Emerging Market Queries in Finance and Business

Economic-financial and social vulnerabilities of Romania in the period 2013-2020

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Abstract

The paper provides an analysis of Romania's external debt vulnerabilities in the EU post-accession period based on existing indicators in this domain and taking into consideration structural challenges and critical values of debt thresholds. The main conclusion is that increasing external debt in Romania generates a series of vulnerabilities related to the risk of financial distress and low capacity to pay back the principal and debt service. The paper contains a set of proposals concerning the factors of improving debt sustainability in Romania taking into consideration the impact of trade balance, foreign direct investment, crediting of households and private companies with denomination in foreign currency and lei, contribution of labour force employment. The paper highlight the necessity of periodical reviewing the sustainability factors of external debt in accordance with the changes in the quality of policy-mix and administration institution and economic efficiency.

Keywords: external debt structure, debt sustainabilities indicators and thresholds, medium and longterm debts, trade balance, foreign direct investment, debt burden remittances.

1. Introduction

Multiplication and the intensifying of the manifestation forms of economic-financial and social vulnerabilities at the macro- and micro-societal levels has turned into a research field of particular actuality due to the impact and shocks generated by the current crisis that reached international dimensions and an

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unprecedented length in time. Although vulnerability is a notion with a content and an encompassing sphere which are still not defined and delineated with sufficient rigorousness, most experts consider that it refers to the assembly of losses, damages and risks generated by certain internal and external shocks on the output, distribution and consumption of goods and services.

Even though vulnerabilities can be classified in numerous categories, depending on the specifics of the adopted division criteria, several experts (Guillaumont 2007; Briguglio L., 1992; Briguglio L. et al., 2003, 2008) define them according to the exposure to various economic-social entities, to some risks and threats generated by certain categories of external shocks, such as, for instance: a) natural disasters (earthquakes, climatic changes, floods, tornados, extended periods of draught or freezing, landslides, volcanic eruptions, etc.; b) external shocks generated by economic crises, collapse of the goods and capital markets, sudden and strong decrease of external demand, of prices, fluctuations of the exchange rate and of interest rates, etc. Other economists link the vulnerability to extreme poverty or its increase beyond certain norms or limits attributing to it notions and a dynamic connotation with trends that can be determined based on some long-term statistical series with production possibilities (Hoddinot J., Quisumbing A., 2003), often the vulnerability taking the form of some expected phenomena and processes, of exposure to future risks. The development of some special systems of vulnerability indicators (Briguglio et al. 2008) attempts to determine various degrees of its intensity.

Other dimensions of the economic-financial and social vulnerability refers to sensitivity, meaning the easiness and promptness (just in time) with which society, individuals or economic-social groups react to external shocks, as well as their resilience, that is the speed with which losses and damages triggered by the exposure to occurred risks are recovered (for instance, the recovery in the GDP decline after the crisis, after earthquakes, etc.). Economic resilience (Briguglio et al.2008) is defined as the ability of the decision- and action-factors (State and economic agents) to answer, and take measures for preventing, diminishing or integral recovery of the losses caused by internal and/or external shocks (Briguglio et al. 2008; Allen W. et al. 2003). The main factors on which depends the vulnerability aim at the nature of the threats of the risk's shocks and of the losses, the magnitude of the sensitivity and resilience (robustness) of the economic entity involved in risk events. Theoretically, it can be stated, that the more strong and frequent a shock is, the more increases the vulnerability, and the higher the resilience, the less the vulnerability. Vulnerability is often the sum of proportions (weights of the two indicators) being considered equal to unit.

Although we do not intend to analyse the various factors of vulnerability and resilience, we shall enumerate the most significant, respectively: size, density and structure of population; geographic location and economic dimension; the degree of economic external openness; dependency on imports, exports and external public and private debt on short-, medium-, and long term, the sectoral structure of the economy and of population's employment; the income per capita, and incomes distribution; population under the threshold of poverty and of extreme poverty; the education degree; health conditions; technological level; infrastructure and social, economic and financial capital; macroeconomic stability and market efficiency.

In the specialized literature, but also in the economic practice systems of indicators are developed for economic vulnerability and resilience depending on the pursued specific objectives, and also on the character and dimension of the two features related to the impact factors of social-economic developments in the globalised world subjected to increasingly rapid and complex changes. The economic-financial vulnerability represents an exposure or a "conscious or unconscious" assumption of risk by the decision factors under the conditions in which the latter are not able to avoid or diminish losses generated by the respective risk (Pelling M., 2003). The outbreak of the international financial crisis has emphasized a series of aspects related to the macroeconomic vulnerability among which the markets' and financial systems' component is of particular interest for developing strategies to combat them, comprising objectives and action plans on various time horizons.

2. Indicators and methods

In our approaches, vulnerability means the exposure to financial risks at the macroeconomic level with a special view on the external indebtedness risk of Romania on short-, medium- and long-term, taking into account the reimbursement capacity that Romania has, as well as the existing standards at international level with respect to exceeding certain critical levels or alert quotas, based on the early warning indicators. As main approaches and methods of analysis, in the present research, we shall use national and international static and dynamic comparative analyses of the relevant indicators for the external debt vulnerability (EDV) attempting a correlation of their volume, structure and dynamics in particular during the crisis period.

In the second part of the research we shall make a quantitative-qualitative analysis at macroeconomic level of the main vulnerability sources for Romania's external debt, suggesting measures of combating the negative effects and of increasing Romania's macroeconomic resilience in the period 2014-2020, in accordance with the objective of the EU 2020 Strategy for creating a "smart, sustainable and inclusive society".

3. Balance of trade's contribution to the potential vulnerability of the external debt

Romania's balance of trade represents a synthetic indicator with direct relevance for the vulnerability of the current account deficit, of the foreign trade balance and of Romania's external debt. Considering the two important events for the progress of the Romanian economy, the EU accession in the year 2007 and the outbreak of the financial crisis in the second half of the year 2008, we have computed, based on available EUROSTAT data, the yearly average volume of Romania's annual trade deficit for the pre-accession and post-accession periods (Table 1), on total relations intra-EU-27 and extra-EU-27, as well as on member countries.

Table 1 Yearly average balance of Romania's balance of trade in the pre- and post-accession periods with intra-EU-27 and extra EU-27 countries (bills. Euro)

	Yearly average of the balance in the periods		Commercial indebtedness degree
	Pre-accession, 2001-2006	Post-accession, 2007-2010	
Total intra EU-27	-3,764	-11,327	3,01
Total extra EU-27	-4,071	-4,833	1,19

Source: Own calculations based on EUROSTAT statistical data

From Table 1 the following relevant conclusions for Romania's external debt can be drawn, that is:

• the yearly average trade deficit of Romania with intra-EU-27 countries was 3.01 times higher in the post-accession period, as compared with the one in the pre-accession period, and 1.18 times higher on the extra-EU-27 relationship which means both an increase of Romania's trade dependency but also of the indebtedness degree against EU member countries which is much higher as compared against some important non-EU countries with which Romania has the highest volume of its trade relationships;

• from our calculations it results that in the framework of the intra-EU-27 commercial relationship during the post-accession period against the pre-accession one, the increase of the external commercial indebtedness degree was higher against: the Netherlands (16.7 times), Hungary (12.9 times), Slovenia (6.6 times), Czech Republic (4.9 times), Poland (4.0 times); Germany (2.3 times);

• a diminishment of the commercial indebtedness degree of Romania in the post-accession period, against the one of pre-accession is recorded in the case of Portugal (0.85 times), England-UK (0.67 times) and Sweden (0.5 times);

• in the case of the extra-EU-27 relationship, during the post-accession period the average negative balance increased for the trade of balance in Romania, which implicitly meant an increase of the commercial

indebtedness degree against Norway (3.8 times), China (2.8 times), and USA (1.2 times) and, respectively, a diminishment of the balance took place against Switzerland (0.84 times) and Japan (0.55 times);

- if, in the pre-accession period the analysed annual average trade deficit of Romania with the extra-EU-27 was of 1.08 and higher against the intra-EU-27one, in the post-accession period we find that a situations' reversal takes place, respectively the analysed indicator takes 2.8 times higher values of the intra-deficit against the extra-EU-27 deficit which means that Romania's accession to the EU, at least in its initial pre-accession stage represented a strong factor of increasing economic dependency, meaning indebtedness against the EU member countries, with few exceptions (for instance, England/UK) .

The analysis of the evolution (increase/decrease) of Romania's commercial indebtedness degree on the intra- and extra-EU-28 relationship during the pre-accession period must be completed by researching the structure of the annual average commercial deficit on countries both intra- and extra-EU-27 in view of identifying the priorities of the policies' mix of Romania for diminishing short-, medium- and long-term pressures on this deficit.

The highest annual average commercial deficit on the intra-EU-27 relationship was recorded by Romania in the post-accession period in the trade with: Germany (-2.52 bills. Euro), Hungary (-2.18 bills. Euro), Poland (-0.96 bills. Euro), the Netherlands (-0.896 bills. Euro) and, respectively, in the extra-EU-27 relationship with: Russia (-1.93 bills. Euro), China (-1.91 bills. Euro), Norway (-0.245 bills. Euro) and Japan (-0.164 bills. Euro). In Table 2 are presented the percentage structures of Romania's annual average commercial deficits on the intra- and extra-EU-27 commercial relationship, as well as their changes on relative terms, the plus symbol (+) signifying a weight decrease in total, and the symbol (-) an increase of the weight for the respective country. In other words, in relative terms, during the post-accession period, favourable trends (+) with respect to the evolution of the weights of countries in the annual average commercial deficit were registered in the case of Germany, Italy, Poland, Czech R., Greece, Slovakia, Finland, Sweden, Switzerland, Russia, USA, Canada, and Japan. We mention that these changes do not reflect a change in the hierarchy of the commercial partner countries of Romania after the absolute size of the commercial deficit volume.

These countries should represent a priority for Romania both with respect to the future diminishment of the respective deficits, and for creating commercial surpluses with other countries that would contribute to the persisting deficits with the aforementioned countries. These, practically, are two strategies for diminishing the vulnerabilities' potential for the external debt of Romania on medium- and long-term.

Table 2Structure of the average annual deficit of Romania's commercial balances with intra-and extra-EU-27 countries during the pre- and post-accession period

Country	Percentage structure (%)of Romania's annual average commercial deficit on intra- and extra-EU-27 countries during the periods of:		Percentage change (+decrease,-increase) of the annual average deficit of the countries in total commercial deficit
	Pre-accession	Post-accession	
0	1	2	3=2-1
Total intra EU-27, from which:	-100,0	100,0	0,0
Germany	-28,8	-22,3	+6,5 decrease
Italy	-15,4	-7,1	+8,3 decrease
Hungary	-4,5	-19,29	-14,7 increase
The Netherlands	-0,1	-7,9	-7,8 increase
France	-9,1	-4,6	-4,5 increase
Austria	-9,9	-13,3	-5,3 increase
Poland	-10,9	-8,5	+2,4 decrease
Portugal	-1,2	-0,3	+0,9 decrease
Czech R.	-11,5	-5,9	+5,6 decrease
Belgium	-2,2	-3,6	-1,4
Greece	+2,2 (surplus)	-1,4	+0,8
Slovenia	-0,9	-1,9	-1,0

Slovakia	-5,2	-2,9	+2,3
Finland	-2,2	-0,1	+2,1
Sweden	-7,1	-1,9	+5,2
England-UK	+6,1	+1,4	-4,7
Total extra EU-27	-100,0	100,0	0,0
Norway	-1,6	-5,1	-3,5 increase
Switzerland	-3,6	+2,6	+1,2
Russia	-46,5	-39,9	+6,6
USA	-2,6	-2,5	+0,1
Canada	-1,6	-1,5	+0,1
China	-16,8	-39,7	-22,9
Japan	-7,3	-3,4	+3,9

Source: Own computations based on EUROSTAT statistical data.

In conclusion, it can be stated that during the period 2001-2010 the negative balance of Romania's balance of trade became chronic and aggregated at macroeconomic level, which constitutes an unfavourable factor for the external debt payment capacity, as the exports are smaller than intra- and extra-EU-27 imports.

4. The burden of Romania's balance of trade on the external payments balance

The computation of the impact had by the negative balance of trade, and with an increasing trend for the period 1990-2016, on the payments' balance, highlights a series of aspects which lead to a more marked potential vulnerability of the external indebtedness of the country, both against international financial institutions, and also against the external private capital market.

If we note with TBB = the trade balance burden of Romania on the total gross external debts cumulated for the periods 2001-2006, 2007-2010 and 2001-2010, respectively $TBB_{2001-2010}$, $TBB_{2001+2006}$ and $TBB_{2007-2010}$, it shall result :

(1) $TBB_{2001-2010} = TBB_{2001-2006} + TBB_{2007-2010}$

Knowing that the annual average trade balance deficit of Romania, TBB for the periods 2001-2006 and 2007-2010 (Table 1) results:

(2) $TBB_{2001-2006} = 6\ (TBB_a intra + TBB_a extra)$

$TBB_{2007-2010} = 4\ (TBB_a intra + TBB_a extra)$

Replacing with the data from Table 1, we shall obtain the size of the trade balance burden on the two sub-periods (pre-accession and post-accession), as follows:

(3) $TBB_{2001-2006} = 6x(-3,764) + 6(-4,071) = -22,584 + (-24,426) = -47,010$ bills. Euro.

For the post-accession period we shall have:

(4) $TBB_{2007-2010} = 4x(-11,327) + 4(-4,833) = -45,308 + (-19,322) = 64,640$ bills. Euro.

In total period, the burden of the negative trade balance of Romania shall be:

(5) $TBB_{2001-2010} = TBB_{2001-2006} + TBB_{2007-2010} = 47,010 + 64,610 = 111,650$ bills. Euro

In other words, the deficit in the pre-accession period represented 42% from TBB, and the rest of 58% pertained to the commercial deficit from the post-accession period.

5. The burden of the negative trade balance (export fob-import cif) of Romania during the periods 2010-2012 and 2013-2016

The reason determining the vulnerability of the external debt of Romania to continue increasing is that the deficit of the trade balance in the period 2011-2012 underwent a stagnation but at a relatively high level, after which in the period 2013-2016 is foreseen an increase for each year (Table 3).

Table 3   Evolution of export, import and trade balance deficit in the periods 2011-2012 and 2013-2016 (*)

-bills. Euro-

| | Years | | Total | Years (*) | | | | Total |
	2011	2012	2011-2012	2013	2014	2015	2016	2013-2016
1. Export fob	45,275	45,056	90,331	46,725	48,960	52,140	56,670	203,845
2. Import cif	54,948	54,684	109,632	57,145	61,055	65,600	71,140	245,940
3. Trade balance deficit	-9,673	-9,628	-19,301	-10,420	-12,095	-13,46	-14,670	-42,095

(*) forecasts of the National Commission of Prognosis.

Source: Own computations based on EUROSTAT statistical data.

Hence, it results that the cumulated negative balance for the period 2011-2012 shall be equal with 19.301 billions, which added to the negative cumulated balance of the period 2001-2010 shall lead to a total negative cumulated balance of 130.951 billion Euros.

6. Vulnerabilities of total gross external debt

The criteria according to which we determine the vulnerability potential of the total gross external debt refers to the size of the growth indexes for the analysed period – December 2001-June 2013, to its various components, as well as to the weight each component has in its total volume (Table 4).

Table 4   Dynamics of the total gross external debt and of its components in the period December 2001-June 2013

Type of external debt (*)	External debt in mill. Euro	Evolution 2013/2001 (%)	Structure of total gross external debt on components-%-			
			2001	2005	2010	2013
1.TGED	98853.1	6.68	100.0	100.0	100.0	100.0
2. TGED-GG	28854.9	4.13 (**)	47.19	32.76	20.04	29.19
3. TGED-GGST	1131.2	56.56	0.00	0.06	1.61	1.14
4. TGED-GGLT	27723.7	3.97	47.18	32.69	18.43	28.05
5. TGED-GGLTB	12434.0	7.88	10.66	8.48	3.14	12.58
6. TGED-GGLTL	15288.4	2.91	35.57	0.24	15.29	15.47
7. TDET-NBR	6891.6	16.87	2.76	0.71	9.85	6.97
8. TDET-BK	18497.0	25.24	4.96	23.94	24.55	18.72
9. TDET-BKST	4770.9	11.36	2.84	8.32	7.60	4.83
10. TDET-BKSTL	779.0	33.00	0.16	1.49	1.74	0.79
11. TDET-BKLT	13726.1	43.12	2.15	15.62	16.94	13.89
12. TDET-XS	24130.2	4.57	35.68	27.15	26.27	24.41
13. TDET-XSST	6189.0	10.73	3.90	9.92	4.64	6.26
14. TDET-XSLT	17941.2	3.82	31.78	17.23	21.63	18.15
15. TDET-DINV	20461.4	16.45	8.41	15.44	19.29	20.70

(*)1.Total gross external debt (TGED); 2.Total gross external debt of the government (TGED-GG); 3.Total gross external debt of the government on short term (TGED-GGST); 4.Total gross external debt of the government on long term (TGED-GGLT); 5.Total gross external debt of the government on long term bonds (TGED-GGLTB); 6.Total gross external debt of the government on long term loans (TGED-GGLTL); 7.Total gross external debt of monetary authority (TDET-NBR); 8.Total gross external debt of banks (TDET-BK); 9.Total gross external debt of banks on short term (TDET-BKST); 10.Total gross external debt of banks on short term loans (TDET-BKSTL); 11.Total gross external debt of banks on long term (TDET-BKLT); 12.Total gross external debt of banks of other sectors (TDET-XS); 13.Total gross external debt of banks of other sectors on short term(TDET-XSST); 14.Total gross external debt of banks of other sector son long term (TDET-XSLT); 15.Total gross external debt of intercompany direct investment (TDET-DINV).

(**) 2013/2005

Source: Own computations based on EUROSTAT statistical data.

From Table 4 we can highlight some important aspects related to the sizes of TGED as a whole and on components, which are:

- the increase of TGED by 6.68 times in June 2013 against December 2001 is very high if we shall compare it with the evolution of other macroeconomic outcome indicators of the economy, fact which indicates firstly a relatively low efficiency of the aforementioned on long-term and with negative impact on attaining the necessary and sufficient reimbursement capacity;
- the top highest dynamics of TGED, as compared with their total increase were recorded by the Government's gross external debt on long-term (56.56 times), by the one of the banks (43.12 times), by inter-companies direct investments (16.45 times), by the gross external debt of NBR (16.87 times), which imposes a careful analysis of the link with the evolution of the performance indicators of loans;
- lower growth rates than the average of the total gross external debt were recorded in the case of the external debt of other sectors on long-term (4.57 times);
- on 30 June 2013, the sectors with the highest weights in the total gross external debt were the Government (41.8%), other sectors (24.4%) inter-companies direct investments 20.7%, banks (18.7%), BNR (15,5%).

For the period 2007-2011, which coincides with the post-accession period of Romania to EU, but also to the ones of the financial and economic crisis, we have analysed the vulnerability of the external debt of Romania based on some indicators consecrated in the specialised literature for which critical values are set on intervals, or differentiated depending on the development level of the countries, or the quality of their governance.

Table 5 Evolution of Romania's external debt indicators in the period 2007-2011 (mill. Euro)

Indicators	Year 2011 (mill. Euro)	Indexes with fixed basis 2007=100				Annual average growth rate, 2007-2011 (%)
		2008	2009	2010	2011	
External debt (ED)	98724	123.4	138.5	157.7	168.4	11.0
-medium- and long-term (MLT)	75929	133.7	169.5	188.3	196.1	14.5
-short-term (ST)	22795	103.4	78.3	98.2	114.4	2.7
GDP	131364	112.1	94.9	99.8	105.4	1.1
Export of goods and services (EXP)	52528	116.6	99.2	120.7	144.2	7.6
Import of goods and services (IMP)	59596	113.2	80.4	95.0	110.7	1.9
External debt service (EDS)	46232	152.3	163.9	146.2	154.5	9.0
-capital rates	42631	153.3	167.4	147.5	154.3	9.1
-interest rates (INTR)	3601	140.9	121.2	131.2	156.7	9.4
Romania's international reserves (IR)	37252	104.0	113.5	132.2	137.0	6.5

Source: own calculations based on NBR data and Romania's Statistical Yearbook, years2007-2011.

For the entire post-accession period the highest annual average growth rate was the one registered by the external debt of Romania on long-term (14.5%), followed by the external debt service (9.0%) and export (7.6%), while the annual average growth rate of GDP was of only 1.1%, and of the imports of 1.9%. If the slow growth rate of GDP does not represent a favourable index of exiting from and recovery after the economic recession of the years 2009 and 2010, the slow rate of the imports, on one hand highlight the weak contribution of the latter to GDP growth and, on the other hand, it reduces some of the pressure on the trade balance deficit and, implicitly, on the external payments' balance on short-, medium- and long term.

Table 6   Evolution of standard indicators of the external debt of Romania in the pre-crisis, crisis and post-economic and financial crisis years (annual average)

	Pre-crisis years, 2007-2008	Crisis years, 2009-2010	Post-crisis year, 2011
1.ED/GDP	49.4	71.5	75.2
2. MLT/GDP	34.1	57.1	57.8
3. ED/EXP	165.6	217.4	187.9
4. MLT/EXP	114.1	173.7	144.5
5. EDS/EXP	94.7	117.6	88.0

6. EDS/PIB	28.3	38.5	35.2
7. EDS/RI	135.7	140.3	124.1
8. INTR/EXP	6.95	7.3	6.9
9. ST/ED	31.3	20.15	23.1
10. Multilateral/ED	9.2	19.1	25.9
11. IR/IMP	5.9	8.5	7.5

Source: own calculations based on NBR data and on Romania's Statistical Yearbook, years 2007-2011.

7. Macroeconomic efficiency of external debt

In general, the external debt is regarded as a cost factor, of economic effort from which are expected more results, effects, quantifiable benefits in valuable qualitative and quantitative terms on short-, medium- and long-term. Therefore, the efficiency of the external debt (EDE) under its simplest but most relevant form shall have the following formulae:

(1) $EDE = GDP/EXTD$ where:

GDP = represents the gross domestic product as outcome or effect variable;

DEXT= total gross external debt of Romania considered as effort variable (cost, expenditure)

Relationship (1) can also be written under the form of functional dependency computable as a regression function, respectively:

(2) $EDE = f(GDP, DEXT) = a_0 + a_1 GDP + a_2 DEXT$ where GDP and DEXT are explicative variables, and EDE explained or outcome variables: a_0 = constant; a_1 and a_2 regression, or elasticity coefficient.

Relationship (2) might be further differentiated depending on the number of explicative variables taken into account, respectively:

(3) $EDE = f(GDP, EDMLT, EDST, IR, REM, EDS, FDI, Forex, INTR, Mat, S)$ în care: EDMLT = external debt on medium- and long-term; EDST = external debt on short-term; IR = international foreign exchange reserves; REM = remittances (monetary transfers of the Romanians working abroad); EDS = external debt service; FDI = foreign direct investments; Forex= exchange rate; INTR = interest rate; Mat = credits' maturity; S = sectoral distribution of credits).

The aforementioned variables may constitute the topic of a separate study, without claiming thus to have exhausted all determinant factors of the external debt efficiency.

In the present research we shall limit ourselves to calculating EDE with the aid of formulae (1) which, even though simple is very significant (Table 7), because it shows the trend of the indicator. Thus, it results that during the post-accession period, a decreasing trend is recorded of more than 2.8 times of the efficiency indicator for the total gross external debt from 2.12 Euro GDP for 1 Euro external debt to, respectively 0.75 Euro GDP.

Table 7 Evolution of the efficiency coefficient of the external debt of Romania (EDE) during the post-accession period to the EU

Indicator	Years				
	2007	2008	2009	2010	2011
-EDE_1 – relationship between GDP and total gross external debt	2.12	1.93	1.45	1.34	0.75
-EDE_2 – relationship between GDP and medium- and long-term external debt	3.22	2.70	1.80	1.71	1.73
- EDE_3 – relationship between GDP and short-term external debt	6.25	6.78	7.58	6.36	5.76
External openness degree of the economy – relationship (export and import)/GDP from which:	72.0	73.9	67.2	76.5	85.3
-GD_1 – export/GDP	28.8	30.4	30.6	35.4	39.9
-GD_2 – import/GDP	43.2	43.5	36.6	41.1	45.4

Source: own calculations based on NBR data and Romania's Statistical Yearbook, years 2007-2011.

Such a trend highlights the totally unfavourable situation of economic-financial performances of Romania at macroeconomic level, meaning that the performance of one Euro debt expressed in GDP unit deteriorated

as result of the influence of a complex of subjective and objective factors of internal and external nature. Naturally, the question emerges about what is the use of the external debt which increased very much, including the period of crisis. Up to when can we make debts, given the increasingly restrictive and burdening conditions of loans on international markets? If we contract external loans and spend own foreign exchange resources only for paying due external debts and not for economic re-launch, it is less probable then to be able to exit the vicious circle of inefficient and snowballing debt.

The external openness degree of Romania's economy increased a lot (Table 7) in particular due to the contribution of imports which replaced to a large extent the national output, in general, by superior competitive capacity (the price-quality ratio), save for – still – a series of imports with negative impact on the environment, including the long-term health of the population.

One of the issues of Romania's external debt vulnerability aims at determining some permissiveness or confidence thresholds that should be taken into account whenever the insolvency or default potential can emerge. The calculation of the main 11 indicators (Table 6) regarding the post-accession period indicate a rather high overtaking of the limit warning levels for most of them. The highest warning signals regarding the vulnerability of Romania's external debt, according to international standards is recorded for the indicators ED/GDP, ED/EXP, MLT/EXP, EDS/EXP, EDS/GDP and IR/IMP. It might be concluded that exports which represent one of the major sources of ensuring the necessary foreign exchange for the payment of the external debt, on various time-horizons, in Romania are the factor with the lowest contribution to the reimbursement of the external debt.

This situation is the more worrying, as a series of sources that contributed to the external financing of the current account deficit currently diminished their contribution. It is about significant diminishments of foreign exchange contributions from FDI, remittances and privatisations of state's assets, to which can be added also other risk factors such as, for instance, depreciation of the national currency, the triggering of the environmental crisis (extreme meteorological phenomena), some military conflicts of international range, etc. As early as 2003, specialised studies (Manasse P., Roubini N., Schimmelpfenning A., 2003) by using econometric techniques of nonparametric methods based on binary recursive tree analysis underpinned that countries in which the external debt exceeds the rate of 50% from GDP have a higher probability of entering into "episodes" of payments default. In the specialised literature there are numerous studies about determining some standard sustainability thresholds of the external debt for the aforementioned indicators calculated for Romania. These thresholds (IMF, WB, 2012) or standards, as a rule, have orientation values and, rather, represent confidence intervals with several sizes depending on the development level of the country and of the incomes, on the quality of the country's policies and institutions, on the volume of remittances and FDI, on the public external debt and publicly guaranteed, and on the nominal value and updated value of the external debt. Researches in the field make the distinction between external distress countries and countries with non-distressing external debt. What is of interest, in particular, are the studies analysing the sustainability thresholds of the external debt for emerging market economies, such as the case of Romania. Thus, Baldacci et al. (2011) analysing a sample of 52 countries with emergent economy in the period 1970-2010 establishes various optimum critical thresholds for advanced countries and for those with emergent market economy, which seems of particular importance also for the EU convergence standards which are unique for all member countries even if their development level is different. Consequently, for Romania the convergence criteria and the thresholds referring to sustainability indicators of the total, public and private, external debt, should be adjusted to the country specifics, including with respect to future payment capacity, the financing sources of deficits and the governance quality.

In calculating the fiscal stress indicator (Baldacci et al., 2011), the differentiation of the critical threshold for some partial indicators, for the two categories of countries, is the following:

Table 8 The critical threshold for some partial indicators

Indicators	Advanced countries	Countries with emergent market economies	Romania
General government gross debt/percent of GDP	72.2	42.8	75.1(*)
Weight of short-term debt against total debt	9.1	44.0	21.8
Debt denominated in foreign currencies (percent of total debt)	83.6	40.3	...
Gross financing needs (percent of GDP)	17.2	20.6	...
Weighted average maturity of general government debt (years)	3.9	2.3	...
Short term external debt (percent of gross international reserves)	3.9	61.3	57.2

(*) the indicator refers strictly to the total gross external debt as share in GDP. In the case in which also the internal debt would be added, the overtaking of the standard critical threshold of sustainability of total debt would be even higher.

Source: Baldacci E., McHugh J., Petrova I., 2011, Measuring Fiscal Vulnerability and Fiscal Stress: A Proposed Set of Indicators IMF Working Papers, WP/11/94.

In order to refine even more the indicators of the external indebtedness degree of Romania depending on a series of other influence factors, we shall present the differentiations made by the specialised literature with respect to the quality of policies and governance in different countries (Revisiting the Debt Sustainability Framework for Low Income Countries, IMF and World Bank, 2012 January). Thus the weight of the total external debt in GDP varies between 30% in the case of countries with a weak CPIA(Country Policy and Institutional Assessment)index ==3.25, 40% in the case of those with moderate CPIA =3.50 and 50% for countries with a strong CPIA index = 3.75. In the case of the weight of the external debt service in exports for the three sizes of the CPIA indexes, we shall have sustainability thresholds of 200%, 250%, and 300%.

We have presented in brief these data for bringing arguments aiming at deepening the analysis of the vulnerability indexes generated by the external debt of Romania on the following directions:

- their change depending on the quality of the governance, and of its policies and institutions;
- periodical revision of these critical thresholds depending on the change in the number and intensity of the influence of the determinant factors.

It is noticed, for instance, that the weaker the size of the CPIA index, the more the critical threshold of the external debt sustainability against GDP is diminished from 50% to 30%, and the weight of the external debt service from 25% to 15%.

Regarding the separate analysis of some additional factors of diminishing the vulnerability determined by the volume and structure of Romania's external debt, we shall refer – in the following – to some of them, respectively: a) diminishing the negative trade balance of Romania; b) promoting some selective policies in the field of foreign direct investments; c) improving the crediting system of the national economy and of the monetary policies; d) increasing the contribution of the labour force employment degree to diminishing the external debt burden. These factors would need to answer converging to a larger extent to the requirement of generating more foreign exchange so as to be able to meet the challenges of an external debt that is at a level with a high potential of multiplication, both by means of the phenomenon of new loans for the payment of due loans, and by increasing the burden of the external debt service on short-, medium-, and long-term.

8. Components of the macroeconomic framework of diminishing the external debt vulnerability of Romania

The worrying situation in which Romania is from the viewpoint of the external debt volume, proven by a series of indicators of the indebtedness degree beyond the standard quotas, established either by official documents reflecting international agreements to which Romania is part, or in the framework of some

specialised studies, impose the creation of a proactive macroeconomic framework of external debt sustainability (CMPSDE) that would diminish the debt distress.

To this end, we intend to outline some directions for action starting precisely from presenting the vulnerabilities' risk and continuing with suggestions, instruments, and measures that would lead to improving sustainability of debt and external balances for the Romanian economy.

1. In the field of foreign trade we signal as main vulnerability the chronic state of the commercial balance deficit, with an increasing trend on long-term up to 2016 according to IMF and to the National Commission for Prognosis estimates. The lessening of the burden of this deficit which weights down on the current account deficit and on the payments' balance emerges as a strategic priority for the favourable evolution of the Romanian economy up to the time-horizon 2020. There are the following ways of diminishing commercial deficit:

a) a swifter increase of exports rather than import, thus creating a potential for foreign currency surplus for reimbursing the external debt in accordance with the commitments by increasing the size of the goods' and products' export maintaining the same structure or by improving it with new products of a superior technical level and higher value added, so as to take up again the process of diversifying the nomenclature of Romanian export which in the transition period was subjected to a dramatic process of diminishment;

b) promoting some coherent substitution policies for imports with internal products of quality, efficiency and competitiveness at least equal to the one of the import products; the substitution of imports is the more necessary as a share of 42% from the value of exported Romanian products is represented by the import content of the aforementioned;

c) better monitoring of the transfer prices according to EU regulations in particular in the framework of commercial relationships between the mother-company and its subsidiary in Romania, and using the instruments of the antidumping policies;

d) creating a national association of exporters that would protect the individual and collective interests of the latter and would avoid competition between Romanian exporters on external markets which have as result export price diminishment;

e) encouraging smart specialisation at the local and regional levels, in particular by valuing the RDI and the international scientific and technical cooperation potential – a better and more efficient use of the opportunities provided by the EU both with respect to financial instruments for the period 2014-2020, but also other possibilities for protecting national output in the framework of yearly negotiations of the single external tariff.

2. In the field of FDI (foreign direct investments) which control to a share of up to 90% the various sectors of economic-financial activity from Romania, the following main shortcomings with negative impact on the external debt should be mentioned:

- the high weight of enterprises with FDI in Romania's exports (over 70%) and imports (60%) that develop their activity under the conditions of some objectives that are not always conjugated with the interests of Romania's sustainable development (see exports of logs and other raw materials and competitive imports with negative impact on national products);

- the unfavourable structure on economic activities, regional and types of FDI, that is their concentration to the largest extent in the sector of services, of activities with non-tradable goods, in horizontal FDI with a relatively low propagation effect in the national economy, mergers and acquisitions; the concentration of FDI to a share of more than 60% in Bucharest creates the premises for deepening economic and social gaps between the regions and localities of the country;

- at macroeconomic level, the enterprises with FDI from Romania import more than they export which contributes to the increase of the commercial deficit of the country and, to a certain extent, confirms the

circulation of some theories according to which Romania's economy is a source of raw materials and cheap labour force and an outlet market for the foreign investor partners.

With the purpose of eliminating aforementioned shortcomings, weak points and risks of FDI we propose the following:

- promoting some much more selective policies in the field of attracting FDI in Romania in science-and technical-intensive branches, in the "tradable" sector with export products, encouraging "Greenfield" investments that are more beneficial (create fixed capital) than mergers and acquisitions by privatising state assets and which to large extent ruin national wealth and diminish the employment degree by layoffs;

- efficient monitoring of concessions and royalties and giving up the categorical mentality according to which the stat cannot be an active factor of the public-private partnership schemes, as the experience of other countries shows that the state can be a good manager of the public goods and services output, and not only, on the condition that it is not eroded by corruption, bureaucracy and kleptomania;

• encouraging direct foreign investors through market mechanisms to learn about the weight of the profit reinvested in Romania, as the latter is of about 33% and 25% in the periods 2003-2010 and, respectively, 2010-2012, the rest being represented by repatriated profit to the mother company;

• increasing the social responsibility of the enterprises with FDI, which are predominant in the national economy and practically directly involved into the good or less good development of the Romanian economy;

• co-interesting foreign investors into financing RDI in Romania, as currently their research needs are ensured by the mother-companies or their subsidiaries from other countries, the Romanian RDI segment being at the periphery or even done away with.

3. In the banking-financial field is found a predominance of about 90% in the market share of the subsidiaries of foreign banks, in particular from the EU, as well as a weight of over 60% of the crediting with denomination in Euro of the households and economic agents; this crediting is threatened by a series of vulnerabilities, among which the most important is the unfavourable evolution of the exchange rates, along with the withdrawal from the country of the subsidiaries, or the decision of the mother companies to restrict crediting. The interest rate for credits granted in foreign currency in Romania is several times higher than the interest rate of the credits with denomination in Euro in the developed countries of the EMU. Among the main arguments of this differential is also the so-called "country-risk" which is higher in Romania than in the developed countries that, in fact, proved to be much more vulnerable under the conditions of the current financial and economic crisis, as compared with our country.

Considering the particular significance of the financial-banking system for improving the sustainability level of Romania's external debt, we suggest the following:

• developing the banking system in Romania based on national capital (public and/or private) so as, by virtue of the real, nominal and institutional convergence which is openly promoted by the official EU documents, to diminish the weight of the market share of foreign banking capital in Romania, achieving the one of Greece (20%), France (9%), the Netherlands (13%), Spain and Germany (each 10%), Italy (13%), Poland (65%) (NBR, 2012). These measures would contribute to strengthening a competitive banking climate in Romania, to diminishing the interest rates and to better promoting of the national interest.

• diminishing the unacceptable wide gap between the level of the interest rates for credits in Lei but also in foreign currency as compared with their level in other EU member countries. Under the conditions in which the foreign currency credit in Romania is much more expensive than in the developed countries, it is less probable, if not impossible, that Romania would have a chance to increase the investments' efficiency and circumscribe herself on the trajectory of real convergence. In fact, relatively cheap credits from developed EU member countries, from the viewpoint of the interest rate's size against credits in Euro granted in

Romania represent a distribution of the competitive banking environment at the level of the entire EU which aims at building up also a financial-banking union.

• in Romania, in fact, it is not observed one of the basic rules of crediting according to which the major part of credits has to be denominated in the currency in which the majority part of are obtained incomes. In Romania the overwhelming part of obtained incomes is in lei and the given credits are denominated in euro or other foreign currency (for example, in March 2013 a weight of 65.2%). In turn, the internal sources of the activity of the banking system from Romania has a share of about 70%, as the rest of 30% pertain to external sources;

• Re-launching economic growth in Romania cannot be achieved but by revigorating the institutional processes from the public and private sectors, crediting on long-term being one of the important sources of financing investors. Currently it is necessary for banks to grant a higher weight to long-term crediting of the national economy, as different from the present situation when the highest weight is held by short- and medium-term credits. On the other hand, practicing higher interest rates for new credits against the existing ones in the balance is not meant to contribute to exiting the crisis and re-launching economic growth in Romania.

4. The field of labour force is directly related to the sustainability of external debt through several channels. Firstly, it is about wage earnings and non-wage earnings that Romanian workers abroad send into the country, that is monetary transfers, or remittances which had an increasing evolution trend from 4743 mill. USD in the year 2005 to 9381 mill.USD in the year 2008, after which, during the years of crisis 2008 and 2010 they decreased suddenly to 4952 mill.USD and, respectively 3952 mill.USD in the years 2011 and, respectively 2012. In general remittances represent a factor taken into account in calculating the critical thresholds of external debt sustainability, as a rule, in the sense of diminishing the latter with a few percentage points. But this is not the case for Romania, because remittances represent a share of 2 – 2.5% from GDP which does not substantially change the critical values of the sustainability thresholds. Rather, in the future, we shall have to identify other sources of income in foreign currency in order to counteract the decreasing trend of remittances as of 2009, when the impact of the financial crisis was the hardest. Other incomes in foreign currency that are achieved by the labour force in Romania (wages, other benefit forms, etc.) have a diminished weight in GDP so that we do not consider that they might constitute a factor of strengthening the sustainability of the external debt.

In our opinion, there are other factors related to labour force employment whose contribution to improving the sustainability of external debt might be substantial, respectively:

- promoting some public investments with favourable effect on increasing the labour force employment degree[1], including fields and sectors generating positive externalities at local and regional level, especially sectors with high labour productivity and relatively high wages;

- Stimulating by specific and compatible means with the EU regulations, employment in the private sector of the economy, in particular in the framework of implementing some new policies of industrialisation of the economy which would counteract the disastrous effects of deindustrialisation occurred during the transition period, amongst others also due to the incapacity of the decision factors to promote efficient policies for the conversion of the industry created during the communist years into a viable industry under the conditions of market economy; neglecting the importance of the industrial sector in the economy in favour of the services' sector which led to "apparent" modernisation of the Romanian economy's structure by increasing the weight of services in GDP, and which in fact meant an artificial increase of activities with a predominantly speculative or non-productive character, without any substantiation at the level of the real economy, that is

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[1] In Romania the labour force employment degree is amongst the lowest against the other EU member countries.

"pseudo-tertiary" the fragility and unsustainability of which was more than sufficiently proven by the current economic and financial crisis from Romania, several categories of services collapsing (see services from the financial-banking sectors) creating serious issues with respect to unemployment pressure on labour force employment.

The four strategic directions of improving sustainability of external debt and increasing the resilience of national economy opposed to threats and vulnerabilities which an increasing degree of external debt might generate.

9. Some conclusions and final remarks

The complex analysis of the numerous vulnerabilities that can be created by an unsustainable external debt of Romania on short-, medium- and long-term during Romania's post-accession period and with a strong impact of the international financial crisis highlights the following conclusions:

- intensifying the vulnerabilities of Romania's external debt on medium- and long-term was due to the unprecedented increase of the latter from 51.8 bills. Euro, in 2008, to 80.6 bills. Euro in April 2013 and of the external debt service on medium- and long-term from, respectively, 13.1 to 17.65 bills. Euro under the conditions in which the average exchange rate for the same period increased from 3.68 to 4.38 lei for one Euro, and the international reserves (gold and foreign currency) increased their volume from 28.26 bills. Euro to respectively 36.15 bills. Euro;

- the calculation of Romania's external debt vulnerability indicators in accordance with the existing metrics at international level underpins the fact that for their majority, Romania exceeds the critical levels of the external debt and its service, thus needing a strategy in the field based on approaches disjointed from political-electoral conjectures which are often marked by short- and medium-term interests of the governance mandates that show insufficient interest or even disinterest against the effects of external loans on medium- and long term;

- in view of increasing the sustainability of the external debt on short-, medium- and long-term, the paper argues for a set of proposals aiming at important influence factors of the external debt such as: trade balance deficit, impact of the FDI volume and structure and of the repatriated and reinvested profits; improving the structure of the banking sector from Romania by increasing the market share for the Romanian banking capital and diminishing the crediting with denomination in Euro under the conditions in which incomes to their largest extent are in lei and the interest rates in foreign currency; increasing employment in sectors with high value added, in the context of promoting a new industrial policy in Romania

- the analysis of the evolution of the external debt indicators of Romania highlighted the need for the periodical revision of the specific critical thresholds for Romania depending on the level of its economic and social development as compared with other developed countries.

10. New research directions

Considering the complexity of the vulnerabilities of Romania's external debt, the research which we initiated in the present paper did not succeed but in establishing a series of correlations between the various components of the external debt sustainability metrics. The research efforts shall need to be continued both in the direction of extending the analysis of some new factors of influence of the external debt (remittances, taxation, quality of policy and of public administration institutions, public investments, etc.), and with respect to determining more rigorously the efficiency of external loans depending on the positive and negative externalities which it generates, on the possibilities and opportunities of an optimum ratio between the domestic and external debt, and of the reimbursement capacities on different time-horizons, so that, in the future the annual limit thresholds of the indebtedness degree that must be approved by the Romanian

Parliament would have substantiations resulting rigorously from the consistent promotion of the interests of sustainable development of Romania, and not from internal/external political conjectures that might often prove as generating unfavourable effects on medium- and long-term, and hindering by increasing burdens a so much needed economic growth.

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