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Article

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THE SUSTAINABILITY OF ROMANIA'S EXTERNAL DEBT DURING THE RECENT FINANCIAL CRISIS

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Abstract: *Between the sustainability of the current account deficit and the sustainability of the external debt there is a direct connection: the accumulation of external deficits generates in a certain degree the increase of the external debt stock and, at the same time, problems with its sustainability. The analysis of the external debt sustainability constitute a subject of interests for the researchers, both from a theoretical but also empirical point of view, offering various perspectives according to the economical background and future expectations of the international debtors and creditors. The main purpose of this article is to investigate the sustainability of Romania's external debt during the recent financial crisis that determined without any doubt a reconfiguration of the worldwide economic architecture with reference to the main indicators that are considered by the literature in the field to be relevant in shaping the general framework of debt sustainability. This analysis may be perceived as a starting point for the responsible authorities to develop new strategies that would enable a proper management of the external debt in order to achieve high economic growth rates without any financial compromises.*

Keywords: external debt; external debt sustainability; indicators of the external debt sustainability.
JEL Classification: H630.

INTRODUCTION

Between the sustainability of the current account deficit and the external debt sustainability there is a direct connection, the accumulation of external deficit triggering into a certain measure the increase of the external debt stock and also generating imbalances in what concerns its sustainability.

The analysis of the external debt sustainability was a much debated subject that triggered the interest of researchers from a theoretical perspective but also from an empirical point of view. There are a series of perspectives for analyzing this subject, each being influenced by various factors such as the economic framework or the future expectations of the international debtors and creditors.

The concept of sustainability (IMF, 2005, P.152) was defined as the ability to pay the future obligations arising from the external debt contracted without major alteration of the main macroeconomic indicators. Identifying the sustainable level of the external debt and the external

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debt service constitute an important argument in favour of determining the international financial support or the necessary of national resources.

The term sustainability is used nowadays in correlation with a series of concepts such as solvability, liquidity or vulnerability. Solvability is defined by the requirement that the current value of future primary surpluses to be higher or equal to the current value of the debt. The International Monetary Fund (IMF, 2000) specifies as a condition for the solvability that the net current value of the interest should not exceed the current value of the net imports. Vulnerability (IMF, 2005) is the expression of the insolvability and liquidity risk.

Liquidity, the second concept often associated to the term of sustainability, is considered to be the ability to pay within the established deadlines. International liquidity implies the existence of the necessary financial resources for paying the external bounds that an economy has. According to the literature in the field (Fleming, 1978, p.124) international liquidity embodies the ability to finance the deficits payments, attributed by the official foreign resources as well as by the official access to the international credit facilities. Reserves are important due to the fact that they allow countries with deficits to counteract, at least for a short period of time, the effects of the payment imbalances and to develop new strategies that could provide results for a longer period of time. Countries also may use their reserves to postpone a possible depreciation of the national currency.

Taking into consideration the fact that is a continuous debate between the authorities and the economists regarding the main rules that should govern the management of the international reserves, the dominant power was, in the majority of the cases, the one that established the rules, at list for the short period of time, concerning the maintenance of the liquidity level to the international level – that should take into account the economic and political interests of each country. Furthermore, an important role should be attributed to the economic benefits that each country that offers the main national currency have, as an effect of creating international liquidity (Gilpin, 2004, p.97). Sustainability combines these two concepts, both in terms of solvability as well as liquidity.

1. General approaches of the external debt sustainability

Within the literature there is a clear dichotomy concerning the analysis of the multiple perspectives as regards tothe external debts sustainability (Armone et al., 2005, p.7):

- Optimum models: the marginal revenue of the loan equalizes the marginal cost of it. This was the first model developed by the economic theory (Jonathan, 1993) in respect to this issue.

- Non optimal models: growth cum debt models and debt dynamics. In the first case, the external loans are used to cover the differences between internal economies and investments. (Chenery and Strout, 1966). The solvability criterion implies that the growth rate to be superior to the interest rate of the external credits (credit cost). Within this approach a special attention should be given to the currencies of the loans. Within the second model, it is considered that an economy is solvable in terms of external debt if the growth rate of the exports is superior to the interest rate of the external loans. These two models have also some shortcomings, due to the fact that the economic growth is considered to be constant and does not take into consideration the loans.
- Fiscal models: assume the reduction of the expenditures due to the necessity of sustaining the external debt service. Therefore, the reduction of the infrastructure expenditures and the governmental ones, have an adverse effect upon private investments that leads to a downturn in what concerns the growth rate. Another channel through which the financial flows negatively influence the economy is by reducing imports, these contributing to reducing governmental expenditures with strong consequences upon economic growth.
- Side effects: an increase of the external debt diminishes the economic performance by the indebtedness effects that are strongly correlated to the disincentive tax and macroeconomic stability. In the first case, indebtedness discourages investments because is associated with an increase of the future revenues taxes with the purpose of assuring the necessary resources for the loans payment. In the second case there is a strong argument in favour of the possibility of generating macroeconomic instability due to a series of factors such as: exchange rate depreciation, the increase of the fiscal deficit, inflation and uncertainties related to funding conditions.

The majority of the theoretical and empirical work concentrated upon the ability of the countries to pay the external debt service, ignoring the effects that the external debt and budget deficit have upon other macroeconomic variables and upon economic development. We perceive as necessary the extension of the general framework of the external debt sustainability without limiting to this single aspect, considering the development of the national economies under the conditions of high external debts with adverse effects upon the economies.

During 1980 and 1990 many emerging economies, with low incomes and open access to financial resources with low costs, massively borrowed, reaching high levels of the external debt that triggered negative effects upon the economies. The high levels associated with the external debt

constituted a starting point for the main international decision makers to orientate towards a better understanding of the external debt sustainability.

The studies developed by the International Monetary Fund, World Bank as well as by the most indebted countries highlight the fact that there is a strong need for establishing some new standards for the indebted counties, taking into consideration the fiscal consequences that the external debt has. Therefore, in a first stage, the debtor countries need to establish along with the financial organizations a multiannual scenario, based upon some main principles (Sachs, 1990, p.50):

- Macroeconomic stability; governmental expenditures; including the external debt service that should not generate an inflationist policy;
- Domestic tax rate should contribute to a sustainable economic growth; the stability of the internal taxation that would boost exports; reducing the risk aversion of the investors; support labour force and assuring stability of the taxation system;
- Reducing external debt for achieving the established objectives, taking into consideration that the time period needed for adjusting the budgetary policies by the indebted countries.

In the majority of the cases when analysing the external debt sustainability both the International Monetary Fund as well as the World Bank have not taken into account the fiscal implications that the payment of the external debts have. They focus almost entirely upon external indicators, such as the financing of the structural deficit of the balance of payments, the rate of the external debt service or exports that are less significant from an economically perspective. IMF analysis whether the payment of the debt service rates is higher than the exports incomes and rarely, in comparison to the fiscal policy requirements from the debtor country. Taking into consideration that the large share of the external debts are attributed to the governmental authorities, it is considered that is much relevant to compare the payments from the external debt account with the governmental revenues, rather than comparing it to the exports, that have a lower connection with the payment ability of the governmental debt service.

2. External debt sustainability indicators – a theoretical and empirical approach for the case of Romania

The analysis of the external debt sustainability takes into consideration both solvability indicators as well as liquidity ones. In the table below there are presented some main indicators of the external indebtedness that are taken into account when investigating external debt sustainability.

Table 1 - External debt sustainability indicators

Indebtedness indicators	Definition
	Solvability
Interest service rate	- The ratio between the paid interest service rate for the loans and the revenues from exports of goods and services. Indicates the level of current revenues from exports needed for the payment of the external debt service.
External debt rate	- The ratio of the external debt service to the exports of goods and services indicated by the share of the obtained revenues from exports that are orientated towards supporting the external debt service.
External debt/ Exports	- The ratio between external debt and net exports is an important indicator of solvability. An increase of this indicator indicates that a country could have problems concerning the future payments related to the debt service.
External debt/GDP	- The ratio between the external debt and the GDP offers important evidence regarding the ability of covering the external debt service by transferring the resources from the internal sectors to the external sectors.
VNA/Export	- Compares external debt to the repayment capacity of the loans.
VNA/Fiscal revenues	- Because not all exports are available for the public authorities this indicator compares the payment duties with the governmental revenues.
	Liquidity
Reserves/Imports	- An important indicator for the reserve structure.
Reserves/ Short time debt	- This ratio may indicate a vulnerability to a liquidity crisis in the situation when there are massive outflows of capitals within the external debt account.
Paid interests/Reserves	- Quantifies the paid interest for the loans that should be borne form reserves.
Short time external debt/ Total external debt	- Expresses the relative importance of the short-term debt (with a maturity less than one year) in total loans; the degree of vulnerability to a liquidity crisis.

Source: External debt and sustainable debt management, www.unescap.org/pdd/publication.

Measuring the external debt sustainability in favour of the strong indebtedness countries is based upon the calculation of a standard set of indicators that are quantified from a historical

perspective, being influenced by the structural adjustment policy. This initiative was addressed to less developed countries in order to give a pertinent solution to the external debt problem.

The investigation conducted in 2005 by Manasse and Roubini using a data sample of 47 emerging economies for a time period between 1970 and 2002, identified 50 variables of which 10 are considered to be sufficient in analyzing the external debt sustainability such as: External debt/ GDP, short time debt/reserves, real GDP growth, external public debt/ budgetary revenues, inflation rate, external funding requirements (calculated as a sum of the current account deficit and short time debt relative to foreign reserves), exchange rate over-appreciation, exchange rate volatility, the number of years until the next presidential elections, the interest rate of the U.S government bounds.

Table 2- Indicators of external debt for the case of Romania (columns 5 and 6) in comparison to the values obtained by Manasse and Roubini (columns 1-4)

Current Year	**Without crisis**	**Without crisis**	**Crisis**	**Crisis**	**Romania**	**Romania**
Next year	**Without crisis**	**Crisis**	**Crisis**	**Without crisis**	**2005**	**2010**
	1	**2**	**3**	**4**	**5**	**6**
Total external debt (% GDP)	37	54,7	71,4	63,7	38,6	74,39
Total external debt (% export)	239,3	359,3	455,9	350,2	116,9	243,38
Short time debt (% GDP)	9,4	15	15,1	15,7	13,3	15,36
Short time debt (% reserves)	120	290	209	220	56,5	57,15
Interest to the short time debt (%GDP)	0,5	0,8	0,6	0,7	0,3	0,4
Interest to the short time debt (% reserves)	10	20	10	10	1,2	1,8
Short time external debt service (% GDP)	4,8	6,9	6,4	7,1	9,2	19,51
Short time external debt service (% reserves)	70	150	120	90	40,6	72,59
Public external debt (% GDP)	25,5	36,4	53	46,5	14,3	21,79
Public external debt (% budgetary revenues)	130	190	300	230	63,5	160.50

Source: Manasse and Roubini, 2005 and authors own calculations.

According to this study, a safe level of debt is the one that reaches a value of 49.7% of GDP, the short time debt reaches a value of 130% of reserves, the public debt a level of 214% from the

budgetary revenues and the exchange rate is not appreciated higher than 48%. Mansse and Roubini highlight the fact that a safe level of the short time debt in comparison to the reserves is of 120%, on the other hand a value close to 290% may be perceived as a warning sign of a future crisis.

For the particular case of Romania the model did not show any problems in what concerns the external debt sustainability. However there are clear evidence of a worsening of the level of these indicators between 2005 and 2010, due to the increase of the external debts (both the long and medium public external debt as well as the short time one), and on the other hand to the downturn path of the GDP and exports. The short time external debt service relative to GDP registers a value of 19.51 which may be considered a warning sign of a financial crisis being situated high above the safety level of the model. The significant value of the short time external debt service relative to reserves was due to the large share of loans made in 2009 and 2010 that the NBR used to maintain the exchange rate to a secure level.

The literature in the field searched since the first post-war years to develop a macroeconomic model that would highlight the limits of sustainable debt. The first studies that concentrated upon this topic were the ones elaborated by E. Domar (19501) and A. Abramovitz (1968) that demonstrated that a country that indents to finance its current deficit constantly will never achieve this performance only if it follows two main rules, namely: if the growth of the debt is not higher than the domestic economic growth and if the real interest rate is not higher that the GDP growth rate (Gaftoniuc, 2004).

The model used by the World Bank (1985) represents a confirmation of these simple rules. According to this model, the debt equation has the following form:

$$\frac{dD}{dt} = iD - B$$

where D is the actual debt, B is the balance of payments, namely the value of the current balance (without the debt interest), plus the net capital outflows. The financial efforts associated to the debt as well as those associated to the periodical capital form the total debt at each maturity i of the debt (exogenous variable).

As we mentioned before, the external debt of a country does not consists only a potential source of advantages. There are also some disadvantages when the loans are not properly managed and the risks are not taken into account, especially the vulnerabilities associated the medium and long term debts.

According to Zaman and Georgescu (2009), the medium and long term indicators of the external debt registered a downturn path in the recent years in comparison to the limits established

by the literature in the field and by the international financial standards. The data for the case of Romania for the period between 2006 and 2012 are listed in the table below.

Table 3 - Sustainability indicators of medium and long term external debt in Romania for the time period between 2006 and 2012 (%)

Indicators	2000	2006	2007	2008	2009	2010	2011	2012	Maximum value
External debt/GDP	23,9	29,2	31,0	36,8	55,5	58,6	57,8	59,8	50,0
External debt/Exports	72,7	109,9	131,0	152,5	225,6	195,1	168,5	174,6	150,0
Currency reserves/External debt	54,2	79,7	69,1	55,0	43,9	47,2	43,7	39,6	50,0*
External debt service/exports	16,7	19,4	20,5	38,7	42,2	39,3	33,6	39,2	30,0
External debt service/ Currency reserves	42,3	26,6	27,6	46,1	42,6	42,7	45,6	56,6	40,0
Currency reserves/GDP	12,90	23,13	21,45	20,25	24,37	27,69	25,28	23,69	25,0*

*Minimum threshold
Source: Authors calculation based on NBR and National Forecast Commission

As the data from the table above show, to a series of external debt sustainability indicators, Romania exceeded the maximum levels starting with 2009, a fact that has direct consequences upon the country rating and also makes difficult its access to the capital markets. Although, the International Monetary Fund, through the strategies it promotes for the countries that use foreign loans, highlights the importance of the fiscal and monetary policies, some economists (Calvo, 2002, p. 379) consider that these policies have not proven their efficiency, being necessary complementary actions of the structural policies that would reduce the extreme financial vulnerabilities, especially for the countries with high incidence of banking loans in freely convertible currencies.

The International Monetary Fund considers that the emerging European countries have registered during the recent economic crisis important imbalances that differ from one economy to another. Despite all that, a series of similarities may be mentioned such as (Zaman, 2011): strong capital flows in the sector of non-tradable goods where there was a high increase of prices and revenues that affected the competitiveness, because the capital flows influenced in a higher proportion the supply side and the imports instead of the exports. All these lead to significant changes and finally to unsustainability in what concern the external net assets.

During the recent economic crisis, the economic world faced once again the challenge of developing forecasting and early warning models in what concerns the triggering of a new crisis and furthermore strategies to counteract the effects of these crisis.

The literature in the field offers a wide range of early warning models of a crisis. A short summary of these models is presented in the table below:

Table 4 - Summary of the literature in the field concerning early warning indicators

Authors	Indicators significance
Milesi - Ferrett and Razin (1998)	Weak reserves and the unfavourable exchange system may trigger changes in the current account and currency crisis.
Kaminsky, Lizondo and Reinhart (1998)	Early warning indicators of a currency crisis: current account deficit, over-evaluation, reserves over ”broad money”, slow increase in what concerns the exports.
Berg, Pattillo, Milesi-Ferretti, Borensztein (2000)	Reserves/short term debt represents also a warning indicator of a currency crisis. To this indicator we add the current account deficit, the reserves loss, slow exports.
Frenkel and Calvo (2004)	The probability of a sudden stop of the foreign capital amplifies the size of the initial current account deficit as a percentage from GDP and decrease along with the degree of openness of the economy.
Edwards (2005)	The current account deficit is the main indicator for the crisis.
Mendoza and Terrones (2012)	The crises from the emerging economies were associated with the credit boom, although not all credit booms automatically triggers financial crisis.

Source: Authors interpretation based upon the literature in the field.

CONCLUSIONS

Taking all these points into consideration we may conclude that the vulnerabilities generated by underperforming management of the external debt, across the EU countries that were the most affected by the current financial crisis namely Greece, Ireland, Spain, Portugal or Romania may be analyzed from the point of view of the fiscal, financial and structural measures that, in different proportions, presents a set of similarities, as a results of a unique source of consultancy namely the International Monetary Fund.

The set of recommendations (conditions accepted by the national governments) regarding the monetary and fiscal policies concerning different stand-by agreements of the IMF or other international financial institutions, have also a component that targets the necessity of promoting a restructuring policy of the real economy as a support for a sustainable development of the borrowing country.

It is very important for a country to determine and agree on the optimal level of indebtness which the economy can handle. This is precisely the reason why the external debt has to be contracted in close agreement with the specific needs of the economy and the loans to be proportional with the economy's ability to refund them. In this way, the risk of a liquidity or solvency crisis can be avoided.

As for the indicators of our country's external indebtness, they fluctuated within normal limits until 2005, with slight fluctuations during which the image of the Romanian economy on the international credit markets was strongly affected, leading to tighter conditions for contracting external loans. On the other hand, as we pointed out in this paper, beginning with 2009, Romania started to send alarming signals regarding some indicators of the external debt solvency, which influenced the country's rating and limited its access on the international capital markets.

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