The Greek Deficit of 2009 Revisited

Zoe Georganta

Professor of Applied Econometrics and Productivity
University of Macedonia –Economic and Social Sciences

Ex-Member of the Hellenic Statistics Authority (ELSTAT)
Approved by the Greek Parliament

3 September 2012

This article is complementary to what I have said and written about the swollen Greek public deficit of 2009. It summarizes an effort to quantify the true deficit of the country's general government sector for the critical year 2009. The information on which this article is based comes from five sources:

(1) The ongoing detailed investigation of the fiscal facts and figures publicized by the Greek government, the Eurostat, and Greece's Statistical Office especially since Autumn 2009 that the Socialists (PASOK) were elected to power
(2) The fiscal and financial data available to me
(3) An in-depth study of the Greek Parliament's Minutes regarding its March 2012 inquiry into the measurement of 2009 deficit of the General Government
(4) An in-depth study of the Minutes of the Parliamentary Economics Committee on the functioning of ELSTAT in September 2011
(5) Discussions with other Statisticians and National Debt experts in Greece, and other countries.

Today, exactly two years after the second meeting of the then independent 7-member Board of the Hellenic Statistics Authority, I can further contribute to the much desired elucidation of the question of the country's illegitimately augmented public deficit by showing that **the true magnitude of Greece's deficit in 2009 was 3.9% of GDP** (Gross Domestic Product). Let us start from the theoretical definition of the deficit and its relation to debt.

The public deficit is the difference between revenue and expenditure of the public budget. Public debt is the accumulated deficits through time. Consequently, the deficit of a particular year is the difference between the debt of the current year and the debt of the previous one. In other words, these two magnitudes, deficit and debt, are related through an equation which may be seen as a derived definition of the deficit. This equation is the following:

$$X_t - X_{t-1} = D_t \qquad (1)$$

where X_t denotes debt in year t, X_{t-1} denotes debt in year t-1, and D_t denotes the deficit in year t. By writing equation (1) differently, we can say that the deficit of the public budget (revenue minus expenditure) is added to the previous year's debt and the result is the debt of the current year. As easily understood, the deficit determines the borrowing needs of a country. Also, we will need later to understand the distinction between a stock and a flow variable. Thus, debt is a stock variable because it is accumulated through time, while the deficit is a flow one because it is realized within a year.

In practice, or, in other words, when the data are recorded in the various accounts of ESA95 (European System of Accounts of 1995), equation (1) usually is violated, more or less, by the various countries. In such cases, instead of equation (1), we have the following equation (2):

$$X_t - X_{t-1} = D_t + K_t \qquad (2)$$

where K essentially denotes an error term or an adjustment term, as Eurostat calls it. In particular, item K is called "Stock-Flow Adjustment" item or SFA. This item is used by countries to hide undesirable deficits. In other words, they inflate K and they deflate D. This happens because there is no transparency regarding what actually gets into K. In their most recent Report, April 2012, about SFA, Eurostat says that K "conceptually, the stock-flow adjustment can be distinguished into the following constituent elements: net acquisition of financial assets, debt adjustment effects and statistical discrepancies". These three "constituent elements" of K are defined by Eurostat so generally that even the expert is confused because they put completely different items in the same basket. On page 2, the same Report says: "it is important that SFAs are closely monitored because they can also highlight data quality problems", and Eurostat goes on in the same paragraph: "It has been argued that since great attention was paid to the deficit under the current EU multilateral fiscal surveillance (EDP and Stability and Growth Pact), governments may have an incentive in underreporting their deficits by reporting transactions under the SFA". That the K has been and still is used to hide the deficits of the European countries has not just been argued, as Eurostat telegraphically says, apparently with the intention to cover up reality, but it has actually been shown to be true by valid scientific research, as I am going to discuss briefly in this article.

Definitions of debt and deficit in ESA95 are different from those within the EDP (excessive deficit procedures), this way increasing the confusion, but also, and more important, in both cases the definitions are sufficiently vague, permitting thus large margins of interpretations according to the political programs of member states with the exception of, at least, Greece, to whom interpretations are dictated, unfortunately without any reaction on Greece's part, as it has become evident from the data and the Press. The result of this is that whichever country of the EU is today economically stronger, she is more able to manipulate K and within creative accounting she can be benefitted without being in trouble by anybody because in the EU controls are applied by the powerful to the weaker and not the other way round.

It is beyond any doubt that definitions in ESA95 are unclear, particularly regarding the concept of debt which is almost not defined at all. There are a lot of references in international bibliography about the ambiguity of ESA95. Among others, if we consider the study "*The size and composition of government debt in the euro area*", ECB, No.132, Oct 2011, we can read on page 5: "Despite the fact that the term government debt is used so frequently, it spans different concepts with different nuances". It is noted that the whole study shows the ambiguity of the debt concept in ESA95. Also, the lack of a clear definition of public debt in ESA95 is also described in the Eurostat Manuals themselves (see Eurostat Manual on Government Deficit and Debt, 2002, section V1, p.196; Manual on Government Deficit and Debt, Implementation of ESA95, 2010, section VIII.2.1, p.305).

We can also consider a very recent Discussion paper of the IMF (27 July 2012) with the title "*What lies beneath: The statistical definition of public sector debt. An overview of the coverage of public sector debt for 61 countries*". In this paper, the authors Robert Dippelsman, Claudia Dziobek, and Carlos Mangas analyze the confusion created by definitions and their implementation in recording the fiscal data of the General Government of various countries and they propose a framework to lift the ambiguity so that debt and deficit include clearly defined items which, they support, must be characterized by transparency. For example, on page 15 the authors say: “An international standard definition of government debt should specify valuation methods because comparisons of debt data across countries may otherwise be misleading”. The authors go on supporting that there are cases where valuation differences can be very large and they take the example of Greece asking the question whether the Greek deficit of 2010 increased or decreased in relation to its deficit in 2009, and they reply as: “The answer is that both are true”. This is the extent to which ambiguity and non-transparency of European Regulations, the ESA95 and the EDP can falsify the true numbers, and this is what has actually happened with the Greek deficit in 2009.

The deficit of 2009 was 3.9% of GDP

Based on the most recent official data published by Eurostat for our country on the 14th April 2012 (EDP Notification Tables), the item K for the year 2009 is small: it is equal to 0.1% of GDP. It is noted that Eurostat has defined K as small if it is not higher than 2% of GDP. Let us see in the following table the values of X, D, K and GDP for the year 2009.

Notation	Description	Value in billion euros
X_t	Debt 2009	299.685
X_{t-1}	Debt 2008	263.284
D_t	Deficit 2009	36.103
K_t	SFA	0.298
GDP	Gross Domestic Product	231.642
D_t/GDP	Deficit as % of GDP	15.6%
K_t/GDP	K as % of GDP	0.1%

According to equations (1) or/and (2), we need to have the value of debt for 2009 and 2008 in order to calculate the true deficit of the Greek government in 2009. Since K is small, we assume that it has been measured more or less honestly, in other words, we assume that it does not include creative accounting. Consequently, we adopt equation (1) since equation (2) will give almost the same results. This cannot be done for the following years 2010, 2011and 2012 (forecast) because K, suddenly and mysteriously jumped up from 0.1% of GDP to 2.8%, 3.03% and 26.2% of GDP respectively, with a corresponding deficit as a percentage of GDP equal to 10.3%, 9.1% and 6.7%. This is a clear case of “we inflate K and deflate D”. Thus, **D as a percentage of GDP was deflated by 34% in 2010, by 42% in 2011, and 57% in 2012** (forecast) in relation to 2009, but **K as a percentage of GDP was inflated by 2700%, 2930% and 26100% respectively**! And we are told by the chairman of ELSTAT and Eurostat that “This does not reflect political intervention”!!

I calculate now the debt of 2009 on the basis of the following information:

- Data in the table above,
- Personal study of facts and figures especially since 2009,
- Examination of other relevant available data,
- Minutes of the meeting of the Parliamentary Committee on Economics in September 2011,
- Minutes of the Investigating Committee of the Parliament in March 2012

- Many discussions and exchange of views with specialists and experts on National Accounts and EDP

So, in this phase **I can support that the debt of 2009 is inflated by 27.914 billion euros**, out of which the 27.414 billion euros are the responsibility of the chairman of ELSTAT as follows:

(1) **18.214 billion euros** of debt have been transferred from the private to the public sector in a seemingly "urgent", non-transparent and totally unchecked way, i.e. without any statistical or proper accounting issues being examined for this gigantic transfer; there was not even a legitimate look up at the ESA95 regulations according to which these funds were classified in the non-financial sector all years before and of course under Eurostat's signature after a detailed scrutiny of the data and procedures had taken place by the Eurostat's experts. These more than 18 billion euros refer to 17 public and private companies all "innocently" named Public Enterprises (in Greek DEKO).

(2) **3.8 billion euros** of hospital expenditure, related to a number of past years, and also without the necessary checking for their legitimacy by the National Court of Auditors.

(3) **5.4 billion euros** of the Goldman Sachs SWAP of 2001, which was classified retrospectively to 2009 by a 2008 Eurostat adjustment regulation, which should not have been adopted.

(4) **0.5 billion euros** social solidarity subsidy which was introduced in urgency in December 2009, amidst hard austerity plans.

For the explanation and solid foundation of the reasons why the above gigantic amounts of debt should not have loaded up to the deficit of the year 2009, a separate article will follow for every one of these sinful cases.

Taking into account the figures presented in the above table, subtracting the 27.414 billion-euro of illegitimate debt loaded on 2009 and by utilizing equation (1), we have the following magnitude of public deficit for the year 2009:

$$\begin{array}{ccccc} (299{,}685-27{,}414) & - & 263{,}284 & = & 8{,}987 \\ X_t & - & X_{t-1} & = & D_t \end{array}$$

Deficit 2009 ➔ 8,987 billion euros

Calculation of the above deficit as a percentage of GDP, we have:

$$\frac{8{,}987}{231{,}642} = 3{,}9\% \text{ of GDP}$$

In other words, **the true deficit of 2009 was 3.9% of GDP, one of the lowest in Europe**.

Even if we only take account of the so called DEKO case, the deficit of the General Government in 2009, in billions of euros, was the following:

$$\begin{array}{ccccc} (299{,}685-18{,}214) & - & 263{,}284 & = & 18{,}187 \\ X_t & - & X_{t-1} & = & D_t \end{array}$$

And as a percentage of GDP, it was:

$$\frac{18,187}{231,642} = 7,9\% \text{ of GDP}$$

i.e. half of the figure announced by Eurostat on the 15th of November 2010.

It is noted that the above calculations do not take into account the wrong and biased revision of GDP in 2011 which covered all the years since 2005. My estimate of Greece's GDP is much higher than what Eurostat accepts, by at least 30% if we take into account both revisions, namely the 2007 and 2011. This of course affects positively the denominator of the ratio $\frac{\text{deficit in billion euros}}{\text{GDP in billion euros}}$. Thus, the published by Eurostat deficit figures for Greece are biased upwards. It is noted that a separate article will give information about the issue of the GDP serious underreporting together with the presentation of the reasons why the 27.914 billion euros should not have loaded up to the debt and deficit of 2009.

The item K or the Stock-Flow Adjustment term

As equation (2) makes clear, when K is positive it means that between the periods t and t-1 the debt has increased more than the deficit of the public budget in period t. The official definition of K shows that K is mainly a statistical discrepancy. According to the European Commission, K is caused by "financial procedures, like the receipts from privatization, the policies of public debt management, and the consequences of foreign exchange fluctuations on debt agreed in foreign currencies". Such influencing factors are both unclear and tending to cancel each other out. However, when K is systematically large (above 2% of GDP) and when it affects debt negatively, then the recording of public budget items is both wrong and indicative of creative accounting practices, as it is shown by a number of scientific studies, two of which have been chosen for presentation below.

Thus, K or SFA has been proved to be the veil under which the so called "creative accounting" is hidden. In other words, based on accounting tricks, various governments can hide their public deficits. Among others, I will refer to researchers Jurgen von Hagen and Guntram B. Wolff, Professors at the University of Bonn, as well as Anke Weber, researcher at the IMF, who examined the phenomenon of K. The two former researchers have published their work in the scientific Journal of Banking and Finance, Elsevier, 30(12), σελίδες 3259-79, 2006, under the title "*What do deficits tell us about Debt? Empirical Evidence on creative accounting with fiscal rules in the EU*". The latter researcher of the IMF published his work as an IMF Working Paper in January 2012 under the title "*Stock-Flow Adjustments and Fiscal Transparency: A Cross-Country Comparison*"

The two first researchers examined the data of the EU countries for the period 1996-2003. They found that most of the eurozone countries hid their deficits in order to facilitate their way into it. Among the authors' findings are the following: Eurostat definitions and Regulations leave a large margin to use creative accounting. Thus, for the period under investigation, Finland had 64% more debt than shown by the figures she announced. The corresponding figure for Greece was 43%, for Denmark 30%, for Luxembourg 29%, for Germany 15% and for Austria 14%. The cases of Finland and Luxembourg were noteworthy because they show that the two countries were using accounting tricks so that capital which was to pay off their debt was instead used to buy assets.

Anke Weber examined 163 developed countries for the period 1980 to 2010. He also found that the item K or SFA is in fact covering accounting tricks to hide debt. He came to the conclusion that the more transparent a country is regarding her finances, the smaller K is. The author supports that a country's finances must be characterized by transparency and he defines it as, "openness toward the public at large about government structure and functions, fiscal policy intentions, public sector accounts, and projections" (page 12).

My comment: In the 21st century Greece, not even did the Members of the Board of ELSTAT, who were approved and appointed by the Greek Parliament, know, or have access to fiscal data. On the contrary, they were marginalized, insulted, and finally dismissed because, first, they expressed doubts about the fiscal figures which came to their knowledge through the TV, and second, because they did not accept to sign non-transparent data. And the question is: Is it not fantastic that Anke Weber, of IMF, has an opinion different from the ELSTAT's chairman, or Mr. Radermacher's, or even Mr. Olli Rehn's, the EU Commissioner? But we must not forget that Mr. Radermacher, the General Director of Eurostat, has in the past been accused of caring more about politics than Statistics. I wonder if the artificially inflated deficit of Greece, i.e. the 15.6%, lies within this framework.