Evolution of national-international trade in the period before the economic and financial crisis for selected economies

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The world economy has evolved in recent years amid some obvious inequalities and disparities nationally manifested on different levels, including the participation in international trade. This study took into account the two ways of approach, namely: evaluation and analysis of existing differences between the countries participating in global trade, on the one hand and development of a hierarchy among them, on the other hand, in terms of export, import and trade balance. Therefore, the analysis methodology specific to regional series was used, namely the territorial statistical indicators and multicriteria ranking. We also considered the changes made to the country with the best performance in the period 2002 to 2008, time for which official figures were used at the time of the study. The data used in the study have been taken from on-line databases available on the website of the Romanian National Statistics Institute: http://www.insse.ro/ and they refer to 41 countries for which information was available, data processed in order to be harmonized by authors, taking into account both the emerging countries (China, Romania, Greece, Bulgaria, Slovakia, Slovenia, Nigeria, Brazil etc.) and the economically developed countries (USA, Germany, Japan, United Kingdom etc.).

Key words: Import, export, trade balance, evolution, ranking.

INTRODUCTION

Given the increasing globalization of world economy and the internationalization of commercial transactions, we may note that the regional subregional and bilateral agreements on free trade are amplified along with the creation of customs union. We can not help noting that the trend of regionalization of the world economy, extremely strong, is accompanied by another trend, not less outstanding and dramatic, that of increasing globalization of international companies (Burciu et al., 2010). In this context, the tension between the two growing trends highlights the tension of decision-making processes: centralized or decentralized.

In special literature the relationships between rising trade, economic growth, globalization and international disparities is very well reflected. Krugman (1979), Dixit and Norman (1980) and Helpman (1981) have given complete explanations of trade in the "new international economics". Romer (1987) and Lucas (1988) made the same thing in development economics, the "new growth theory". Also, is generally accepted that the free trade increase national economic performance and (Fischer, 2003; Pugel and Lindert, 2000). The globalization has
been associated with a significant increase in trade across the world. Moreover, in many studies the semnification of the interaction between trade and regional disparities has become particularly important, but in general, there seems there is not a realy relationship between trade and regional disparities (Rodríguez-Pose, 2006). We may say that the regionalization of international trade and globalization are not exclusive processes, as they complement and blend each other, but are complementary in achieving the overall, common objective to liberalize world trade. The latent tensions between regionalization and globalization, between centralization and decentralization, between the government and companies are strongly and progressively reflected in the efforts to harmonize trade policies and to liberalize international trade, which are taking place in the World Trade Organization (WTO) and the General Agreement on Tariffs and Trade (GATT). Referring to our country (Paliu-Popa, 2009), we consider it appropriate to mention that Romania's trade policy (Sută et al., 2000) can not ignore the international situation, plus solid evidence of our country's real economy, affecting the Romanian foreign trade (Blănaru, 2009).

Given the role and importance of foreign trade in the global economy, we will analyze below the evolution of international trade, by groups of countries and regions during 2002 to 2008, overall and per capita, and then we will analyze the foreign trade of each country, considering the share of exports and imports from different countries in the world trade. We will not exclude trade balance from the analysis, both overall and per capita, because it is an important means of knowing the level of development of national economy, plus the efficiency and performance of such country's participation in international economic exchanges. Thus, the analysis made will allow us to achieve rankings and draw conclusions regarding the place and role of trade of each state in the development of international trade.

**EVLUTIVE TRENDS OF INTERNATIONAL TRADE IN THE PERIOD BEFORE THE ECONOMIC AND FINANCIAL CRISIS**

The participation of all states in international economic exchange becomes an objective necessity in the contemporary period. We consider that the main arguments that advocate such guideline are closely related to: unprecedented increase in complexity of the global economy, increased dynamism of technical progress, the high degree of diversification of economic processes, increased interdependence of national economies, significant benefits that can be earned on the international division of labor and/or specialization in production, globalization of economic activities, proliferation of doctrines and policies that promote the establishment of the new international political and economic order etc.

A country's foreign trade problems (imports, exports, intra-Community commercial transactions) can be discussed only in close connection with its trade balance. If we refer to the foreign trade, as part of trade balance and to the values that export and import achieve in a certain period, usually one year, then we can say that the trade balance of a country can be:

- Active or redundant if exports exceed imports;
- Passive or weak, if imports exceed the exports;
- In equilibrium and balanced, if imports and exports are equal.

If the trade balance has the effect of increasing the growth of the economy, we can say that its economic deficit leads to the need to use external credits that can be justified only insofar as they can be reimbursed as a result of increased production achieved by using them (Cerchez, 2007).

Referring to the trade surplus we can appreciate that it is an element of accumulation, which may lead, under a cost-effective export, to increase in the foreign reserves and therefore to the possibility of paying future imports. The absolute level of total FOB1 export (million USD), in the period under review, 2002 to 2008, for all countries involved in international trade, has generally seen upward trends, Germany and the Republic of China were particularly emphasized (Table 1).

If we focus attention on Germany, placed in 2002 on the 2nd place in the world in terms of exports, with a level of 612,857.00, dollars, we can see that in the next six years it had a linear trend with an annual average increase of 141,837.33 million dollars, that is an annual average relative increase by 60.19%, thus reaching in 2008 the absolute level of exports of 1,463,881 million dollars, 2.39 times greater than in 2002, thus holding the first place in the world.

We can not help noticing the really spectacular progress made by the Republic of China, which, holding the 4th place in 2002, with an export level of only 325,591.00 million dollars, representing 53% of the German exports and 47% of U.S. exports, which held the first place, came in 2008 to increase its export level by 4.39 times, holding the second position, with only 35,221.00 million dollars less than Germany, registering in the 6-year period an average annual increase of 183,844.83 million dollars. Under these conditions, although the U.S. was the major global exporter in 2002, in terms of the volume of value, while maintaining an upward trend, was surpassed by Germany in 2003 and then by the Republic of China in 2007, thus holding the third position in 2008, with a level of exports of 1,301,110 million dollars, that is 91.07% of China's exports and only 88.88% of German exports.

When referring to the 3rd place in the world in 2002,

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1 FOB (Free on Board) is the price at the border of the exporting country, which includes the value of the property, all transport costs to the point of embarkation, and all fees incurred for the property to be loaded on board.
Table 1. Dynamics of FOB exports, CIF imports and foreign trade balance during 2002-2008 for selected countries in international trade (million dollars)

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*Note: Balance = FOB - CIF, CIF = CIF + FOB.*
namely Japan, surpassed by the Republic of China since 2004, it holds in 2008 only the 4th position in the world with a level of exports of 514,676.00 million dollars lower than that of the U.S., which ranks 2nd (Figure 1).

With similar dynamics, France and Singapore maintain places 5 and 6 in the world throughout the period analyzed, while the gap between them and the holders of the first three positions is widening every year. In fact, for a total export in 2008 of 12,852.610 million dollars compared to 6,421.004 million dollars in 2002, that is 2.36 higher, the share incumbent on the first three exporting countries, Germany, Republic of China and the U.S. was of over 28%; the other 38 countries covered the difference in percent (Table 2). For an overview of the dynamics evolution of FOB exports in the period 2002 to 2008, by groups of countries, we used the graphical representation in Figure 1, and for its dynamics by contribution of the participating countries in the international trade, the graphical representation in Figure 2.

If we analyze the share in total exports, we can easily see that while the U.S. decreased significantly from 11.40% in 2002 to 8.71% in 2008 and Germany from 10.07% to 9.80%, the Republic of China registered a significant increase from 5.35% of total exports in 2002 to 9.56% in 2008 (Table 2).

We cannot continue our approach of analysis of the evolutionary trend of international trade, in the period preceding the financial and economic crisis, without specifying that Romania, with an absolute level of exports of only 13.876 million dollars in 2002, registering an upward trend specific to all the countries in the period under review, also recorded in 2008 an increase of approx 3.5 times compared to 2002, significant increase for its trade, but the level of only 49.67 million dollars places it well below the share of 0.5% of the total world exports. Using the data from Table 2, in Figure 3 we presented the share that the exports of the countries under study had during 2002-2008 in the international trade.

However, in order to better capture the role and place of the foreign trade of each country in their global development, we believe that the export level in relation to the number of inhabitants of a country, FOB/capita is a more relevant indicator, if we consider that the countries have different sizes and economic forces (Table 3).

From this perspective, the first position throughout the period 2002 to 2008 was held by Singapore with a FOB export level of 37,035.00 USD/capita in 2002, compared to only 2,384.00 USD/capita, a value recorded by the U.S. or of 7,429.00 USD/capita in Germany, amounting in 2008 to 70,459.00 USD/capita, compared to 4,273.00 USD/capita in the U.S. and 17,809.00 USD/capita in Germany. Although the Republic of China made exports that placed it on the second place in the world, in the year 2008, with a very large population, the same had only 1,078.00 USD/capita in that year. Even if the increase in absolute size was impressive, we can see that in relative size it was only 4.29 times greater. Romania, with a level of exports per capita of 2,310.00 USD/capita in 2008 compared to 637 USD/capita in 2002, registered a growth by 3.6 times (Figure 4).

We can not help noticing that significant levels of FOB exports/capita were registered in 2008 by China RAS Hong Kong (51,811.00 USD/capita) Belgium (44,610.00 USD/capita) Luxembourg (35,714.00 USD/capita) and Norway (34,427.00 USD/capita), while Brazil stands in the opposite side with 1,015.00 USD/capita or India with only 155 USD/capita.

Imports, the second element describing international trade reveals for the period 2002 to 2008...
the U.S. position as the main importer of the world, with a level of CIF imports\(^3\) that almost doubled in this period, rising from 1,202,430 million dollars to 2,165,980 million dollars, a volume that exceeds the German imports by 1.81 times in 2008 (1,198,965 million dollars) and by 1.91 times that of the Republic of China (1,131,620 million dollars), ranked 2 and 3 among the importing countries. If Germany maintained its second position throughout...

\(^3\) CIF (Cost, Insurance, Freight) is the price at the border of the importing country, which includes both parts of the FOB price and the costs of insurance and international transport.
the period, and even we can say that it maintained its position compared to the U.S., we can not say the same thing about Singapore, which in 2003 surpassed France and Japan, almost catching up with Germany, by 2008 (Table 1, Figures 5 and 6).

As for the contribution of countries participating in international imports, U.S., Germany and the Republic of China are clearly detached; in 2002 they had together 32.09% of the total global imports, and in 2008 they had 29.64%, while total imports increased by approx. 2.4
times during this period of time.

Referring to Romania, we note that its imports have registered an upward trend, making in 2008 imports amounting to 84,286.00 million dollars, with about 4.72
times more than in 2002, when its imports stood at 17,862.00 million dollars, a significant increase, but the level recorded in the year 2008 is 0.56% of the total global imports, while in 2002 it was only 0.29%.

As with exports, the U.S. stands out with 14.28% in total imports in 2008, almost double compared to Germany or the Republic of China, but we must consider that the U.S. has been on a downward trend if we take into account that in 2002 it had 19.39% of total imports.

If Germany maintained its share in total imports, we can not say the same thing about the Republic of China that stands out with an upward trend, rising steadily from 4.76% in 2002 to 7.46% in 2008 (Table 2 and Figure 7).

If we relate the value of annual imports to the number of inhabitants, we see that in general, throughout the period, following similar trends, just like the exports, the following countries had the highest level of annual imports/capita in 2008: Singapore (66,621.00 USD/capita), China RAS Hong Cong (55,501.00 USD/capita), Luxembourg (50,088.00 USD/capita), Belgium (44,003.00 USD/capita) and the Netherlands (29,815.00 USD/capita), basically except Norway which is surpassed by the Netherlands, the top of importing countries, taking into account the number of inhabitants, includes the same countries as in the export/capita (Table 3 and Figure 8).

Romania registered the same upward trend; the import growth per capita was about 4.78 times in 2008 (3,919.00 USD/capita) compared to 2002 (820 USD/capita).

Although following the analysis made we captured the evolutionary trends of exports and imports made by the economies of some countries, from different territorial and development regions, in absolute and relative sizes, overall and per capita, during 2002-2008, we consider that another indicator would better describe the degree of economic development and integration of a country's economy in the world economy in terms of international trade, and it refers to the trade balance, or even more relevant, the propensity to export of that country, which takes into account both the FOB exports and CIF imports.

In this context, using the data from Table 1 on the trade balance we carried out the graphical representation in Figure 9, that points out some particular aspects of the U.S.

Although the level of exports and imports situated the U.S. at the forefront during the period under study, as we noted from previous conclusions, since 2002, every year, the U.S. balance was poor, which made that in the period 2002-2006, the cumulative negative difference between the amount of import and the amount of export be more than 500,000 million dollars, reaching in 2006 to over 880,000 million dollars and oscillating in the coming years around 860,000 million dollars, such phenomenon was also registered in the trade balance/capita, which depreciated from −1,747.00 USD/capita in 2002, to −2,840.00 USD/capita in 2008, after which in 2006 it reached the level of −2,946.00 USD/capita (Table 3 and Figure 9). The United Kingdom experienced the same negative phenomenon of deficit balance accumulation in the trade balance in the period 2002 to 2006, with an of a positive balance, ahead of Japan in 2005, the Russian...
increase between 2006 to 2008, even though not to such a worrying extent as the U.S. Not the same can be said about the Republic of China that, since 2004, is distinguished by an increasing trend
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Table 3. International trade: FOB Export, CIF Import and trade Balance, per capita

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Federation in 2007 and Germany in 2008. For the Republic of China trade balance surplus was an element of accumulation, which led, under a profitable export, to increase in the foreign reserves and therefore to the possibility of paying future imports.

Japan, after being distinguished by a steady positive balance on almost the entire period, its level, although positive, was much diminished in 2008.

We cannot help noticing that there are countries for which foreign trade almost does not matter in comparison with other countries, for example India, which, although with a very small trade deficit in 2008 of only 100 million dollars, had exports of only 155 million dollars and imports of 255 million dollars.

We believe that finding the balance between export and import should be a constant concern of any national economy, each country aiming, in the fullest possible extent, to cover imports by a relatively equal level of exports.

Thus, the coverage rate of imports by exports, determined as the ratio between the level of exports (expressed in FOB prices) and imports (expressed in CIF prices), indicates the balance position of a country's international trade. From this point of view, in 2008 we can notice the following countries in balance: Austria with a positive balance close to 50%, France with a ratio of exports to imports of 126.28%, and Hungary with 101.02%, as a strong trade surplus was registered by Norway, 181.53%, and the largest trade deficit, of 32.42%, by Slovenia.

Given the issues highlighted by the analysis of foreign trade development trends of the 41 participating countries for which data were publicly available at the time of the study, trends that revealed positive performance or, consequently, negative performance for some of them in terms of export, import and trade balance, with obvious differences, a hierarchy was intended to be achieved, on the one hand, between the countries under study, and on the other hand, to identify the changes that took place in this hierarchy in 2008 compared to 2002.

**THE METHOD AND DATABASE**

In order to develop territorial hierarchies, the usual multicriteria methods have been used, involving the combination of a set of relevant statistical indicators, allowing a more complete characterization of each territorial unit. For a description of export, in addition to its annual level, its share in total exports (% FOB - Total) has been also used, plus the level of per capita exports (FOB/capita), as, for characterizing national imports, in addition to its level and its share in total world imports, the combination of a set of relevant statistical indicators, allowing a more complete characterization of each territorial unit. For a description of import, in addition to its level, its share in total imports (% FOB - Total) has been also used, plus the level of per capita imports (FOB/capita), as, for characterizing national trade balance, in addition to its level and its share in total world imports, the level of imports per capita for each country has been considered, and for the trade balance, its balance per capita has been used.

The multicriteria methods used are based on

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<td>-532</td>
<td>5,048</td>
<td>5,756</td>
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</table>

Source: Statistical Yearbook 2009, National Institute of Statistics
aggregation of the indicators considered in a single synthetic indicator, previously providing their normalization, especially since the indicators are usually heterogeneous, being expressed in different measurement units (Baron and Bijn (coord.), (2004)).

The method mostly used in this perspective is the actual rank method which takes into account the relative distances between the individual values of indicators.

The hierarchical process involves building a matrix $X(m \times n)$ of statistical indicators included in the analysis, noted $I_1, I_2, ..., I_m$, corresponding to territorial units marked with $U_1, U_2, ..., U_n$, matrix defined as follows:

$$
X = \begin{bmatrix}
I_1 & I_2 & ... & I_m \\
U_1 & x_{11} & x_{12} & ... & x_{1n} \\
U_2 & x_{21} & x_{22} & ... & x_{2n} \\
... & ... & ... & ... & ... \\
U_n & x_{n1} & x_{n2} & ... & x_{nn}
\end{bmatrix}
$$

(1)

where: $x_{ij}$ – the level of indicator $j$ for the territorial unit $i$.

In this context, we mention that there are at least two variants of the method for setting the hierarchy, namely for building the rank matrix: ranking method and actual rank method.

In the case of rank method, the rank matrix involves assigning each individual value $x_{ij}$ a partial rank $r_{ij}$ according to the order relation established: from rank 1 for the best performing unit, up to rank $n$, for the territorial unit which registers the lowest quality level. The method is easy to apply, but through the double leveling of variable size of differences between units, determined by their replacement with an arithmetic progression whose ratio is 1, the quality of information is impaired, and the different distances between successive units are systematically replaced with difference 1 between the successive ranks.

If we use the actual rank method, the actual partial ranks are first established for each territorial unit $i$ and for each indicator $j$, depending on the situation, as follows:

a. If the indicator reflects a situation more performing as its values are higher, the **actual partial rank** is calculated by the formula:

$$
r_{ij} = n - \frac{x_{ij} - x_{jmin}}{x_{jmax} - x_{jmin}} \cdot (n - 1)
$$

(2)

where:
- $x_{ij}$ = the level of indicator $j$ for the territorial unit $i$;
- $x_{jmin}$ = the level of indicator $j$ for the territorial unit with minimum performance;
- $x_{jmax}$ = the level of indicator $j$ for the territorial unit with maximum performance;
- $n$ = total number of territorial units analyzed;
- $m$ = number of indicators included in the analysis;

b. If the indicator reflects a situation more performing as its values are lower, the **actual partial rank** is calculated by the formula:

$$
r_{ij} = n - \frac{x_{jmax} - x_{ij}}{x_{jmax} - x_{jmin}} \cdot (n - 1)
$$

(3)

Based on the **actual partial ranks** the actual average ranks are determined for each territorial unit $i$, as the arithmetic mean, as follows:

$$
\bar{r}_i = \frac{1}{m} \sum_{j=1}^{m} r_{ij}
$$

(4)

Thus, the actual final rank of each territorial unit shall be determined from the territorial unit with the lowest average rank, which indicates the maximum performance, namely 1st place, to the territorial unit with the highest average rank, which indicates the minimum performance, respectively the last place, $n$.

**RESULTS**

The comparative analysis of the graphical representations of absolute indicators of disparities between the best performing level and the levels of the other countries relative to 2002 and 2008 from the Figures 10 to 12, and their calculated values in Table 4, confirm what could be found intuitively in the first part of the study.

Thus, in 2002 the best performing country in terms of absolute volume of FOB exports was the U.S., with remarkable differences between the same and the other states. It may be noted that more than 60% of the analyzed countries registered in 2002 less than 1% of the value volume of exports made by U.S.; this category also included Romania, even in a slacker position, with a level of FOB export of only 0.2% of the U.S. exports. Moreover, remarkable levels were registered only by Germany, 88% compared to the U.S. exports, Japan, 60%, the Republic of China 47%, France 45% or United Kingdom 40% (Table 4).

In 2008, the best performing country in terms of FOB exports is Germany which, given that the U.S. experienced a relative increase compared to 2002 by almost 90%, it managed to outrun it; the FOB export of the U.S. represented in 2008, 89 % of the German exports. Almost a similar performance was experienced by the Republic of China whose export compared to that of Germany was of 98%. Japan, France and the United Kingdom, while remaining in the first echelon, are losing ground in terms of the relative distance compared to the best performing exporting country. Due to the increase in FOB exports for all the countries, we can say that the countries with insignificant export, less than 1% compared to Germany, fell to approx. 41%.

If we perform the analysis in terms of the absolute volume of CIF imports, we can note again that the best performing country was the U.S., with major differences between it and the other countries participating in the study. We can notice that in 2002, more than 65% of the analyzed countries imported less than 1% of the value volume of the U.S. imports. Again, the above-mentioned category also included Romania, even in a slacker position, with a level of CIF imports of only 0.1% of the U.S. imports, actually, just like other seven countries (Bulgaria, Slovakia, Slovenia, Luxembourg, Nigeria, New...
**Figure 10.** Dynamics of trade balance (million USD), per capita

**Figure 11.** Differences in FOB exports of the countries participating in international trade compared to the country with maximum performance.
Zealand, Argentina). Compared with the U.S., only Germany showed remarkable levels, 41% compared to the CIF imports of the U.S., Japan and the United Kingdom, 28% each, the Republic of China 25% (Table 4).

In 2008, with a level of imports increased by over 80% compared to 2002, the U.S. remains the world market leader, followed far away by Germany, with a level of imports of 55% of U.S. imports; almost a similar performance was experienced by the Republic of China, whose import compared to the U.S. was 52%. Next there comes, in order, Japan with 35%, the United Kingdom with 29% and Belgium with 22% of total U.S. imports. The other countries have insignificant levels of imports, but the share of those with a level below 1% decreased notably.

The multicriteria ranking of the 41 economies selected by aggregating the three categories of indicators deemed to describe the foreign trade activity of the selected countries, namely: export by its annual level (FOB), its share in total exports (% FOB - Total), the level of per capita exports (FOB/capita), import by its level (CIF), its share in total imports worldwide (% CIF – Total), the level of per capita imports (CIF/capita) for each country in part and the trade balance by the absolute level (Balance) and its per capita balance (Balance/capita) was performed in two stages, because the method of determining the best performing level required the use of different methods in establishing hierarchies.

Therefore, in a first step, hierarchies were made on the categories of indicators establishing ranks and changes recorded in hierarchy in 2008 compared to 2002; the results obtained are shown in Tables 5, 6 and 7.

Looking strictly from the perspective of national exports of the 41 countries in the context of an obvious increase in the export volume, we can see that only 15 countries have surpassed their position in the hierarchy in 2008 compared to 2002; 3 maintained their position, and the rest, totaling 23, lost their position, and in 2008 held an inferior place to that of 2002. The result of the hierarchy from aggregation of the three indicators that describe exports placed Germany on the first place in 2008, which ranked 2nd in 2002; China on the 2nd place, with a remarkable leap from the 9th position held in 2002; the U.S. on the 3rd place after being ranked 1st in 2002, Singapore maintained its 4th position and Belgium the fifth position, up to the sixth place, thus outrunning Japan, ranked 5th in 2002 and ranked only 8th in 2008. When
<table>
<thead>
<tr>
<th></th>
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<td></td>
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<td>Territorial index</td>
<td>Absolute differences</td>
<td>Territorial index</td>
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<td>477,331</td>
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</tr>
<tr>
<td>4.</td>
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<td>154,921</td>
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<td>0.08</td>
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<td>458,760</td>
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<tr>
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<td>49,674</td>
<td>0.03</td>
</tr>
<tr>
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<td>70,982</td>
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</tr>
<tr>
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Table 4. Structural changes in the international Trade volume – FOB Export, CIF Import (millions of dollars)
Table 4. Contd.

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<td>Brazil</td>
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<td>Canada</td>
<td>252,408</td>
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<td>38</td>
<td>United States</td>
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</tr>
<tr>
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<td>Mexico, U.S.</td>
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</table>

Table 5. Hierarchy of selected countries participating in the international Trade: FOB export by the relative distance method, Comparative situation
Table 5. Contd.

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<td>Republic of Korea</td>
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<td>India</td>
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<td>11.4</td>
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<tr>
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<td>New Zealand</td>
<td>14,380</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Table 6. Hierarchy of the countries participating in the international Trade: FOB import by the relative distance method, Comparative situation 2008-2002

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<th></th>
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<tbody>
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<tr>
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<tr>
<td>6.</td>
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<td>7.</td>
<td>France</td>
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<td>Luxembourg</td>
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<td>0.19</td>
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<tr>
<td>13.</td>
<td>Netherlands</td>
<td>193,784</td>
<td>3.13</td>
</tr>
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</table>
referring to Nigeria, Bulgaria, Greece and Romania, we see that they hold the last places in the hierarchy (Table 5).

Aggregating the three indicators that describe imports we can see that their evolution has also produced changes in the hierarchy. Thus, 19 countries have surpassed the position held in 2002, eight countries have maintained the same position, and the rest were reduced to a lower rank. From this perspective, the U.S. holds the first position in both 2002 and 2008, Germany reaches the 2nd position in 2008, while in 2002 it was ranked 4th, Singapore remains on the same third position, China falls from the second position to the 4th position in 2008 and Belgium maintains its 5th position (Table 6).

Analyzing the results of multicriteria ranking by the two indicators of trade balance, it appears that 17 countries increased their trade balance and went up on higher positions than those held in 2002; four countries maintained the same position, and the remaining 20 deepened the gap between exports and imports, being reduced to lower ranks (Table 7).
Table 7. Hierarchy of the countries participating in the international Trade: Trade balance by the rank method, Comparative situation 2008-2002

<table>
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<tr>
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<td>-1,990</td>
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We can not overlook the fact that the U.S. holds the last place in this hierarchy in both 2002 and 2008; Spain, the United Kingdom and Greece also had slacker positions, which means that all these countries made imports uncorrelated with exports that led to major trade balance deficits and thus to resort to bank loans in order to cover external debts, unprofitable loans, unless they lead to increased production following their use. Based on the hierarchies obtained for the three categories of indicators, the average ranks were calculated in the second stage, based on such ranks the hierarchy was established for the entire foreign trade activity and the changes in rank in 2008 compared to 2002, as shown in Table 8.

Thus, the analysis above relating to external trade reveals that Germany is on the first place, both in 2002 and 2008, given that it optimized its situation for all the three categories of indicators used in the analysis and relating to exports, imports and trade balance, overall and per capita; Singapore retains its second place due to improving the position held in the hierarchy regarding the trade balance and maintaining its position on the export and import.

We can not help noticing that the Republic of China had one of the most spectacular evolutions, climbing 6 positions from the 9th place in 2002 to the 3rd place in 2008, and the Netherlands which improved its position on export and import and maintained its position on the trade balance, climbed from the 5th position in 2002 to the 4th place in 2008. Although Belgium was placed the 3rd in 2002, due to weaker trade balance, it ranks 5th in 2008. We should also note the positive evolution of Slovakia that climbed 9 steps in the hierarchy, from position 36 in 2002 to position 27 in 2008, and the Russian Federation that climbed 7 positions in the same period, from position 22 to 15.

At the same time we realize that there are countries that have significantly impaired their position, such as: France from the 8th position in 2002 to position 16 in 2008, or New Zealand that fell 6 positions, from number 29 in 2002 to the 35th place in 2008. Referring to our country, we can see that in 2008 it is ranked 40, holding the penultimate position in the rankings, compared to the 39th place held in 2002.

**Conclusion**

The study conducted on the evaluation and analysis of existing differences between the countries participating in international trade in terms of export, import and trade balance revealed that there are strong differences between them, which are maintained when the indicators’ analysis was conducted taking into account the number of inhabitants; this situation has sometimes led to change of hierarchies between the countries under research.

Since the dynamic analysis of the evolution of these indicators did not lead to results allowing us to perform classifications regarding the entire foreign trade activity, in addition to the analysis specific to territorial series, the multicriteria ranking was used, which gave us the opportunity to appreciate that Germany ranks first in the world, based on the international trade activity conducted in the period under study, followed by Singapore,
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the Republic of China, Netherlands and Belgium. Without resuming the conclusions issued during the study, we consider it appropriate to mention that after the ranking performed, the U.S. was placed the 13th in 2002, going up a position in 2008, although the level of the exports and imports made placed it on top of the ranking, which place was also held in 2008, except the exports that ranked it on the 3rd position. Under these conditions, the trade balance had a major influence; this indicator situated the U.S. on the last place, both in 2002 and in 2008.

Commenting on this situation, we must say that the trade deficit required the use of foreign loans for the payment of debts incurred from the massive imports made, that can be justified only in so far as they may be reimbursed as a result of increased production obtained by their use. And as this did not happen, we consider that the U.S. trade deficit was one of the factors that led to the installation of the financial and economic crisis in this country, in 2008, and such crisis has subsequently spread worldwide.

We believe that the positive results registered by Germany have their origin in the slackers positions of other countries, especially from Europe, with which it has business relationships and in which it exports most goods so that the trade balance was permanently in surplus, situation which led to unbalanced trade of other countries. We can not help noting that the Republic of China has a substantial contribution to this imbalance, which is why we propose to focus our research in the future on the adverse influences that a country has, through exports, on the economy of other states.

In our view, a favorable situation does not necessarily imply a trade balance permanently in surplus, but rather a trade balance balanced in dynamics; such balance is a requirement for the operation of the world economy.

REFERENCES


Krugman PR (1993). Geography and Trade, the MIT Press.

1 Imports FOB
2 Including French Guiana, Guadeloupe, Martinique and Reunion
3 Data for China, People’s Republic of, excludes those for Hong Kong SAR, Macao SAR and Taiwan Province of China
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