

# The story told by debt indicators and the hidden truth

## Weaknesses of the most commonly used debt indicators and the way forward

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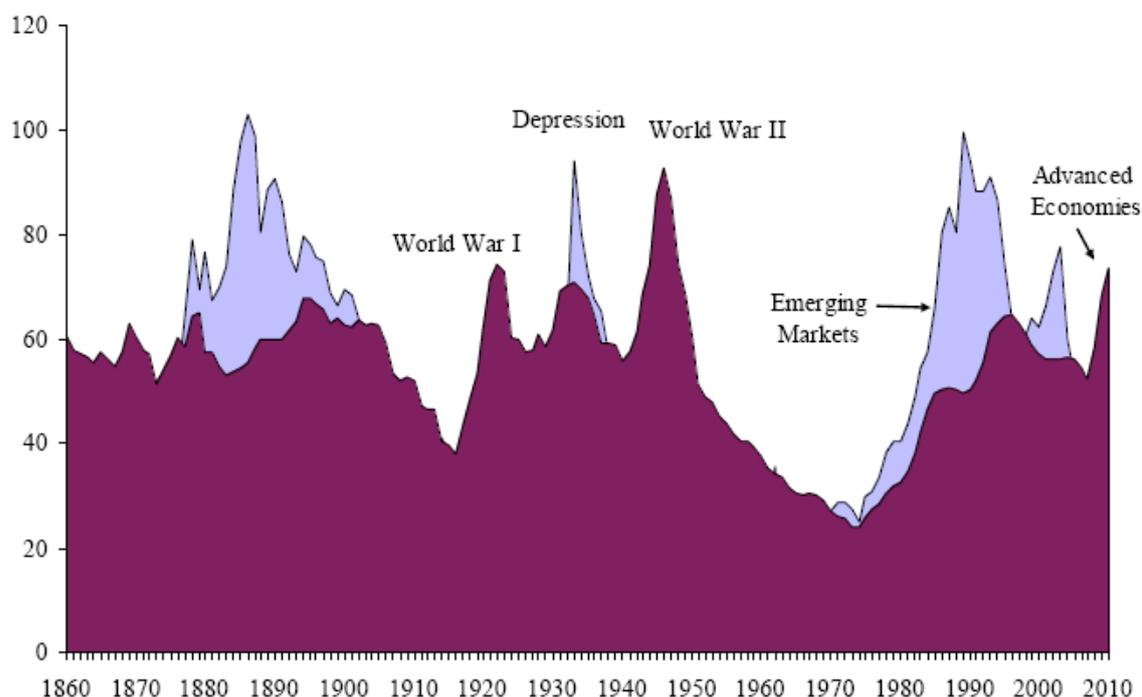
### Introduction

Debt indicators are in the heart of the current economic debate on the recent financial crises. The crises started with the boom of housing loans and the excessive indebtedness of households in the US. It spread throughout the world by using innovative financial structures and ultimately infected the public sector. The crises started in the first decade of the 21st century and today in 2012 we are still not sure when and how the story will end.

Please find below a chart from the paper of Reinhart and Rogoff: A Decade of Debt, 2011 that illustrate their statement: "During peacetime, a leading factor behind rapid surges in public debt has been severe or systemic financial crises."

Table 1

### Gross central government debt as a percentage of GDP: advances and emerging market economies, 1860–2010



Source: Reinhart and Rogoff: A Decade of Debt, 2011

Instead of reviewing the most common debt indicators this paper makes an effort to identify and analyze some of the theoretical and practical problems surrounding the measurement of indebtedness.

## **The definition of debt – Does it matter? Differences in the use of micro and macro indicators**

Macro statisticians and business reporting experts use different definition for debt and financial liabilities, while statisticians include equity instrument in the category of financial liabilities, business accountants treat equity as distinct category, thus in business accounting financial liabilities do not include equity instruments. This diversity of definitions could confuse some of the users.

According European System of Accounts 2010 (ESA 2010) para 5.06 – a handbook used by European macro statisticians “Liabilities are established when the debtor is obliged to provide a payment or a series of payments to the creditor.” Please note that the ESA liability definition is identical with the System of National Accounts (SNA) 2008 definition, the handbook issued by the United Nations.

The financial reporting definition according to International Financial Reporting Standards – the standard that provide the basis for business reporting of individual firms throughout the world – is broadly in line with the above statistical concept, however provides much more detailed guidance. According to International Accounting Standard 32 (IAS32) para 11 on “Financial Instruments: Presentation” financial liability is defined as follows:

*A financial liability* is any liability that is:

- a contractual obligation:
  - to deliver cash or another financial asset to another entity; or
  - to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavorable to the entity; or
- a contract that will or may be settled in the entity’s own equity instruments and is:
  - a non-derivative for which the entity is or may be obliged to deliver a variable number of the entity’s own equity instruments; or
  - a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity’s own equity instruments. For this purpose the entity’s own equity instruments do not include instruments that are themselves contracts for the future receipt or delivery of the entity’s own equity instruments.

The main difference between the two concepts cannot be derived from the definitions itself. The difference arising from the fact that the statistical definition is applied with the following exception: “Equity and investment fund share units (AF.5) is treated as a financial asset with a corresponding liability even though the claim of the holder on the corporation is not a fixed amount.” (ESA 2010 para 5.05)

While accountants spend a lot of time in trying to define and redefine the boundaries between liabilities and equity, statisticians treat equity instruments issued as part of liabilities. Statisticians also understand the distinction between debt and equity, however debt is not clearly defined as part of the main statistical frameworks and thus users can freely define the

list of instruments included in a debt indicator.<sup>1</sup> One recent example of the problems caused is the difference in the debt definition used in the dashboard created by ESRB and the scoreboard created by the Eurostat on the indebtedness of non financial corporation.

### ***Debt versus equity classification in the business reporting***

In business reporting the difference between debt and equity seem to have critical importance. On micro level it makes a tremendous difference whether the issuer of the liability is obliged to pay to the creditor (liability in accounting term or debt (and other payables) in statistical terms) or the holder of the equity instrument has only right to the residual interest in net assets (assets minus all liabilities excluding own equity) of the company.

#### **Difference between debt and equity – illustrative example**

The recent crises started with the boom of housing loans and the excessive indebtedness of households in the US. The households with mortgage loans have a clear obligation to pay cash based on the mortgage loan contract signed between the bank and the members of the household. There is no difference between accounting and statistical loan obligation of indebted households

The same applies for a bank borrowing of a corporation. Households with mortgage loans and indebted corporations could face bankruptcy procedures or other legal consequences if they do not meet their payment obligation in time. The creditor of a mortgage loan to a household or a commercial loan to a corporation – traditionally a bank – is legally entitled to receive cash.

The situation is fundamentally different for the issuers and holders of equity instruments. The company who issued equity instruments does not have any contractual obligation to pay cash. Individual holders of the shares are not entitled to put back their shares to the company and ask for cash or cash equivalent. In many instances majority of the owners can vote for dividend payment or could decrease the share capital of the entity and deliver financial or not financial assets to the shareholders, however the ability of any individual shareholder to do so is dependent from the decision of other shareholders. In most jurisdiction several legal constraints ensure that the right of creditors are observed before shareholders can withdraw financial instrument from the company they own.

Financial innovations during the early years of 2000 made it more and more difficult to determine whether an instrument or a portion of instrument should be classified as debt or equity. Difficulties have arisen during the evaluation process and also in the interpretation of the results. International Accounting Standard Board (IASB) is currently in the process of rethinking the boundaries currently applied.

### ***Does the debt-equity distinction matter on the macro statistical level?***

Financial macro statistics provide overview on the flow and stock of external financing of a country or region (Balance of payment and International Investment Position) or the financing stock and flow of a given economy and its sectors (Financial Accounts). Although both statistics provide certain information on the debt and equity feature of the financial instruments involved, this distinction is not the primary focus of their categorization. Balance of Payment statistics focus on the purpose of the investment while financial accounts presents instrument in the order of their liquidity.

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<sup>1</sup> The most commonly used guidance including the debt definition is the IMF manual on *External Debt Statistics: Guide for compilers and users* and the *Manual on Government Deficit and Debt* issued by Eurostat.

Further complications arise from the fact that statisticians do not have the time and resources to investigate borderline cases between debt and equity instrument. Statistical data collection often relies on widely different national business accounting principles applied in individual countries.

Debt indicators can be compiled in various different ways and can be used for many purposes. The most common use of debt indicator is the assessment of the vulnerability and the financial stability of the indebted entity. Some of the common questions asked in respect of debt indicators:

- Will the entity be able to repay its obligation (solvency and liquidity)?
- Is the level of indebtedness sustainable?
- Did the entity get sufficient financing in order to achieve its economic goals?
- What is the impact of indebtedness on the vulnerability?

While the first two questions can be asked only for debt instruments the last two issues can also be interpreted in a broader sense where the debt or equity nature of the instrument is not relevant.

Please also note that some of the questions asked above cannot be answered from the statistical aggregates traditionally compiled from macro statistics. In order to understand why, we should analyze the following question.

### **Whose indebtedness are we interested in? Limitations of the reflection of cross border exposure in the current statistics and the need for micro data**

The main purpose of the business accounts is to provide information on the economic entity's performance for investors, creditors and other external parties. The information is provided on the level of the consolidated group. (In accounting term consolidation means that group of entities under the control of the same parent are presented as on single entity. Members of the group can be involved in widely different main economic activity and often be resident in different countries and regions.)

The main purpose of macro financial statistics is to provide information on the performance of the economy of a country, sector or region. The level of aggregation is dependent on the interest of the users. Macro statistics are most often compiled on country and regional and sectoral level on a residency basis. Information is collected (and aggregated) from entities resident in a given country or region. Statistics compiled on residency basis can provide adequate information on the economic activity and performance of a country, however are not sufficient to provide full picture of stability, vulnerability and inter-linkages.

These latter issues are now in the focus of the interest as one of consequences of the latest financial turmoil. In order to be able to answer the new questions, traditional residency based statistics should be supplemented by cross border statistics. Please find below some example of the limitations of residency based information.

Residency based statistics include information on special purpose entities (SPE) whose economic activities are not truly linked to the economic activity, performance of the country or region and thus their financial position might hugely distort national and regional aggregates.

In our globalized economy most of the major corporate and financial institutions have cross border operation. Stability and vulnerability of a country and a region is dependent on the stability and vulnerability of the entities operating in the territory. Residency based statistics on its own cannot provide information on the nature on the economic and financial inter-linkages and risks involved.

One example of the above is the significant Austrian presence in the Hungarian Banking sector. The stability of the Hungarian banking sector depends on the stability of the Austrian banking sector. To make the story even more complex, the Austrian banks have extensive presence in Central and East Europe (CEE). As a consequence the Hungarian financial stability is directly influenced by the financial stability of other CEE – through the Austrian banks.

Another example could be a major Hungarian bank with major subsidiaries outside of Hungary. The performance, stability and vulnerability of the bank is greatly determined by the performance of its subsidiaries.

Micro level information is also needed in order to better understand full story hidden in the macro aggregates. One example might be that for the full evaluation of the indebtedness of households it is not sufficient to analyze aggregates of the household sector but we should know more on the income distribution of indebted households.

### Sector classification

Classification of institutional units have significant impact on sectoral debt indicators. The financial crisis highlighted the importance of classification issues. In the following some examples are provided in order to illustrate how difficult to interpret the data without understanding the full story behind the numbers.

#### *The classification of bank rescue units in European countries*

Albert Braakmann and Thomas Foster in their Paper: “Challenges in improving the measurement of the government financial position and the classification of units as public and private” Dublin August 2011 analyzed four different rescue units and presented their classification and their impact on Government debt.

Table 2

#### Impact of rescue unit classification on government debt

2010	Gross Government Debt / GDP	Debt of the rescue unit classified w ithin the government sector / GDP	Debt of the rescue unit classified outside the government sector / GDP
	%	%	%
Germany (Erste Abwicklungsansalt (EAA) and FMS Wertmanagement (FMS-W))	83,2	10,2	-
France (Societe de financement de'economie francaise (SFEF))	78,3	-	4.0
Ireland (National Asset Management Agency (NAMA) Master SPV)	96,2		18,6

Source: Albert Braakmann and Thomas Foster: “Challenges in improving the measurement of the government financial position and the classification of units as public and private” Dublin August 2011.<sup>2</sup>

<sup>2</sup> The initial zero impact on government financing of the Irish Nama solution was to a large extent reduced by the substantial capital injections performed by the government and other payments to the troubled banking sector and to NAMA Master SPV.

It is worthwhile to quote one of the conclusions of the authors:

“As a consequence of the sector classification according to the Eurostat decision, differences in the deficit and debt data of general governments occur. The differences have an impact not only on the initial amounts to be included in government deficit and debt, but may also have repercussions on deficit and debt data in later periods. Under certain circumstances, there can be compensating effects.”

### ***The European Financial Stability Facility (EFSF) and the European Financial Mechanism (ESM)***

Another good illustration of the importance of classification is the different statistical treatment of the recently created European financial intermediaries the EFSF and the ESM. Both entity the European Financial Stability Facility (EFSF) and the European Financial Mechanism (ESM) have been created as part of the new Euro area crisis mechanism. Both units are and will be funded by Euro bond issuance, however their institutional classification is different and thus their borrowing and lending will impact differently the general government indebtedness of Europe.

According to the latest decision of the EU (28–29 June EU summit) the EFSF will have a lending capacity of 440 billion Euro backed by minimal (30 million Euro) subscribed capital and 780 billion Euro guarantees. The total subscribed capital of ESM will be 700 Billion Euro with an effective lending capacity of 500 billion Euro. (87% of the capital will be payable by Germany 27%, France 20%, Italy 18%, Spain 12% Netherlands 6% and Belgium 3%). 80 billion of the ESM's Capital is payable up to early 2014 in 3 arrears.

ESFS is not seen as an independent institutional unit and thus any loan provided by EFSF to countries in need are rerouted to the guarantor countries and thus the proportional borrowing and lending to the troubled county will be included in the statistics of the guarantor.

Due to its own capital and different governance structure ESM will be treated a separate European Institutional Unit neither debt incurred by ESM nor the debt of the borrowing country will be rerouted to the Euro Area Member States.<sup>3</sup>

The EFSF is seen as a temporary mechanism and most of its assets and liabilities are expected to be transferred to the ESM whenever it will be established. The transfer could have significant impact on the government debt level of the counties due to the different institutional classification of EFSF and ESM. Due to the change of financial intermediaries potentially 420 billion Euro (500 billion lending capacity minus 80 billion Euro paid in capital) of the ESM will decrease or not increase the gross debt of the Euro Area Member States (4.4% of 2011 GDP).

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<sup>3</sup> Eurostat: “Preliminary view on the recording of the future ESM” as of 11 April 2011 and “The impact of bank recapitalizations on government finance statistics during the financial crisis” as of 18 July 2012.

Table 3

**The main features of the EFSF and the ESM system**

	<b>EFSF</b>	<b>ESM</b>
Time frame	Temporary for 3 years only	Permanent
Legal framework		International organization
Total subscribed capital	30 million Euro	700 billion Euro (80 billion Euro will be paid in by 2014)
Lending capacity	440 billion Euro	500 billion Euro
Governance structure		Similar to International Organizations
Classification of the unit	SPV	European Institutional Unit

A further decision taken on the 28–29 June 2012 EU summit that that will have critical impact on the indebtedness indicators of certain European countries was, that ESM will be able to provide direct capital injections to troubled financial institutions bypassing the sovereign after the implementation of common banking supervision. As a consequence capital injection to the troubled banks will not have direct implication on the gross government indebtedness ratios of countries with need for bank recapitalization. According to Fitch estimate (source J.P Morgan FAQs around the provision of aid to sovereigns by EFSF/ESM 16 July, 2012) the estimated recapitalization need of Spain, Italy, Greece, Ireland, Portugal and Cyprus is 266 billion Euro and their size to GDP per countries varies between 2% to 40% to GDP as of June 2012. It is not yet clear whether governments of banks getting the capital injection will guarantee the capital injections/ loans provided to the troubled banks and if yes then to what extent.

Table 4

**Estimated bank recapitalisation need that could bypass government gross debt as a result of the 28–29 June EU summit decision**

	<b>Spain</b>	<b>Italy</b>	<b>Greece</b>	<b>Ireland a)</b>	<b>Portugal</b>	<b>Cyprus</b>	<b>Total</b>
Estimated bank recapitalization of Fich billion Euro	100	35	50	63	12	6	266
% of estimated 2012 GDP	9%	2%	25%	40%	7%	33%	8%

a) According to J.P: Morgan information Ireland is looking only 15–20 bn concession from Europe roughly 10–15% of its GDP

Source: J. P. Morgan FAQs around provision of aid to sovereigns by EFSF/ESM

The different statistical treatment of apparently similar instruments and structures highlight the fact that in order to appropriately interpret the information, the users should understand the full story behind numbers.

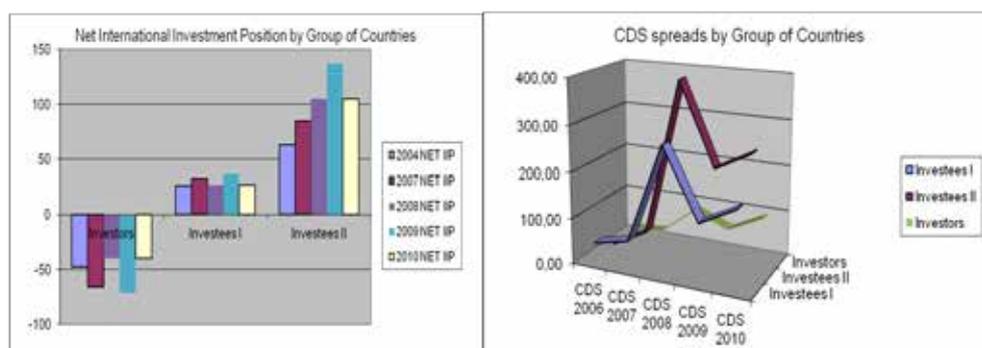
## Practical issues – Boundary of the definition of debt

### a. Should debt indicators be based on true debt instruments?

Debt indicators should not be limited strictly to debt instruments. Net International Investment Position for example seems to be good indicator of vulnerability. The chart below illustrate that the surge of CDS spreads in the financial crisis was significantly different for the group of countries who have significant net international investment positions in other countries and for the two investee groups with different net investment position.

Table 5 – 6

#### Net International Investment Positions and CDS spreads by group of countries



Source: IMF, Bloomberg and own calculation. Investors include countries with NET IIP (Foreign Investment position in the country minus investment position in foreign countries) lower than 20% (Switzerland, Norway\*, Japan, China, Belgium, Germany and Luxemburg\* in 2007). Investees I include countries with NET IIP between 20% and 50% (United Kingdom, Italy, South Africa, Peru, Mexico, Brazil, Czech Republic, Romania, Turkey, Finland\*, Ireland, Republic of Korea, Macedonia\*, Slovenia) Investees II include countries with NET IIP above 50% (Slovak Republic, Poland, Lithuania, Estonia, Latvia, Spain, Bulgaria, Portugal, Hungary, Croatia, Greek\*Iceland\*, New Zealand\*)

\* There were no CDS spread data available for countries marked with \*

\*\* Data of Greece have been left out from the group average

### b. How to distinguish between debt and equity, debt and other liability?

#### **Debt and equity**

Due to practical consideration statisticians often rely on accounting information in distinguishing debt and equity instrument of corporate entities. We can only hope that with the widespread use of International Financial Accounting Standards throughout the world, the diversity due to the differences in national accounting standards is getting less and less significant.

Further problem is caused by the fact that the primary statistical classification system does not fully support the debt equity differentiation. Please find below some examples of the practical issues in connection with the current classification system.

In the International Investment Position presentation debt and other liabilities to direct investors are classified under the heading to "Direct investment in reporting economy". It would be possible to split direct investments to equity and other type of liabilities to direct investors. However debt indicators are often constructed excluding all the liabilities to direct

investors due to the fact that there are frequent shift between liability instruments to direct investors. Further argument of creating debt indicators excluding liabilities to direct investors is that the stability threat of not paying to direct investor is case of financial difficulty as fare less than a default to third party creditors.

Other practical issue is that within portfolio investment funds in the International Investment Positions are not split whether the fund's own equity has debt of equity feature. The same applies to the investment funds presented within securities in the financial accounts.

### ***Debt and other liabilities***

One major confusion is caused by the fact that government debt definition in the Maastricht treaty includes only “traditional debt” instruments in the definition and excludes trade credits, other liabilities and derivative liabilities.<sup>4</sup> Europe is presently considering the rethinking of the definition and the valuation rules of the treaty.

#### **c. Treatment of provisions, guarantees and contingent liabilities**

In micro level or stability analyses liabilities arising from provision on contingent events are treated identically with other liabilities. Special care is also taken to contingencies without provision or valuation loss (e.g. guarantees, credit lines, notionals of derivatives). Macro statistics currently do not collect information on these items. This fact seriously threatens the usefulness of traditional macro statistics for stability purposes. This criticism does not apply to the Financial Soundness Indicators developed by the IMF. Unfortunately the latter set of indicators applies only for the banking sector. The statistics underlying the EDP process also contain some information on government guarantees and other contingent items.

#### **d. Impact of the pension obligation of the government – differences in pension systems**

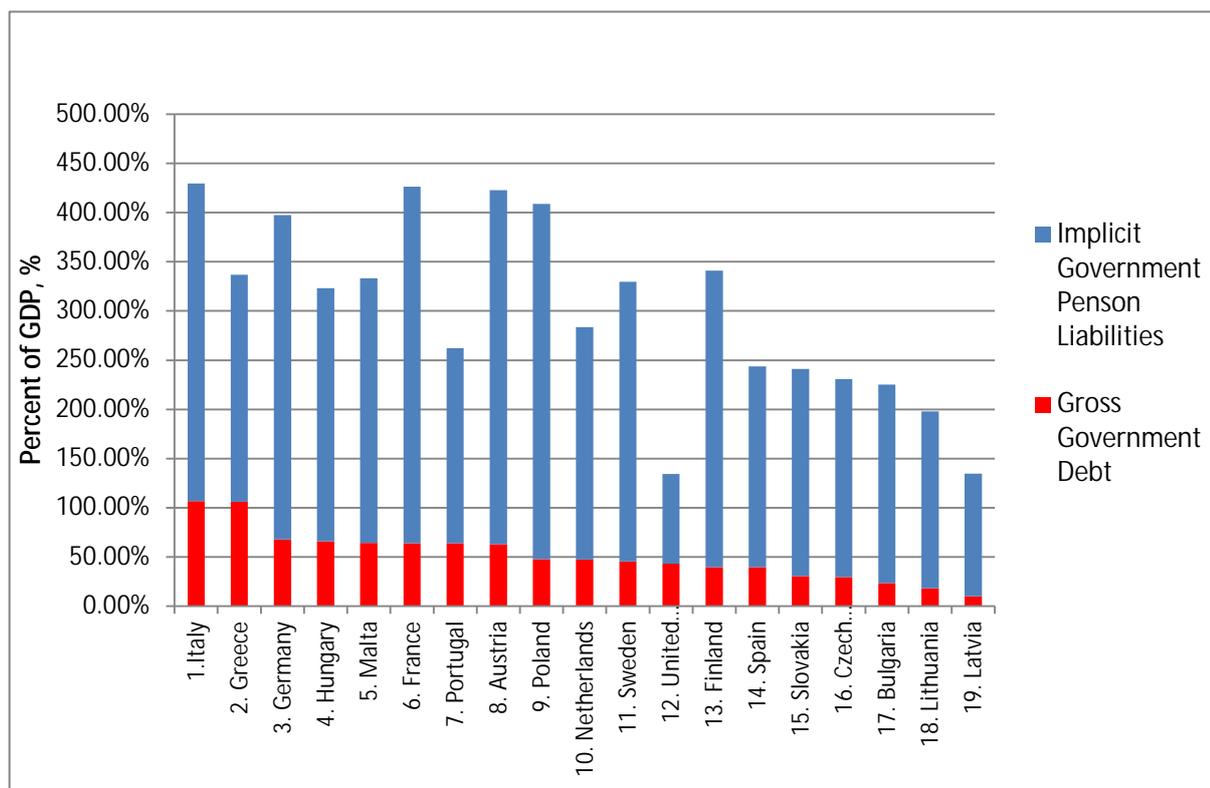
Currently the implicit pension obligation of the government is not part of the liabilities of the government. Gross government debt and government deficit figures are hugely influenced by the differences of the pension system in individual countries. From 2014 estimates of the implicit pension obligation will be included in the supplementary tables of the national accounts. Please find below the estimated impact on gross debt figures according to the preliminary research of the University of Freiburg.

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<sup>4</sup> The Maastricht debt reflects the translation difference of certain cross currency interest rate swaps and FRA-as that are closely linked to the debt instruments. All other derivative liability is excluded.

Table 7

**Gross government debt including estimated implicit government pension liability by size of direct government debt, 2006**

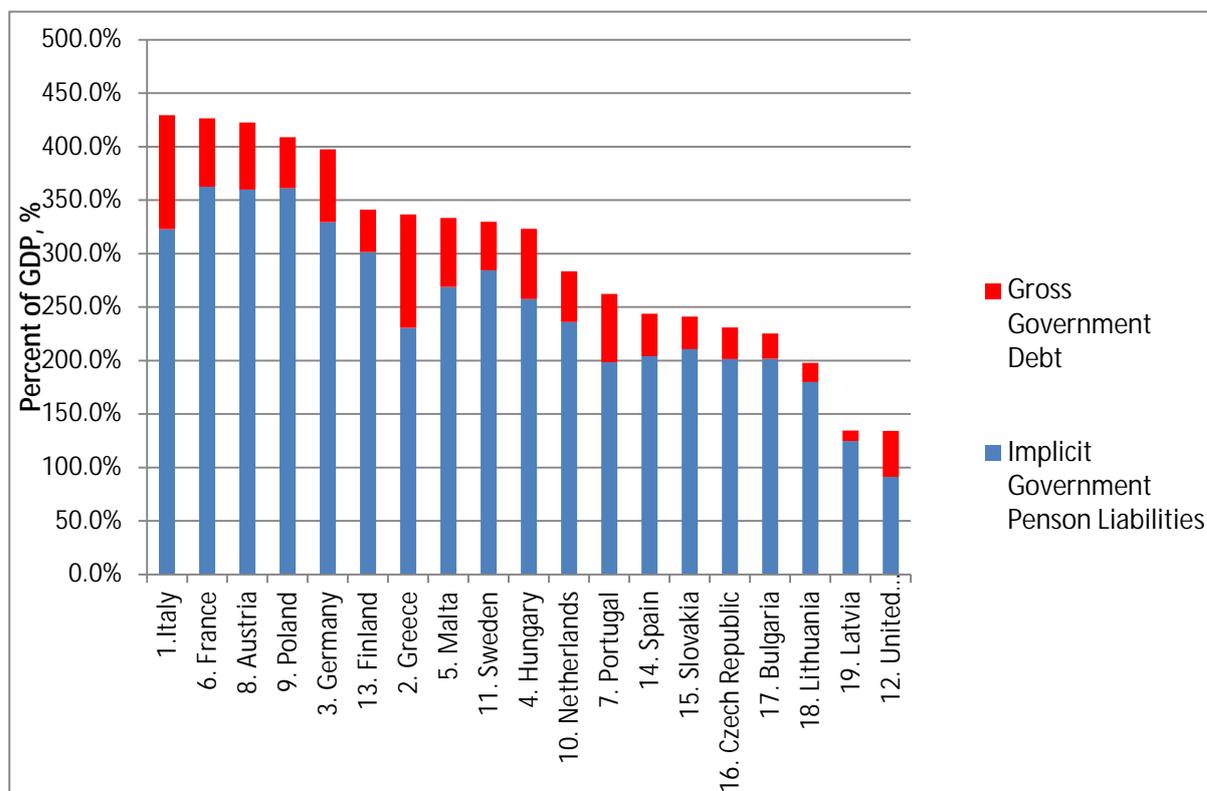


Source: IMF and Pension Obligation of Government Pension Schemes and Social Security Pension Schemes Established in Euro Countries by Christoph Muller, Bernd Raffel Huschen, Olaf Weddige – January 2009 – Research Center For Generation Contracts – Freiburg University

According to the rough first estimate prepared by the Freiburg University Implicit Pension Obligation can be 3 time as high as the gross government debt of the countries. Please also note that the indebtedness ranking of countries dramatically changes in case we consider the total indebtedness of the country including the implicit pension obligation.

Table 8

**Gross government debt including estimated implicit government pension liability  
by size of total estimated government debt, 2006**



Source: IMF and Pension Obligation of Government Pension Schemes and Social Security Pension Schemes Established in Euro Countries by Christoph Muller, Bernd Raffel Huschen, Olaf Weddige – January 2009 – Research Center For Generation Contracts – Freiburg University.

European countries are currently working on their pension modeling. There are major uncertainties about the final outcome of this work. The only conclusion so far is that the estimated liability is so significant that sustainability of government financing cannot be assessed without considering the sustainability of pensions.<sup>5</sup>

And lastly it is important to note that the current one sided focus on explicit government debt makes it possible that economic transactions that do not improve the overall position of the government lead to improvement in indebtedness ranking regardless of the true substance of the transaction. One example of the above is the nationalization of the private pension schemes in Hungary (the second pillar from a three pillar pension system) in 2011 when the government took over assets and liabilities from the pension funds worth 9.5% of 2011 GDP. Due to the peculiarity of the current statistical system, the takeover had 9.5% positive impact on the Hungarian government deficit in 2011 and also reduced significantly, the government

<sup>5</sup> This statement might hold despite of the fact that the measurement principles of debt instrument and the implicit government pension obligation is very different.

indebtedness ratio,<sup>6</sup> while the simultaneous growth of the implicit government pension liabilities cannot be seen from the statistics.<sup>7</sup>

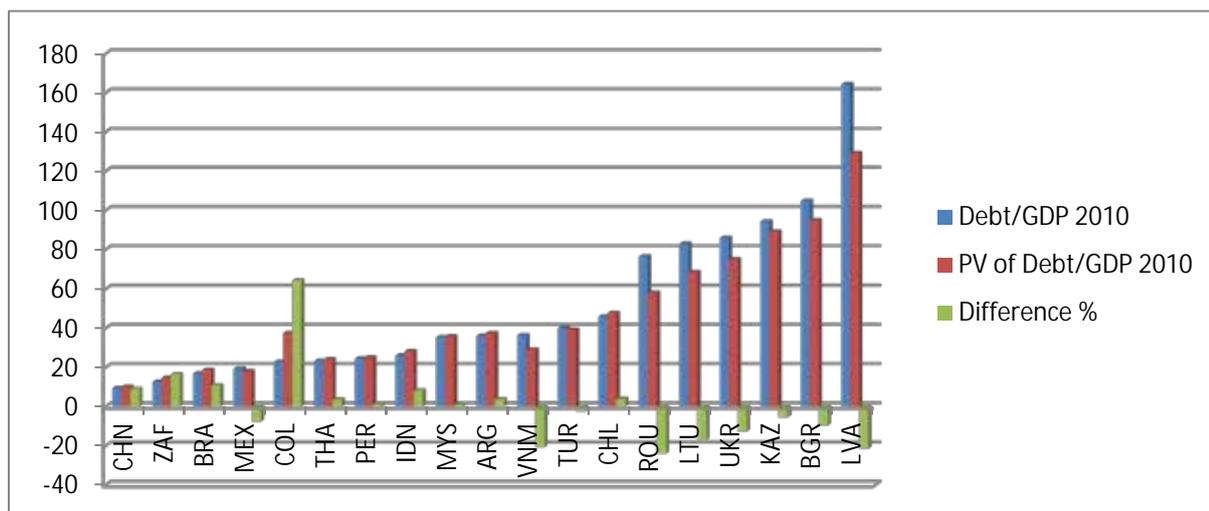
### Valuation of the debt instruments

Both SNA and ESA requires the fair valuation of financial instruments. However most of the debt instruments are exempt from the fair valuation requirements as debt instrument (except for securities) should be recorded in the balance-sheet at their nominal amount in the International Investment Position as well as in the Financial Accounts statistics.

The valuation rules have been established many decades ago and have not changed during the past years. When they have been created they were revolutionary compared to the cost less impairment valuation model in business reporting. Since that time accountants have moved to fair valuation of many financial instruments in their balance-sheets and full fair value disclosure is required for all financial instruments in the financial statements prepared according to IFRS.

The differences between fair value and nominal value could be very significant in 2010 for selected countries the difference for some countries exceeded 50% of the debt.

Table 9  
**Difference between Total External Debt and the present value of Total External Debt of selected countries**



Source: The World Bank

Fair valuation of all financial instruments (in addition or beside the current diversity of valuation) would be a big step forward that could significantly increase the usefulness of the statistics for stability and sustainability purposes.<sup>8</sup>

<sup>6</sup> The decrease of gross government debt also impact the 2012 government debt figure as the sale of the nationalized assets of the fund are taking time for the state.

<sup>7</sup> This issue will be solved by ESA 2010 which will require that from 2014 (or 2015) on estimates of the implicit pension obligation will be included in the supplementary tables of the national accounts.

<sup>8</sup> The recent methodological revision of macro statistics already includes voluntary disclosure on fair values.

It should be also noted that debt indicators if instruments are fair valued could also provide misleading messages. Fair value of debt instruments issued by countries who get into financial trouble is decreasing and thus – assuming no other change – due to the decrease of fair values, debt indicators would show improvement at the time of financial distress. This highlights the usefulness of an alternative measure – the nominal value concept.

In business accounting the nominal value concept has been replaced with the amortized cost model, where interest accrual is a non separable element of the financial instrument itself. As statistician heavily rely on business account information in their data collection system it is high time to reconsider the current valuation model.

Another interesting angle of the issue is the current boundary between instruments fair valued and recorded in the statistics at nominal values.

### **Type of indicators**

The type of indicator used always should reflect the intended use of the measure. Instead of providing a classification of debt indicators in the following some pros and contras are mentioned in respect of selected popular indicators.

#### ***Gross versus net***

Gross debt is useful measure as it fully reflects the known future payment obligation excluding future interest payments. Gross debt could be misleading as it ignores counterbalancing debt receivables.

Please note that in addition of the fair value of debt instruments IFRS 7 requires disclosure of undiscounted future cash-flows including future interest payment by time brackets.

Net debt level could provide more realistic view of the financial position. On the other hand due to the nominal valuation of non security debt instruments the indicator does not present realistic financial position.

Please note that valuation issues could distort both net and gross term measures.

#### ***Stock or flow***

They complement each other. Stock provides information on the accumulated level of the burden or financing, flow provides good measure on the financing activity throughout the period. Stock measures hide issues connected with interest payment.

#### ***Macro debt measures compared to GDP or import export***

They are easily comparable internationally. However do not provide adequate information on cross border exposure and on the distribution of income among the indebtedness of entities.

### **Data quality and comparability**

Statistical issues cannot be discussed without evaluating the quality of the information collected and published.

One good example of quality issue is the recent methodology debate between the European Institutions on the proper presentation of derivative liabilities in indebtedness indicator of the non financial sector. Ultimately the institutions agreed to exclude derivative liabilities form the indicator. The decisive factor behind the decision the quality of the information and the lack of comparability of the derivative numbers. Other issues are the lack of comparability of unconsolidated indebtedness data within the nonfinancial sector and national differences in the measurement principles and practices of insurance liabilities.

## Do debt indicators really matter? The way forward

This is not an easy question, however experience shows that indicators on indebtedness can have direct impact on the price of the debt. In our globalized world the price of debt is directly impacted by the general belief whether or indebtedness is sustainable or not.

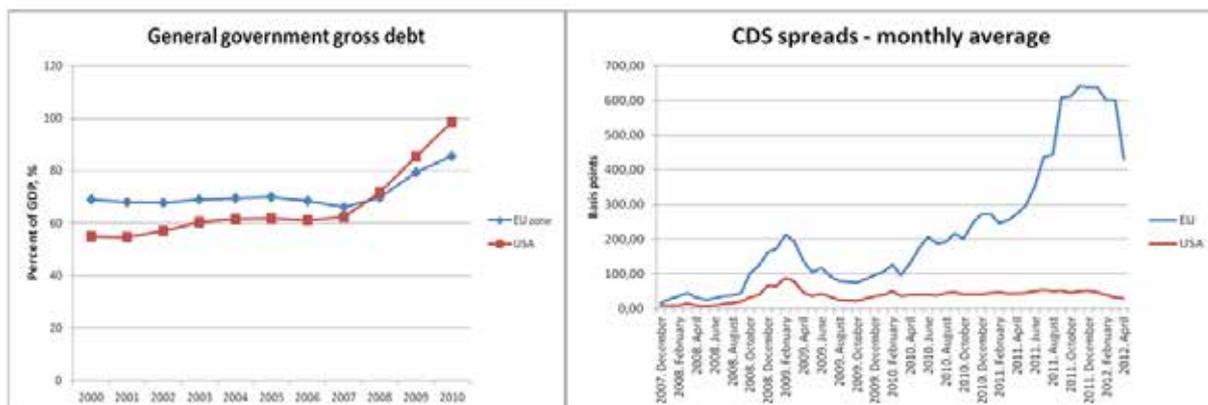
The link between CDS spreads bond yield and indebtedness is a popular topic in the recent economic arena. Close link have been found between debt yields and CDS prices in the Eurozone (Dominic O’Kane: The Link between Eurozone Sovereign Debt and CDS Prices, EDHEC Risk Institute January 2012).

It is less straightforward to demonstrate direct relationship between debt indicators and the CDS spread. Santos, Carlos in his paper on “The euro sovereign debt crisis, determinants of default probabilities and implied rating in the CDS market: an econometric analyses” – Munich personal RePEc Archive – found significant negative relationship between savings and credit spread, however in his model the other two explanatory variables the external and the public debt did not prove to be statistically significant. Another paper on “What is the Risk of European Sovereign Debt Defaults? Fiscal Space, CDS Spreads and Market Pricing of Risk” by Aizemann, Hutchison, Jinjark – August 2011 – found significant relationship between fiscal space and CDS prices, however could not explain the pricing difference of the Eurozone periphery countries (Greece, Ireland, Italy, Portugal and Spain) with matched 5 middle income countries outside Europe.

It is interesting to note that while according to certain macroeconomic indicators the economic position of Euro zone as a whole seem to be more sustainable than the USA and prices, wages, competitiveness do not differ significantly, markets price Eurozone much more risky. The primary reason for the difference can be explained by the difference in the governance structure of the Euro-zone countries and USA and the market assessment of the ability of the Euro-zone countries to cooperate in case of difficulties.

Table 10-11

### Gross Government Debt and CDS spreads of the Euro zone and USA



Source: IMF and Bloomberg

### Harmonized definition of debt for statistical purposes

Our globalised economy is getting more and more complex. Analysts are expected to ask different new questions and statisticians will produce growing number of new indicators. This is a natural process. It would be useful to make the effort and try to harmonize debt definitions.

### ***Closer link between accounting and statistical concepts***

Accounting regulation developed a lot since the time when the main valuation principles of financial instruments have been established. Statisticians should reconsider valuation principles of debt instruments in the light of the new developments.

### ***There is a need for new data collections on cross border exposures and for micro data***

Traditional residency based statistics should be supplemented by new cross border statistics and micro data in order to meet the increased interest on vulnerability and stability. The extended use different consolidation principles might be one way forward.

### ***High priority of harmonization and data quality***

And last but not least there is an ever growing need for harmonized good quality information.

## **Closing remarks**

Statistics supposed to be boring. Fortunately it is not. Analyst should use all of their brains in order to try to understand the hidden truth behind the numbers.

On the other hand statisticians should also support the users of the statistics

- by increased transparency on the issues faced during the compilation of the data and
- by increased effort to provide answers to the issues raised by the latest financial crises.