

# THE SOVEREIGN DEBT CHALLENGE: AN OVERVIEW

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*Recent years have seen profound changes in country risk and its components, in the context of crises multiplication and diversification; the sovereign risk, a main country risk component, has undergone important changes, mainly given by mutations in its determining factors; the economy of "indebtedness" represents a reality of the recent years.*

*In this context, our paper aims to capture new issues related to sovereign risk and its manifestations, and to bring to the fore a number of relevant indicators concerning the indebtedness problems. Currently, the increasing sovereign obligations, the Greece 2010 episode and the real sovereign debt crisis testify the important implications that the national economic policy decisions have on entire nations. In general, the countries with servicing difficulties present a total external or public debt that overcomes the average of the emerging states; however, we can not accurately identify a threshold beyond which we can say that a state is overly indebted. Therefore, questions such as “Starting from what point is a state overly indebted?” or “What is the cause of the excessive debts of a state?” are fully justified and the answer or answers deserve being sought.*

*Studies on the relationship between various economic variables and the countries ability to deal with external debt problems are present in the country risk literature since the 1970s; beginning with authors such as Frank and Cline (1971), which gave priority to external debt service indicators such as Exports, Imports / GDP, Imports / Reserves, and continuing with other specialists, among whom we mention Saini and Bates (1978), Abassi and Tafler (1982), Haque, Brewer and Rivoli (1990), North (2001) Bouchet (2003), Meunier (2005), Longueville (2010) and many others, many ratios and indicators were carefully analyzed.*

*In our short study, we also present a number of recent aspects concerning sovereign risk, and we analyze some relevant indicators, using statistical data, for four countries: Romania, Greece, Hungary and Bulgaria. We underline the fact that, even if sovereign risk indicators are in the good intervals, the crisis risk remains present, especially because of the liquidity issues. For us, this brief paper opens the way for a much broader study, which aims to develop a model of sovereign risk analysis, the dependent variable, the probability of default, being explained by the evolution of the selected relevant indicators.*

*Keywords: sovereign risk, external debt, sovereign crisis, external debt indicators, thresholds.*

*JEL Classifications: F3 (F31, F34).*

## **I. Sovereign risk as a component of Country risk**

The study of country risk has become increasingly important towards the end of the 20<sup>th</sup> century, prompting interest from both the academic and the professional sphere (banks, multinational companies, insurance companies, etc.), financial markets also becoming more sensitive to the information on country risk. Of course, this increase in importance is not accidental, as it could be attributed to the multiplication of risks, their increasingly frequent and intense occurrence, but also to the mutations of the political and economic international environment. In a general manner, we can define country risk as *a compound risk, representing all elements emanating from a state’s environment and which are able to affect a banking institution, an industrial or*

*financial investor, an exporter and generally any foreign trader performing an operation in that country – political, commercial, financial and specific natural risks.*

Country risk is often seen as *a tool used to assist the decision making process* (Meunier 2005: 16); the results of the studies related to this type of risk should be immediately usable by bankers, investors or exporters; from this perspective, it is situated at the confluence of the business world and the economic science. Sovereign and transfer risks are two classic forms of risk manifestation for an agent (bank, investor) who is conducting economic and financial operations in a foreign country. About the sovereign risk, identified as the “probability of default on sovereign external debt” (Heffernan 1986: 7), we can state that:

- *it covers only the loans given to foreign governments (or guaranteed by them), loans that compound that country's foreign debt; it may affect both public and private legal subjects;*
- *this type of risk arises from the likelihood that at some point the government of the debtor country could not or would be unwilling to repay its external debt, the forms of manifestation being represented by the risk of rescheduling, of renegotiation or of repudiation of the foreign debt;*

- *there is a lack of legal approach; countries don't go bankrupt; despite waves of sovereign defaults and restructurings, the statement is still true at its core, the reason for this is to be found in the concept of sovereignty (Andritzky 2006: 15).*

In this brief study, we intend to capture new issues related to sovereign risk and its manifestations, and to bring to the fore a number of relevant indicators in relation to the indebtedness issues. The probability of crisis remains difficult to quantify, but the key challenge is, for both academics and managers, to create a system of early warning indicators that highlight the macro and microeconomic fragilities of the states with risk of default. Evolution of certain values will be presented in the case of Romania and other countries in the region, some remarks being made on this occasion.

## **II. Brief overview of some recent issues concerning the sovereign debt. The indebtedness of an economy**

Recent years have seen profound changes in country risk and its components, in the context of crises multiplication and diversification; in turn, sovereign risk has undergone important changes, mainly given by mutations in its determining factors. A distinction can be made among countries with strong currencies (EUR, USD, GBP, etc.), on one hand, and states with weaker currencies, on the other hand:

**Table 1 – Specificities of sovereign risk according to the concerned states**

	Countries with strong currencies (developed ones)	States with weak currencies (generally developing countries)
Public debt/GDP	- the progressive increase in the share of public debt to GDP after 2008;	- maintaining a relatively constant level of public debt to GDP;
The dynamics of public debt/solvency crisis risk/default risk	- moderate risk/easy refinancing (even in the case of a high debt), strong currency, <i>real vaccine which immunizes states with default risk</i> ; - positive feedback from the rating agencies;  - the distinction between sovereign risk in foreign currency and sovereign risk in local currency disappears; - sovereign risk related to foreign currency debt, quasi -inexistent; - refinancing risk is lower and does not imply solvency risk; - besides the domestic financial market, central banks can provide the necessary funding; in the euro zone, government bonds are often purchased by commercial banks; in the U.S.A., Asian central banks currently buy treasury bills; - solvency depends directly on the central bank's monetary policy (interest rate guidelines, required reserves, mechanisms of action).	- high risk, especially when public debt to GDP evolves (1-3 points per year), based on average values (40-60% of GDP); - average or negative assessments from rating agencies;  - the distinction between debt in foreign currency and the one in local currency can be operated; - the analysis of debt sustainability is achieved through budgetary balances and current balances, external liquidity and vulnerability to exogenous shocks analysis; - the risk of default, solvency and liquidity are closely related; - the importance of the good faith, of the willingness to pay; - degradation of solvency hinders refinancing difficulties and, as a consequence, liquidity crises; - the assessment of sovereign risk is influenced by the indebtedness of the private sector.

*Source: processed after Guy Longueville and Eric Vergnaud, 2010.*

A country with a particular situation is Greece; until about two years ago, the Greek state was part of a group of countries characterized by the degradation of public sector solvency, in the absence of liquidity constraints. A year later, the rising of public debt to GDP has been dramatic, and the negative perceptions of solvency in the various markets has generated significant difficulties in financing and refinancing, boosted by speculative attacks. Solvency degradation can be attributed to the effects of the economic crisis on the budget balance, the lack of reliable measures for the purposes of recovery of public finances, the presence of some irregularities discovered late, in the context of a public accounting opacity of the Greek state (Longueville 2010: 11). Also, the evaluations provided by the rating agencies have contributed to the increase of the difficulties in refinancing, their procyclical effect being evident.

Among the factors that increase the country risk and its sovereign component, a state's indebtedness appears to us as having a particular importance. The situation recorded in South America in the mid 1980s, influencing the development and manifestation of the modern country risk, showed the world that a sovereign state can reach a point where it is no longer able to pay a debt in a foreign currency.

In general, the countries with payment difficulties present a total external or public debt over the average of the emerging nations (Meunier 2005: 23); however, we can not accurately identify a threshold beyond which we can say that a state is overly indebted. Therefore, questions such as

*Starting from what point is a state overly indebted? or What is the source of overly indebtedness of a state?* are fully justified and the answer or answers deserve being sought.

Whichever method is used in the study of country risk – rating systems, analytical techniques such as reports, econometric techniques, etc. – some indicators are irreplaceable (as inputs), holding a special relevance when it comes to the global risk assessment specific to an economy.

In the following table we present, without claim of completeness, few variables/indicators that have already become classics, whose observation is relevant in the context of analysing a state from the perspective of the country/sovereign risk:

**Table 2 – Different indicators of the sovereign risk according literature**

<b>Variable or indicator</b>	<b>Characteristics and significance</b>
<b>GDP/capita, GNP/capita</b>	<ul style="list-style-type: none"> <li>- genuine indicators of the wealth of a state;</li> <li>- allow the classification of the states according to their wealth; a small value, for example, points to a poor state, with probable difficulties in meeting its obligations to the outside and, consequently, a high country risk.</li> </ul>
<b>External debt/capita</b>	- quantify the level of indebtedness, but also the ability to contract new loans safely.
<b>External Debt/GDP</b>	- specific indicator of the indebtedness of a state.
<b>Imports/GNP</b>	- measures the relative size of imports and is an indicator of the degree in which the trend of the national income is affected by a potential decision to reduce import due to the difficulties in managing debt.
<b>Growth rate of exports</b>	- exports can be seen as the cheapest source of foreign currency, countries with favorable trend in exports comprising good solvency premises.
<b>Interest paid/debt service</b>	- measures the cost of debt and the repayment ability of a state.
<b>Inflation rate</b>	- the inflation rate is an indicator of economic performance, in close conjunction with the monetary policy. The inflationary phenomenon involves reducing the real value of a state's income and causes a depreciation of the currency, reducing a country's ability to repay its debt.
<b>Foreign direct investment/capita, foreign direct investment/GNP</b>	- most theorists consider that a significant concentration of foreign firms in one country may be positively correlated with the risk of expropriation, because governments could consider this fact as an obstacle to economic efficiency of a state, foreign companies appropriating on the other hand a too large fraction of the profits made.

*Source: processed after Bouchet, Clark, Gros Lambert 2003, Hurson, Doumpos, Ricci-Xella, Zopounidis 2006, Meunier, Sollogoub 2005, Nagy 1984, and personal considerations.*

Of course, we can bring to the fore many more variables and indicators that are important when we study an economy in terms of the emanated risk. But what we want to emphasize here is that the evolutions of the variables and those of the indicators are currently taking place very rapidly,

which requires a continuous analysis of the dynamics. Studies on the relationship between various economic variables and the countries ability to deal with external debt problems are present in the literature since the 1970s; from authors such as Frank and Cline (1971), which gave priority to external debt service indicators such as Exports, Imports / GDP, Imports / Reserves, and continuing with other specialists, among whom we mention Saini and Bates (1978), Abassi and Tafler (1982), Haque, Brewer and Rivoli (1990), North (2001) Bouchet (2003), Meunier (2005), Longueville (2010), were carefully analyzed the *variables that form the backbone of the economic and financial aspects of country risk analysis* (Bouchet, Clark, Gros Lambert 2003: 42).

Several elements are relevant when we propose an analysis of sovereign debt; first, *solvency and liquidity*, and, secondly, *external debt sustainability* (Meunier and Sollogoub 2005: 29). As regards solvency, the essence of the analysis consists in reporting the debt stock to the wealth of a state. Sustainability requires a more nuanced and dynamic analysis; in this context, the evolution of external debt relative to the evolution of global wealth is particularly important.

Liquidity refers to cash issues, relevant being the limit – the maximum level of debt – to which a state is able to repay; the elements to be compared are, of course, available liquidity and the amount refunded. When we try sizing the "safe" external debt, it seems useful to relate it to the state's assets, translated mainly by GDP. From the perspective of this reporting of external debt, to assets (GDP) or income (exports), the thresholds most often mentioned in the literature are 50% and 150%. The issue of the alert thresholds is extremely complex and, although they are widely used in the study of country risk, we believe that they do not offer a high degree of reliability. The diversity of the developing states, the extremely fast evolution of economic climate, the lack of a permanent correlation between the level of debt and the probability of entry in the default, require addressing risk from case to case.

### **III. Case study – a glimpse on the indicators of four countries**

We will continue by presenting the evolution of some indicators and ratios that we consider relevant for sovereign risk analysis, for the following countries: Romania, Greece – the well-known example of sovereign debt problem, Bulgaria and Hungary.

		2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Romania</b>	GDP/Capita Th. USD	3,81	4,12	4,35	4,73	4,95	5,34	5,69	6,12	5,70
	GDP growth	5,7	5,1	5,2	8,4	4,2	7,9	6	9,4	-8,5
	Inflation r. %	34,45	22,48	15,37	11,85	8,99	6,59	4,83	4,84	5,58
	<b>TED/GDP</b>	<b>0,23</b>	<b>0,20</b>	<b>0,25</b>	<b>0,28</b>	<b>0,31</b>	<b>0,37</b>	<b>0,40</b>	<b>0,52</b>	<b>0,69</b>
	TED/Exports	0,94	1,04	1,09	1,09	1,19	1,48	1,61	1,65	2,34
	Ext. Db. Ser. Bil USD	2,56	3,18	3,56	4,71	6,91	8,64	11,56	18,03	16,33
	Tot. Reserves monhs of imports	2	4	4	5	5	6	6	5	8
	FDI Bil US	1,15	1,14	1,84	6,44	6,48	11,39	9,92	13,88	6,31
<b>Greece</b>	GDP/Capita Th. USD	12,93	13,35	14,11	14,70	15,01	15,75	16,39	16,52	16,15
	GDP growth	4,2	3,4	5,9	4,6	2,2	4,5	4,5	2	-2
	Inflation r. %	3,65	3,91	3,43	3,02	3,48	3,31	2,99	4,23	1,35
	<b>TED/GDP</b>			<b>0,97</b>	<b>0,98</b>	<b>0,99</b>	<b>1,12</b>	<b>1,21</b>	<b>1,41</b>	<b>1,62</b>
	TED/Exports			1,71	1,34	1,30	1,29	4,5	1,08	8,53
	Ext. Db. Ser.									
	TRMI	2	3	1	0	0	0	0	0	1
	FDI Bil USD	1,58	0,63	1,33	2,10	0,65	5,4	1,95	5,30	2,41
<b>Bulgaria</b>	GDP/Capita Th. USD	3,61	3,80	4,03	4,33	4,63	4,96	5,30	5,66	5,38
	GDP growth	4,2	4,7	5,5	6,7	6,4	6,5	6,4	6,2	-4,9
	Inflation r. %	7,36	5,80	2,34	6,14	6,04	7,41	7,57	11,95	2,47
	<b>TED/GDP</b>			<b>0,53</b>	<b>0,61</b>	<b>0,71</b>	<b>0,82</b>	<b>0,95</b>	<b>1,03</b>	<b>1,07</b>
	TED/Exports	1,55	1,51	1,33	1,19	1,34	1,03	1,31	1,31	1,74
	Ext. Db. Ser. Bil USD	1,37	1,39	1,11	2,34	3,96	2,73	4,19	5,37	5,21
	TRMI	5	6	6	6	5	5	5	5	4
	FDI Bil USD	0,81	0,90	2,09	2,66	4,31	7,75	13,21	9,92	7,02
<b>Hungary</b>	GDP/Capita Th. USD	1,36	1,41	1,48	1,55	1,50	1,66	1,68	1,69	1,58
	GDP growth	4,1	4,4	4,3	4,7	4,7	4	1	0,6	-6,3
	Inflation r. %	9,14	5,53	4,38	6,78	3,55	3,87	7,93	6,06	4,2
	<b>TED/GDP</b>	<b>0,60</b>	<b>0,59</b>	<b>0,70</b>	<b>0,68</b>	<b>0,62</b>	<b>0,59</b>	<b>0,60</b>	<b>0,73</b>	<b>0,75</b>
	TED/Exports			0,60	0,64	0,76	0,75	0,96	0,98	1,81
	Ext. Db. Ser.									
	TRMI	3	3	3	2	3	2	2	3	5
	FDI Bil USD	3,94	3,01	2,17	4,28	7,62	19,52	70,84	66,89	2,78

**Table 3 – Sovereign risk ratios and indicators (Romania, Greece, Bulgaria, Hungary)**  
**Source: World Bank, 2011**

Analyzing the situation in terms of the established warning thresholds, a number of remarks can be made; in the case of the total external debt to GDP ratio, the evolution in Romania in the period 2001-2009 was an upward one, the critical threshold of 50% being exceeded in 2008 (52 %). In 2010, the indicator reaches 75%, and we can already speak of a over-indebtedness issue. Inflation rate, although rising, does not reach the benchmark value of 10.5%, overcome by countries in crisis such as Turkey in 2000, Indonesia in 2002 or Brazil in 2003. Meanwhile, total external debt to exports is growing significantly, exceeding the alert threshold of 150% in 2007. In the case of the sovereign debt crises of the 1990s (Argentina, Brazil, Ecuador, Uruguay, etc..) the level of this indicator reached values above 250%. Romania's liquidity reserves, in months of imports, however, kept a high level, the benchmark of three months being significantly exceeded. Moreover, it can be stated that these reserves could even be resized, creating positive effects in other areas.

For Greece, the issues related to the debts size are accompanied by an extremely low level of

reserves, which entitles us to talk about liquidity risk. One of the specific problems of the Greek state, unlike other countries examined, is the impossibility of implementation of its own monetary policy.

Hungary, after some problems related to the external debt in the mid-1990s (total external debt to exports of 250% in 1994), managed to bring under control the evolution of its indicators (91% in 1997 and, during 2000, values under 200%); in the same time, inflation rate is relatively low.

A higher level of external debt to GDP stands for Bulgaria, but the reserves are high enough to dissipate the liquidity risk. Also, the inflation rate is well below the alert threshold.

Liquidity risk appears as an extremely important one, and this because a number of seizures recorded in the last period were stimulated by it, even without indebtedness; the crises without over-indebtedness (Mexico, 1994, Turkey, 2000, etc.) have multiplied, making predictions more and more difficult: *pure liquidity crises occur at total external debt to GDP ratios of less than 45%* (Manasse and Roubini 2005: 57).

#### **IV. Short conclusion and further researches**

The *economy of indebtedness* is a reality of the recent years. Over-liquidity facilitated credits, the selection of borrowers being more and more permissive. In this context, the country risk analyst is increasingly concerned about sovereign crisis and its consequences; he raises the natural question, appealing to economic history: *What are the states that have recently experienced a sovereign crisis?* The answer will be surprising, inducing the idea of a reduced probability of default of the states. What the answer to that question hides is the fact that a significant number of states have avoided collapse thanks to the International Monetary Fund, or as a result of debt restructuring. Beyond liquidity risk, with the highest visibility, a number of other fragilities are particularly noteworthy: the current account deficit, the existence of an overvalued currency, the excessive government deficit, the high governmental debt, the difficult political situation, etc.

In Europe, many countries are facing problems due to high sovereign debt. Not only Greece, but also Spain, Portugal, Ireland or Italy represent well-known cases. Among the causes, we can mention the lack of controlling government deficits, the recession effects, the public accounting opacity, or the inability to use independent monetary policies.

In order to study the default probability for a given state, it is extremely important to take in consideration the economic fragility. A sovereign risk analysis is advised to include *a 360 degree review of the economy, including the banking system, political stability, monetary policy, and the current regime* (Andritzky 2006: 71). Finally, we add that, in addition to the specific vulnerabilities of an economy, we are also interested in the state's willingness to pay. Even today, not all countries are of *market-friendly* type, some continuing to compare the gains and the losses obtained for the fulfillment of international obligations, namely repudiation of foreign debt.

This short paper opens the way for a broader study that we will propose, and which aims to develop a model of sovereign risk analysis, the dependent variable, the probability of default, being explained by the evolution of the selected relevant indicators.

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