

Stefan Caba<sup>1</sup>

## ECONOMIC CRISIS AND GLOBALIZATION INDEX DYNAMICS

*The economic crisis has created strong imbalance in 2008-2011 and future development is still unclear. The imbalance generates new controversy regarding the globalization-regionalization ratio. The first impression is that the crisis, at least the economic one, can produce global effects, but fighting it goes on the regional level. We analyze the relationship between the degree of globalization and the economic crisis effects for different types of economies. For this purpose we use the concept of globalization index. The degree of globalization contributes to expand economic crisis effects, but at the same time can help countries to overcome it.*

**Keywords:** regionalization; globalization; globalization index; economic crisis; international trade.

**JEL Code:** F1, F5.

Штефан Чаба

## ЕКОНОМІЧНА КРИЗА І ДИНАМІКА ІНДЕКСУ ГЛОБАЛІЗАЦІЇ

*У статті показано, що економічна криза створила сильний дисбаланс в 2011-2012 рр. і майбутнє економічного розвитку досі не ясне. Дисбаланс створює нову суперечність у відносинах глобалізації та регіоналізації. З першого погляду здається, що криза, принаймні економічна, має глобальні ефекти, але боротьба з нею відбувається на регіональному рівні. Проаналізовано відношення між мірою глобалізації і наслідками економічної кризи для різних економік. З цією метою використано концепцію індексу глобалізації. Міра глобалізації впливає на поширення наслідків економічної кризи, але в той же час може допомогти країнам в її подоланні.*

**Ключові слова:** регіоналізація; глобалізація; індекс глобалізації; економічна криза; міжнародна торгівля.

Штефан Чаба

## ЭКОНОМИЧЕСКИЙ КРИЗИС И ДИНАМИКА ИНДЕКСА ГЛОБАЛИЗАЦИИ

*В статье показано, что экономический кризис создал сильный дисбаланс в 2011-2012 г.г. и будущее экономического развития до сих пор под вопросом. Дисбаланс создает новое противоречие в отношении глобализации и регионализации. С первого взгляда кажется, что кризис, по крайней мере экономический, имеет глобальные эффекты, но борьба с ним проходит на региональном уровне. Проанализировано отношение между степенью глобализации и последствиями экономического кризиса для различных экономик. С этой целью использована концепция индекса глобализации. Степень глобализации влияет на распространение последствий экономического кризиса, но в то же время может помочь странам в его преодолении.*

**Ключевые слова:** регионализация; глобализация; индекс глобализации; экономический кризис; международная торговля.

**1. Introduction.** The evolution of international economic relations has shown (at least at the empirical level) that diversification of trade, both its structure and its geography, contributes to welfare. GATT and WTO always fought for the removal of trade barriers and for the development of free trade.

<sup>1</sup> Assoc. Prof., Dr., Department of Educational Sciences, Faculty of Education, Abant Izzet Baysal University, Turkey.

Markets' opening, permanent tariffs' reductions, widening the coverage area of trade and other measures adopted have lead to, at least at first glance, the "win-win" situations. Unfortunately, the economic crisis has highlighted the other side of globalization: increasing contagion. However, we can say that globalization brings more advantages than disadvantages. An example is precisely that of the interwar crisis, during which globalization index was less than at the present, however, the crisis had global effects. In other words, the dynamic index of globalization can influence the speed of economic crisis spread, but can not modify the range or amplitude effects.

As a conclusion of this introductory paragraph we emphasize the idea of the complementarity of globalization-regionalization. Even if the global economic crisis has its origins in the US financial crisis at this time are clearly distinguished 3 areas of the response: the USA, fighting with administrative and financial institutions, the European Union which has to cope with trends of governments to reject responsibility and, consequently, the effort to end the crisis and the non-integrated economies (such as China, Russian Federation, Ukraine) who must find a balance between the desire to take advantage of temporary weakness of, until recently, strong economies and the willingness to participate in the reconstruction of the world economic system.

**2. Globalization index. Concepts and definitions.** Globalization index is a tool for measuring the size of a state economic, social and political anchoring to the world. The literature provides several sources for the analysis of this index; the differences are merely technical and refer, in particular, to the variables used and their share in the final formula. We recall here, for example, the results of the Center for the Study of globalization and regionalization of the University of Warwick, the United Kingdom and the Federal Institute of Technology in Zurich, Switzerland.

We present the results of the researchers in Zurich, they make reference to more recent data (globalization indices are calculated for 2008 included). It should be noted that the data on indicators of globalization are difficult to calculate and that's why a delay of 2-3 years is justified, especially since the work teams are restricted to a small number of researchers.

*Indices and Variables Sources Definitions\*.*

*A. Economic Globalization.*

i) Data on actual flows.

Trade (% of GDP) is the sum of exports and imports of goods and services measured as a share of gross domestic product.

Foreign direct investment, flows (% of GDP) is the sum of the absolute values of inflows and outflows of FDI recorded in the balance of payments financial account. It includes equity capital, reinvestment of earnings, other long-term and short-term capital.

FDI, stocks is the sum of inward and outward FDI stock as % of GDP.

Portfolio investment (% of GDP) is the sum of portfolio investment assets stocks and portfolio investment liabilities stocks.

Income Payments to Foreign Nationals (% of GDP) refer to employee compensation paid to nonresident workers and investment income (payments on direct

---

\*(source: <http://globalization.kof.ethz.ch/>)

investment, portfolio investment, other investments). Income derived from the use of intangible assets is excluded.

ii) Data on restrictions.

Hidden import barriers

Mean tariff rate — As the mean tariff rate increases, countries are assigned to lower ratings. The rating declines toward zero as the mean tariff rate approaches 50%.

Taxes on international trade (% of current revenue) include import duties, export duties, profits of export or import monopolies, exchange profits, and exchange taxes. Current revenue includes all revenue from taxes and nonrepayable receipts (other than grants) from sale of land, intangible assets, government stocks, or fixed capital assets, or from capital transfers from nongovernmental sources. It also includes fines, fees, recoveries, inheritance taxes, and nonrecurrent levies on capital. The data are for central government and in % to all current revenue.

Capital account restrictions — Index based on two components

*B. Social Globalization.* i) Data on personal contact — international voice traffic is the sum of international incoming and outgoing telephone traffic (in minutes per person).

Transfers (% of GDP) — sum of gross inflows and gross outflows of goods, services, income, or financial items without a quid pro quo.

International Tourism — sum of arrivals and departures of international tourists as a share of population.

Foreign Population (% of total population) is the number of foreign or foreign-born residents in a country.

International letters (per capita) — number of international letters sent and received per capita.

ii) Data on information flows

Internet users (per 1000 people) — people with access to the Internet network.

Television (per 1000 people) — share of households with a television set.

Trade in newspapers (percent of GDP) — the sum of exports and imports in newspapers and periodicals.

iii) Data on cultural proximity:

— number of McDonald's restaurants (per capita);

— number of Ikeas (per capita);

— trade in books (% of GDP) — the sum of exports and imports in books and pamphlets.

*Indices and Variables Sources Definitions.*

*C. Political Globalization.* Embassies in a country — absolute number of embassies in a country.

Membership in international organizations — absolute number of international intergovernmental organizations.

Participation in UN Security Council missions — personnel contributed to UN Security Council missions per capita.

International treaties, UN treaties — any document signed between two or more states and ratified by the highest legislative body of each country since 1945. Not ratified treaties, or subsequent actions, and annexes are not included. Treaties signed

and ratified must be deposited in the Office of Secretary General of the United Nations to be included.

*Table 1. Indices and Variables Weights*

<b>A. Economic Globalization</b>	<b>[38%]</b>
i) Actual Flows	(50%)
Trade (% of GDP)	(19%)
Foreign Direct Investment, flows (% of GDP)	(20%)
Foreign Direct Investment, stocks (% of GDP)	(23%)
Portfolio Investment (% of GDP)	(17%)
Income Payments to Foreign Nationals (% of GDP)	(21%)
ii) Restrictions	(50%)
Hidden Import Barriers	(21%)
Mean Tariff Rate	(29%)
Taxes on International Trade (% of current revenue)	(25%)
Capital Account Restrictions	(25%)
<b>B. Social Globalization</b>	<b>[39%]</b>
i) Data on Personal Contact	(34%)
Telephone Traffic	(26%)
Transfers (% of GDP)	(3%)
International Tourism	(26%)
Foreign Population (% of total population)	(20%)
International letters (per capita)	(26%)
ii) Data on Information Flows	(34%)
Internet Users (per 1000 people)	(36%)
Television (per 1000 people)	(36%)
Trade in Newspapers (% of GDP)	(28%)
iii) Data on Cultural Proximity	(32%)
Number of McDonald's Restaurants (per capita)	(37%)
Number of Ikea (per capita)	(39%)
Trade in books (% of GDP)	(24%)
<b>C. Political Globalization</b>	<b>[23%]</b>
Embassies in Country	(25%)
Membership in International Organizations	(28%)
Participation in UN Security Council Missions	(22%)
International Treaties	(25%)

Source: <http://globalization.kof.ethz.ch>.

In constructing the indices of globalization, each of the variables introduced above is transformed to an index on a scale from 1 to 100, where 100 is the maximum value for a specific variable over the period 1970 to 2006 and one is the minimum value. Higher values denote greater globalization.

### **3. Economic crisis. Globalization or regionalisation?**

In this section we analyze the bi-univocal relationship between the degree of globalization and economic crisis dimensions. We consider several countries which have known different effects and stages of this crisis. The first two countries are: USA, a country with strong economy and a general index of globalization quite high (approx. 80%), but at the same time, was the main trigger for the current economic crisis and Canada, also a country with stable economy, geographic proximity to the US and a general index of globalization (over 85%). We analyze 4 EU countries (3 of

them — Germany, France and Italy with the strongest regional economy, and the fourth country, Romania, a new member, with developing economy and lower index of globalization (approx. 70%). To complete the economic typology we have examined 3 of unintegrated economies with a growing dynamics. On the one hand China, probably the most dynamic economy in the last decade, Russian Federation, an economy based largely on exports of raw materials, and Ukraine, an economy that has undergone difficult restructuring (after dissolution of the Soviet Union) and is currently based on the export of industrial products. An interesting observation is that all these 3 countries have a relatively low index of globalization (between 60% and 70%).

A first assumption, formulated in this article, is that globalization contributes to the spread of economic crises. If we analyze the data and charts referring to globalization index of the mentioned countries we find that this hypothesis seems to be confirmed, China, Russian Federation and Ukraine, countries with a lower index, were less affected by the crisis.

An observation is needed. Even if the data analyzed cover the period up to 2008 they are still relevant, at least, by two reasons:

a) 2008 already marked reactions and anti-crisis measures, demonstrating awareness of economic crisis at the global level, and the adoption of economic, social and political behavior in order to limit the effects;

b) the data were processed with a delay of over two years which suggests that most approximations, usually used in real-time analysis, were removed.

**Table 2. General globalization index**

Country/Year	2005	2006	2007	2008
United States	79,96	80,58	81,21	79,84
Canada	86,27	86,01	86,15	85,81
France	87,33	87,43	88,03	87,65
Germany	85,33	85,46	86,00	85,10
Italy	80,44	80,45	81,41	81,13
Romania	67,65	67,10	71,59	71,25
Russian Federation	67,43	67,40	68,55	65,92
Ukraine	64,07	62,88	64,79	65,72
China	60,93	60,42	61,65	60,99

Source: <http://globalization.kof.ethz.ch>.

The analysis of the data allows us say there is no proportional link between globalization index and economic crisis dynamics. This idea is supported by the fact that, for example, Canada, a country with high index of globalization and geographically located near the US (considered to trigger the current crisis) was less affected than France, Germany or Italy.

Next we present the data on the degree of economic, social and political globalization.

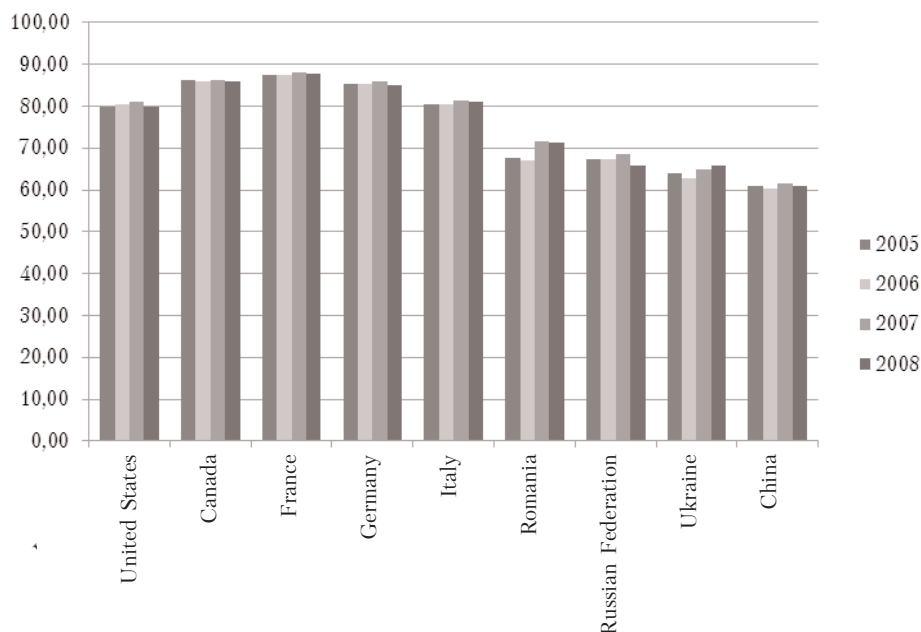


Figure 1. **General Globalization Index (%)**,  
Constructed by the author on Table 2 data

Table 3. **Economic globalization index**

Country/Year	2005	2006	2007	2008
United States	72,07	73,81	75,30	71,64
Canada	76,32	75,76	76,76	75,76
France	81,83	82,21	83,00	81,45
Germany	80,78	81,39	82,03	79,81
Italy	72,63	72,11	73,71	72,93
Romania	65,25	61,46	71,96	69,91
Russian Federation	54,43	54,12	56,30	48,96
Ukraine	56,16	57,43	60,87	62,09
China	54,74	51,41	53,33	50,88

Source: <http://globalization.kof.ethz.ch>.

It is noted that all the states (with one exception) have experienced a decline in the level of economic globalization. This leads us to conclude that if an economic crisis is started, states tend to reduce the activities that fuel the economic crisis, which is international trade. This hypothesis seems to be supported by the fact that 2007, which was the year that triggered the crisis, has seen the greatest economic globalization index values (again, excluding Ukraine), suggesting that the high level of this index favored the spread of the crisis. On the other hand, the decrease of this index is not mandatory the effect of deliberate economic policy measures, may be simply a consequence of lower prices which, due to transportation costs, should reduce trade with countries geographically distant.

This statement is supported by the data presented in the following two tables and graphs.

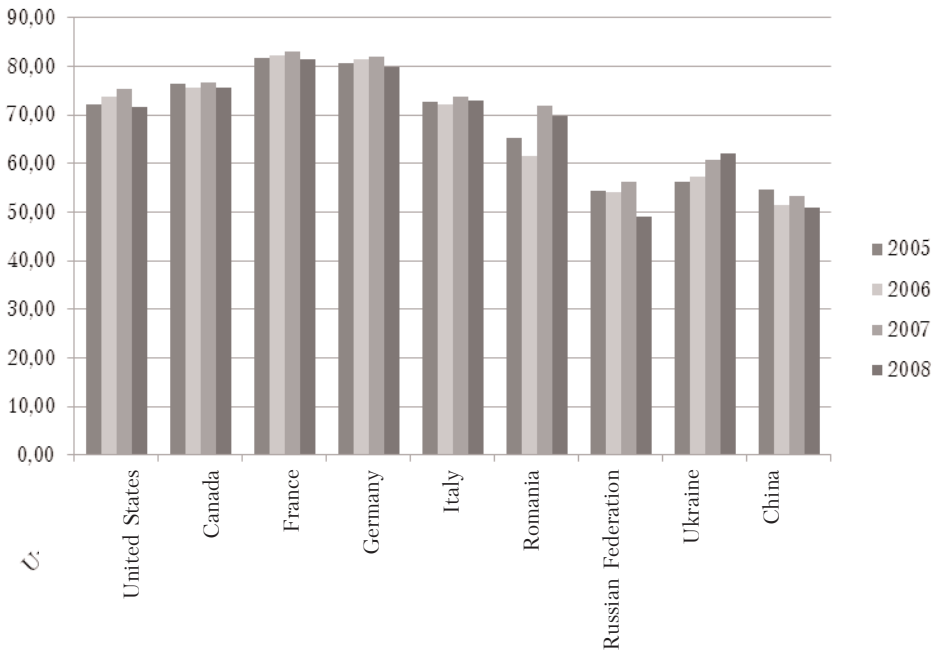


Figure 2. **Economic Globalization Index (%)**,  
Constructed by the author on Table 3 data

Table 4. **Economic Globalization Index — actual flows**

Country/Year	2005	2006	2007	2008
United States	59,60	63,41	65,51	60,74
Canada	74,07	74,38	75,25	73,94
France	74,43	77,75	78,83	77,19
Germany	76,37	80,39	82,78	81,07
Italy	63,58	66,97	70,14	70,71
Romania	58,57	62,02	62,80	58,21
Russian Federation	64,65	68,39	69,90	59,06
Ukraine	55,85	58,99	63,22	63,06
China	42,85	45,32	44,95	40,61

Source: <http://globalization.kof.ethz.ch>.

Table 5. **Economic Globalization Index — restrictions**

Country/Year	2005	2006	2007	2008
United States	84,54	84,20	85,10	82,54
Canada	78,56	77,14	78,27	77,58
France	89,23	86,67	87,17	85,71
Germany	86,78	82,76	81,01	78,09
Italy	84,96	79,10	78,57	75,96
Romania	71,92	60,90	81,12	81,61
Russian Federation	44,20	39,85	42,70	38,86
Ukraine	56,47	55,88	58,53	61,13
China	66,63	57,49	61,72	61,15

Source: <http://globalization.kof.ethz.ch>.

The data above show a decrease in trade (in 2008 over 2007) in most countries analyzed, although there were minor changes related to import restrictions. The chart

below shows the difference (in relative percentage points) of increasing restrictions and lower trading volume.

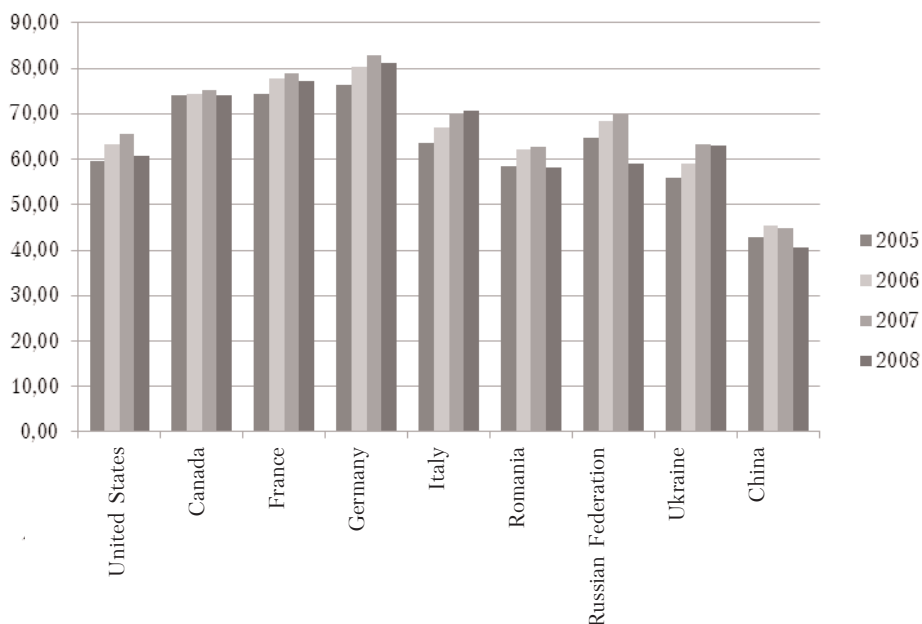


Figure 3. **Economic Globalization Index (%). Actual flows.**  
Constructed by the author on Table 4 data

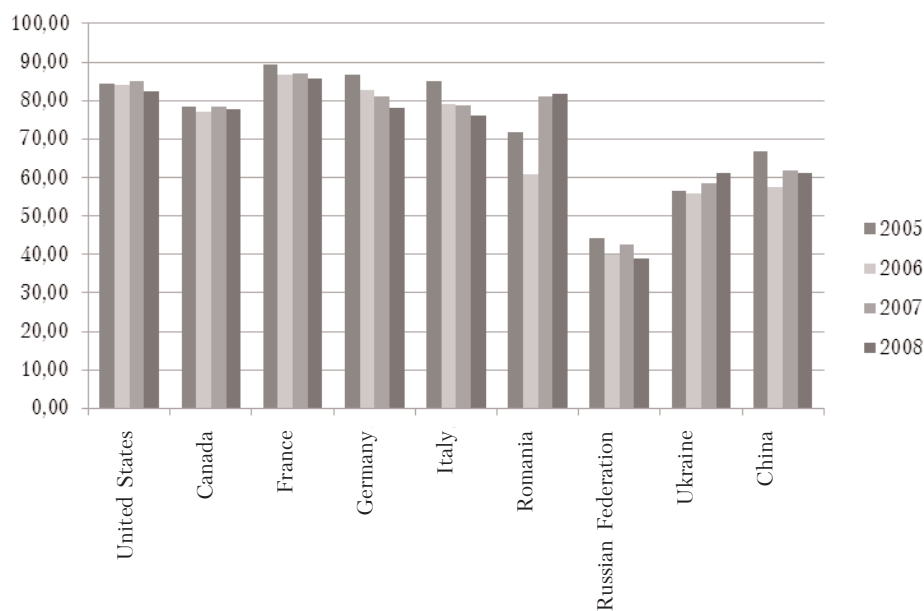


Figure 4. **Economic Globalization Index (%). Restrictions.**  
Constructed by the author on Table 5 data

Of those countries only Germany and Italy have a decline rate of the economy less than the increase in restrictions. This can be explained by the ability of both governments to respond more quickly to economic crisis or the desire of investors to move assets in the countries with economies considered more resistant to crisis.

If, after analyzing the economic globalization index, we have identified a trend to lower international exposure, from the politically and socially point of view things are different.

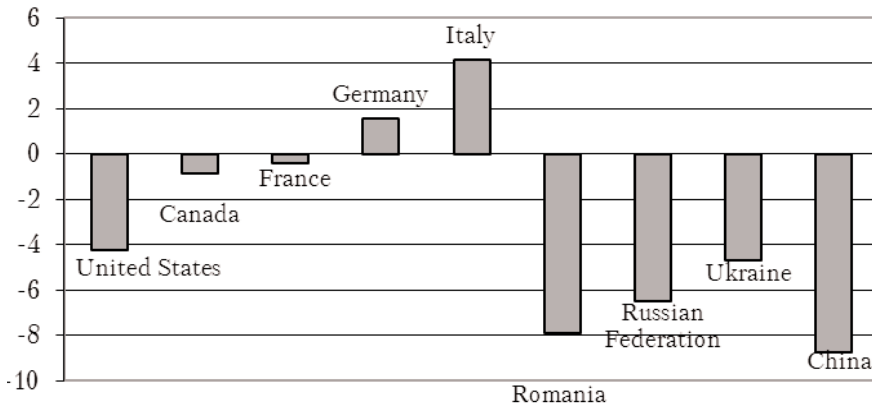


Figure 5.1. **Actual flows dynamics (2008/2007) vs. Restrictions (2008/2007) (%)**  
Constructed by the author on Tables 4 and 5 data

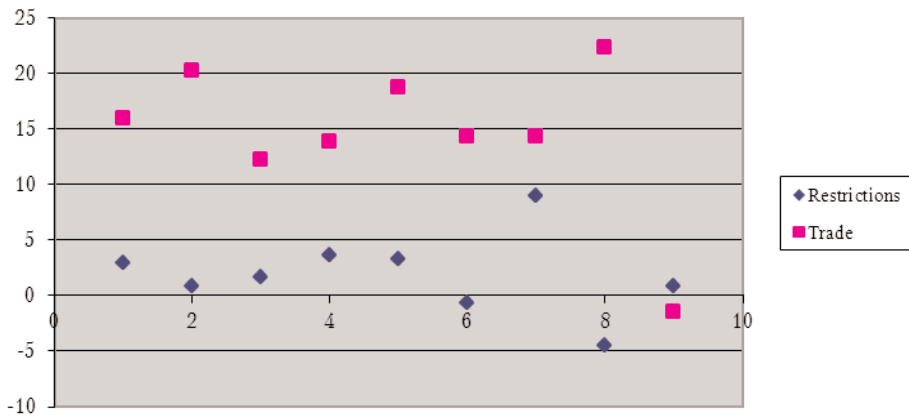
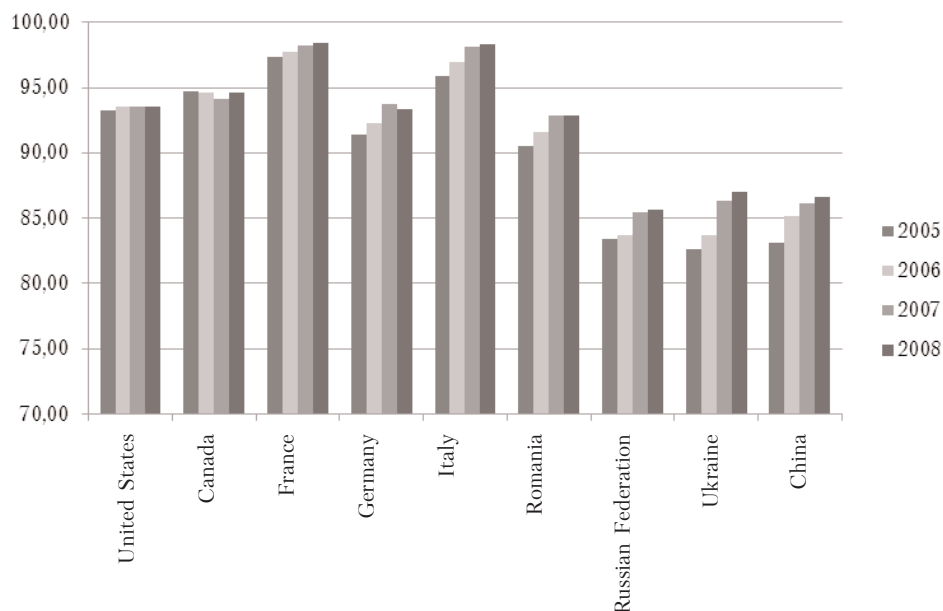


Figure 5.2. **Constructed by the author on Tables 4 and 5 data**

It is noted that, both from the political and social point of view, almost all the states considered show international opening with the spread of economic crisis.

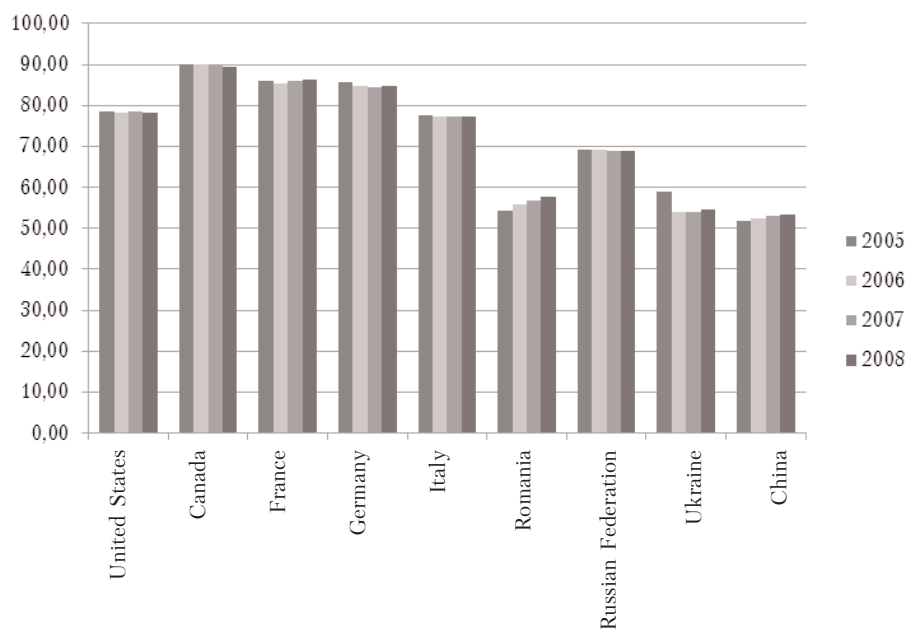
**4. Conclusions.** The ratio between regionalization and globalization is, and probably will remain unstable. The balance of economic power has changed over time, countries which, until recently, received concessions in trade relations have become preference donors (especially tariffs) and we do not mean just changing the legal state but a state in fact. We here refer, in particular, to the "economic tigers" (as an exten-

sion of the term "Asian Tigers") who had a strong launch (or relaunch) economic over recent history (Indonesia, Malaysia, Estonia, Ireland, Chile etc.).



**Figure 6. Political Globalization Index (%).**

Constructed by the author on the data from <http://globalization.kof.ethz.ch/> data



**Figure 7. Social Globalization Index (%).**

Constructed by the author on the data from <http://globalization.kof.ethz.ch/> data

This dynamics of world economies has influenced and has been influenced by the dynamics of trade. In this context, analysis of the evolution of the main structures governing these exchanges (GATT and WTO), the relations between them and the main world markets increased the interest.

This is why we support the idea of complementarity and transitivity of globalization and regionalization.

On one hand, regionalization may be a step in time and space that needs to be driven by countries that are not adequately prepared to face global competition in the absence of protection. Regionalization provides the transition to globalization and local homogenization for this transition.

On the other hand, regionalization enables better management of resources if, as in the current period, world economy passes through recession. The time when terms like regionalisation or globalization will be not used (at least in economical terminology) is too far and requires a fundamental change in cultural and social aspects.

#### References:

- Bhagwati, J.* (2004). In Defense of Globalization, Oxford, New York: Oxford University Press.
- Caus V. A* (2007). Minimal quadratic oscillation for cubic splines, JOCAA, Vol. 9, Issue 1.
- Di Mauro, F., S. Dees, and McKibbin, W. J.* (2008). Globalization, Regionalism, and Economic Interdependence, Cambridge University Press.
- Dreher, A.* (2006). Does Globalization Affect Growth? Evidence from a new Index of Globalization, Applied Economics 38, 10: 1091-1110.
- Dreher, A., Gaston, N., Martens, P.* (2008), "Measuring Globalisation - Gauging its Consequences", New York: Springer.
- Emmerij, L.* (1992). Globalization, Regionalization and World Trade, Columbia Journal of World Business, 27.
- Hart, J.A. and Prakash, A.* (1996). Globalisation and Regionalisation: Conceptual Issues and Reflections, International Trade Law and Regulation, 2.
- IMF Team.* (2000). Globalization: Threats or Opportunity, April 2000, IMF Publications.
- Karagedikli, O., and L.A. Thorsrud.* (2011). Global and Regional Business Cycles: Shocks and Propagations, Reserve Bank of New Zealand.
- Lockwood, B., Redoano, M.* (2005). The CSGR Globalisation Index: an Introductory Guide, Centre for the Study of Globalisation and Regionalisation, Working Paper 155/04.
- Steger, M.* (2009). Globalization, New York: Sterling Publishing
- Vierich, H.* (2008). Before farming and after globalization: the future of hunter-gatherers may be brighter than you think, In: Before Farming, article 4(1).
- Vogel, E.F.* (1991). The Four Little Dragons: The Spread of Industrialization in East Asia, Cambridge, Massachusetts: Harvard University Press
- KOF Globalization Index/* <http://globalization.kof.ethz.ch/>

Стаття надійшла до редакції 21.05.2012.