	1.19	0.70	0.66	0.55	0.72	0.80	1.11	1.72	1.41	1.19	1.11	1.27	1.02	-0.05	-0.01
X		-0.07	-0.51	-0.53	-0.68	-0.59	-0.82	-0.73	-1.01	-0.96	-0.72	-0.63	-0.71	-0.73	-0.64	-0.67	-0.65
EU		0.16	-0.26	-0.37	-0.70	-0.61	-0.98	-0.82	-0.92	-0.92	-0.79	-0.72	-0.86	-0.92	-0.99	-1.14	-0.98
XI		2.40	0.71	2.91	3.71	3.98	4.70	4.50	5.15	3.70	3.85	4.91	4.39	5.13	4.72	4.21	3.71
EU		5.98	7.39	13.48	14.39	13.50	16.10	16.19	15.98	15.82	15.19	15.73	15.44	15.53	11.86	5.49	5.07
XII		0.58	0.49	1.24	2.06	2.15	2.50	2.48	2.74	3.08	2.91	3.41	3.34	3.25	2.58	2.26	2.06
EU		0.76	0.85	2.62	3.98	3.74	4.48	4.39	4.34	4.61	4.58	5.00	4.92	4.73	3.59	3.89	3.52
XIII		0.22	0.55	0.52	0.41	0.40	0.29	0.26	0.25	0.21	0.08	0.02	-0.09	-0.16	-0.30	-0.46	-0.50
EU		0.49	1.36	1.14	0.92	0.82	0.77	0.69	0.68	0.64	0.49	0.38	0.34	0.32	0.18	-0.56	-0.54
XV		4.91	6.06	7.50	6.19	6.31	4.57	6.14	6.04	4.40	4.49	2.92	2.69	2.56	3.44	2.88	2.43
EU		4.87	5.12	4.12	4.96	7.47	6.86	7.63	7.14	5.44	5.56	3.82	2.84	2.57	3.44	0.06	-0.09
XVI		0.84	-1.43	-4.19	-5.93	-6.03	-6.59	-7.00	-6.54	-5.95	-5.27	-3.86	-3.54	-3.87	-3.03	-2.76	-1.88

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU		-4.58	-3.97	-6.36	-8.44	-6.53	-8.10	-4.47	-2.76	-1.47	1.22	0.70	1.12	1.53	3.10	-2.44	-0.37
XVII		4.16	2.98	1.93	0.85	0.76	0.89	0.95	0.51	0.66	0.32	0.06	-0.02	-0.22	-1.42	-1.10	-0.81
EU		-2.62	-1.48	-2.06	-2.10	-2.12	-1.74	-1.70	-2.07	-1.33	-1.91	-2.44	-2.25	-1.85	-1.59	-2.37	-1.42
XVIII		-0.89	-0.42	-0.76	-1.00	-1.24	-0.88	-0.99	-0.89	-1.02	-1.13	-1.01	-0.98	-0.86	-0.63	-0.55	-0.50
EU		-0.33	-0.45	-0.73	-1.31	-1.13	-1.29	-1.13	-0.98	-1.03	-0.96	-0.81	-0.83	-0.87	-0.76	-0.54	-0.41
XX		4.10	3.66	3.45	2.75	2.70	2.46	2.14	2.10	1.95	1.61	1.76	1.72	1.81	1.77	1.47	1.24
EU		8.42	8.32	6.72	5.34	4.74	4.46	3.59	3.18	3.20	2.76	2.87	2.81	2.81	2.68	2.15	1.88
XXII		0.46	-0.41	0.32	0.14	-0.20	-0.39	-0.67	-0.54	0.06	0.11	0.11	0.15	0.19	0.11	0.15	0.09
EU		-1.17	0.23	0.05	-0.47	-0.51	-0.90	-1.19	-1.06	-0.23	0.04	0.10	0.09	0.10	0.05	-0.06	-0.04

Source: Personal computations based on official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

From the structure of exports we saw though that the exports consisted in relatively low added value products, a reason for which we do not have the certainty regarding the destination of the imports presented previously. From the analysis of the more detailed structure we can draw the conclusion that from the technology intensive section of products we export mainly products requiring the use of the labour force, as well as parts and assemblies for automobiles. The imports of the technology intensive products are, on one side, final usage goods which do not have any impact for our production and exports, and on the other side, machines and equipment used in sectors which are less intensive in technology, such as the textile, metals, plastic masses or wood sector. This thing explains the lack of the comparative advantage of the Romanian external trade for this section of products, the expensive enough imports of machines and equipment

being the cause for registering a high commercial deficit at this section. The explanations provided regarding this group did not but emphasise the fact that the comparative advantage obtained for the sections of textiles and wood can be due to the imports of equipment or machines, used in these sectors. We will return with commentaries on the wood and textile industry and the possible evolution in the future, after we present *Lafay indicator*, in Romania's case – an indicator met quite often in the specialty literature, in emphasising the specialisation of a country's trade – both for seeing if there is similarity between the results obtained in this case and the results obtained in the case of Michaely indicator, as well as to study as thoroughly as possible our analysis regarding the leading sectors in the Romania's foreign trade in the context of European integration. Also, the *intra-industrial trade indicator* is important, to

the extent to which it estimates the degree of fragmentation of the production oriented towards export.

Based on the results thus obtained by computing Lafay indicator for the Romanian foreign trade and presented in Table 8, it results again that Romania's specialisation is incontestably given by the sections IX, XI, XII, XV, XX, that as a matter of fact we marked with bold figures in the table, together with the positive values registered in other sections, too, in different years. The results though have a smaller value than in the case of Michaely indicator, due to the way of computation. Yet, in comparing the countries, this indicator is preferable due to the fact that normalization, as a computation method, is much more objective due to the comparable values obtained.

Also, from the table we can notice that, for the sections of products that our country is specialised in preponderantly in the international commercial exchanges, the values of Lafay indicator for section IX (Wood) are lower – reaching even negative values in the last two years – in the eternal

trade relations with the EU than those registered in the total Romanian external trade, while for the other sections – XI, XII, XX – the situation is reverse. The exception is section XV (Metals), where in the interval 1991-1994, the values on the trade relation with the EU are lower than those registered in the total Romanian external trade, after which, in the interval 1995-2004, they become higher, and since 2005 they have become much below the level of those on the global trade relation, becoming even negative in 2006.

Another important indicator for the emphasis of the diversification of a country's external trade exchanges is *Grubel-Lloyd inter-branch trade indicator*, defined as a trade with products belonging to the same industrial branch, its main rationale consisting in the enlargement of the range of types of products provided on the internal market. We have computed therefore *the Grubel-Lloyd indicator of the Romanian foreign trade in 1991-2006*, both for the total external trade as well as for the trade with the EU, again due to comparability reasons (see Table 9).

The evolution of Grubel-Lloyd indicators values for the Romanian total foreign trade and with the EU, during 1991-2006

Table 9

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	I	0.45	0.63	0.59	0.62	0.87	0.65	0.50	1.38	1.03	1.08	1.37	1.34	1.16	1.32	1.54	1.54
EU	0.74	0.91	0.92	0.79	0.90	0.82	0.66	1.16	0.83	1.01	1.20	1.32	0.94	1.29	1.47	1.48	
II	1.68	1.79	1.78	1.37	0.85	0.62	1.01	1.12	0.94	1.39	1.30	1.23	1.55	1.45	1.23	1.14	
EU	1.64	1.73	1.77	1.01	0.81	1.02	0.90	0.96	0.68	1.06	0.87	0.82	1.18	1.16	0.96	0.89	
III	1.38	1.71	0.51	0.78	0.52	0.48	0.43	0.89	0.74	1.27	1.15	1.75	1.34	0.90	0.97	1.13	
EU	1.38	1.64	0.96	1.73	1.25	1.87	1.83	1.86	1.42	1.90	1.76	1.98	1.73	1.02	1.14	1.36	

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	IV		1.81	1.80	1.79	1.71	1.78	1.70	1.60	1.70	1.73	1.74	1.70	1.67	1.70	1.73	1.72
EU		1.71	1.66	1.66	1.63	1.71	1.64	1.60	1.73	1.68	1.61	1.52	1.58	1.62	1.68	1.68	1.69
V		1.62	1.56	1.53	1.45	1.55	1.59	1.58	1.54	1.43	1.39	1.48	1.32	1.41	1.44	1.35	1.35
EU		0.79	1.12	0.76	0.64	1.13	1.15	1.36	1.17	1.28	1.36	0.97	0.41	0.56	0.69	0.89	0.94
VI		1.18	0.99	1.20	1.07	1.13	1.18	1.26	1.51	1.50	1.35	1.42	1.51	1.49	1.46	1.42	1.50
EU		1.50	1.47	1.58	1.40	1.46	1.54	1.59	1.72	1.77	1.67	1.75	1.79	1.75	1.71	1.47	1.52
VII		1.17	1.35	1.43	1.23	1.32	1.40	1.41	1.49	1.45	1.44	1.53	1.46	1.42	1.37	1.38	1.40
EU		1.33	1.37	1.47	1.38	1.28	1.38	1.39	1.44	1.48	1.45	1.55	1.54	1.51	1.48	1.68	1.69
VIII		0.83	1.51	1.53	1.46	1.60	1.67	1.61	1.66	1.65	1.57	1.56	1.56	1.56	1.54	1.56	1.54
EU		0.67	1.49	1.51	1.49	1.64	1.71	1.68	1.69	1.67	1.61	1.61	1.59	1.58	1.53	1.07	1.06
IX		0.47	0.35	0.29	0.22	0.36	0.30	0.27	0.27	0.24	0.26	0.34	0.38	0.40	0.45	0.55	0.59
EU		0.61	0.56	0.62	0.50	0.67	0.54	0.49	0.35	0.28	0.31	0.35	0.40	0.37	0.61	1.19	1.22
X		1.28	1.69	1.67	1.61	1.47	1.65	1.60	1.74	1.69	1.57	1.53	1.54	1.58	1.57	1.67	1.70
EU		0.80	1.56	1.69	1.63	1.52	1.71	1.71	1.80	1.76	1.66	1.57	1.64	1.65	1.71	1.80	1.82
XI		0.76	1.10	0.91	0.82	0.87	0.87	0.89	0.91	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.90
EU		0.02	0.37	0.25	0.24	0.25	0.22	0.21	0.24	0.24	0.22	0.21	0.20	0.18	0.19	0.84	0.85
XII		0.69	0.73	0.46	0.35	0.40	0.39	0.45	0.49	0.44	0.44	0.41	0.40	0.40	0.42	0.44	0.46
EU		0.60	0.76	0.37	0.30	0.35	0.38	0.40	0.41	0.39	0.38	0.37	0.35	0.35	0.35	0.32	0.34
XIII		0.99	0.77	0.78	0.77	0.86	0.98	0.97	1.02	0.98	1.06	1.14	1.18	1.25	1.37	1.49	1.58
EU		0.80	0.47	0.45	0.44	0.51	0.56	0.57	0.54	0.50	0.59	0.71	0.72	0.75	0.92	1.46	1.55
XV		0.55	0.54	0.45	0.50	0.55	0.72	0.60	0.66	0.69	0.70	0.86	0.85	0.89	0.86	0.93	1.02
EU		0.27	0.47	0.41	0.25	0.22	0.28	0.16	0.19	0.20	0.20	0.30	0.39	0.45	0.51	1.14	1.22
XVI		1.10	1.29	1.45	1.47	1.53	1.58	1.56	1.55	1.44	1.38	1.35	1.31	1.34	1.31	1.32	1.31
EU		1.46	1.57	1.63	1.54	1.53	1.54	1.43	1.33	1.17	0.97	1.03	0.98	0.98	0.92	1.25	1.23
XVII		0.45	0.77	0.82	0.92	0.96	0.97	0.92	1.06	0.96	1.04	1.14	1.13	1.19	1.34	1.31	1.30
EU		1.54	1.53	1.59	1.48	1.49	1.40	1.48	1.47	1.28	1.37	1.42	1.36	1.30	1.29	1.37	1.33
XVIII		1.75	1.72	1.82	1.83	1.86	1.83	1.83	1.76	1.77	1.79	1.74	1.74	1.73	1.65	1.62	1.60
EU		1.56	1.73	1.77	1.83	1.82	1.82	1.80	1.75	1.76	1.72	1.66	1.65	1.67	1.63	1.56	1.54
XX		0.15	0.25	0.32	0.41	0.48	0.53	0.57	0.61	0.59	0.63	0.62	0.62	0.63	0.63	0.72	0.80
EU		0.01	0.05	0.08	0.14	0.21	0.24	0.26	0.27	0.25	0.28	0.25	0.26	0.28	0.34	0.62	0.70
XXII		0.75	1.34	0.85	0.97	1.32	1.51	1.61	1.53	1.04	0.90	0.83	0.57	0.57	0.75	0.85	0.94
EU		1.64	0.44	0.80	1.68	1.75	1.90	1.94	1.83	1.53	0.97	0.74	0.56	0.52	0.82	1.91	1.92

Source: Personal computations based on official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

In this context, we share also L. Voinea's (2002) opinion, who considers that the most performing sections of products are those with an increasing tendency both at the comparative advantage as well as Grubel-Lloyd indicator, because, if a group registers comparative advantage, it is good that when there is crossing trade within the same group (and usually there is), then the exports should cover to a higher extent the imports, that is Grubel-Lloyd indicator should have as high as possible values. We amerced therefore in the table the sections where we registered comparative advantages when we computed the indicator of revealed comparative advantage (see the computations in the tables afferent to this indicator) and for which we will follow now what values we obtained for the indicator of intra-branch trade. To be noticed is that for the sections of textiles (XI) and footwear (XII) on the global relation, the intra-industrial trade is more accentuated (accentuated intra-industrial trade means a better covering of the imports through exports within the same group) than on the relation with the EU. The same thing happens for section XX. Also, we can say that both on the global relation as well as on the relation with the European Union, the intra-industrial trade exists since the values of the indicator are different from zero, some even significantly different from zero. It can be noticed also that for all the sections the values exceed 0.5, at least in one of the two situations (the total external trade and the trade with the EU), which means that it has been followed a covering of the

section's imports of products with the exports of the same section's products.

The Association Agreement signed by Romania with the EU had quite an important role on the values of Grubel-Lloyd coefficient because the gradual liberalization of the imports was positively reflected on the internal producers, and, implicitly, on their capacity to exports, in almost all the cases the gradual liberalization of imports determining a bigger covering of these by the exports, starting with 2004.

Generally, from the Table 9 also we can notice that the sections registering a comparative advantage have not been affected, that is: sections IX, XI, XV, and XX regarding the indicator of intra-branch trade within the commercial flows with the European Union. For these sections, the oscillations in value are quite small and sub-unitary, they registering increases only for the years 2005-2006, reaching even supra-unitary values, which is a positive situation.

It is worth noticing though the fact that where competitive advantage was registered, Grubel-Lloyd indicator shows that the exports did not cover the imports only with a single exception, that is, for section XVI, on the global relation. In the same time, where we did not register comparative advantage, the imports were though covered through exports, which is a positive thing (see for exemplification section XVI, too, on the relation with the EU). This conclusion can be considered of a major interest regarding the long-term perspectives of the Romania's foreign trade, because the fact that we did not

register and we do not register comparative advantages for some sections could mean that we do not have any chance to straighten out the situation from this point of view. If we analysed though Grubel-Lloyd indicator, too, and we made the connection with the values obtained for the comparative advantage, we reached a much more optimistic conclusion, that is there are sections without comparative advantage or which register even negative values for it (and sometimes diminution), but in spite of all these, they register relatively increasing values of the intra-branch indicator, covering thus the imports through the exports.

The emphasis of these conclusions is important, having in view the fact that these sections of products are technology intensive, and the export of such products could represent a solution for straightening out. It is true, the straightening out can be done in the context in which we are less dependent on imports to export products intensive in technology. A more optimistic factor would be that the assembly in the country of the technology intensive products based on foreign parts and components started, even though to a small extent, to be replaced by the assembly in the country but based on parts and components made in the country, a thing resulted from the detailed presentation of section XVI, from where it resulted that we export some parts and components, a reason for which we should orientate more and more to a development of production stages in the country, in order to obtain a high added

value. The most conclusive example is represented by the industry of Romanian automobiles where after the taking over of Dacia Pitești by Renault, in 1999, more than 10 well-known foreign suppliers (investors) of ensemble parts and component parts entered the country, a thing which contributed to the vertical integration of the industry. A new success in this view can be soon registered through the just sold control stock of shares of the Craiova automobile factory to the American investor Ford is which for sure will determine also an improvement of the foreign trade indicators, at least for the products of section XVI.

L. Voinea (2002) still considers that the sections of performing products are those which register an increasing comparative advantage (or a decreasing comparative disadvantage), concomitantly with an increasing indicator of intra-branch trade, a thing which is confirmed by the data marked in our table. This analysis can be also made by adding a reference year for comparison. As a consequence, we are more interested in the evolution of our trade on the relation with the European Union, due to the quality of this integrationist grouping as main partner in our foreign trade. We will choose therefore as a reference year the year when the Association Agreement of Romania to the European Union was signed. In this context, by analysing the data in Table 10, we have drawn the conclusions in Table 11 referring to the sections of products and the relation *comparative advantage – Grubel-Lloyd indicator*.

The evolution of the comparative advantage indicator (RCA) and of Gruebel-Lloyd indicator (GL) of the Romanian foreign trade on the relation with the EU, 1991-2006

Table 10

Sections of CN	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
RCAI		0.57	0.32	0.24	0.44	0.24	0.44	0.88	-0.41	0.38	-0.03	-0.46	-0.74	0.14	-0.73	-1.37	-1.60
GLI		0.74	0.91	0.92	0.79	0.90	0.82	0.66	1.16	0.83	1.01	1.20	1.32	0.94	1.29	1.47	1.48
RCAII		-1.61	-3.15	-2.99	-0.03	0.47	-0.06	0.25	0.10	0.73	-0.14	0.31	0.40	-0.41	-0.41	0.10	0.34
GLII		1.64	1.73	1.77	1.01	0.81	1.02	0.90	0.96	0.68	1.06	0.87	0.82	1.18	1.16	0.96	0.89
RCAIII		-0.87	-2.57	0.13	-1.96	-0.62	-3.22	-2.90	-3.30	-1.00	-3.34	-2.31	-5.12	-2.17	-0.05	-0.37	-1.15
GLIII		1.38	1.64	0.96	1.73	1.25	1.87	1.83	1.86	1.42	1.90	1.76	1.98	1.73	1.02	1.14	1.36
RCAIV		-1.92	-2.70	-2.31	-1.56	-2.13	-1.87	-1.71	-2.38	-1.88	-1.60	-1.34	-1.49	-1.66	-2.04	-2.25	-2.61
GLIV		1.71	1.66	1.66	1.63	1.71	1.64	1.60	1.73	1.68	1.61	1.52	1.58	1.62	1.68	1.68	1.69
RCAV		0.45	-0.41	0.72	0.79	-0.31	-0.38	-0.92	-0.42	-0.64	-0.84	0.07	1.52	1.10	0.78	0.31	0.20
GLV		0.79	1.12	0.76	0.64	1.13	1.15	1.36	1.17	1.28	1.36	0.97	0.41	0.56	0.69	0.89	0.94
RCAVI		-1.17	-1.70	-1.94	-0.89	-1.21	-1.49	-1.65	-2.28	-2.30	-1.82	-2.25	-2.37	-2.23	-2.19	-1.38	-1.80
GLVI		1.50	1.47	1.58	1.40	1.46	1.54	1.59	1.72	1.77	1.67	1.75	1.79	1.75	1.71	1.47	1.52
RCAVII		-0.74	-1.31	-1.51	-0.85	-0.69	-0.98	-1.02	-1.20	-1.17	-1.09	-1.43	-1.34	-1.31	-1.31	-2.25	-2.63
GLVII		1.33	1.37	1.47	1.38	1.28	1.38	1.39	1.44	1.48	1.45	1.55	1.54	1.51	1.48	1.68	1.69
RCAVIII		0.74	-1.81	-1.66	-1.13	-1.84	-2.18	-2.03	-2.15	-1.81	-1.59	-1.64	-1.52	-1.53	-1.45	-0.20	-0.18
GLVIII		0.67	1.49	1.51	1.49	1.64	1.71	1.68	1.69	1.67	1.61	1.61	1.59	1.58	1.53	1.07	1.06
RCAIX		0.88	1.61	1.19	1.15	0.83	1.21	1.38	1.99	2.02	1.90	1.78	1.56	1.73	1.02	-0.52	-0.69
GLIX		0.61	0.56	0.62	0.50	0.67	0.54	0.49	0.35	0.28	0.31	0.35	0.40	0.37	0.61	1.19	1.22
RCAX		0.43	-2.11	-2.48	-1.55	-1.40	-2.19	-2.21	-2.77	-2.26	-1.78	-1.50	-1.70	-1.80	-2.21	-2.94	-3.61
GLX		0.80	1.56	1.69	1.63	1.52	1.71	1.71	1.80	1.76	1.66	1.57	1.64	1.65	1.71	1.80	1.82
RCAXI		4.73	2.50	2.85	2.10	2.36	2.55	2.61	2.55	2.24	2.31	2.45	2.45	2.68	2.79	0.44	0.47
GLXI		0.02	0.37	0.25	0.24	0.25	0.22	0.21	0.24	0.24	0.22	0.21	0.20	0.18	0.19	0.84	0.85
RCAXII		0.91	0.81	2.19	1.82	1.87	1.79	1.72	1.70	1.58	1.61	1.73	1.74	1.80	1.90	2.23	2.44
GLXII		0.60	0.76	0.37	0.30	0.35	0.38	0.40	0.41	0.39	0.38	0.37	0.35	0.35	0.35	0.32	0.34
RCAXIII		0.43	1.98	1.80	1.31	1.28	1.15	1.12	1.25	1.23	0.97	0.68	0.64	0.60	0.19	-1.35	-1.93
GLXIII		0.80	0.47	0.45	0.44	0.51	0.56	0.57	0.54	0.50	0.59	0.71	0.72	0.75	0.92	1.46	1.55
RCAXV		1.96	2.01	1.99	2.02	2.50	2.21	3.00	2.85	2.47	2.48	2.01	1.58	1.42	1.33	-0.38	-0.71
GLXV		0.27	0.47	0.41	0.25	0.22	0.28	0.16	0.19	0.20	0.20	0.30	0.39	0.45	0.51	1.14	1.22
RCAXVI		-1.06	-2.17	-2.19	-1.28	-1.42	-1.47	-1.14	-0.86	-0.37	0.06	-0.07	0.04	0.05	0.19	-0.69	-0.72
GLXVI		1.46	1.57	1.63	1.54	1.53	1.54	1.43	1.33	1.17	0.97	1.03	0.98	0.98	0.92	1.25	1.23
RCAXVII		-1.31	-1.97	-2.01	-1.09	-1.30	-1.02	-1.30	-1.31	-0.66	-0.88	-1.04	-0.84	-0.72	-0.73	-1.03	-1.08
GLXVII		1.54	1.53	1.59	1.48	1.49	1.40	1.48	1.47	1.28	1.37	1.42	1.36	1.30	1.29	1.37	1.33
RCAXVIII		-1.34	-3.15	-3.02	-2.50	-2.82	-2.83	-2.72	-2.47	-2.22	-2.02	-1.83	-1.72	-1.86	-1.85	-1.71	-1.85
GLXVIII		1.56	1.73	1.77	1.83	1.82	1.82	1.80	1.75	1.76	1.72	1.66	1.65	1.67	1.63	1.56	1.54
RCAXX		5.82	6.02	4.71	2.70	2.57	2.44	2.32	2.34	2.18	2.01	2.23	2.14	2.11	1.96	1.06	0.96
GLXX		0.01	0.05	0.08	0.14	0.21	0.24	0.26	0.27	0.25	0.28	0.25	0.26	0.28	0.34	0.62	0.70
RCAXXII		-1.61	2.11	0.60	-1.72	-2.37	-3.66	-4.28	-3.00	-1.32	0.06	0.61	1.05	1.20	0.44	-0.37	-4.91
GLXXII		1.64	0.44	0.80	1.68	1.75	1.90	1.94	1.83	1.53	0.97	0.74	0.56	0.52	0.82	1.91	1.92

Source: Personal computations based on official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

From Table 11 it results that, from the point of view of both indicators, no section

presents increasing values as no section presents strictly descending values.

Framing the CN sections of the Romanian foreign trade with the EU according to Grubel-Lloyd and RCA indicators, in 2006 compared to 1993

Table 11

	Grubel-Lloyd (GL) ascending	Grubel-Lloyd (GL) descending
RCA ascending		Gr. II, Gr. VI, Gr. VIII, Gr. XII Gr. XVI, Gr. XVII, Gr. XVIII
RCA descending	Gr. I, Gr. III, Gr. IV, Gr. V Gr. VII, Gr. IX, Gr. X, Gr. XI Gr. XIII, Gr. XV, Gr. XX, Gr. XXII	

Source: Personal classification based on values in Table 10.

Regarding the sections classified previously (according to Krause merchandise classification) as being sections with high technological complexity – machines and equipment (XVI), means of transport (XVII) and optical instruments (XVIII), and including group XX, according to a classification used by the former Ministry of Development and Forecasting in Romania (Vass, 2004, p.148), we notice that these sections register descending comparative disadvantages (only group XX registers ascending comparative advantage), which can be equalised with a potential of registering a comparative advantage. According to Voinea L. (2002), and Vass A. (2004), there is possible also another merchandise classification, which groups the products as follows: high technological complexity – sections XVI, XVII, XVIII, XX; average technological complexity – sections IV, VI, VII, X, XI, XII, XX; low technological complexity - sections: I, II., III, V, VIII, IX, XV, XIII. The situation is similar for sections II (vegetable products), VI and VIII. The fact that the evolution to

comparative disadvantages are descending, together with the descending values of the indicator of intra-branch trade means though that there is potential for these sections, a potential which will have to be fully used, if we refer to the sections with a high technological complexity, which could be achieved by increasing the internal productivity and production which should determine a growth of the exports in order to cover the imports. Even though the trade with products from the sections of alimentary products (IV), mineral products (V), plastic masses (group VII), raw and taw skins (VIII), textiles (XI) and the rest of the sections present negative or descending values of the comparative advantage from the point of view of the intra-branch trade the indicator is ascending, situation which reflects a good covering degree of the imports by the exports of these sections of products.

In the category of low performing products at export there are therefore sections belonging to the category of sections of products with average or low technological complexity, according to the classifications we referred to previously.

From this point of view it is inadmissible to us the framing of sections I and III (*Live animals and Fats, and animal oils*) within the sections with weak performances at export due to Romania's potential for these products. The reduction – up to elimination – of the subventions in agriculture and the fierce competition the Romanian agriculturists must cope with represents another reliable explanation for the unfavourable values of Grubel-Lloyd indicator for these two sections.

The previous framing made possible a clearer distinction of the sections analysed, but this thing was possible based on the comparison of only the two years – 2006 compared to 1993. The distinction is important to the extent to which we have in view a comparison of the situation of the Romanian trade on sections of products related to that from the European Union, in the context of deepening our country's European integration process. Therefore, the sections registering comparative advantages, even though descending, are not framed in the category of the most performing sections if we computed Grubel-Lloyd indicator, too. In the table above we marked these sections. The more reduced value or the descending value of Grubel-Lloyd indicator is signalling the fact that for these sections, even though comparative advantages are registered, the intra-industrial trade registers descending values. At some of these sections we signalled that Romania is dependent on the export by the imports made from the same section. Due to this reason, the descending values of the Grubel-Lloyd indicator can represent the beginning of the loss of

relevance of the comparative advantage found again at these sections.

3. Concluding remarks

For now on, as a member state of the EU, Romania and the Romanian commercial operators should maximize the opportunities given by the rich portfolio of trade agreements for the free trading given by the European Union and try to reorient our exports towards countries like Africa, Middle East and South America, where the products of which the structure of our Romanian exports are consisted of hold a compared and competitive advantage, whilst the imports should be focused mainly on performing technologies, which should determine the intense technological domestic production, to ensure our competitiveness for export on an middle – and long-term. In this regard, immediate measures are being brought up to promote the Romanian products which still register comparative or competitive advantages on the markets of the countries like: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates; Brazil, Argentina, Bolivia, Columbia, Ecuador, Peru, Venezuela, Paraguay and Uruguay; the ACP countries, South Africa, but even Botswana, Lesotho and Namibia.

For this reorientation we take into account the fact that there are high levels in the Romanian exports towards the EU which hold the following product categories: textile fabrics and confections (group XI); foot wear (group XII), machines and equipments (XVI); common metals and articles out of these (XV); means and

materials of transport (XVII), furniture (XX). From this perspective, we believe that our country has managed to export these products on a market like the one in the EU, the reorientation of these exports on a market with higher potentials should absorb our products, thus identified and mentioned above, will not be able to determine a decrease in the commercial deficit of Romania and a making of a more efficient external Romanian trade.

An even more favourable factor is represented by the reality that the assembly of the intense technological products in our country, based on foreign spare parts and components has already begun – even if on a lower level – to be replaced with assembly in the country, but based on native spare parts and components, a fact resulted from the details of the section XVI, where it resulted that we export some spare parts and components, reason for which we should re-orientate more and more on a development of the native production stages, to obtain an even higher added value.

From a macro-economical point of view the evolution of the Romanian external trade has lead to speeding up of economical development and performance. The lasting development of the exporting sectors may contribute to a continuous socio-economical increase, but the performance of the key sectors is based on factors of comparative advantages, especially on the low costs of the work force and raw materials, and these kinds of advantages could easily be lost. In reality a higher part of the Romania's exports toward the EU are being generated by the industries that intensively use the

work force and natural resources. These are usually products with a lower tax and technological content and which depend on the low cost of the work force and imported raw materials (for instance textiles, footwear parts and accessories). In the same time, more than half of the commercial deficit with the EU is being generated by the industries with intense technology content.

Reality confirms that the Romanian economy has a relatively lower level of competition in the European context and that Romania has attracted lower investments per capita, compared to other countries in the region, because of the absence of a transparent judicial frame and because of the rough regional competition. The competitive difference toward the other EU member states cannot be ignored, given the importance of the European market for Romania (e.g. the share of the Romanian foreign trade with EU was about 71.5% out of total in 2007, according to the official statistic published by INSSE in March 2008). It is very possible that this difference will increase in the perspective of an even higher liberalization and integration into the global trading, thus leaving the Romanian exporters in a critical situation. Though the continuous opening toward the external trading and significant performances of the Romanian exports, these are not enough diversified. This is partly given by the fact that few companies have innovative activities or the low research in the development of their products and services. A shorter approach on the main exports of Romania quickly shows that most of these sectors are traditional. There has been little innovation, and as a result, there are few

industries that use, intensively, a new and advanced technology.

Therefore the strategic priority of Romania should now be the competitive advantages, the development of the capabilities and exporting sector competencies, attracting the local and foreign investors and creating a new economy which will allow the development of a free trade, on a market which is more and more globalised. FDI represents a capital source, of know-how, technology and management capacities and stimulates the economical increase. Romania should become a better pretendent to absorb the foreign direct investments, especially those export oriented, given the fact that, as already presented along this paper, the products which, in the period before the EU integration, have registered compared and competitive advantages, mainly belong to the sectors in which our country has managed to attract foreign investors, like, for example, Dacia Pitesti, Petrom, SIDEX Galați or the Italian investors in the footwear sector, the making of a more efficient external trade on these sections coincided – regardless of any other opinions – with the moment of the beginning of these investments (privatizations).

Summing up the existing premises at the beginning of our joining the European Union, from the point of view of the external trading, we appreciate the fact that the Romanian companies are presently well placed and remain competitive on the global market. The condition of maintaining and improving these positions is that these invest more in the know-how and advanced

technologies, constantly being in touch with the latest evolutions on the international market, as the sole chance of survival in the global competition, under the conditions in which the difference between the expansion of our exports and the relative endowment with production factors, in the presumed analysis period in the present paper, could shock anyone.

The result will also depend on the governmental politics, because the conflict of the 17 years of EU pre-accession reforms (1990-2006) suggests the fact that they have hindered the establishing in our country of a competitive market, where the resources would be directed towards the industrial sectors with a potential comparative advantage. From this point of view, neither the agricultural sector could not manage to exploit to a maximum the existing favourable opportunities, the governmental politics meant to favour the creating of the great agricultural farms seemed to hinder this. It has happened the same regarding the work force, which has become a part of performance in our exports, through the number of Romanian who have left to work abroad, and this because of the fact that the direct foreign investments have failed in their role to exploit the cheap and qualified work force in our country. Therefore, an efficient governmental politics, along with the strengthening of the capacity to attract more of the EU structural funds in our economy should contribute to a new spring of the Romanian exports in the near future, and to the assessment of the comparative and competitive advantages of the leading sectors in Romania's foreign trade.

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**The share of each group of imported/exported products from/to EU
in the total imports/exports of Romania for the same group of products, 1991-2006**

A. The share of each group of exported products to EU in the total exports of Romania for the same group of products, 1991-2006 (%)

CN Code	Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I		43.80	28.87	19.57	22.28	33.59	37.40	30.11	55.95	57.80	55.07	69.86	61.44	64.02	70.65	69.37	69.59
II		56.14	71.05	63.27	66.67	24.84	13.71	33.33	33.96	42.55	47.29	49.01	50.00	63.16	71.01	78.97	75.93
III		73.25	67.23	23.08	5.13	14.52	1.85	1.82	3.23	13.73	4.55	10.71	4.00	14.81	40.63	36.88	30.69
IV		66.67	59.46	60.00	49.12	56.36	45.35	39.36	32.93	48.33	46.84	53.70	43.75	46.85	65.52	62.68	61.17
V		59.06	30.23	37.76	27.57	20.71	27.54	15.60	21.29	10.81	6.93	24.29	43.13	24.50	35.49	19.64	18.32
VI		23.50	19.69	21.69	28.40	26.43	25.36	26.57	32.00	24.92	26.06	22.46	25.24	27.88	34.75	64.32	65.16
VII		38.64	43.94	44.29	40.50	57.05	57.14	59.15	65.81	58.14	59.68	62.02	55.94	54.33	60.99	33.32	33.15
VIII		38.10	68.42	73.33	72.34	78.05	76.19	72.88	85.45	88.52	83.33	82.50	87.43	89.89	95.98	78.75	86.17
IX		36.17	32.77	23.84	25.53	32.16	29.66	30.67	37.72	45.28	39.48	42.57	42.81	47.11	52.70	21.64	21.81
X		66.67	46.15	31.25	39.29	37.88	36.96	31.58	36.59	37.78	37.50	49.57	41.67	47.01	47.06	47.84	47.71
XI		50.30	61.54	80.00	84.80	85.17	88.14	88.44	90.15	91.46	90.62	91.05	91.29	91.07	85.65	85.98	86.13
XII		49.30	60.71	81.02	91.22	92.75	93.30	96.69	97.97	96.26	97.55	97.72	96.93	96.62	98.22	84.84	84.10
XIII		59.02	61.76	60.00	67.74	66.67	64.17	64.93	67.14	64.00	65.14	65.28	63.38	66.20	76.42	81.84	81.28
XIV		30.25	27.92	21.86	32.07	50.77	53.26	50.51	53.46	51.34	49.25	46.01	38.11	36.29	45.43	44.35	43.99
XV		14.66	22.25	30.13	43.15	51.28	59.40	55.67	69.04	69.59	74.03	73.91	69.12	75.01	85.53	79.65	80.69
XVI		8.21	11.26	12.75	18.79	29.91	37.78	27.07	43.83	55.08	51.26	56.50	59.81	71.70	79.97	68.75	69.84
XVII		25.00	44.44	60.00	53.85	62.50	66.67	68.18	63.64	64.52	68.89	65.67	76.47	76.71	81.19	74.43	74.59
XX		70.09	75.89	72.09	78.26	79.95	77.32	74.84	76.41	81.53	80.62	83.04	81.04	79.34	87.70	91.01	91.42
XXII		16.13	10.29	4.84	7.69	14.00	9.30	8.33	21.21	16.88	55.56	55.74	43.08	36.47	38.96	0.97	0.99

Sources: Personal computations based on statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

B. The share of each group of imported products from the EU in the total imports of Romania for the same group of products, 1991-2006 (%)

CN Code	Year															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I	88.57	51.52	39.66	32.53	36.00	54.24	44.83	35.14	39.13	48.15	48.41	58.33	41.00	65.81	57.03	58.52
II	47.68	53.03	58.62	31.36	22.69	32.33	26.49	24.88	24.88	23.31	20.27	22.11	25.84	37.75	46.30	46.08
III	81.82	76.67	61.11	52.00	68.18	82.35	70.00	54.00	56.67	52.63	57.89	55.71	47.27	51.92	50.79	49.81
IV	41.10	32.06	34.02	37.58	40.63	37.27	39.26	37.85	39.54	29.87	29.65	32.51	35.15	54.25	53.60	53.62
V	9.17	10.89	7.07	4.85	7.86	9.65	8.75	8.90	7.64	6.41	8.10	5.75	3.97	7.29	7.57	7.83
VI	48.67	55.17	54.67	57.26	55.89	60.00	60.07	63.17	64.92	64.08	64.51	67.63	65.86	75.53	73.41	70.35
VII	54.84	45.65	49.71	57.29	52.32	55.18	56.35	57.58	63.25	62.15	65.09	67.79	68.07	81.17	79.20	78.56
VIII	26.67	64.41	70.10	79.37	90.18	90.95	90.65	94.12	95.42	95.18	95.45	94.82	94.75	94.22	91.97	92.97
IX	51.72	60.00	61.54	69.57	74.42	63.41	65.22	50.94	54.69	48.35	43.90	44.59	41.67	80.33	82.83	81.73
X	25.00	30.00	32.93	42.11	43.96	46.58	47.79	48.01	51.21	51.42	54.66	56.88	59.80	77.24	86.31	85.91
XI	1.00	11.32	13.68	16.40	15.61	14.09	13.21	14.42	14.10	13.39	13.04	12.27	11.32	11.43	78.28	78.41
XII	40.54	65.63	60.98	75.00	79.27	87.88	83.45	78.98	84.36	81.74	85.21	81.55	82.28	80.62	73.88	74.93
XIII	40.00	30.23	27.78	31.03	30.68	26.09	27.56	24.14	22.07	24.49	27.13	24.76	23.53	30.48	75.38	74.96
XV	12.63	22.97	19.41	14.19	16.75	15.41	10.27	11.38	10.82	9.87	10.83	12.55	13.14	20.65	67.54	66.75
XVI	32.55	44.89	51.07	52.41	51.71	53.10	39.77	39.53	37.98	31.76	37.22	35.44	35.42	39.10	68.62	68.42
XVII	95.73	58.41	71.78	62.50	95.11	92.75	91.47	85.15	80.71	98.02	98.10	97.95	91.38	71.31	78.60	75.62
XVIII	12.28	47.27	47.00	55.88	47.06	63.87	59.31	61.00	59.02	49.35	47.02	52.27	59.11	76.36	63.26	61.98
XX	3.85	15.00	15.15	23.16	30.00	28.57	28.49	27.72	28.21	29.17	26.95	26.61	27.72	39.48	73.55	73.94
XXII	40.54	1.44	4.35	41.89	51.55	59.70	64.18	70.28	50.60	64.41	46.51	42.31	32.35	45.50	27.31	26.33

Sources: Personal computations based on the official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

The structure of the Romania's foreign trade with EU

A. The share of the sections of Romanian exported products to EU, in the total exports of Romania to EU, 1991-2006 (%)

CN Code	Year															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I	4.08	3.46	1.58	1.65	1.22	1.14	1.27	0.99	1.21	1.06	1.18	0.99	1.12	1.03	0.88	0.85
II	2.50	2.26	1.79	1.44	1.12	1.28	1.15	1.14	1.91	0.87	1.15	0.98	1.02	1.07	1.28	1.80
III	0.36	0.39	0.68	0.06	0.24	0.02	0.04	0.05	0.12	0.01	0.04	0.05	0.16	0.19	0.14	0.10
IV	1.54	1.85	1.36	1.11	0.85	0.97	0.89	2.57	0.55	0.51	0.67	0.73	0.68	0.55	0.60	0.64
V	23.25	11.24	10.72	6.64	3.24	3.78	2.08	2.02	0.97	0.86	2.46	5.98	3.15	3.50	4.88	3.12
VI	4.25	5.43	3.67	4.69	4.10	3.49	3.11	1.99	1.49	2.04	1.46	1.89	1.84	1.94	1.77	3.97
VII	1.29	2.46	1.78	1.97	2.48	2.19	2.30	2.13	1.91	2.07	1.86	2.25	2.95	3.13	3.64	2.10
VIII	0.61	1.97	1.78	1.36	8.90	0.80	1.01	0.99	1.07	1.75	1.52	1.61	1.54	1.38	1.28	3.62
IX	2.63	3.34	2.07	1.91	1.77	1.74	2.19	2.72	4.04	3.38	2.93	3.12	3.41	3.18	2.93	1.17
X	0.93	0.48	0.30	0.44	0.69	0.41	0.47	0.31	0.33	0.45	0.68	0.61	0.67	0.52	0.52	0.37
XI	12.71	18.27	31.05	33.04	28.71	30.33	36.04	36.39	36.12	34.31	35.14	33.03	32.69	29.07	26.41	20.85
XII	2.68	2.90	6.44	9.54	8.52	9.37	11.04	11.13	11.82	11.64	12.43	11.46	10.89	8.80	8.42	8.72
XIII	2.81	3.57	2.93	2.52	2.17	1.92	2.05	1.98	1.84	1.58	1.46	1.43	1.37	1.17	1.04	0.92
XIV	12.17	13.35	10.36	11.52	15.66	13.42	16.50	15.77	12.09	12.35	9.05	7.57	7.36	9.62	8.96	9.90
XV	6.46	7.40	6.52	7.56	7.22	7.93	8.62	10.17	12.13	16.18	16.10	15.96	17.95	20.59	21.81	24.58
XVII	7.59	3.50	7.54	7.50	7.75	3.37	7.57	3.50	4.45	3.94	4.38	5.18	5.88	6.94	8.32	10.32
XVIII	0.00	0.00	0.36	0.29	0.28	0.29	0.35	0.44	0.38	0.44	0.61	0.51	0.51	0.60	0.62	0.77
XX	18.03	18.10	14.36	11.50	9.86	8.49	8.26	7.41	7.36	6.50	6.60	6.38	6.59	6.50	6.40	6.19
XXII	0.00	0.00	0.20	0.24	0.20	0.11	0.11	0.30	0.26	0.56	0.39	0.28	0.28	0.22	0.09	0.01

Sources: Personal computations based on the official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

Explanatory note: the figures marked in red mean an unfavourable trend, indicating a diminishing of the exports; the figures marked in blue mean a favourable trend, indicating that the exports are growing.

B. The share of the sections of imported products in Romania from the EU, in the total Romania's imports from EU, 1991-2006 (%)

CN Code	Year															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I	2.25	1.72	0.90	0.92	0.89	0.68	0.49	1.07	0.74	0.95	1.63	1.65	1.25	1.50	1.87	1.64
II	10.57	8.78	9.41	1.27	0.67	0.89	0.76	0.82	0.86	0.87	0.76	0.59	2.23	1.20	1.00	0.98
III	0.70	1.17	0.43	0.45	0.37	0.30	4.00	0.45	0.29	0.25	0.22	0.36	0.20	0.10	0.15	0.15
IV	8.85	5.46	4.60	4.29	4.53	3.76	2.82	2.91	2.54	1.93	1.85	1.67	2.37	2.32	2.29	2.36
V	14.50	8.57	4.47	2.71	3.78	4.33	3.51	2.19	1.47	1.67	2.03	1.25	1.10	1.51	1.90	1.88
VI	12.08	8.85	9.52	9.40	10.04	9.92	9.54	9.51	9.72	9.34	8.81	9.76	9.24	9.23	8.83	8.69
VII	2.53	3.17	3.45	3.80	3.94	4.11	4.23	4.32	4.64	4.90	5.54	6.37	7.38	7.30	7.59	7.88
VIII	0.31	1.90	2.71	3.47	3.67	3.99	4.26	4.21	4.42	4.66	5.45	5.65	4.49	3.63	3.21	2.78
IX	1.11	0.73	0.65	0.54	0.80	0.53	0.58	0.45	0.57	0.55	0.55	0.64	1.07	1.13	1.31	1.25
X	1.30	1.90	1.57	2.18	2.64	2.69	2.66	2.58	2.57	2.35	2.41	2.60	3.04	2.84	2.75	2.62
XI	3.04	15.22	17.14	20.22	19.60	19.33	22.81	23.11	26.64	24.32	23.55	23.12	18.71	16.04	12.88	10.54
XII	1.14	1.08	1.04	1.50	L70	1.84	2.25	2.33	2.51	2.49	2.46	2.31	1.90	1.57	1.31	1.23
XIII	2.67	1.21	1.18	1.34	1.52	1.55	1.54	1.45	1.36	1.39	1.53	1.53	1.99	2.10	2.28	2.19
XV	5.80	5.47	4.77	5.16	5.75	6.47	5.81	5.94	5.88	5.82	6.42	6.93	8.15	8.68	9.59	10.68
XVI	24.65	21.91	27.17	32.03	28.75	29.28	27.58	26.97	26.03	28.25	25.16	23.72	24.31	25.22	25.85	26.85
XVII	3.48	9.42	5.95	3.96	3.70	3.21	3.24	4.32	3.77	4.92	6.78	7.20	8.02	11.50	12.92	14.15
XVIII	0.00	0.00	3.07	3.03	3.79	2.87	2.48	2.49	2.45	2.54	2.62	2.37	2.14	1.79	1.77	1.74
XX	1.02	1.30	1.87	2.64	2.60	2.56	2.61	2.43	2.35	2.34	2.13	2.18	2.31	2.14	2.24	2.28
XXII	0.00	0.00	0.10	1.09	1.26	1.68	2.45	2.46	2.21	0.46	0.20	0.10	0.08	0.12	0.27	0.11

Sources: Personal computations based on the official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

Explanatory note: the figures marked in red mean an unfavourable trend, indicating a diminishing of the exports; the figures marked in blue mean a favourable trend, indicating that the exports are growing.

C. The share of the sections of imported products in Romania from the EU, in the total Romania's imports, 1991-2006 (%)

NC Code	Year															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
I	0.61	0.70	0.41	0.45	0.45	0.35	0.26	0.62	0.45	0.55	0.87	0.96	0.50	0.97	1.16	0.61
II	2.84	3.63	4.25	0.62	0.34	0.47	0.40	0.48	0.52	0.49	0.44	0.34	0.73	0.78	0.62	0.09
III	0.18	0.48	0.20	0.22	0.19	0.15	0.21	0.26	0.17	0.14	0.13	0.21	0.12	0.10	0.09	1.46
IV	2.37	2.26	2.07	2.07	2.29	1.97	1.48	1.67	1.56	1.09	1.06	0.98	1.03	1.51	1.42	1.16
V	3.89	3.52	2.02	1.30	1.90	2.27	1.86	1.27	0.91	0.93	1.16	0.73	0.49	0.98	1.18	5.37
VI	3.26	3.65	4.28	4.54	5.07	5.19	5.01	5.50	6.00	5.29	5.05	5.70	5.24	5.99	5.49	4.87
VII	0.67	1.31	1.55	1.84	1.99	2.16	2.22	2.49	2.86	2.78	3.18	3.72	4.03	4.74	4.72	1.72
VIII	0.08	0.79	1.21	1.67	1.85	2.09	2.23	2.43	2.73	2.64	3.14	3.30	2.98	2.36	1.99	0.77
IX	0.30	0.31	0.29	0.27	0.40	0.28	0.30	0.26	0.35	0.31	0.31	0.37	0.35	0.73	0.82	1.62
X	0.16	0.44	0.48	0.80	1.01	1.12	1.08	1.26	1.28	1.15	1.21	1.33	1.41	1.64	1.71	6.51
XI	0.04	1.02	1.37	1.87	1.84	1.65	1.83	2.22	2.59	2.18	2.10	2.02	1.68	1.44	8.01	0.76
XII	0.30	0.44	0.45	0.70	0.82	0.95	1.16	1.32	1.52	1.39	1.39	1.33	1.23	1.00	0.82	1.36
XIII	0.47	0.27	0.27	0.30	0.34	0.33	0.35	0.33	0.32	0.34	0.40	0.40	0.40	0.53	1.42	6.60
XV	0.49	1.00	0.82	0.70	0.89	0.96	0.61	0.76	0.71	0.68	0.79	0.93	1.01	1.73	5.96	16.59
XVI	4.40	6.55	8.94	10.69	10.63	11.63	9.16	9.08	8.92	7.87	8.43	8.10	8.49	9.30	16.08	8.74
XVII	2.21	2.74	3.09	2.92	3.67	3.36	3.11	4.44	4.21	4.39	5.33	5.56	5.65	6.59	8.04	1.08
XVIII	0.28	0.54	0.84	1.27	1.31	1.34	1.37	1.40	1.45	1.33	1.23	1.28	1.32	1.39	1.10	1.41
XX	0.02	0.12	0.18	0.37	0.53	0.50	0.53	0.53	0.55	0.54	0.48	0.50	0.53	0.70	1.39	0.07
XXII	0.89	0.04	0.04	0.52	0.63	0.88	1.29	1.42	0.42	0.27	0.12	0.06	0.05	0.08	0.09	0.61

Sources: Personal computations based on the official statistic data on Romanian foreign trade published by the National Institute of Statistics – Romania (INSSE), National Customs Authority in Romania (ANV) and Foreign Trade Department of Romania (DCE).

The University – a Rational-Biologic Model

■

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***Abstract.** The article advances the extension of the biologic rational model for the organizations, which are reprocessing and living in a turbulent environment. The current “tree” type organizations are not able to satisfy the requirements of the socio-economical environment and are not able to provide the organizational perpetuation and development. Thus, an innovative performing model for both the top and down management areas is presented, with the following recommendations: dividing the organization into departments using neuronal connections, focusing on the formatting processes and not on the activities, rethinking the system of a new organizational culture.*

Key words: linear structure; rational organizational system; rational biologic model; structural department; functional flexibility; organizational culture.

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JEL Codes: A13, C45.

REL Codes: 4C, 10Z.

1. The current status: the linear structure of the rational organizational system

After analyzing the actual university structures in Romania, one realizes that they often function by a mechanical model, a “tree”- type structure, of a single decision-making. This one focuses on the hierarchical structures (components), the linear causality (the proportionality between cause and effect), and the discipline-oriented vision, all of these in a static thinking model. In other words, it is an extension of over one hundred years of the classical scientific management (Taylor) and of the administrative theories (Fayol) in the concept of the pyramidal rigid organization.

The organizational rigid structure, of a linear type, ensures the quick transmission of the leader’s will (the rector, the dean, the chief of the cathedra/department) provided the existence of his remarkable cleverness, of his integrity, features of the one who takes the decision, states cannot be generalized.

The informational flows with the highest intensity are operated in three organizational hierarchic structures: The University Senate, the institute board, and the university department. For operable purposes, the three structures are replaced by rector, dean and chief of department.

The flows among the three identities are often of „top-down” type, and the ascending ones that ensure the feedback are often unstructured and informal. In these cases, an advanced bureaucratic process is generated, together with the entire unsatisfactory issues.

In high turbulence (reduced visibility and predictability) that results also from the lack of strategies and policies of continuity in the higher formation, the answer to the

requirements of the economical-social environment comes slowly and sometimes ineffectively.

The practical investigations revealed that many universities are rational organizational systems (SR), with a high structuring and formalizing, with a mixture of the open organizational systems (SD), without excluding some components typical for natural systems (SN) or for the closed ones (SI) – figure 1.a.

Institutionalizing of the market economy led to the enhancing of the open area (figure 1.b) to answer the new requirements in the work force, for an efficient use of the resources offered by the society for practical creative and group formation. Only a functional system, in which there are invested large amounts of money, can achieve its objectives.

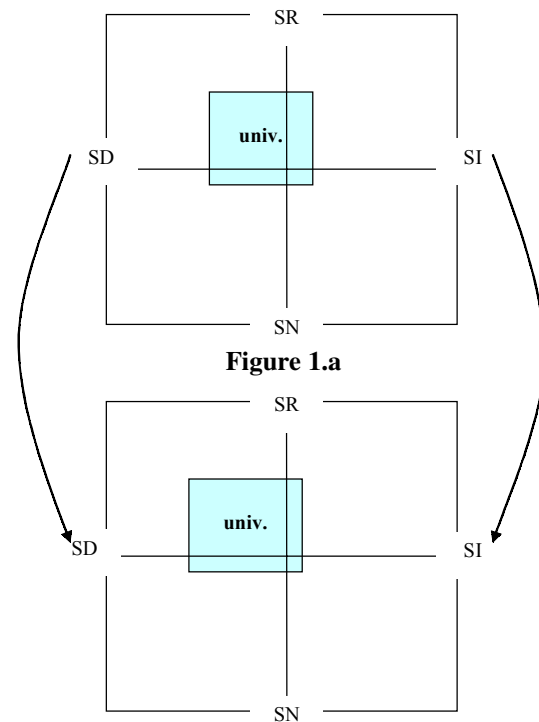


Figure 1.a

Figure 1.b

2. University as a rational biologic model Life cycle. General architecture

In our opinion the valid universities, the traditional ones, are also biological creations, as forms of structuring the living world, with the aims of adapting and perpetuate the social economical environment.

The biological life of a university has three essential steps, meaning:

i) Appearance, fundament that means the creation of an operational entity, characterized by inputs (human inputs), procession elements and outputs (human ones);

ii) The transformations that can be identified with the variety of the of the procedures for formatting and developing of the thinking and acting capabilities of the human elements; the natural selection or the fight for getting any type of resources, retaining and dissemination the knowledge and skills of the university members, also the fight for living or the competition with other similar organizations.

iii) The disappearance or closeout. The horizon of the universities' existence tends to infinite and it is the opposite of the "organizational ephemeris" and ensures the organizational integrity, due to the informational flows bi-directed from and to each member of the organization.

In the new proposed system, the entire approach of the universities is mainly based on the axis of perpetuation – adapting – developing – multiplying, in a system of disturbing factors, functioning tolerantly to component defects, and ensuring the organizational integrity. Perpetuation and adaptation mean or suppose that each generation turns better than the previous one, both in terms of inputs and outputs. Developing and multiplying must

not change the aim; otherwise the degeneracy/ devolution status appears. For example "university multiplication" and the university gigantic character are in inverse proportion to the integrity. In order to prove this concept we remind of the disappearance of the dinosaurs that can be identical with the extension of some Romanian Universities, in the entire national area, with the skid/slide-slips from the fundamental objective and focusing over the financial one. The distance learning, due to the IT system or BT system, must maintain a strict control on the speed of the information flow (values, norms, and orders), in a high competitive system (figure 2).

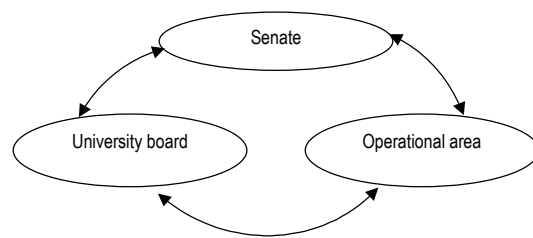


Figure 2. *Impulses in three essential areas*

The managerial system

The managerial system that appears in each of the three components in figure 2 ensures the functionality for a long period after the disappearance of one of them. This functionality aims a better adaptation to the environment, by the interaction of the university life components based on impulses (figure 3).

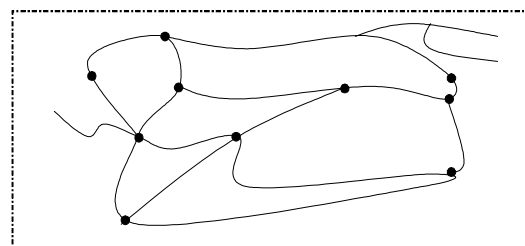


Figure 3. *Neural impulses between all the components of the university system*

- As a first component of the managerial system, the methodological system uses the methods of MBO, MBE, TCR type. For example, MBO focuses not only upon the objectives' deriving, but also on the harmonizing between them and the necessary resources (first of all the human and financial resources, which are the main issue in the university processes). MBE minimizes the functioning mechanisms at the effective operational level, for ensuring the organizational viability. The methodological system in universities will use the process of effectiveness of the genetic algorithms inspired from the methods of the species of animals and plants adapting to the environment that works on unalienable models, with a heuristic feature, operating with quality dimensions under undetermined conditions. The efficiencies will be multi-disciplinary, and the often-used method is TCR (total costs and risks function).
- The structural system of the universities (the bone system) is more flexible, that doesn't eliminate the top coordination and use of the best practices in the down area. The structures within the valid universities are "flat" instead of "tall", of a network type, the university personnel contributes to the activation of the structure that it is part of.
- The information flows are of network type, in many cases they are horizontal and as an exception they might be vertical. Among the Senate, the faculties Boards and the operational area there are multiple connections.
- The decision system uses procedures derived from a flexible network of connections (figure 4), the integration is realized by intensive communication, and the efficient solution is accepted by all components of the system.

3. Recommendations for creating and developing the new model

The progressive transition from the mechanic model to the biologic-rational one requires the transfer from the university cathedras system to the university departments that ensures the integrity and developing of all the components.

From practice, we sustain the concept that the university cathedra first answers the requirements of a faculty with a segmental view and not the social-economic issue. So a management department comprises every activity domains, specific to each organizational function (research – development, processing, commerce, and accounting – finance, personnel).

The self-satisfaction idea is eliminated from the activity domain and the scientific multidisciplinary integrity feature is enhanced.

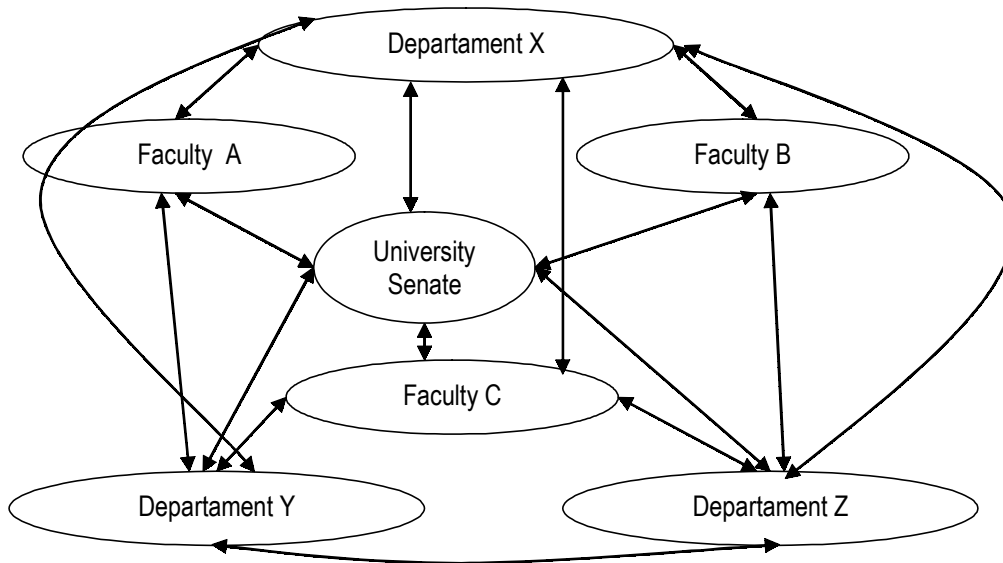


Figure 4. *Structural department organization*

In the given example (a simple one) the number of connections is $7! = 5040$. These are multiple ones, based on impulses. The multiple connections between departments-faculties that can be activated by the central neuron (the Senate) is produced and is efficient only due to the genetic algorithms, because the determinist models cannot be effective at $n!$ level (Moldoveanu, Pleter, 2007).

The internal neural network is connected to the external one, the network of the economic agents (including the great companies' leaders who had the university formation), or of the ones that were born top-managers.

Now the internal environment must be controlled and the external one must be attracted, the mega-environment, the two mutually influence each other, and their boundaries are diffused. We emphasize the fact that the "neural networks" inside or outside the universities provide/ensure the curriculum coherence, by a series of activities that creates value (value chain). The new concept is a real "university re-engineering",

which focuses on the process and not the activities. The support of the new value chain processes is the informatics' system for university formatting.

4. The new model and the human resources

In an aggregated programming process, at university level, the human resources are the students, the teachers, and the researchers. We will describe below – simplified – a learning-oriented university (without the research component), which has two kinds of human resources: students and teachers.

The student resource, as a dynamic dimension, with personality, contributes to the initiating and developing of a process of downsizing type, which means the enhancing of its role in the process of education and professional training.

The student is a neuron equal with the formative, and between them the informational flows multiply. In this way, the techno-centric management (gathered and

standardized) is gradually replaced by the anthropocentric management (personalized). The disjunction between the formative and the format is almost reduced. The anthropocentrism in universities does not mean the student's arbitrary discretion, but a strong judgment, the liberty of choosing the values and responsibility.

At the teachers' level, the second dimension of the human resources in universities, and without which the organization cannot exist, it is adopted a functional flexibility.

According to this concept and to the amplification reality, the teachers are able to undertake a variety of didactic tasks, without specializing in a certain domain. That is why we suggest the *horizontal flexibility* that allows the teachers become multidisciplinary, and also the *vertical flexibility*, that allows getting the capabilities of undertaking their colleagues' activities, at higher or lower level of the organizational hierarchy. This concept's utility is sustained of the "processing philosophy". The detractors of this general theory in the current organizational analysis first refer to the maximum "productivity" on "segments" and to the temporary engagement. However, now and in the future the universities have very intense inputs and outputs, in relationship with the market requirements.

Human resources in universities (that are networks, not isolated entities) can be expanded with the experts of the socio-economical practice, who have institutionalized managerial functions. In the new network, the impulses between students, teachers and experts/managers become more frequent. The efficiency and effectiveness derive from the network, not from the entities, concept that is under the attention

of the excessive corporatism capable to provide its human resources in its own closed system organization. We sustain the concept that the university is a network of formatives, which can produce exceptional "neurons", state that results from the intensity of the connections between the human dimensions. The entire issue is about the operating these connections and then/in the same time, instituting them.

5. The proposed system and the organizational culture

The rational biologic model suggested for the university system means the transfer from the dominant organizational culture "bet on the organization" (or some "person" subcultures) to the category of culture formulated by Hofstede or the "work and certainty" subculture. Regarding the first typology designed by Hofstede, we consider that the university staff activity will be more and more individualism (Moldoveanu et. al, 2007) (which it is at the moment) in science, the direct immediate consensus is an ideal difficult to touch. Actually, the most developed departments in universities are based on strong characters, so that to allow the independent thinking and action, without minimizing the system's integrity.

We think that the excessive Common sense (Moldoveanu, Pleter, 2007a), the dependence upon the "clan", don't bring benefits within the university, although there are networks between values and these are desired to be. Also the university members are sufficient independent in their operating area in order to improve it, avoiding the uncertainty, based on the behavior to rules and orders.

The two dimensions – Individualism and independence – allow the network treatment of the university process, everyone commit, the superiors in the empowerment process, the subordinates in the acceptance of the responsibility; the last ones are free to prove their skills, because performance is important for the entire system.

“The power action area” (Moldoveanu, Pleter, 2007b) in the analyzed system is more and more minimized; this is the first feature of the subculture elaborated by Hofstede.

The new system also contains the masculinity (Moldoveanu, Dobrin, 2007), starting from the individual to the entire system, it is desired a controlled profit, far from the “money dimension” in the business world.

The four dimensions: individualism, common sense, the power action area and masculinity form a completed symmetric graph as in figure 5.

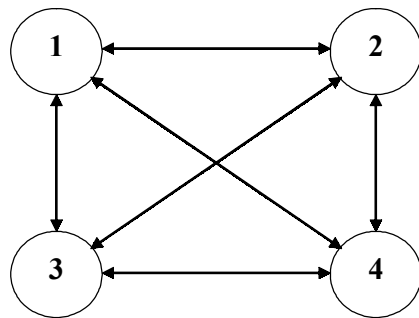


Figure 5. *The graph of the cultural dimensions*

There mustn't be excluded any “arches” between the “nodes”, the approach is configurative and not contingency.

In some universities where the personalities are restricted, the subculture “work and certainty” is accepted, as a function with two variables: the minimized risk, the high feedback.

The two variables, especially the later, are emphasized by the new advancing system based on stringent criteria and periodical evaluation to acknowledge the value.

6. Conclusions

Among the multitude of actual organizations, the performing universities (the kind quite frequent in Romania), come closer to the biologic models, which are superior to the artificial ones. The human being is a model much more performant than the one issued by the actual managerial thinking.

We sustain that a university is the opposite of the congenital organizational ephemeris, it is an efficient creation on long term; its components are designed to function tolerantly to component defects and to ensure the organizational integrity.

In the university background, the perpetuation, the adaptation, and the survival are genetically provided, naturally, and each generation has a lot of individuals more adapted than the previous ones, although there might be individuals from the previous generation who have superior performances to the actual generation.

In this concept of the universities, the “actors”, the structures, the procedures, and the values may change, but the evolution is provided by the “chromosome”.

The simple rules issued by the genetically algorithms, as the mutation and cross-breeding (Moldoveanu, Pleter, 2007, Moldoveanu, Roșca, Pleter, 2007) may be extended in university developing, in order to find new solutions in the development of the education and training process.

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Reconstruction in Eastern Europe

■

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„The way to what is right is hard and it
often passes through the territory of errors.”

D. Davies

***Abstract.** This present paper analyzes the evolution of the USSR as well as that of Eastern and Central European countries, which were under Soviet influence, after the Yalta and Tehran agreements, between 1944 and 1960 (1962). What were the transformations that occurred in those states, why and how? What were the outcomes? What were the perspectives? These are essential questions which we intended to answer.*

Key words: Yalta and Tehran agreements; economic transformations in eastern countries; reconstruction.

■

JEL Codes: N14, P21.

REL Codes: 3D, 6C, 19B.

“Exhausted but triumphant, the Soviet Union was no doubt placed second among the world powers during “the evening of the war”. It was on the West and on the East that the collapse of Germany and Japan ensured their direct or indirect continental enlargement, a field of action that was much more unlimited as its political and ideological options so discussed as they had been in the capitalist countries, seemed to have been well justified with the victory of 1945.

As a matter of fact, such an enlargement, soon blacked at the level of the “Iron Curtain” by the American involvement will find its own limits in itself when it will bring a new rival for the Soviet Union: “Popular China”. The latter’s pretensions to represent the Marxist-Leninist orthodoxy will turn the monolithic communist world of that time a two headed image”... This is how Pierre Thibant begins in “Le temps de la contestation” the chapter about the communist world, better said a world that is mostly identified in the East and Central Europe.

From the perspective of the work requested and of other economic histories, including the volume of the undersigned “Economic history – the history of the national economy”, from the perspective of some substantial studies and articles presented mostly at International Congresses of Economic History in Milan (1994), Madrid (1998), Buenos Aires (2002), Helsinki (2006), here are some would be coordinates of this world.

Therefore during 1948-1953, marked by the “Cold War”, two fundamental objectives were ahead the Soviet Union. On one side, the fast end of reconstruction in order to compete as soon as possible the USA both on an economic plan and in a military domain.

And on the other hand, without tracing a frontier between these objectives, consolidating into pheriferic states what we called “popular democracies”.

Those systems that made import communism fragile but whose anchorage in socialism “à la soviétique” represented a secure pledge for present time, and for future the promise that the world revolution always promised but never accomplished after 1917 was not a futile hope.

But what happened in the USSR? The large extent, here, of both human and material losses between 1941-1945 points out the huge dimensions of the proposed objectives mentioned. Let us only note that more than 10% of the soviet population vanished during combat, and still others from various other reasons: hunger, starvation, cold, plagues, diseases, etc. Let us also show that at least 50% of the real-estate patrimony, 70% of the industrial plants and 60 % of the transport outfits and vehicles have been destroyed. That, at the same time, the essential of the agriculture equipment was also ‘finished’, that two thirds of the arable soil was unusable, that the cattle, sheep , swine herds, lost between 30% - 70% of their numbers and even more. Fair enough, at a certain attenuation of the diminishing of the living standard which followed these destructions, contributed, in a smaller extent, the peasants in the regions not invaded by the German forces, as well as some dealers, which acted like interceders – not at all disinterested, of course – between the country side, the villages, at some extent productive, and the consumer cities , even though some of them with many down falling productions.

Certainly, there were plenty other factors, many of them disputable ...

... Essentially destructive, the second world war had though, some immediate consequences in a positive way for the soviets, consequences which created favorable conditions for the reconstruction that followed. Namely, the creating, boosting of the new industrial regions situated in the Ural mountains or Asia, in territories that have not been invaded by enemy troops. Here the development coefficient has been among the highest. At the same time, in matter was, like Thibault wrote, the “appending to the USSR of more than 500 thousand square kilometers situated overwhelming in the west of it’s European borders”. Even more, we can think – and take into consideration – the “significant contribution of the European countries where the Red Army stepped in and was present”, “contribution” privileged by the occupied force and with the important terminals in the effort to redress the USSR. A contribution represented firstly by the considerable “drawings” to which Moscow proceeded on the territory of it’s former opponents (Romania, with a relatively special situation, Hungary, but especially Germany), “drawings which represented some 85% of the national income of the first two states mentioned, between 1945-1948”, and which “were reached and even exceeded in Germany, taking into account that according to the Potsdam Agreements, dated on the 2nd of august 1945, the USSR, here, had a right to the total drawings in it’s occupation area and to 25% of the drawings in the area of the three allied”.

But a kind of this contribution has been represented in the same measure, by the systematical exploitation of the rich from

Oriental Europe, the exploitation which “has extended” even to the allied (Bulgarian, Czechoslovakia, etc.). The juridical staff mentioned in all the directions has been provided by the 25 societies of “composite economy”. Here, the Romanian, Hungarian, Bulgarian, German, and even Chinese interests (after 1950) has been “theoretical” associated with the Russian, Muscovites, Soviet companies, but in fact in a strict mode and imperative subordinate to the economy needs of the “big state”.

State, that overwhelming has been controlling the manage of the remembered societies with the “channels and levers” encompassed by the soviet administrators and technicians from the discussed companies. We have in view the SOVROMs (Sovrompetrol, Sovrombanc, etc.) in Romania, Maszolja, etc. in Hungarian, Maszodal, etc. in Bulgaria, Wismuth AS, etc., in Est Germany ...

Proper to some opinions and statistics, benefiting by important affluences and compensatory resources to dispose by the prepared cadres in the pacification technology and who didn’t wait the finish of the war “to put on in the value in the self’s profit, of the freed territories by the German occupation, URSS had needed four years (1945-1949) for a first abolishment of the brutes effects of the war and the final of this way, of a first important round, naturally of itself reconstruction.

It was a positive aspect, because, after the first worlds war, URSS needed for this kind of stage eight years (1918-1926) and even more.

The reconstructing economically cadre of URSS encompassed the fourth, fifth plan of this country (1946-1950). Started on 18

march 1946 the forecast plan, at first a refitted with a large insulation, produced new tools of desolated regions by the enemy, without the goods repatriated of transferred production, in the hostility time in Ural or in other parts of the Union. With very ambitious objectives, the remembered plan, through the others, has been assigned to hard industrial and transportations a superior level of production with 48% in 1950 to the one reached in 1940, agriculture has been recording a growth of 27% unto the same year, a little bit recording consumer goods industry.

It was reflected, on this way, the economic politic major options of URSS which gave net priority to report production with consum. In good measure, prognosis levels had been accomplished.

Unscripted in traditions and the logic of a legal system which always sacrificed the present in favor of the future operating this fourth program of development could have been compromised by an inflation which seemed to be damaging the Soviet economy ever since 1941.

This was ever since Moscow was constrained in order to finance the war effort, to increase the volume of the monetary circulation, already risen among others by numerous false banknotes issued by the occupying German authorities. However at the beginning of December 1947, such a “mortgage” was increased by carrying out a strict truly draconian monetary reform. Due to its selective character, the mentioned reform resulted in the reduction of the fiduciary circulation by 90% (a new ruble was exchanged for 10 old rubles), but the penalty appended to the

earnings and to the ones that took advantage of the war (farmers, merchants) who, being afraid of severe penalties, did not dare to exchange the banknotes raised in an illegal manner. There were some others who were advantaged, especially the retail customers whose deposits were exchanged ruble for ruble, up to the level of 3.000 rubles and a new ruble for 2 old ones for the deposits between 3.000 and 10.000 rubles. Thus, regaining the control over monetary processes, dabbling on the double aspect of the fall of prices (in 4 steps between April 1944 and March 1951) and of increasing the salaries (by 40% from April 1948), the Soviet Government could bring its planned devised reconstruction to an end. She was pushed by the launching of a new campaign of socialist competition which aimed among its essential tools at the “production meetings”. Here, the workers were invited to present their suggestions liable to boost productivity and of overcoming the established norms. There was at that time a constructive participative atmosphere with practical results which were not bad at all...

Beyond the limits of the system as such, especially visible a few decades later in the circumstances of other aspects of the economy, of a tight competition with the West it is nevertheless true, that the Soviet economy visibly “come out” transformed and “rejuvenated” – the mining, power iron and steel field – from the time of analyzed reconstruction process. The rejuvenation was especially marked by methods of a quasi-general applicability – complex mechanization in the mines. The improved use of the factory equipment, the introduction of automatization in certain works. But also the

building of a new industry with military purposes now called a top industry such as nuclear energetic and electronic which allowed the Soviet Union – of course the German specialists quartered here had a quite serious part – remove a part of the technological to draw back as compared to the USA. The main element in this respect was represented by the breaking of the USA's atomic monopoly through the announcement made by the Soviet Union in June 14, 1949 that is when “the first atomic bomb of Soviet production exploded”.

It is true that, mainly politic constrains, but also some constrains on psychological, economical, technical level, and the ones concerning the climate, will hinder the agriculture from seeing the same rapid growth pace like the industry. This is happening although the government has spent a lot of effort on reorganizing the rural structures, in order to “recover” the “collective” lands that had been misappropriated by the kolkhoz peasants for personal interests, and finally in order to improve the production terms by developing the rural electrification. Anyway, despite all the effort spent, the system itself and all its shortcomings have led to weak results in agriculture by the end of the IV-th five-year plan mentioned above, for example the growth level encountered in 1950 barley managed to rise above the level of the 1940's...

... It was a pattern. A whole series of its features will be taken over later by the people's democracy throughout their evolution, of course, some of this features were more emphasized than others, depending on one country' or another's

stage of integration in the “socialist system «à la soviétique»”. But, what has happened back then?

... Firstly by using force and fraud they had in mind to strike out of the European Governments the last representatives of the old bourgeoisie and parliamentary democracies. Being the only ones in power, after they have absorbed one part of the socialists and they have stricken out the last ruling monarchs (Simon II from Bulgaria, in September 1946, and Mihai I from Romania in 1947), the communist parties attacked the breeding ground of the opposition, some of these being still alive in these countries. Especially in administrations other people than communists have been excluded quickly. The next step meant that, after serious cleanouts in universities regarding different positions, the only ones entitled to occupy such positions were the disciples of Marx, Lenin and Stalin, although many of them have been considered as being primitive in their way of thinking. Finally, the church, especially the catholic one, and not only, whose ecclesiasts have been arrested, convicted and in any way hindered to practice their mission towards the church, even if the reasons invoked have been in most cases terrible. All this has happened under the close view of the West, which, because of some consented agreements and a developing balance of power, seemed to be pleased with propagandistic oppositions and advertisements, without too many or any connotations in those time's realities.

Living under the regime of the unique “National Meetings” (only Yugoslavia had two because of its federal structure),

the 8 republics, the 8 people's democracies (Albany, Czechoslovak Republic, Poland, Hungary, Romania, East Germany, Yugoslavia, Bulgaria) were promoting rapidly the system of the unique party, of course, the Communist Party. The 8 countries went through a period of transition which limited the power of business-owners drastically, nationalizations have been made in almost every field of activity, except in agriculture, where property and means of production have been "collectivized".

In this way, the way is drained for the transition (of what has been called "the socialist development"). Respectively, in a system totally different from the one before it, respecting other laws and settlements considerably different compared with the once before. It is not in vain that (not for nothing) in those years "if it rained at Moscow, the umbrellas would open very fast at Prague, Berlin, Warsaw, Sophia, Budapest, Bucharest, etc., even though here it was a very sunny day.

...Therefore, here is a striking analogy between the economy of the URSS and the economy of the states from East Europe, between those institutions, as well as from the entire political area, from the entire society. Some concrete details. An agrarian reform between 1944-1946 in all Oriental Europe's states seemed, even more, that it brought the end during 1919-1920 and not that it was effectively tracing the preparation of the "collectivity". As a matter of fact, the disappearance of the last properties relatively large – which resist in the past in Poland and Hungary or the once which had been in Romania after the law of conversion – disappearance through general

redistribution of the exploited and the farms which exceeded 20-30 ha, in the benefit of the agrarian workers, has consistently contributed to the blasting of the middle landowners' class, this pylon of the rural democracy during the two World Wars. In the same time, the communist' activists had ensured the sympathy of a certain part of the peasantry with less land and who received a few ha. The road towards "collectivity" was clear because, in the most situations, in agriculture the biggest holdings resist and not the smallest once, a road with a more or less faster rhythm depending on the opposition scale of the agrarian, sometime enough rigorous, in order to save as much as possible from the small rural holding. However, in the East Europe, finally, the socialism of the land has succeeded to settle new agrarian structures with three essential pylons, like in URSS, and here we speak about the agrarian state households (the farms), the agrarian collective households, and the machines and tractors factory.

Noticing that in the East Europe agriculture, with a deep rooted spirit of the land ownership – spirit passed on from the ancestry and from father to son – didn't work at all the "nationalization of the land" system, counting that the East and Central Europe realities, "the precautions above mentioned had visible seemed necessary and positive through the followed objective". Or, in industry, in other sectors, these kinds of precautions hadn't been conceivable.

The state, more and more communist and obedient to URSS, subdued in this way over a complex production machine. What facilitated it to achieve immediately an

executive plan, on order, different only at first by the soviet one, as far as some instabilities wouldn't allow some prevision series on long term (5-6 years), but only on short time (1-3 years). Agriculture and consumption goods at the same term, have become totally subordinate to the heavy industry and constructions. The Leninist model of industrialization, an effective privilege model, deliberately to produce the production goods, but also with a genuine omission for production of consumption goods, is already in the extensive way application stage. And how it comes to something relatively new, without a critique and opposite apparatus, and the poor peoples' hopes were encouraged in a large way, "popular democracies" – most of them – had rediscovered in 1949, as Pierre Thibault said, for many consumptions levels, the 1938' ones. They were working practically, in a much and intensive way, an impose propaganda and well executed was actuating for not so less, the hope in a new world.

It's seems that there were like under curtain, hundred of thousands, millions of political prisoners, in general proceeded from the ex-exploiting classes, from the old system high officials, but also from peasants that were not collectivized, intellectuals and workers who have seen their future in a different way. The isolation from the West world was as obvious as possible, most of time even aggressive. The West protests meaning the other system which had resource and support, proved to be, practically, inexistent and barren as efficiency.

Through decoupling by the "popular democracy" to its old political, economical, social, cultural institutions and coupling at the soviet model, through "possessed

classes" extermination and through reducing all workers and entrepreneurs, merchants at the "employee status", URSS prepared a profound integration of the Central and South-Eastern Europe states in the middle of the communist unit. A "unit" to whom it had to assure and impose leadership and had to counterbalance the power of the capitalist states from the Occidental Europe regrouped tighter and more consistent round the United States of America.

Build and finalized in stages and mostly as an answer at Americans initiatives, the profound integration of the "popular democracy" in the communist unit identifies by signing a series of bilateral alliance (1943-1948) and assistance (1947-1948 etc.) treaties, associating the states by individual or separately with URSS. There was a projection in the political plan of the founding in 1949 of Kominform (The Communist Informing Office), an institution which has resuscitated, as a matter of fact, the Komintern dissolved by I. V. Stalin in 1943, when the great soviet communist leader concluded alliances with the Anglo-Saxons...

For "sealing", economically speaking, the alliances with "the big red power", at the same time with the constitution and the development of the joint venture's activities – Hungarian, Romanian, Czecho-Slovak-Russian, etc., and of which we mentioned – it was set, it was constituted in 25 January 1949, the CAER (The Mutual-Reciprocal Economic Assistance Council), the "counterparty" to the Marshall plane moved off by the Americans. The CAER had the principal aim to coordinate the economic politics of the East and Central Europe, the development of these states followed to be insured under the soviet

technicians as part of some planes on long-term, generally after 1950 by 5 years and even 6 years in Poland. The coordinator soviet specialists, doubled by aboriginal technicians, had in view to harmonize the content of the development programs according to the principle of the “work social division”. There was followed and was obtained, certainly, a considerable growth of intra-communist exchange, therefore as part of the socialist camp, but it was amplified also the dependence of each member states so much in front to their partners and also to the leader, in front of the Soviet Union, almost a hundred per cent of the respective state’s external exchange were concentrated, limited in this way.

...In fact, only the URSS had a varied industrial panoply for insuring the economic independence, while the other states were followed only for some segments. For

example, Poland was specialized in carboniferous extraction and siderurgic, Czechoslovak, in the production of hard cars, East Germany, in chemical products and precision metallurgy, etc. Since then to Romania was reserved, in an industrial plane, a role of a secondary importance, especially in agriculture, a position that had a bad productivity, with numerous, primary products, a situation not really convenient and economically to the bad – “the prices scissors”. So much the more to the national communism perspective which, not after many years, will start to raise its head in a stage of development also obedient in front of the communism theories, but opened to some economic efficient things, much better personalized, higher to structures and output, fewer material-politically, relatively more generous from the social point of view, with a higher cultural opening to the world ...

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Evaluation of Individual and Aggregate Credit Institutions Management's Performance

■

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***Abstract.** Data Envelopment Analysis method allows both the measurement of the relative efficiency of an homogenous group of credit institutions, and the identification of those banking activity's components generating a state of inefficiency. The present study focuses on this last issue, by proposing an interpretation of inefficiency signals and by strengthening the major role played by the credit institution's executive board in designing a viable, coherent business strategy and in defining its risk profile.*

DEA method places all the efficient credit institutions on the efficiency frontier, without allowing their differentiation. In order to exceed this limit, we have analysed and compared two ranking techniques. The results obtained suggest that the hierarchy generated by the two techniques hasn't changed significantly for almost 60% of our sample of credit institutions.

Key words: Data Envelopment Analysis; management's performance; inefficiency; superefficiency score; virtual ideal institution.

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JEL Codes: G21, G32.

REL Codes: 11C, 11E.

Introduction

In the last decade, Data Envelopment Analysis (DEA) has become an analysis tool employed on a large extent in evaluating the relative efficiency of a homogenous set of decision making units. The field of action of this method increased considerable, allowing for performance evaluation of both qualitative, intangible issues of economic environment, such as public services, and for a large spectrum of entities⁽¹⁾.

DEA method proposes a quantitative dimension of relative efficiency, but doesn't allow the ranking of efficient units. In other words, there isn't enough to know which are the best performing entities, but also what is their ranking. The economic literature comprises several techniques for reaching this desideratum:

- *Cone-ratio model*, created by Charnes in 1990, and *assurance region model*, developed by Thompson in 1990, both of them imposing additional restrictions in the process of solving an optimization problem.
- “*Superefficiency*” concept, introduced by Andersen and Petersen in 1993, which ranks only the efficient units; the inefficient ones are ranked according to their efficiency score, obtained by simply running a DEA model.
- *The approach based on the frequency of appearance*⁽²⁾ of efficient units in the reference set, generated for each of the inefficient units. The more number of occurrences, the most important is a particular credit

institution relative to the others lying on the efficient frontier, and, therefore, it will be placed at the beginning of the classification. This method cannot be applied to inefficient units.

- *Relative closeness index RC*, build by introducing in the analysed sample two virtual decision making units, namely ideal DMU and non-ideal DMU. By combining the efficiency scores estimated under the assumption of the best performance, and, respectively, of the lowest efficiency, we will obtain a ranking of all entities.

We have structured the present study in two parts. First part represents an interpretation of the estimates obtained by applying DEA technique, focusing not only on the identification of efficient credit institutions from the point of view of management's quality, but also on aspects that lead to inefficiency of the current activity. We argue that a special focus on potential sources of vulnerability prevails on the basic concept of efficiency and allows the elaboration of corective actions.

In the second part, in order to surpass one of the limits of DEA technique, namely the ascription of an efficiency score equal to one for each efficient unit, we have applied and analysed comparatively two ranking methods, having as purpose a more clear distinction between credit institutions performance. The study was conducted for a sample of five credit institutions, representatives for the Romanian banking system.

1. Interpretation of inefficiency signals

In a previous study we had identified the optimal mix of input-output variables which best characterises the financial intermediation activity, and offers a comprehensive picture on the managerial team's performance. In this context, the most adequate model for evaluating management's performance contains as *input variables*: customers deposits, other financing sources, operational expenses and loan loss provisions. *Output variables* are represented by: total volume of credits, net income from other activities, net interest income and the value of off-balance sheet activities. We have estimated for this model the individual efficiency scores of each credit institution in the considered sample,

under the assumptions of variable returns of scale and of an output oriented model, which maximises outputs. After a rigorous analysis of the final results obtained by means of DEA technique, we have reached to several conclusions.

A *first conclusion* refers to an improvement in the usage of input and output variables, suggested by the term "slack". It quantifies the proportion in which inputs values should be decreased, so that, under the assumption of constant outputs, the credit institution becomes efficient. In other words, it determines the excess of each input variable over its efficient value that ensures input minimization. From an output maximization perspective, the "slack's" value suggests how much can be increased outputs, so that the activity becomes efficient (table 1).

Inefficiency quantification ("slack") for output variables

Table 1

DMU	{S} customers credits {O}	{S} net income other activities {O}	{S} net interest income {O}	{S} off-balance sheet activities {O}
DMU 1 2003				
DMU 2 2003				
DMU 3 2003				
DMU 4 2003	0.01	7361.42	1050986.4	2423225.51
DMU 5 2003				
DMU 1 2004				
DMU 2 2004				
DMU 3 2004				
DMU 4 2004				
DMU 5 2004				
DMU 1 2005	42978731.04	0	405518.17	0.02
DMU 2 2005				
DMU 3 2005				
DMU 4 2005	0	467792.49	0	2356619.65
DMU 5 2005				
DMU 1 2006				
DMU 2 2006				
DMU 3 2006				
DMU 4 2006				
DMU 5 2006				

All the credit institutions that have no value for the term “slack” are considered efficient. One can observe that, for the year 2004, all of them are characterised by a state of efficiency.

In 2003 there is only one situation of inefficiency. To become efficient, the credit institution 4 should increase the value of all its outputs: credits with 0.01 units, net income from other activities with 7361.42 units, net interest income with 1050986.4 units and off-balance sheet activities with 2423225.51 units. In 2005 there are two cases of inefficiency.

Therefore, credit institution 1 should increase the value of outputs 1, 3 and 4, meanwhile the institution 4 should increase outputs 2 and 4. These values, estimated by means of DEA technique, shouldn't be viewed in an absolute amount because they had been obtained on the basis of the flexible weights⁽⁴⁾, which are at the core of the DEA technique. Its premise is hence to present each credit institution in the most favourable state. Consequently, those output variables that registered significant values of inefficiency should be carefully monitored.

Another conclusion regards the efficient credit institutions that lye on the efficiency frontier, and, also, those inefficient institutions which have chosen them as benchmark.

In table 2 we have presented the credit institutions analysed for a period of four years, mentioning the efficient ones, that belong to the peer group.

Peer groups

Table 2

Current rank	DMU	Benchmarks
1	DMU 1 2003	1
2	DMU 2 2003	2
3	DMU 3 2003	2
4	DMU 4 2003	3 (0.77) 5 (0.04) 19 (0.19)
5	DMU 5 2003	1
6	DMU 1 2004	0
7	DMU 2 2004	0
8	DMU 3 2004	0
9	DMU 4 2004	1
10	DMU 5 2004	0
11	DMU 1 2005	2 (0.21) 16 (0.50) 17 (0.28) 18 (0.01)
12	DMU 2 2005	0
13	DMU 3 2005	0
14	DMU 4 2005	1 (0.06) 2 (0.04) 3 (0.18) 9 (0.61) 19 (0.11)
15	DMU 5 2005	0
16	DMU 1 2006	1
17	DMU 2 2006	1
18	DMU 3 2006	1
19	DMU 4 2006	2
20	DMU 5 2006	0

Credit institutions 4, 11 and 14 proved to be inefficient, therefore each of them has its own reference set to compare with, which contains those efficient institutions characterised by a similar pattern of input and output variables with the analysed institution. For instance, the efficiency frontier for institution 4 is best described by institutions 3,5 and 19, which represent its comparison basis. It can be observed that the main weight is detained by institution 3 (0.77), meanwhile the less significant is institution 5, with 0.04. The efficiency frontier for institution 14 is best described by institutions 1, 2, 3, 9 and 19. The institutions identified as being efficient have their own frontier.

We can conclude that DEA is a diagnosis tool of inefficiency sources. The efficiency scores estimates, however, don't indicate the strategy that must be implemented so that the credit institution becomes efficient. This must be defined by the managerial team. The first step consists in a proper awareness of sources of vulnerability and of those particular aspects that can lead to a real advantage on competitors.

Moreover, the economic literature agrees that the executive board of a credit institution has a major role in developing the banking activity on a stable, viable basis. The Committee of European Banking Supervisors (2006) affirms that top management is directly responsible for the credit institution's strategy and its attitude towards risk, for the internal organisation and clear, coherent and transparent allocation of responsibilities and authority, for the ease of communication between different hierarchical structures, for internal control and audit activities.

Ware (1996) believes that the success or, contrary, the failure of a credit institution depends mainly on the staff's experience and integrity. Top management must be independent and actively involved in the elaboration of the business strategy and in the process of risk and profitability monitoring. Sergeant (1999), after having conducted several studies on the Great Britain's banking system, observed that the absence of a clear, coherent, accepted and understood strategy by all departments of a credit institution, represents a common issue for all problem institutions. The main deficiencies consist in an inadequate level

of resources (inadequacy of economic capital, improper technology, lack of experience of employees) and an inability to adjust the existent strategy, keeping in mind the economic, social, technological and legally environment. The author underlines that top management must prove a deep knowledge not only of causes and circumstances of losses, but also of sources of profit and risks assumed in order to achieve these profits.

2. Ranking of credit institutions

In order to attain a more clear picture on individual banks performance, we have proceeded to their ranking. The building of a classification tends to a global interpretation, allowing for comparisons between the performance of different credit institutions. The economic literature proposes several ranking methods, which have both limits and advantages.

In the present study we have chosen to analyse comparatively two approaches: the first one includes in the original sample two additional virtual credit institutions; the second one is based on the estimation of a superefficiency index, according to the method proposed by Andersen and Petersen.

First approach consists in including into the reference group of two virtual institutions, namely IDMU (an ideal credit institution, that employes the smallest inputs in order to produce the biggest values of outputs) and respectively ADMU (a non-ideal institution, characterised by using the biggest values for input variables, to produce the smallest outputs). The values

of input and output variables for the two above are presented in table 3. additional virtual institutions mentioned

Establishing the value of input and output variables for IDMU and ADMU

Table 3

DMU	Deposits {I}	Other financing sources {I}	Operational expenses {I}	Loan loss provisions {I}	Customers credits {O}	Net income from other activities {O}	Net interest income {O}	Off-balance sheet activities {O}
DMU 1 2003	139538879	9637154	10381500	1612517	78822383	3197753	10663317	34048114
DMU 2 2003	65093698	4417340	5867973	4131015	49900039	3812703	5414592	17413481
DMU 3 2003	10602725	1625249	1068413	134375	8517778	592267	977349	2563846
DMU 4 2003	17500859	3750588	1658057	810000	15689700	850875	233500	2157300
DMU 5 2003	27670801	7657878	3175659	182884	28661326	2286228	1338145	6705070
DMU 1 2004	175970877	23751612	11049523	2064081	102887780	5780713	13228337	49784225
DMU 2 2004	89674257	14515350	6015947	4815157	67961211	4068639	7351063	23053300
DMU 3 2004	18764451	3566395	1375985	371944	14368958	830917	1342955	5107296
DMU 4 2004	23705250	4353190	2707840	865770	20192690	1147940	2668420	3029760
DMU 5 2004	54381521	13459643	5150166	243466	46594084	3070205	3057557	7672555
DMU 1 2005	192750300	91558060	12911240	5534990	153792000	7421050	13516270	68928570
DMU 2 2005	149091250	23936520	7224180	924670	100744810	4116920	9788160	29169980
DMU 3 2005	34800737	6580042	1922259	1022035	29637374	1211283	2097031	15260697
DMU 4 2005	32080310	4260420	3760490	901080	25018990	854480	2885520	4007270
DMU 5 2005	78184050	15028750	6735550	583370	51475770	4716290	4445790	9523420
DMU 1 2006	244770650	152872150	14603790	7689520	237991770	7968340	16069510	89694350
DMU 2 2006	200867160	50021470	9760740	717930	181428020	6578930	11850320	46174710
DMU 3 2006	58201796	10487131	3322536	1724144	48931298	2192549	2502914	24591214
DMU 4 2006	43607630	5047440	3760490	914080	44093530	1752760	2552270	12620980
DMU 5 2006	99570960	17650680	7689770	1124690	66902650	5730180	5212530	19097770
IDMU	10602725	1625249	1068413	134375	237991770	7968340	16069510	89694350
ADMU	244770650	152872150	14603790	7689520	8517778	592267	233500	2157300

By applying DEA technique, we have generated two models:

- IDMU model (*ideal decision making unit*), which comprises the initial sample of credit institutions and the virtual ideal one, named IDMU. Theoretically, one can affirm that the IDMU score reflects the best possible relative efficiency. The purpose of this model is to indicate the changes of the individual efficiency scores, related to the score of the virtual institution. The smallest the

difference between the individual efficiency score of each credit institution and IDMU score, the more efficient will be that particular credit institution. Therefore, it will rank on a top position in the hierarchy of managerial performance.

- ADMU model (*non-ideal decision making unit*), constituted by the initial reference group, plus the virtual institution ADMU, whose score reflects the smallest degree of relative efficiency. The model was build to observe if,

excepting the ADMU institution, it can be identified other inefficient institutions. Both models had been tested under the assumption of variable returns of scale. In table 4 we have presented

comparatively the scores estimated for IDMU model, ADMU model and the initial one, and also the ranking of the best performing credit institutions, according to IDMU model.

Ranking of credit institutions according to IDMU model efficiency scores

Table 4

DMU	Initial model score (%)	IDMU model score (%)	ADMU model score (%)	Ranking
DMU 1 2003	100,00	150,70	100,00	6
DMU 2 2003	100,00	208,99	100,00	10
DMU 3 2003	100,00	1345,40	100,00	20
DMU 4 2003	102,10	936,49	102,10	18
DMU 5 2003	100,00	348,54	100,00	12
DMU 1 2004	100,00	121,48	100,00	4
DMU 2 2004	100,00	195,85	100,00	9
DMU 3 2004	100,00	958,98	100,00	19
DMU 4 2004	100,00	602,21	100,00	17
DMU 5 2004	100,00	259,54	100,00	11
DMU 1 2005	103,50	107,37	100,00	2
DMU 2 2005	100,00	164,17	100,00	7
DMU 3 2005	100,00	587,75	100,00	16
DMU 4 2005	101,56	556,90	101,56	15
DMU 5 2005	100,00	168,95	100,00	8
DMU 1 2006	100,00	100,00	100,00	1
DMU 2 2006	100,00	121,12	100,00	3
DMU 3 2006	100,00	363,43	100,00	13
DMU 4 2006	100,00	454,62	100,00	14
DMU 5 2006	100,00	139,06	100,00	5
IDMU		100,00		
ADMU			1345,40	

ADMU model has evaluated credit institution 4 as being inefficient for years 2003 and 2004. This result coincides with that estimated by the initial model. IDMU model has identified only one efficient credit institution relative to the new criteria, which is institution 1, for 2006 year.

The second approach is based on the method developed by Andersen and Petersen (1993) to evaluate the efficient

entities, by estimating a superefficiency score. It consists in comparing the efficiency score of a decision making unit with the score resulted from the linear combination of the other units in the sample, excepting the current unit. The new score reflects the distance between the analysed unit and the efficiency frontier, generated by excluding this unit from the sample. Therefore, the score obtained for our output oriented model

indicates the maximum possible limit until one can decrease outputs value, so that the entity remains efficient. The superefficiency scores estimated for our sample are presented in table 5. According to this method, credit institutions that have obtained the biggest scores are the most efficient because, even in the case of a significant decrease in output values, they manage to wind off their activity in an efficient manner.

Ranking according to superefficiency scores

Table 5

DMU	Initial score (%)	Superefficiency score (%)	Ranking
DMU 1 2003	100.00	56.54	15
DMU 2 2003	100.00	40.37	17
DMU 3 2003	100.00	big	1
DMU 4 2003	102.10	102.10	19
DMU 5 2003	100.00	68.29	14
DMU 1 2004	100.00	93.65	3
DMU 2 2004	100.00	90.07	5
DMU 3 2004	100.00	98.59	2
DMU 4 2004	100.00	79.31	10
DMU 5 2004	100.00	85.07	8
DMU 1 2005	103.50	103.50	20
DMU 2 2005	100.00	91.37	4
DMU 3 2005	100.00	71.48	11
DMU 4 2005	101.56	101.56	18
DMU 5 2005	100.00	86.74	6
DMU 1 2006	100.00	70.73	12
DMU 2 2006	100.00	47.76	16
DMU 3 2006	100.00	84.71	9
DMU 4 2006	100.00	70.68	13
DMU 5 2006	100.00	86.64	7

The results obtained suggest that the inefficiency scores maintained unchanged, the delimitation being applied only for those credit institutions that proved to be efficient. For the year 2003, institution 3 received the

grade “big”, which means that, no matter the decrease in output values, its activity will remain efficient. Hence, it ranks on the first place in the hierarchy of efficient credit institutions. The interpretation of scores obtained by the remaining institutions is the same. For instance, in the year 2006, institution 5 held a score of 86.64%, which means that, in the case of a decrease in outputs value with a factor of 0.8664, the institution will still be efficient.

By comparing the ranking obtained from the two approaches, one may observe that 40% of credit institutions in the sample registered significant fluctuations, of over 4 places, in the hierarchy. The incongruities come from the different sample structure. For Andersen and Petersen method, from the initial sample we had excluded the current institution under evaluation, meanwhile, for the first approach, we had included in the sample an additional ideal best performing institution. Therefore, in this last case, the ranking had been made by relating to the best possible efficiency, and not to the relative efficiency attained by the other ones.

Conclusions

Although the top management’s performance is difficult to quantify and interpret objectively, a clue can be offered by analysing the sources of inefficiency displayed in the development of banking activity. They reflect the executive’s board ability and experience in the process of implementation of a clear, viable strategy, and in maintaining a risk profile adequated to the level of economic capital holded.

Top management must monitor both the business lines and off-balance sheet activities that generate losses, and those characterised by a good profitability. It could be the effect of an excessive risk taking, which, in cases of occurrence, will expose the credit institution to a significant capital and reputation loss.

The ranking of credit institutions allows comparisons for the whole sample. According to this, the management's performance of an individual institution, reflected in its activity, can be related to the performances of the competitors.

Notes

- (1) Credit institutions, hospitals, schools and university departments, economic agents, air-bases, maritime bases, nonprofit organisations.
- (2) It was postulated by Smith, Mayston (1987); Sexton (1989); Boussofiene, Dyson, Thanassoulis (1991).
- (3) The method is largely described in the study "DEA efficiency assessment using ideal and anti-ideal decision making units", realised by Wang Y.M., Luo Y. (2006), published in *Applied Mathematics and Computation* 173, pp. 902-915.
- (4) The weights flexibility in DEA method allows each entity to detain its own set of weights, in order to present it in the most favourable light. This characteristic of DEA method has generated numerous controversies. Charnes, Cooper, Rhodes, the authors of DEA model, consider that, in this case, the inefficient entities can be detected more accurately. If under this generous, advantageous assumption a credit institution doesn't obtain a score close to 1, it means that there is certainly a situation of inefficiency.

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Senzorial Marketing – Means of Evaluating Customer's Satisfaction on Balnear Tourism

■

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Abstract. *In the course of time customers' satisfaction raised many disputes and can be defined by various authors as a "generalized attitude, based on a cognitive comparison and an affective component" (Homburg, Stock, 2001). One of the requests of the studies regarding satisfaction is the multi-attributive measuring (multi-dimensional). In the field of balneal medicine the need of standard evaluation of satisfaction appeared when the consumer became stricter and stricter, this leading to reorientation and adaptation to customers' demands up to outrunning the customers' expectations. Using marketing research and its specific instruments of satisfaction measurement, the experience of a customer regarding certain product usage, decomposed into dimensions or attributes, leads to permanent distinguishing of elements that draw him closer to/disturb the customer, in his role of conscious or unconscious observer.*

Key words: attached customer; consumer; quality; satisfaction; sensorial/perceptive marketing.

JEL Codes: D12, M31.

■

REL Codes: 7B, 14F, 14G.

1. Sensorial marketing background

It is defined by certain authors as being “both a final state and a continuous process” (Oliver, 1992) and at the same time the result of a complex comparative psychic process (Herrmann, Homburg et al., 1999), satisfaction is a necessary but insufficient element for becoming devoted, resulting in a customer’s loyalty to a company, product and brand.

To obtain a certain level of satisfaction the customer uses certain comparative standards, which can be defined as ideal expectations, individual standard or other evaluative instruments. In these conditions, satisfaction represents “a true key of molding the customer’s acquisition behavior”, which deals with three groups of variables: cognitive variables (based on superior quality of merchandise given by performance), affective variables (based on customers’ feelings) and cognitive variables (based on customer-provider interaction during the process of buying; Meyer-Waarden, 2004, quoted by Brătianu, Lixăndroiu, Pop, editors, 2006).

For the cognitive variable, the most important element is the technical quality of the product, expressed by its characteristics such as: performance, durability, design, maintainability, environmental protective, etc.

For the affective variable, the marketer has to take into consideration the quality of the reputation (competence, solidarity, image and notoriety) and for the cognitive variable the most important element is the quality of service (certainty, durability,

tangibility, quickness) and not to mention the quality of personal relationships, expressed by personal communication, selling capacity, inter-relational atmosphere and the employees’ behavior.

If for the conative and cognitive variables the degree of satisfaction can be measured by objective standards and indicators, being easier to, for the affective variable the multi-attributive method is much more used, method which presumes the identification of all factors or the attributes determined by these and the hierarchy of their importance to global level of satisfaction. At the same time it is required to separate/delimitate them into basic, necessary factors and also factors of enthusiasm. The degree of customer satisfaction is hard to be evaluated in some sectors, such as tourism, where a multitude of forms of tourism exists and also of touristic products which can be achieved by taking into consideration the consumer motivation. That is why, an important role in this situation is the evaluation of the product by taking into consideration its main objective and subjective characteristics. The role of the marketer is to understand-transform the product into an unique experience lived by the consumer, during all his stay in the touristic place.

Thus every product must have certain characteristics to distinguish it from the competitors, and much more this should be viewed as unique in the customer’s mind, put it in a different way, it becomes a „brand”. The services, through their

nature and characteristics, require a longer contact between customer and provider, allowing a connection on long-terms, with benefits for both sides (Pop, 2006). From this perspective, during the customer's stay, the provider can use different levels of presenting (impact, influence, impression) the touristic product to the customer. Through this relational concept,

that places first the interaction between the consumer and the product, can point out perceptual elements which make up and generate the satisfaction process associated with the marketed product consumption which at the same time differentiate and transform it into brand through his components: visual, rational, cultural and emotional (figure 1).

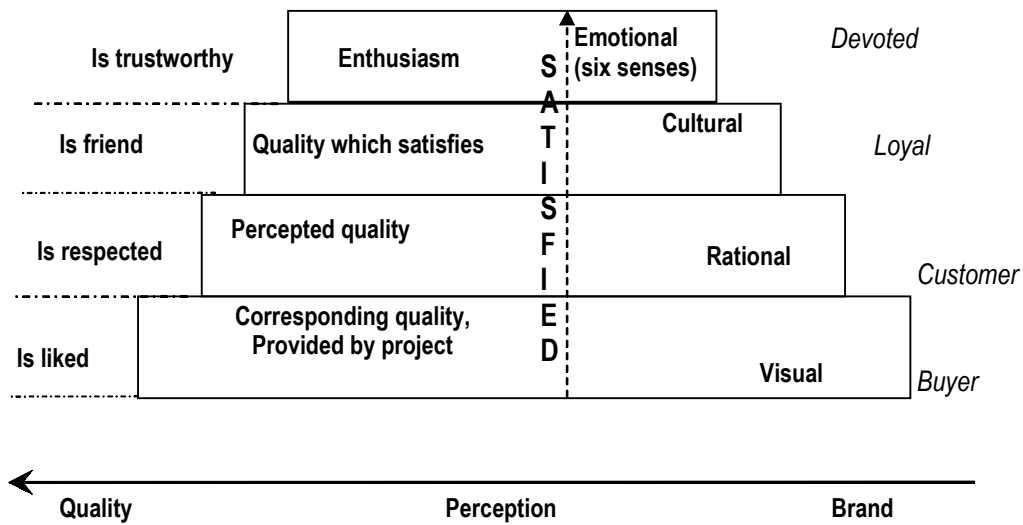


Figure 1. Relationship between perception-quality-satisfaction-brand

Visual component (sensorial)

It represents the first level of interaction of the individual with the surrounding environment and from this perspective has a fundamental role in establishing a satisfactory relationship. Deficiencies at this level cannot be ignored by the consumer, but can be tolerated. The visual component gives 90% of the received and analyzed information regarding the environment and it refers both to quality elements of project execution (fix structures) and to its use to achieve the target purpose. The visual information is corroborated with the olfactive, tactile and

audio information and offers an impression of “uncomfortable/embarrassing”, “adequate” or “superior” regarding the product. In a balneal resort, at this level aspects of comfort are generally included: quantity, distribution and harmonizing the natural/artificial light, temperature, humidity and air circulation, etc. which are compared to the level and type of activity. These are identification sources like symmetry, angularity, proportion, measurement which have an important role in preparing products/treatments used at this level.

Rational component

It represents the level at which the sensorial information obtained is analyzed and processed and assures the individual adaptation and integration in the environment. This type of approach confers this component an essential role, necessary to satisfy the customer's needs. In practice, this aspect can often be neglected, without obstructing the other elements and obtaining a certain degree of satisfaction. It is undoubtful that a certain degree of satisfaction has to be addressed efficiently to the interaction consumer-product. The following statement is well known: "we don't like what we don't understand". From a limited point of view the rational component provides understanding of product's elements, of general idea to form positive impressions which finally creates a link between the consumer and the product. A useful example is the usage of a short history of the surroundings and some anecdotes which frame the touristic elements into a social and historical framework giving some value. It is well known that – although inappropriate – the association between Dracula and Bran castle raised the number of tourists coming to this destination.

In this direction one can emphasize what people do in a certain field. Taking into consideration the rational level, the consumer can get some information about certain useful aspects, which he can successfully use in the future and at the same time associate them with the given

experience (in case of balneal tourism, for each of the three types of products the variety of products, its benefits and mechanism of action are motivated, the explaining regarding the density of negative aero-ions and association with a new technique of relaxation and treatment).

Cultural component

This level can be characterized as subconscious. It generally contains elements of conception, harmony, and integrity of components (buildings, rooms) in which people live. This level can be influenced rationally by explaining its utility and aesthetic advantages of construction elements. It has a powerful influence on the individual, but it still can be connected to artistic contemporary trends (fashion, design, internal architecture). The said level is represented by the experiences, traditions, social particularities in which an individual lived (a relaxing vacation contains elements usually connected to a comfortable atmosphere: quiet/fresh air, cleaning/organizing/food/refinement etc). Regarding balneal tourism, suitable products are those named "restful holiday". One of the products/modern means of treatment is also balneal-aromatherapy (aromatherapy correlated with balneal treatment).

Considered to be an alternative treatment, its purposes are relaxation, equilibration and energetic harmonization and it is based on individual studies, folk and not in the last on various traditional knowledge of various times and cultures,

by using a sense that makes connection with the ancestral memory, which can influence us individually both biological and psychological – a certain smell associated with various sensations and memories, which can change the mood of a person, to happiness and self confidence (Coifan, 2005).

Emotional component

This is the most difficult level to reach, and indeed this can give someone the feeling of long-term satisfaction, that is, pleasant memories. The emotional level is the most individualized (specific for each) and reaching it requires information regarding personal preferences. To reach this level the other three components have to be successfully achieved or in extraordinary cases this kind of experience can be achieved directly.

It is also worth mentioning that a way to lead in this direction requires the fulfillment of all the customer's expectations, helpful for the customer satisfaction in this case is a questionnaire making the services more appropriate to his wishes.

The customers' expectations can vary considerably compared to the presented product; from this point of view an efficient research should contain questions about the customers' expectations, before he/she arrives to the touristic resort. The previous experiences, daily routine, things

considered indispensable to assure a reasonable comfort may differ considerably from individual to individual and at the same time can hinder a satisfactory response at the affective level from the consumer.

When it comes to balneal services, if the customer expects a functional improvement, one can take into consideration the physiotherapy component, which is situated at the base of the pyramid concerning means of treatment for each individual, being in a continuous process of adaptation (figure 2); if the customer needs to be refreshed and relaxed, the accent is placed on preferable means of relaxation/treatment (aromatherapy, balneal therapy, aromatherapy) on favorite products (bergamot, fir, cedar, eucalyptus, ginger, lavender, mint, vanilla, ylang – ylang) specially for the consumer that has had this sort of therapy, this case turns into a mean of differentiating, but also a method of improvement for the brand identity.

An interesting approach to this component is the involvement of the consumer in a new and unique experience beyond his/ her daily routine (termal baths in the open-air, rafting and others).

Most of the times this relies on the creation of a microadventure with happy ending; also in this case one should take into consideration the experience and preferences of the individual.

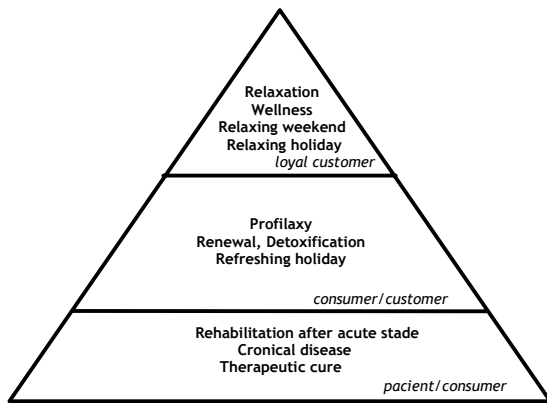


Figure 2. Main spa products and treatments

Source: adapted from Daniel Kulla, Slovak Experience in Upgrading of the Balneary Resorts with focus on Spa Piestany, Balneal forum, Sovata, Romania, 4-6 October 2007.

Any strategy of long-term customer retention has to take into consideration the quality of the product/touristic service, the brand components (visual, rational, cultural and emotional) can have various levels of quality and, taken in a certain order, can lead to a good systematization of customers' degrees of satisfaction (Stăncioiu, Pop, 2006).

The complexity of the concept of customer's satisfaction regarding balneal products is caused by heterogeneity of target-markets (figure 3), and the diversity of products/spa treatments (therapeutic treatment for a chronic patient, retrieve treatment, retrieve treatment for athletes, prophylactic treatment for a well informed customer, relaxation for wellness customers) as well as overlap products consumption for various uses (as an example the chronic patient can need both a therapeutic treatment and another for relaxation, from hydro-kinetic-therapy to socio-therapy).

While for the chronic patient the treatment efficiency is the most important source of satisfaction, for the "refresh/prophylaxis" consumer the satisfaction is best characterized by a combination between useful and pleasant, the "wellness" consumer's satisfaction represents the quality of the global balneal product (Gustaffson, Johnson, Roos, 2005).

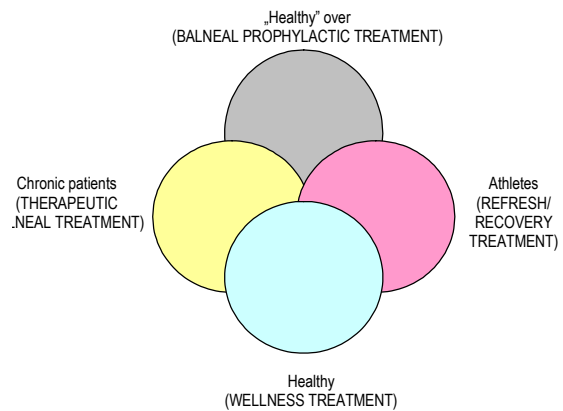


Figure 3. Target markets/products in balneal tourism

As a conclusion both in balneal tourism as well as other means the static vision of satisfaction as a mere state between consumer and producer is replaced and completed by the paradigm of cumulated satisfaction, the outcome of a process that can only take place if a stable customer is present, needing a certain product, brand, destination or company to satisfy certain wishes or needs (Schüler, Fuchs, 2004, Mithas, Krishnan, Fornell, 2005).

Starting with the conclusions above, the experiences of a customer regarding the use of a product, decomposed into dimensions or attributes which form the affective variable (to gain devoting clients) is the object of marketing research that gives

information regarding the customer's ways of perception of a product/lived experience.

2. Methodological sketch

In order to mould the effects of touristic services client satisfaction to diminish/consolidate his/her process of devotion, a methodological sketch of a questionnaire was established, structured in four sections, taking into consideration both the complexity of deciding to buy a certain touristic product, and also the complicated behavior of the consumer during his stay. The chosen sample, taking generally into consideration the characteristics of the services and of touristic services in special, is interested only in present consumers uses of service/touristic products.

Thus the major sources of information in choosing the service/touristic product have been identified in the first section. In the second section, according to Homburg and Stock (2001) theory starting from the identification of three factors (basic, wanted and of enthusiasm) next an evaluation of customer's satisfaction was achieved regarding components of touristic product accommodation: meals, lodging, treatment, entertainment and others, next a measurement of the level of customer's satisfaction, including the means of solving a reclamation (Bruhn, 2001). In the third section there were identified indicators that characterize the consumer's life style in general, at the same time establishing a correlation between the life style and level of content/satisfaction. The fourth section deals with the socio-demographical identification characteristics of touristic customers (Florescu et al., 1992, Dăculescu, 2006).

The results interpretation was made by using a bidimensional matrix, based on satisfaction indexes for all determinative factors/attributes, according to which the consumers can be classified:

- very satisfied consumers (9-10), for whom strategies of devotion would be accomplished;
- satisfied customers (7-8), for whom various strategies to avoid migration should be accomplished (offering of additional services);
- unsatisfied customers (5-6), for which the company should elaborate, according to case, strategies of product, price and personnel, but also actions with immediate results.

3. Conclusions

In order to make the research an empirical base for the investigations regarding customer's satisfaction, the questionnaire should be performed periodically, the majority of customers should be the stable clients of touristic services, and one should have a permanently actualized base of customers (Timm, Jones, 2005).

Since satisfaction is an specific experience and a subjective phenomenon which can be submitted to objective determinism, an efficient strategy of positioning the touristic product can influence positively the subjective perception of an individual in various levels (and/or in different components of products) to improve the degree of customer's satisfaction.

The concept and the methodology mentioned above represent a new way of tackle in which the four perceptual elements (visual, rational, cultural and emotional) are

evaluated simultaneously and complementary, to achieve the best level of customer's satisfaction.

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The Ethos of Cost Management

■

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***Abstract.** This article describes the ethos of cost management, distinguishing the definition, functions and principles governing cost management. I have emphasized the efforts made by the specialists in the field towards finding a much more complete definition of cost management. The description of cost management principles reveals the current interest of the specialists in this extremely important domain of company management.*

Key words: cost management; ethos; principles; management accounting; functions.

■

JEL Codes: M11, M41.

REL Codes: 14B, 14I.

In order to reach the standards and principles that regulate an efficient cost management, we will first refer to the definition, constitution and functions that cost management fulfills.

In Romania, the hard work made in the attempt to expand this domain is revealed in many specialized studies of professors such as Mihai Ristea, Oprea Călin, Ladislau Possler, etc. Their contribution to the development of management and cost calculation represents the starting point in extending the area of investigation of different aspects concerning the instruments used in distinguishing the enterprise performances.

Since the notion of cost management knows a variety of definitions, we will focus on the one that describes the activities involving control, analysis, long and short-term decision-making that leads to creation of value for the clients and cost reduction for products, equipment and services.

Managers make decisions regarding the quantity and type of raw material used, changes in the industrial processes and changes in the product's design. The information provided by the accounting system helps managers in the process of decision making, but information and accounting system do not constitute cost management by themselves.

Cost management includes a much larger area that allows for continuous cost reduction. Planning and cost control are automatically connected to earnings and profit planning. Cost management is strongly tied to the strategies used by the general management and its implementation modes.

In other words, we can define cost management as the process by which

enterprises use cost calculation for reporting or controlling cost variety of their ongoing activities.

As part of the traditional accounting system, the cost management has as its object of activity the collection, measurement, organization, analysis and transmission of information necessary for the enterprise management.

As part of an integrated system, the cost management also includes in its object of activity – apart from its management accounting functions – some economic functions, such as: planning, monitoring, analysis and cost control.

Starting from the above-mentioned ideas, we can extend the area of cost management and we can define it as the management system that uses cost calculation for a double purpose: on the one hand, for the collection, organization, analysis and cost control, and on the other hand, for drawing up and transmitting information as reports or dashboards necessary to the enterprise management for long or short-term decision making.

The management accounting represents the main tool that provides the cost management with accurate information for an efficient decision making. As shown in the definition of cost management, it also includes the provision of information necessary for drawing up and implementing an effective strategy in order to ensure a high level of quality, productivity and reliability at the lowest costs⁽¹⁾. In another words, cost management represents an optimization process of both strategic and operational performances. The profitable business guaranty is given by the observation of cost management functions and the

fulfillment of the entire course of cost management ethos⁽²⁾.

The main functions of cost management as identified by the specialists are the following:

1. Cost planning consists in anticipating the resource necessary to an enterprise for the elaboration of cost budgets according to its organizational structure and the chosen management accounting method (responsibility centers, cost centers, processes, activities, products etc.). In the field literature, most managers have been opting for a transversal organizational structure that presents advantages clearly superior as compared to the hierarchical-functional structure (or classic structure).

The hierarchical-functional structure presents the following features:

- Activity is based on control. The hierarchical classic organizational structure is characterized by an authoritative management that exercises all the functions. Task distribution is based on orders.
- The organizational structure is centered on functions, whose information flow is mainly vertical.
- Attention is focused on internal problems.
- The organizational structure is rigid and stable. Compartmentalization is inflexible and is based exclusively on compartments and functional services. The gap between the top and the base of the organizational pyramid is wide, being made up of only a small number of operational compartments. The compartment branching – from an organizational structure point of view -

is very high on a vertical line.

In comparison with the classic structure, the transversal structure presents the following features:

- Activity is based on participation. The transversal organizational structure is characterized by a participative management, the manager collaborating with his subordinates. Task distribution is based on assignments.
- The organizational structure is centered on objectives, whose flow is horizontal.
- Attention is focalized on external influences.
- The organizational structure is flexible, change-oriented. The compartmentalization is flexible and it can be based on: activities, customers, products, functional services, etc. The distance between the top and the base of the organizational pyramid is small and is composed of both operational and functional compartments. The compartment branching – from an organizational structure point of view – is very high on a horizontal line.

The planning function of the cost management pre-supposes the correlation of all the enterprise budgets (supplying, production, sales, etc.) with the whole managerial process for analyzing and grounding decisions about practiced price policy, market and customer segments.

2. Cost evidence consists in expense and cost registration, according to their destination, considering the management accounting classification criteria.

3. Cost control consists of a comparison between effective costs and standards or pre-

calculated costs. Based on a pre-determined system, we can delimitate and analyze the deviation causes (especially the negatives ones!) that appear as a result of recorded differences between effective and planned activity. The accountant (from the management accounting department) plays the most important role, because he gets involved in planning and elaborating the strategy, according to the established objectives of the enterprise.

4. Communicating cost-related information. The information provided by the management accounting department must be clear, concise, simplified with respect to the informational content (reports, graphics, memos, etc.), so that its beneficiaries (other compartments or the enterprise management) should easily understand and use it in making adequate decisions. Management accounting department has the most important role in the information “act”. Knowing very well the duties of the other compartments, with which it communicates and cooperates efficiently, it also contributes to the information of the beneficiaries, thus demonstrating flexibility, in order to rapidly respond to changes occurred in the enterprise environment.

5. Reporting information through reports or dashboards. Dashboard represents a method of framing, selecting, arranging and presenting indicators that permit the visualization of a general tendency in the followed evolution. According to the objectives that he has established and follows, every manager can construct their own presentation of the dashboard, in line with the responsibilities established in the job description. The piloting dashboard has a double purpose: on the one

hand, it is used to select cost-related indicators and, on the other hand, to specify their evolution, thus constituting the fastest modality of generating actions for improving the enterprise performances.

6. The elaboration of cost-related strategy. The dashboards prepared by “the information manager” allow the enterprise management to respond rapidly to problems or unpredictable situations occurred during ongoing activity.

What is the ethos of cost management?

The ethos of cost management represents the ensemble of standards and principles governing cost management. The specialists have identified the following principles:

1. Defining clear performance objectives

The essence of this principle consists in establishing and obtaining clear results, which are in accordance with the initially set performance objectives. The experience accumulated by most managers around the world and Romania, in particular, sums up only to “the reduction of costs” such as: salaries, lay offs, production rationalization, different budget-related expenses reduction in the enterprise. We can’t deny the fact that these actions undertaken by managers are not always useful.

For ensuring an efficient cost management, we must concentrate our attention on ensuring a discipline over all daily processes unfolding in an enterprise, which in turn yield an excess of employees and an extension of production lines, some of them unprofitable and non-value added. We should also consider justifying and implementing more efficient control systems. Cost management

represents the base of those systems and creates the need for such cost structures.

For example, in an industry where low costs are recorded, we can take as profitability bench-marks some pivot drivers or cost determinatives such as: production planning, efficiency maintenance, production diversity or technical knowledge (professional know-how). Each of these factors can constitute tools of cost efficiency or “causal base” for low costs values. The first step that must be taken for recording an efficient cost management is to understand the difference between a correct allocation of overheads, using scientifically determined cost drivers and an allocation of cost using arbitrary cost drivers.

As long as the established objectives are clearly and precisely formulated, results should match the expectations. By organizing an efficient marketing, by adding new products to the line already launched on the market and by applying thoroughly studied wrapping options or by extending distribution channels on different market categories, the revenues will be ensured and even increased, thus supporting the success and benefits projected through the company performance objectives in the cost management domain.

In order to guarantee an efficient cost management, the performance objectives must be aligned so as not to compensate for the achievements obtained from other processes at enterprise level by increasing the costs of other processes of the enterprise.

2. Providing tools and useful information for performance guaranty

The use of terms such as “tool” and “useful information” in the context of performance is

related by the motivation of the employees involved in reaching it. If the enterprise management considers the fact that employees’ involvement in daily activities is shaped by the desire to best fulfill their duty, then the motivation and performances of the employees will be much higher.

If an enterprise wishes to achieve the optimum between production volume, production costs and revenues obtained as a result of production sale, then the personnel responsible for cost planning and profit making must possess sound knowledge about the following:

- the stages of manufacturing process within the enterprise;
- forecasting and establishing the standard (pre-calculated) costs of products;
- the impact that launching new products could have on the market segments;
- the decisions of customers about launching new products;
- the relevance of the fact that each of their actions affects customers, costs, inventory and production administration.

The same principle applies to cost management. For facilitating and ensuring the efficiency of cost control, managers should:

- know the specific cost drivers of their specific activities;
- understand the difference between efficiency and structural costs;
- understand the production and sale processes from a technical point of view;
- possess extensive knowledge about the daily activities taking place within the enterprise.

The more extensive the management’s knowledge about cost drivers of the enterprise

is, the higher the opportunity to have an efficient cost management to the detriment of cost reduction.

3. Understanding and accepting real production costs

Standard cost represents the basic component of decision making, starting with budget preparing, real costs reporting and deviation determination and formulating strategies and performances based on concrete planning. The data obtained as a result of processing standard productions costs lead – in most cases – to establishing new sale prices, advertising, marketing and making complex decisions about the capital invested within the enterprise.

The importance of data obtained as a result of processing standard costs raises the problem of their accuracy. As we know, production cost is made up of material costs and direct personnel costs, plus the overhead rates. In the current environment, personnel costs include 10 per cent and material costs raise to 30 per cent of total production costs. The overheads represent only 50 to 60 percent of the total production costs. In this context in which overheads represent an important part of the total production cost, cost drivers are not related only to the production volume, but also to other factors.

The majority of managers suggest that most of these overheads (e.g. logistic costs, production, marketing, sales, distribution, service, technology, information resources and general administration) can be, in fact, traced down to individual products or product groups. Certain activities and processes consume an unbalanced quantity of these activities.

The majority of specialists argue that a wrong allocation of overheads can generate huge distortions in estimating production costs. Specifically, traditional cost strategies tend to assign more overheads to less complex products which are produced on a larger scale. On the other hand, overheads have been seriously underestimated the complexity of products and services manufactured on a smaller scale. Since this information cost is often used in the profitability evaluation of different production strategies, a wrong allocation of costs can cause managers to make wrong decisions. Understanding and accepting the need for real production costs has always represented a challenge for enterprise management.

It is extremely difficult to accept that information databases that underlay most decisions can be the negative root of many short-term business failures. This is especially true in the case of production costs and sale prices, but also in the case of justifying new products or their introduction. Until these cost distortions are known and adjusted, making managerial decisions at enterprise level (including the formulation of long-term strategies) remains extremely difficult to validate. Accepting reality is everything, but not for the majority of executive managers.

4. Setting excellence as performance target

Constant improvement of enterprise performance is achieved by comparing past and present performances. At present, the focus is on establishing standards of excellence that should satisfy both customers' demands and the enterprise and management necessities.

The majority of enterprises chose for the services and products they offer for the following parameters: 100 per cent quality, zero delivery delays, zero damage during transport, gradual and annual reduction of production costs, regular development of skills and technical and technological knowledge of the employees – the so called know-how or professional savoir-faire. The alignment of the above-mentioned factors to the enterprise performances contribute in fact to an increase in performance culture and the behavioral ethos of cost management.

5. Reducing organizational complexity

The enterprises with the most efficient cost management constantly apply clear tests of relevance and value for each of their daily unfolding activities. These tests are meant to question everything that happened in an enterprise during a regular work day or even over a management period.

The questionnaires are presented as question sets addressed to both department heads and to workers. Based upon the centralization of the formulated answers, solutions are searched for making cost management more efficient. A questionnaire like this includes questions such as: *How does this activity contribute to the creation, maintenance or even improvement of sales? What additional costs will be added for this activity? How does this investment contribute to quality improvement or flexibility in view of production growth?*

After centralizing these data, we will proceed to reduce non-value yielding activities and to stimulate the value-yielding ones, to

reduce organizational departments with a view to simplify unfolding processes, thus allowing for the fluidization of unfolding activities and for an increase in the inter-departmental and inter-processing communication (see the analogy between functional-hierarchical structure and transversal structure). The same target is pursued for the manufacturing line, which is submitted to similar tests. The products that are not profitable, cost-consuming and do not satisfy the customers' growing and constantly diversifying demands will be eliminated.

6. Involvement in reaching performances by knowledge

In an enterprise we are often confronted by situations in which the employed personnel is not involved into more activities than it is specified by the job description, either by lack of interest or ignorance. As we know, access to a superior position is gained in time, by direct involvement, knowledge and respect. These two elements – knowledge and involvement – represent the key to success and excellence in the cost-efficiency relationship of costs.

As shown above, the five previously mentioned and explained principles of cost management efficiency are based on the fact that excellence depends on what the expert Edwards Deming called “profound knowledge”.

The ability to solve the problems that arise during unfolding activities and observing quality in the decision-making process represents the significant factors of staff involvement or their (mandate) empowerment. Only the employees that possess real, solid knowledge and indecision-making capacity

can ensure the success of the enterprise.

7. The impact of organization costs on management decisions

The way we understand and accept the fact that most organizational costs are also structural represents the most important principle of cost management efficiency. This principle is based on two facts: first, we must accept costs and their yielding process, and second, that is management must accept the surrounding reality.

The first fact refers to costs that are generated with the help of department heads, approved by the management system through managerial decisions. These decisions concern both the number of products that are to be manufactured and the categories of customers they are addressed to, thus knowing and establishing cost drivers as well.

The second fact refers to the enterprise management's ability to accept changes through challenges related to past decisions in a flexible manner and the fact that most organizational costs have been created and sustained through previous managerial decisions.

The cost management efficiency is based on processes that lie within the culture of every

enterprise, representing a modality of continuing activity, of survival.

Those seven previously mentioned principles have been clearly emphasized by the specialists in the domain. What has been overlooked, in my opinion, is in fact the eighth principle, simply called "Strict compliance with all cost management functions", which is briefly presented below.

8. Strict compliance with all cost management functions

By complying with all the above-mentioned principles and functions of cost management, we all can have the guaranty of a success at enterprise level. Making decisions by the enterprise management is achieved in time and correctly, acting in the shortest time possible and based on the dashboards. Respecting and performing cost management functions must proceed in strict accordance with cost management principles.

The ethos of cost management offers a real "image" over the application methods and understanding of cost management. Respecting cost management principles constitutes the way towards obtaining significant results that will influence the future decisions of the enterprise management.

Notes

⁽¹⁾ It doesn't refer to "cost" in the cost reduction sense.

⁽²⁾ Ensemble of standards and principles specific to cost management.

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