

Could be the International Financial Crisis a Sinonim to a Profound Recession of Romanian Economy? A Theory of “Weak” Statistical Signals

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This paper consists of a graphical illustration of the Romanian economic cycle during the period 1990-2007, as a background of contemporary financial crisis. The first part provides an overview of the definition of recession and financial crisis, and the gains from using both types in financial and economic thinking to understand the Romanian contemporary economy. The second part formulates a hypothesis of economic and national GDP cyclical phenomenon of “Juglar” type, with two visible evolution periods, the former of expansion and the latter of recession, and between them, less evident, the crisis and the downward. The Romanian market economy crossed two “Juglar” cycles over five electoral periods that succeeded already to outline the elements of electoral cyclical type. Pursuing the evolution of the indexes studied during 1990-2007, one can establish that the intensity of the economic GDP cyclical phenomenon from the first period (1990-1997) is accompanied by the trends of equilibrium in the second part (1997-2007), trends that can be evaluated as positive ones in the macroeconomic stability point of view. But, banking crises are preceded by credit booms. The third part of this paper is devoted to a special analysis of Caprio, Klingebiel, Laeven, and Noguera (2005) banking crisis database. The most important conclusions underlines that a new recession was imminent in Romanian economy in the years 2008 or 2009. The influence of the financial crisis will emphasize the dimension of economic cri-

sis and recession, in general, for Romanian market economy.

Key words: *economic crisis, recession, financial crisis, cyclical phenomenon of "Juglar" type.*

JEL classification: *G21, G28*

1. Introduction

Generally speaking, financial crisis means a situation in which the supply of money is outpaced by the demand for money. This means that liquidity is quickly evaporated because available money is withdrawn from banks (called deposit runs, defined as a monthly percentage decline in deposits in excess of 5%), forcing banks either to sell other investments to make up for the shortfall or to collapse. The crisis year coincides with deposit runs, the introduction of a deposit freeze or blanket guarantee, or extensive liquidity support or bank interventions. But, even today, in Romania, during one of the difficult financial crisis, for a lot of people, the word crisis is nothing else but an economic synonym for a recession period, defined usually as a contraction in the GDP for minimum six months (two consecutive quarters) and it is marked by high unemployment, high inflation, stagnant nominal wages, and fall in industrial productions and retail sales.

Under Luc Laeven and Fabian Valencia definition, in a financial crisis as a systemic banking crisis, *a country's corporate and financial sectors experience a large number of defaults and financial institutions and corporations face great difficulties repaying contracts on time. As a result, non-performing loans increase sharply and all or most of the aggregate banking system capital is exhausted*¹.

Nowadays, the need for a richer understanding the financial crises' cycles, causes and mechanism, or for the disadvantages through the

¹ Luc Laeven and Fabian Valencia, (2008), *Systemic Banking Crises: A New Database*, International Monetary Fund Working Paper, WP/08/224, November 2008, pp. 5. This definition is not complete. Sometimes the described situation may be accompanied by *depressed asset prices* (such as equity and real estate prices) *on the heels of run-ups before the crisis, sharp increases in real interest rates, and a slowdown or reversal in capital flows.*

usual combination of some quantitative and qualitative factors in an econometric model, generally being unable to anticipate the crisis, has particular resonance in financial world, and in economic world too. The most complete and detailed database on banking crises, Caprio, Klingebiel, Laeven, and Noguera (2005) banking crisis database, covers the universe of systemic banking crises for the period 1970-2007, with detailed data on crisis containment and resolution policies for 42 crisis episodes, and also includes data on the timing of currency crises and sovereign debt crises. During these last three to four decades world macroeconomic conditions were often weak prior to a banking crisis. Fiscal balances have tended to be negative (-2.1 percent on average), current accounts to be in deficit (-3.9 percent), and inflation often has run high (137 percent on average) at the onset of the crisis. In the modern economic literature there is a wide consensus on the need to look at the multi-dimensionality of a financial crisis, and a wide consensus on the need to look at recession too. The remainder of the paper is organized as follows. Section 2 presents the cyclical market economy in Romania, typical recessions and crises in the two specific Juglar cycles. Section 3 presents descriptive statistics of the data collected on financial crisis and financial management techniques for a subset of systemic banking crises. Section 4 using some final remarks presents the major features of the financial crisis policy and management.

2. Typical recessions and crises in the last two Romanian specific “Juglar” cycles

Although financial recession and its specific vulnerability is not a synonym for financial crisis, it contributes to it. It implies an exposure to risk (whether short-term or long running), and a difficulty in solving risks. Romania faces an imminent economic crisis in 2009, the signs of which were already visible in late 2008¹.

¹ Săvoiu Gheorghe (2007), *Statistics. A scientific way of thinking*, University Publishing House, Bucharest, pp.367-381.

Concerning the period 1990-2007 one can formulate a hypothesis of economic and national industrial cyclical phenomenon of “Juglar” type with two visible evolution periods, the former of expansion and the latter of recession, and between them, less evident, the crisis and the downward graphical modulation and the resumption of activity according to the upward graphical modulation. The Romanian economy crossed two “Juglar” cycles over five electoral periods that succeeded already to outline the elements of electoral cyclical type. Here the first “Juglar” type cycle in the Romanian economy (1990-1997), described by the economic growth rate and by the dynamics of the most important factor for national GDP, industrial production rhythm at national level, is:

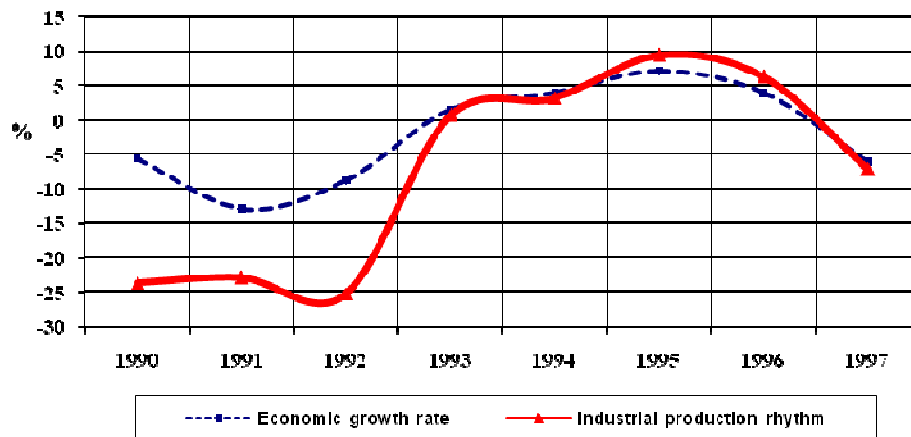


Figure no. 1. The first “Juglar” type cycle in the Romanian economy defined by industrial production rhythm

Sources: „*Economia românească 12 ani de tranziție*”, Ed. INS, București, mai 2002, and „*Anuarul statistic al României*”, Ed. INS, București, 1990-2008.

The amplitude of oscillation looks being much more reduced in the second economic national cycle, the signal as such being a positive one of a relative “stabilization” of the limits able to describe major macro-economic processes. The final years anticipate the imminent presence of a new recession, in the second “Juglar” type cycle of the Romanian

economy (1998-2007), described by the dynamics of the economic growth rate and by the dynamics of the industrial production rhythm at the national level, is:

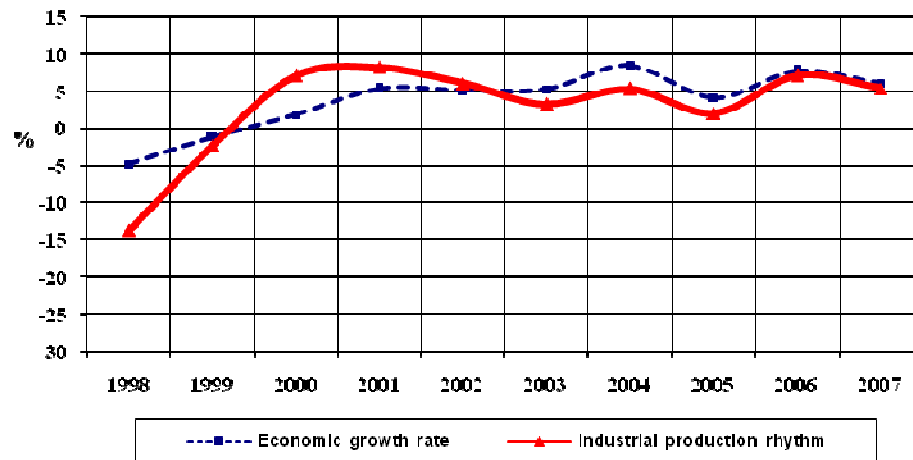


Figure no. 2. The second “Juglar” type cycle in the Romanian economy

Sources: „*Economia românească 12 ani de tranziție*”, Ed. INS, București, mai 2002, and „*Anuarul statistic al României*”, Ed. INS, București, 1990-2008.

The Romanian economy faces today its third and not the first economic crisis (as Oxford Analytica has detailed in a special report), since the fall of communism. But truly, in its 2008 performance, Romanian market economy with a record economic growth of about 9% in the first nine months of 2008, was significantly slowed down by the expected typical recession, political and electoral cycle and, just finally, by the global financial crisis.

Another important indicator in the field of the above presented cyclical period is also the price instability, rendered by means of the consumer goods price index (CPI) and of the industrial goods price index

(IGPI), as instruments that point out the inflation experienced by the consumer and the inflation produced by the industrial producer. The differences between the two indices' rhythms are always very consistent before recession.

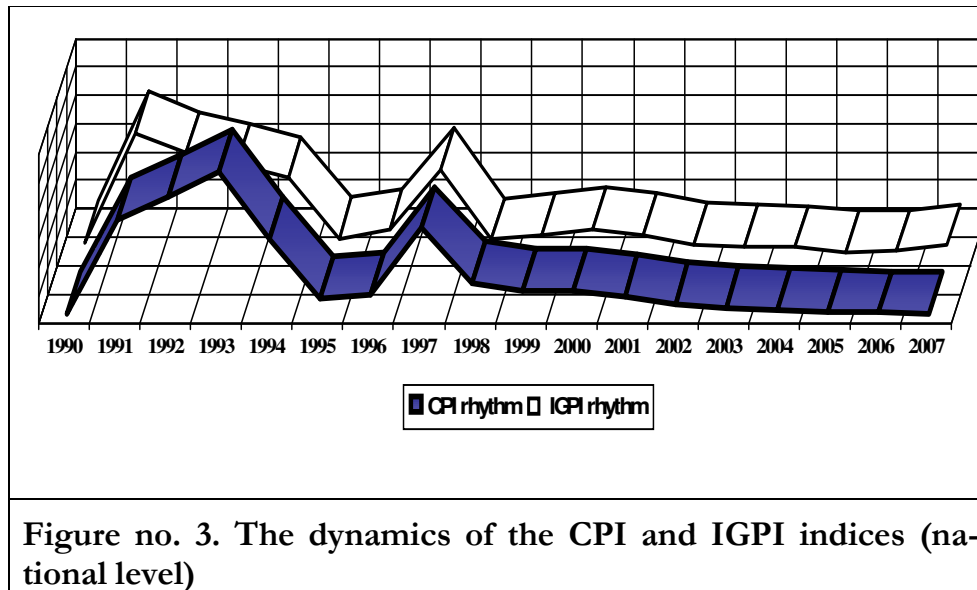
The annual evolution of the inflation in the Romanian economy

Table no. 1 (previous year = 100)

	Year								
	1990	1991	1992	1993	1994	1995	1996	1997	1998
CPI rhythm	5,1	170,2	210,4	256,1	136,7	32,3	38,8	154,8	59,1
IGPI rhythm	26,9	220,1	184,8	165,0	140,5	35,1	49,9	156,9	33,2
	Year								
	1999	2000	2001	2002	2003	2004	2005	2006	2007
CPI rhythm	45,8	45,7	34,5	22,5	15,3	11,9	9,0	6,56	4,84
IGPI rhythm	42,2	51,6	41,0	24,7	20,9	19,1	10,5	11,5	22,2

Source: „Anuarul statistic al României”, Ed. INS, Bucureşti, 1991-2008

Otherwise, the graphic of both parallel evolutions emphasize some normal period in the cyclical phenomenon and define trends with a relative similar feature.



Source: „Buletin statistic de prețuri”, Ed. INS, București, 1990–2008

During 1990-20077 the economic cyclical phenomenon develop due to the convergent character of the electoral cyclical changing reaching the climax in 1992 and 1997. The “Juglar” type cycle in the Romanian economy is described also by the rhythm of the indices of CPI and IGPI at the national level. Between 1997 and 2007, one can notice a weak intensity of the economic cyclical phenomenon in what concerns the inflationist event as a result of an increasing price and tax stability.

In order to evaluate its external equilibrium, a signification apart from the balance account of the balance of trade is granted simultaneously with the analysis of the current account of the balance of international payments. This holds the majority share in the current account balance, characterising synthetically and promptly the international trade evolution. The economic cyclical phenomenon is emphasized with a certain inertial degree by the balance account of the balance of trade,

usually the negative limit of the balance being recorded at the end of the period.

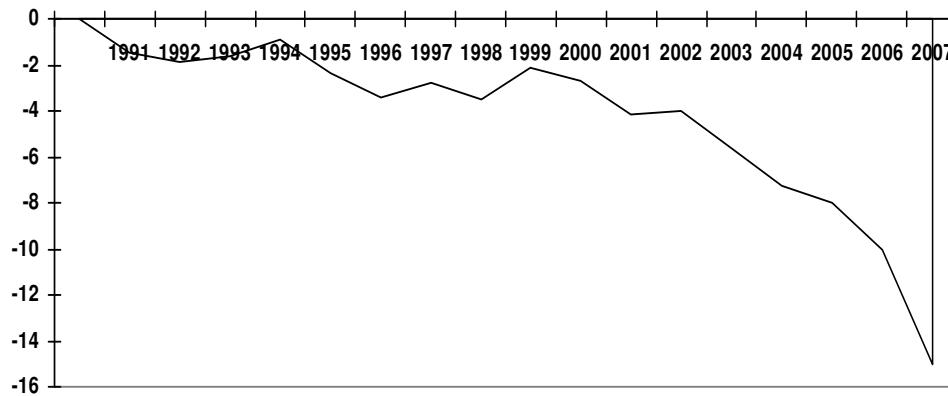


Figure no. 4. The balance account dynamics of the trade balance (national level)

Source: „*Anuarul statistic al României*”, Ed. INS, București, 1990-2008

Pursuing the evolution of the indices studied between 1990 and 2007, one can establish that the intensity of the economic cyclical phenomenon from the first period is accompanied by the trends of equilibrium in the second part, trends that can be evaluated as positive ones in the macroeconomic stability point of view. During this period, the macroeconomic conditions were often weak prior to a general crisis in the first two or three years in the beginning of each cycle.

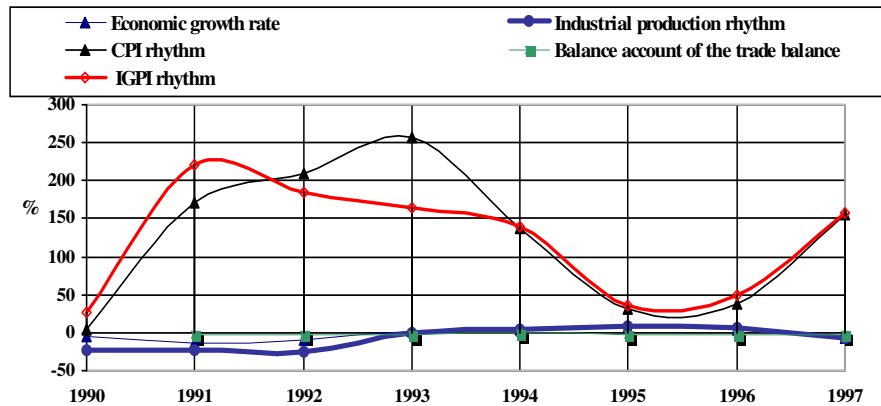
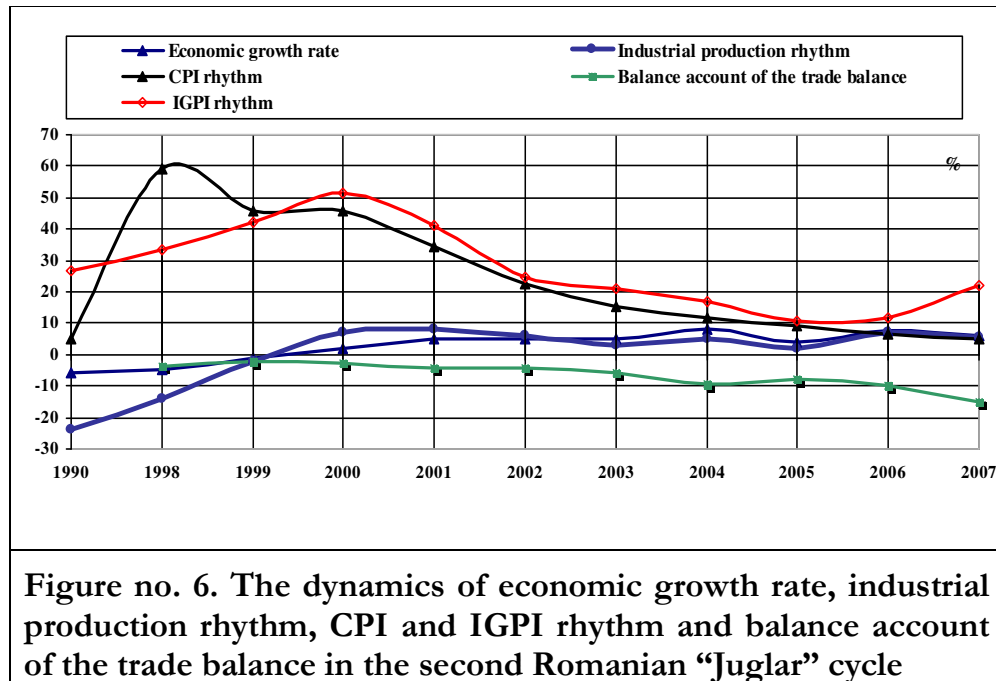


Figure no. 5. The dynamics of economic growth rate, industrial production rhythm, CPI and IGPI rhythm and balance account of the trade balance in the first Romanian “Juglar” cycle

Source: „Anuarul statistic al României”, Ed. INS, București, 1990-2008

The final upward trend points out the relative closure of the transition only as level of the real Romanian GDP at the end of 2004, and an inertial ascendant evolution after this important year, in which our economy have lost the first competition for acceptance as member to European Union. *The economic needs the three great intellectual faculties, perception, imagination, and reason. and most of all he needs imagination, to put him on the track of those events which are remote or lie below the surface, and of those effects of visible causes which are remote or lie below the surface,* are the words of Alfred Marshall, trying to underline the importance of imagination in understanding economies. Using our economic imagination, we can see the similar second “Juglar” cycle, marked by the same indices or balance account information, but more stable now and more precisely too.



Source: „Anuarul statistic al României”, Ed. INS, București, 1990-2008

With the myth of a market economy completely stable and valid only for the national political class that constitutes also the knots from the business entrepreneurs network in Romania, the problem of cyclical evolution has become a reality in Romania too.

The monetary policy was reviewed and marked by restrictions in the last three months of last year and sectors such as industry and the banking services needed government support. But no bank in Romania was affected significantly by the international turmoil despite problems in the loan segment. For instance, important banks as Erste or Raiffeisen had to erase debts of hundreds of millions of euro following the Lehman Brothers and Icelandic bankruptcies, but all experts forecast a profit recovery for the two banks active in Romania, given the support provided by the Austrian state. That is an important proof

to underline the significance of recession as the first problem in Romanian economy, problem caused by the slow rhythm of structural reforms, and financial crisis only as a second problem in governmental policies and priorities.

3. Some descriptive statistics of the data collected on financial crisis and financial management.

A “weak” signals theory of the macroeconomic evolutions

All the information from the Romanian development could be much more understood using a new theory, a so called theory of the “weak signals” (similar to the weak signals presented to 11th International Symposium Symorg, by Lisa Neube, from Purdue University, U.S.A., in a very interesting conference entitled *Strategic management*, Belgrade, September, 2008). Enlarging and connecting the new theory with others, analysis could be more adequate, passing from deterministic thinking to probabilistic thinking or from the power signals to the weak signals, using statistical indices and instruments. How could we define a “weak” signal for macroeconomics evolutions in statistics? All kinds of statistical instruments, techniques, rhythms and indices able to anticipate a recession, a crisis in general, are in fact signals, often and apparently called insignificant, in the Holy Bible usual meaning “those who are weak will become full of power...” are in fact weak statistical signals (e.g. a negative rhythm, indices under the value of 100%, a negative account of a balance, a descendent trend etc.)

Descriptive statistics of the data collected on financial crisis or on crisis in general can offer a lot of “weak” signals for macroeconomics evolutions. Nonperforming loans tend to be high during the onset of a banking crisis. Some important world signals of a financial crisis are identified in Romanian contemporary crisis, too:

1. Banking crises are often preceded by credit booms, with pre-crisis rapid credit growth in about 30 percent of crises or macroeconomic context is characterized by a prolonged period of excess global liquid-

ity induced in part by relatively low interest rates (weak signals are preceded by power signals);

2. Peak liquidity support tends to be sizeable and averages about 30 percent of total deposits;

3. In severe crises, there has been a positive correlation of about 30 percent between the provision of extensive liquidity support and the use of blanket guarantees

4. Output losses (measured as deviations from trend GDP) of systemic banking crises can be large, averaging about 20 percent of GDP on average during the first four years of the crisis, and ranging from a low of 0 percent to a high of 98 percent of GDP;

5. Bank runs are a common feature of banking crises, with 62 percent of crises experiencing momentary sharp reductions in total deposits;

6. Crisis-affected countries often suffer from weak legal institutions;

7. The macroeconomic context is characterized by a prolonged period of excess global liquidity induced in part by relatively low interest rates etc.^{1 2}

As we can see in the next table, Caprio, Klingebiel, Laeven, and Noguera (2005) banking crisis database, covers the universe of systemic banking crises for the period 1970-2007, with a lot of detailed data on crisis containment and resolution policies for 42 twin crisis episodes (but also for 124 banking crisis, 208 currency crisis, 63 sovereign debt crisis and ten triple crisis).

¹ Caprio, Klingebiel, Laeven, and Noguera (2005) banking crisis database in Patrick Honohan and Luc Laeven (eds.), *Systemic Financial Crises: Containment and Resolution*. Cambridge, UK: Cambridge University Press.

² Bathia, Ashok, (2007), *New Landscape, New Challenges: Structural Change and Regulation in the U.S. Financial Sector*, IMF Working Paper 07/195 (Washington: International Monetary Fund).

Descriptive Statistics of Initial Conditions of Selected Banking Crises

Table no. 2

Variable	Number of crisis	Mean	Standard deviation
Start year of banking crisis	42	1995	6
Currency crisis (Y/N)	42	0.548	0.504
Sovereign debt crisis(Y/N)	42	0.119	0.328
Fiscal balance/GDP	42	-0.021	0.045
Debt/GDP	33	0.464	0.395
Inflation	41	1.371	4.862
Deposits/GDP	42	0.491	0.454
GDP growth	42	0.024	0.045
Current Account/GDP	41	-0.039	0.049
Peak NPLs (fraction of total loans)	40	0.252	0.155
Government-owned banks (fraction of total assets)	42	0.309	0.245
Bank runs (Y/N)	42	0.619	0.491
Largest 1-month drop in deposits-to-GDP	26	0.112	0.058
Credit boom (Y/N)	33	0.303	0.467
Annual growth in private credit to GDP prior to crisis	33	0.083	0.098
Creditor rights	41	1.780	1.129

Source: Luc Laeven and Fabian Valencia, (2008), *Systemic Banking Crises: A New Database*, International Monetary Fund Working Paper, WP/08/224, November 2008, pp. 73

The global 2008-2009 financial crisis are still being debated, and most likely can be attributed to a combination of factors, excerpted not only from the detailed description made in table no.2. However, for Romanian economy and for its cyclical evolution from the perspective of describing its initial conditions, it is useful to classify the underlying

factors in two groups: internal macroeconomic recession and financial macroeconomic factors of the crisis.

4. Some final remarks

Policy responses to a financial crisis normally depend on the nature of the crisis, but in every country it normally depends on the specific economic nature of the crisis (for instance, the importance of an expected recession, placed to the intersection of first year of a new government with the inflexible point of descendant evolution in the third cycle of Romanian economy).

Therefore general measures are good for Romanian economy too, as:

- a) Regulatory forbearance is a common feature of crisis management (a new valuation mechanism for government bonds and loans);
 - b) Sale to foreigners is often seen as a last resort to bank restructuring, though it has become quite common in recent crises;
 - c). Bank closures seem to be associated with larger fiscal costs;
7. Recapitalization of banks is the most significant policy used in the contemporary resolution phase of world financial crises;

Another important concept is that of individuality of an economic crisis for a specific economy.

For instance, the most important quantitative factor of this individuality includes oil barrel's price in a simplified model for an economic thinking based on internal and external analysis, and allow the in-depth study of selected issue of recession or crisis, and can provide critical insights even into banks' activities and solvability. Yet quantitative data cannot fully capture statistical or economic causality because of their failure to provide contextual information and its perspectives, but succeed in put some light on the economic and financial context of the processes of recession or crisis under study. The qualitative factors range from key information on the Romanian market. The influ-

ence of the financial crisis will emphasize the dimension of economic crisis and recession, in general, for Romanian market economy. But the author think that it is essential to provide some general background regarding the need for combining quantitative and qualitative factors for the analysis of financial crisis within last year's globalization framework.

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*** *Anuarul statistic al României, Ed. INS, București, 1990-2008*

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