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Governmental budgetary reporting systems in the European Union: is the accounting basis relevant for the deficit reliability?

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Abstract

When reporting to Eurostat for the purpose of deficit assessment, EU member states follow National Accounts (NA) rules, specifically the European System of National and Regional Accounts. However, the information reported is gathered from Governmental Accounting (GA), namely budgetary reporting. Consequently, several adjustments are needed when translating data from GA into NA, including those concerning the accounting basis – in some countries GA budgetary balance is already accrual-based while in others it is still cash-based. This research aims to analyse adjustments derived from different accounting bases adopted in GA and NA, demonstrating their diversity and materiality and the consequences for EU member states' deficit/surplus reliability. It analyses cash-accrual adjustments to be made in Central Government data, using a few EU countries and data from the respective Excessive Deficit Procedure notifications covering the years 2005 to 2010. The main findings show that cash-accrual adjustments are more diverse and tend to be material in relation to the final deficit/surplus, in countries still adopting cash-based budgetary reporting in GA, raising questions concerning the reliability of the deficit/surplus they report.

Points for practitioners

This article contributes to a better understanding of the accounting basis differences for the convergence process between GA and NA, allowing for more reliable and informative budgetary reporting to be reached from both micro and macro perspectives. It highlights how important it is that GA moves from cash to accruals, namely

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concerning budgetary accounting and reporting systems. The diversity and materiality of accounting basis adjustments are important starting points for the development of a common framework to deal with these adjustments, and this is to be learned by policy-makers, especially accounting standard-setters and statistics agencies.

Keywords
budgetary accounting and reporting, central government deficit/surplus, governmental accounting, national accounts

Introduction

Several authors have underlined the relevance of studying the relationship between Governmental Accounting (GA – microeconomic perspective) and National Accounts (NA – macroeconomic perspective) in order to assess whether GA systems are able to meet European System of National and Regional Accounts (ESA) requirements, namely relating to the data provided by the General Government Sector – GGS[1] (Jones, 2000b; Keuning and Tongeren, 2004; Lüder, 2000; Montesinos and Vela, 2000).

This issue has become much more relevant and topical since several countries all over the world, and in particular the EU member states, began to implement important GA accounting reforms in the early 1990s, following a common trend with a progressive approach to business accounting, introducing the accrual basis into their GA systems. However, two different accounting bases still exist in GA – the accrual basis for financial accounting and the modified cash basis for budgetary accounting.

EU member states are obliged to prepare their NA in accordance with the ESA and to meet the convergence criteria of the EU Treaty regarding budgetary discipline. The ESA requires full accrual basis for all transactions, so several adjustments must be made when converting data from GA in to NA, because the former are mostly cash-based, since they come from budgetary reporting. Budgetary discipline is monitored through a system of 'Reporting of Government Deficits and Debt Levels', regulated by the Excessive Deficit Procedure.[2]

Therefore, the reforms took place in GA systems in EU countries, even if approaching countries in terms of financial accounting harmonization (generally introducing accruals) has not contributed to converting GA to NA, given that for most countries budgetary accounting remains cash-based. Consequently, significant adjustments when translating data from GA into NA continue to be needed (mainly regarding transaction recognition), and they are diverse within each country and especially between one country and another. Since each country makes those adjustments in its own way, final deficit/surplus (NA) reliability and comparability are in doubt (the same percentage of deficit might be calculated in very different ways), also considering that the basis from which each country starts (in GA budgetary reporting) is still not harmonized.

Thus, from a theoretical standpoint, this article highlights the differences that continue to exist between GA and NA, focusing on the accounting basis issues. Moreover, it makes an empirical contribution by demonstrating the above-mentioned premise that each country makes different categories of adjustments and applies different accounting treatments to similar categories. The article does so by describing and quantifying the adjustments' diversity which, allied to their materiality, raises questions concerning the accuracy and reliability of the deficits reported to Eurostat within the scope of the Excessive Deficit Procedure.

The study focuses on five EU countries – Germany, the Netherlands, Portugal, Spain and the United Kingdom – developing a comparative analysis considering countries representative enough of both Continental and Anglo-Saxon European governmental accounting perspectives. Data were gathered from Excessive Deficit Procedure Notifications (from October 2009 to April 2013), covering the years 2005 to 2010 and Central Government final data.

The article is divided into five sections. Section 1 discusses the relationship between GA and NA systems, highlighting the remaining lack of harmonization in the former contrasting with full harmonization in the latter. Section 2 concerns methodological issues and sources of data used in the empirical study, briefly addressing differences in the GA systems of the countries that are analysed, as they are the starting point for the adjustments. Section 3 identifies the most important data adjustments from GA into NA in the five European countries studied as stated by each country, and Section 4 analyses the subsequent impact on the Central Government deficit/surplus reported. Finally, Section 5 presents some conclusions and final remarks.

1. Governmental Accounting and National Accounts

Concerning GA, adoption of the accrual basis must be highlighted as the most important common feature in GA reform processes in the New Public Management (NPM) context, identified by authors such as Vela Bargues (1996), Brusca and Condor (2002), Lüder and Jones (2003) and Benito et al. (2007).

Groot and Budding (2008) highlight that one of the most relevant characteristics of NPM is replacing traditional cash-based with accrual-based accounting for the purposes of financial reporting in order to achieve greater transparency and accountability. Accrual accounting has been introduced to generally improve the financial information system of public sector entities (Christiaens et al., 2010).

However, accrual accounting is used more for performance and control of governmental agencies and less for budgetary decision and policy-making (Groot and Budding, 2008; Paulsson, 2006).

One important issue that emerges from the recent GA reforms is the need to introduce the accrual basis into budgetary accounting systems, since many international studies have shown that most countries that have adopted accrual-based GA have not introduced it into budgetary systems, namely in budget preparation and in budget execution reporting (Benito et al., 2006; Lüder and Jones, 2003; Martí, 2006; Sterck, 2007; Sterck et al., 2006; Yamamoto, 2006;).

Despite the common trends in GA reforms, the lack of harmonization is still a problem, inasmuch as great diversity still exists among countries. Particularly in EU countries, the accrual basis is applied in different ways, some countries already having budgetary accrual accounting (e.g. Austria, France, United Kingdom) while others continue with a cash basis, and within each country accruals are not applied at all levels of government (e.g. Germany) (European Commission, 2013a).

This problem of the lack of harmonization while adopting accruals in GA has been acknowledged by the EU Parliament as well as by the International Federation of Accountants (IFAC) who, in the context of the current financial crisis, have issued some documents[3] with strong recommendations for EU member states to adopt accrual accounting, namely the International Public Sector Accounting Standards (IPSASs), in a comprehensive and consistent way, covering all subsectors of the GGS. This is a direct consequence of the lack of transparency and accountability in public sector accounts, which has increased both the risk for capital markets and global financial instability.

The recent EU Commission Report concerning the suitability of IPSASs for member states shows a great diversity of practices between member states and also at different levels of government within each country (European Commission, 2013a, 2013b). The study carried out embracing all EU member states shows that most countries apply public sector accounting practices near accruals or modified accruals, but, in many cases, in parallel with cash accounting systems at different levels of government. However, budgeting is cash-based in the majority of member states. Regarding possible harmonization of national GA systems towards an IPSASs approach, as illustrated in Table 1, the diversity is also great.

The EU Commission's study concludes that there is great heterogeneity regarding accounting practices applied transversely over all member states; it also demonstrates that in EU countries local government generally presents accounting practices nearer to IPSASs than central government.

Table 1. GA systems and IPSASs

IPSASs relation	Countries	Percentage
National standards based on or orientated by IPSASs	9	33%
Some IPSASs references	5	19%
IPSASs for some Local Government entities	1	4%
None	12	44%
Grand total	27	100%

Source: European Commission (2013a, 2013b).

Regarding NA, its main purpose is to provide information about the key aggregate indicators (e.g. gross domestic product, volume growth, national income, disposable income, savings and consumption) of the economic activity of all organizations and households in a certain country, so that a whole national economy could be evaluated and compared with other countries' aggregates (Benito et al., 2007; Bos, 2008; Jones, 2003; Jones and Lüder, 1996).

Martí (2006) highlights that the Systems of National Accounts (SNA), as the Government Finance Statistics (GFS) Manual and the European System of National Accounts (ESA), compile aggregated data in order to evaluate national income and net worth for the whole economy, divided into institutional sectors, the General Government Sector (GGS) being one of these. Consequently, NA records the transactions between national institutional sectors (non-financial corporations, financial corporations, general government, households and non-profit institutions serving households) for the purposes of fiscal policy at a macro level (Cordes, 1996; Jones, 2003; Jones and Lüder, 1996; Lüder, 2000).

NA systems work over an economics and statistically based conceptual framework and apply to economic activities taking place within an economy and also between it and the rest of the world (IPSASB, 2012). They forecast and describe macro aggregates for a nation as a whole and the interaction between the different economic agents (IPSASB, 2012; Vanoli, 2005).

ESA – Council Regulation no. 2223/96 and subsequent amendments[4] – as the conceptual framework according to which all European member states are obliged to prepare their national accounts, faces a great diversity of political and social systems. Nevertheless, it must facilitate not only objectives of analysis and evaluation of the economy of member states as a whole, but also allow monitoring and control of their fiscal and economic policies in order to sustain the European Monetary Union (Barton, 2007; Bastida and Benito, 2007; Benito and Bastida, 2009; Keuning and Tongeren, 2004; Lüder, 2000; Sierra Molina et al., 2005; van der Hoek, 2005).

Regarding the relationships between the two accounting systems, the main problem concerns GGS data to NA, since they are obtained from GA, where the diversity and divergences from the macro accounting system may question the relevance, reliability and comparability of the aggregates that sustain the financial decisions of EU member states (Jones, 2000a; Jones and Lüder, 1996; Lüder, 2000).

Consequently, study of the relationship between GA and NA is relevant for several reasons, such as (Benito et al., 2007; Cordes, 1996; Jones and Lüder, 1996; Lüder, 2000; Martí, 2006; Montesinos and Vela, 2000):

- NA aggregates relating to the governmental sector are based on GA, so the convergence of these two systems is needed to assure reliability and accuracy of the output data that sustain EU fiscal and monetary policies;
- The adoption of a full accrual basis for the majority of transactions is compulsory for all EU member states when preparing their NA;

- The GA reforms in progress in several countries, especially in EU member states, moving from cash-based to accrual-based accounting systems, have not, as noted, embraced all GA systems, namely excluding budgetary systems, the main source of data from GA for NA.

Van der Hoek (2005) highlights the use of diverse financial reporting practices by governments, mainly at central government level where there are two accounting systems with different purposes: (1) GA at the micro level, dealing with budget and financial reports for the entities' management and applying from a cash or modified cash basis towards a modified or full accrual basis; and (2) NA at the macro level, presenting statistical, macroeconomic data on the whole economy for fiscal policy purposes, where a full accrual basis is mostly adopted.

The literature review also emphasizes the differences related to recognition criteria. Under NA full accrual basis is preponderant, while GA considers, as stated before, a great diversity of accounting bases, mostly accrual for financial systems, but mainly cash for budgetary systems (Barton, 2007; Cordes, 1996; Jones and Lüder, 1996; Lüder and Jones, 2003; Martí, 2006; Montesinos and Vela, 2000; Torres, 2004, among others).

Thus, each accounting system presents different criteria for transaction recognition. Nevertheless, the ESA general recognition criterion was later made flexible regarding taxes and social contributions, by the EU Parliament and Council Regulation (EC) no. 2516/2000, allowing member states to recognize these according to three different methods, so becoming an exception to the accrual basis regime in NA:

- Accrual basis – recognition when the tax-generating factor occurs;
- Adjusted cash basis – recognition of taxes under cash basis sources, considering a time adjustment when possible, so that the amounts received can be attributed to periods when the economic activity generating the fiscal obligation occurs;
- Cash basis – when it is not possible to apply one of the other methods.

Regarding differences between GA and NA, the IPSASB (International Public Sector Accounting Standards Board) developed a working program concerning the convergence of IPSASs with NA systems, issuing a research report in January 2005 with the purpose of identifying the differences between financial reporting provided by the statistically based accounting systems (NA prepared according to IMF's GFSM2001, SNA93 as updated in 2008, and ESA95) and the financial information reported under IPSASs issued up to June 2004 – GA (IPSASB, 2005).

This document identified the key issues that involve different accounting treatments in GA and NA and made recommendations in order to reduce or eliminate the divergences between the two accounting systems wherever possible (Jesus and Jorge, 2010). Moreover, the recent IPSASB Consultation Paper, entitled 'IPSASs and government finance statistics reporting guidelines', issued in October 2012, details the main issues representing differences between the two accounting systems, namely those resulting from their different objectives and different reporting entity definitions, as well as specific differences regarding recognition, measurement and presentation (IPSASB, 2012).

However, the focal point of our research is the differences related to recognition criteria, namely concerning taxes, accounts receivable/payable and interest paid/accrued[5]. This focus is justified because material GA–NA differences relating to these criteria seem to exist – as NA collects micro data from several institutional sectors, it is necessary to make some adjustments, e.g. in order to harmonize the moment when transactions are recorded (Keuning and Tongeren, 2004; Lande, 2000; Lüder, 2000). Keuning and Tongeren (2004) explain that accounting basis differences imply making adjustments and corrections based on estimations of GA data to determine the macroeconomic ratios, such as deficit and debt, which have consequences for their reliability and comparability. They underline that this situation requires the adoption of accrual basis under GA and also a standardization of procedures and practices between the two accounting systems.

Van der Hoek's (2005) study, focused on the Dutch experience, concludes that accrual-based budgeting and accounting systems are used in the Netherlands both in local and central government, although the budget information for NA purposes is still based on a mixed cash/commitments system. Then again, Martí (2006) underlines accrual budgeting as a fundamental problem to be solved in the relationships between GA and the NA aggregates that allow comparison of countries' financial performance. She discusses the key items with different accounting recognition alternatives, such as the recognition of taxes and social contribution revenues.

More recently, Kober et al. (2010), whose research focuses on the Australian public sector situation, discussed the usefulness of accounting information prepared and disclosed according to three different accounting methods: cash-based, accrual-based GAAP, both in the GA context, and GFS accrual-based reporting under NA. They show the existence of two different perspectives on the usefulness of accounting information. In the same line of reasoning, van der Hoek (2005) and Benito et al. (2007) explain that macro statistical data must be used only for NA purposes and not at the micro level. On the other hand, these authors emphasize the position of Jones (2000a, 2000b), as well as that of Lande (2000), Lüder, (2000) and Montesinos and Vela (2000), arguing in favour of searching for a link between GA and NA, due the inconsistence of the two systems, compromising the usefulness and reliability of the information at both micro and macro levels.

This last perspective is also highlighted in a previous study regarding the impact of the GA–NA differences on the Portuguese Central Government deficit (Jesus and Jorge, 2010).[6] Our current research continues that previous study, exploring the accounting basis differences and consequent adjustments from GA to NA data and extending analysis of the quantitative impact to five EU member states' deficit/surplus.

The conclusions of the above-mentioned EU Commission report (European Commission, 2013a, 2013b) also support the need to address the relationship (and eventual convergence) between GA and NA, since the lack of harmonization highlighted in GA, namely in central government, implies different adjustments when translating data from the micro into the macro system, namely to reach the final deficit/surplus, hence affecting its reliability.

2. Methodology and data

This research essentially follows a qualitative methodology, since the purpose is to describe, analyse and compare accounting practices, focusing on a particular context and pursuing a systematic, integrated and broader approach (Miles and Huberman, 1994; Ryan et al., 2002).

The empirical study develops a comparative analysis of countries representative enough of both the European Continental and the Anglo-Saxon GA perspectives, following the classifications of Brusca and Condor (2002), Torres and Pina (2003) and Benito et al. (2007), who consider countries' cultural differences, historical background and structural elements of public management. It focuses on five EU countries – Germany, the Netherlands, Portugal, Spain and the United Kingdom. The following characteristics of the selected countries might be highlighted (Torres, 2004):

- Portugal, Spain and Germany represent the European (central and south) Continental countries, influenced by administrate law, with a hierarchical public administration. The former two moved from cash to accrual accounting in their financial systems, continuing with cash-based budgetary systems; Germany has an accrual basis for the agencies but central government bodies still adopt cash-based accounting.
- The Netherlands is considered close to the Nordic countries group, which means citizen-oriented public administration, with a tradition of negotiation. Accrual accounting is used in the agencies for performance purposes, maintaining the cash basis at central level.
- The United Kingdom represents the Anglo-Saxon countries that long ago introduced a managerial approach in public sector management, emphasizing value for money in public administration. In terms of accounting bases, this group of countries apply full accruals for both financial and budgetary systems.

To synthesize, the countries chosen represent GA systems with different levels of proximity to accrual accounting, namely to IPSASs, as the EU Commission stated. In Portugal, Germany and the Netherlands, a cash basis or modified cash basis is still applied at central government level; governmental accounting reforms towards accrual accounting have started but are not completely implemented; moreover, budgetary accounting and reporting is still cash-based. On the other hand, Spain and the United Kingdom use accrual accounting at all levels of government. However, while the United Kingdom uses accruals both in budgetary and financial accounting and reporting, Spain still has cash-based budgetary accounting (European Commission, 2013a, 2013b).

The analysis aims specifically to: (a) investigate the main type of adjustments to be made when passing from GA into NA as a consequence of the differences in accounting bases; and (b) analyse their materiality on the central government deficit/surplus reported by five EU countries, highlighting the evolution of each adjustment category in the last six years.

Qualitative and quantitative data are used together, following a research design suggested by Miles and Huberman (1994). It uses a multiple case method like Sterck's (2007) research and a comparative perspective like Torres and Pina (2003) and Martí (2006). It also follows the Comparative International Governmental Accounting Research (CIGAR) trends, adopting an explorative multi-country case study (Lüder, 2009). As qualitative data, this research is mostly supported by documental sources, namely Inventories of Sources and Methods disclosed by each country, usually designated Inventories. From these Inventories we collected evidence of the adjustments every country makes when translating data from GA into NA.

Quantitative data were collected from TABLE 2A of the Excessive Deficit Procedure notifications from October 2009 to April 2013, covering final data from 2005 to 2010 (the most recent final data available).[7] TABLE 2A provides data explaining the transition between the public sector accounts deficit/surplus in GA (designated 'working balance') and the deficit/surplus in NA, regarding central government (Eurostat, 2009c, 2010, 2011d, 2012, 2013).

3. Diversity of cash-accrual adjustments from GA to NA in central government

The Inventories of Sources and Methods (hereafter called Inventories) prepared by each country describe the main adjustments they make when translating data from GA data to NA. In a previous study concerning only Portugal, GA–NA adjustments were classified into two major groups that imply standardized adjustment procedures: (1) cash-accrual adjustments for taxes, social contributions, primary expenditure and interest; and (2) reclassification of some transactions, namely capital injections in state-owned corporations, dividends paid to GGS entities, military equipment expenditure and EU grants (Jesus and Jorge, 2010).

Due to its focus, this research only explores group (1) – accounting basis adjustments, for which all countries have specific procedures, as the Inventories explain. Some of them are much more detailed than others, but it is possible to summarize the information regarding the accounting treatment for cash-accrual adjustments in the following categories: (1) taxes and social contributions; (2) other accounts receivable and other accounts payable (primary expenditure); and (3) differences between interest paid and accrued.

Table 2 illustrates the adjustment categories each country carries out, according to the respective Inventory.

Table 2. Cash-accruals adjustments in the countries analysed, according to the Inventories

Types of adjustments	Portugal	Spain	Netherlands	Germany	United Kingdom
Taxes and social contributions	X	_	X	X	X
Other accounts receivable/ Other accounts payable (primary expenditure)	X	_	X	X	_
Difference between interest paid and accrued	X	X	_	X	_

Source: Inventory of Sources and Methods (Eurostat, 2009a, 2009b, 2011a, 2011b, 2011c).

Tables 3 to 5 detail the adjustment procedures relating to the three categories of cash-accrual adjustments, considering each country's Inventory.

Regarding 'Taxes and social contributions', a very important area of possible adjustments, a great diversity of treatments is observed between the countries analysed for the same taxes and duties. In addition, within each country some items' taxes and duties are adjusted while others are not.

Portugal, the Netherlands and Germany show cash-accrual adjustments to the accounts receivable/payable, because the working balances (GA budgetary deficit/ surplus) in TABLE 2A are cash-based, while Spain and the United Kingdom do not disclose these adjustments' category, since their working balance in GA is reported as already accrual-based.

Spain, the Netherlands and the United Kingdom do not display adjustment procedures to interest since it is already accrual-based in the GA working balance. On the contrary, in both Portugal and Germany, time adjustments are disclosed since, within GA, interest is still recorded as cash-based.

4. Materiality of cash-accrual adjustments from GA into NA in central government

The materiality of the accounting differences between GA and NA on the central government deficit/surplus is evaluated using final data from TABLE 2A, covering the years 2005 to 2010.

For every country, Excessive Deficit Procedure Reporting TABLE 2A starts from the central government accounts working balance (GA), additionally showing data adjustments to reach the final deficit/surplus – net borrowing/lending of the central government sector (S13.11), according to NA/ESA requirements.

As for accounting bases, the GA working balance is supported in cash-based budgetary reporting (cash balance from expenditure and revenues) in Portugal and the Netherlands and in mixed-based (modified cash) reporting in Germany. Both Spain and the United Kingdom already report accrual-based GA working balances (Eurostat, 2009c, 2010, 2011d, 2012, 2013). Nevertheless, as explained, Spain still

Table 3. Adjustment procedures relating to 'Taxes and social contributions'

	Adjustments	
Country	Other taxes and social contributions	Value Added Tax (VAT)
Portugal	• For taxes on tobacco, petrol and alcoholic beverages and social contributions the formula for the adjustment is: Cash-based revenue of year (N) + Revenue of year (N) received in January of year (N+1) – Revenue of year (N–1) received in January of year (N). • No time adjustment is applied to income taxes	• The formula for the adjustment is: Cash-based revenue of year (N) + ¾ of cash revenue of January and February of year (N+1) – ¾ of cash revenue of January and February of year (N)
Spain	• Amounts accrued in each fiscal year recognized in GA based on the fiscal entitlements (liquidation time), deducting the annulments and cancellations occurring during the fiscal period • Once determined the amount to be collected at the end of the fiscal year, the amounts of uncertain collection are estimated, based on an econometric model (system of accumulated averages)	
Netherlands	• Cash-based revenues are used for most taxes and duties (VAT, tobacco duties, motor oil taxes, alcoholic beverages, motor vehicle tax, etc.) • Time-adjusted cash methods are applied to record taxes and duties, whenever possible (one month shift) • No adjustments are made to corporation tax, income tax and dividend tax • Adjustments to social contributions are not applied	
Germany	• One-month time adjustment to taxes on production and imports: VAT, duty on tobacco and beer, insurance tax, customs duties, duties on energy, sparkling wine and coffee (for this last item, two months until 2006 and one month since 2007) • Two-month time adjustments to taxes on production and imports: duty on spirits and on mineral water • One-month time adjustments to current taxes on income and wealth: income taxes, capital gains and advance levy on income derived from securities (including solidarity surcharge on all of them) • One-month time adjustment to insurance tax	
United Kingdom	• For tobacco duties data are accrual-based • For other duties cash figures are equal to the accruals figures or time adjustments are made • Cash data are equal to accrued data for the following taxes and duties: corporation tax, capital gains, petroleum revenue tax, windfall tax, motor vehicle duty, and inheritance taxes • Social contributions: to estimate national insurance contributions on an accrual basis an econometric model is used, but CG actual data are cash-based	• The average of the last three months' cash revenues is added to the following quarter's cash-based revenues • Further adjustments are made regarding refunds to public bodies and payments to the EU

Source: Inventory of Sources and Methods (Eurostat, 2009a, 2009b, 2011a, 2011b, 2011c).

Table 4. Adjustment procedures relating to 'Other accounts receivable/payable'

	Adjustments	
Country	Other accounts receivable	Other accounts payable[8]
Portugal	• Cash-based revenue of year (N) + Revenue of year (N) received in January of year (N+1) – Revenue of year (N−1) received in January of year (N)	• Modified cash-based expenditure of year (N) + Expenditure of year (N) in debt for year (N+1) – Expenditure paid in year (N) related to commitments of previous years
Spain	• There is no cash-accrual adjustment regarding primary expenditure, since it is already recognized under an accrual basis in GA • For capital expenditure where the contract establishes a single payment at the time of completion of the project, it is necessary to make an adjustment in order to consider, in year N, the payment related to the asset recognized	
Netherlands	• Cash-accrual adjustments are made by the ministries concerning sale/purchase of real estate and movables, purchase of military equipment, and natural gas revenues	
Germany	• Time adjustments are made to revenue and expenditure under the working balance; gross fixed capital data are collected from the figures on output statistics in the construction sector	
United Kingdom	• No adjustment is made, as data are provided on both cash and accrual basis	

Source: Inventory of Sources and Methods (Eurostat, 2009a, 2009b, 2011a, 2011b, 2011c).

uses cash-based budgetary accounting, which may lead to the conclusion that some adjustments are made before reporting to Eurostat.

TABLE 2A shows four specific categories relating to cash-accrual adjustments similar to those identified in the Inventories (Table 2). However, in TABLE 2A each country reports the adjustments made in practice in each year, which might not be quite the same as they explain in theory. For the period analysed (2005–10), Table 6 shows that some countries in fact report different categories of accounting basis adjustments from those stated in the respective Inventories.

The discrepancies observed between TABLE 2A (Table 6) and the Inventories (Table 2) are the following:

- Spain's Inventory states that no cash-based adjustments are made for taxes and social contributions; still, in TABLE 2A, despite the accrual-based reported working balance already in place, there are time adjustments for taxes.

Table 5. Adjustment procedures relating to 'Difference between interest paid and accrued'

Country	Adjustments
Portugal	• Interest paid on year (N) + Interest occurring in year (N) to be paid in year (N+1) − Interest paid in year (N) occurring in year (N−1)
Spain	• Interest revenues and expenditure are recorded when the corresponding administrative acts are complete, considered as accrued[9] • There is no adjustment unless there are pending administrative acts, which much be detailed in the income statement • An accrual basis is already adopted under the Public Accounting General Plan for all public sector entities
Netherlands	• Interest revenue and expenditure have been accrual-based since 2002
Germany	• Time adjustments are made to the Ministry of Finance reporting data applying a calculation model according to the accrual principle
United Kingdom	• Interest revenue and expenditure are reported on both cash and accrual basis; no adjustment is made

Source: Inventory of Sources and Methods (Eurostat, 2009a, 2009b, 2011a, 2011b, 2011c).

Table 6. Cash-accrual adjustments in the analysed countries, according to EDP TABLE 2A

Categories	Portugal	Spain	Netherlands	Germany	United Kingdom
Taxes and social contributions	X	**X**	X	X	_
Other accounts receivable	X	_	X	X	**X**
Other accounts payable (primary expenditure)	X	_	X	X	_
Difference between interest paid and accrued	X	X	**X**	X	_

Source: (Eurostat, 2009c, 2010, 2011d, 2012, 2013).

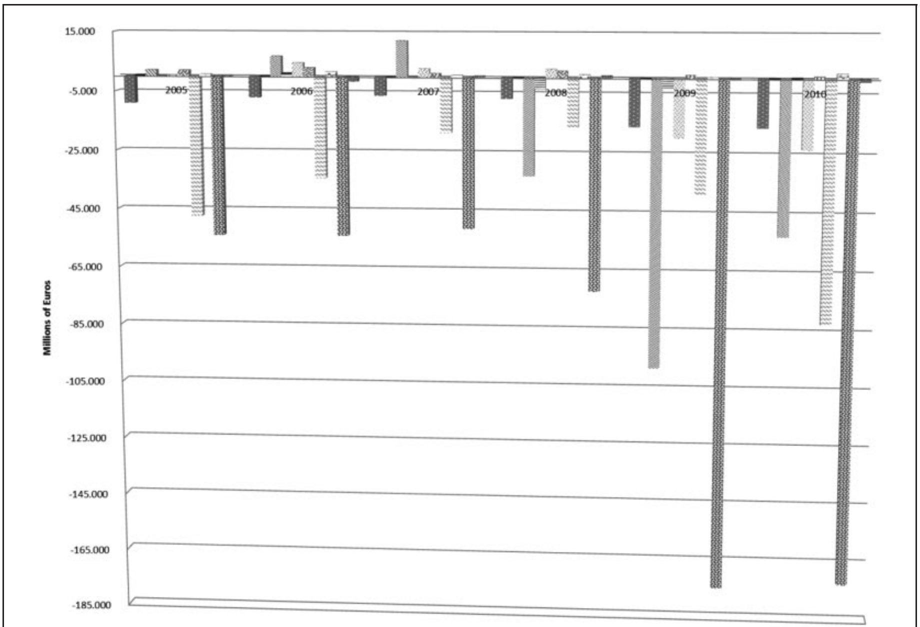
- The Dutch Inventory shows that interest is accrual-based, hence not referring to any adjustment of this type; however, the Netherlands presents this kind of adjustment in all EDP Notifications analysed;
- In the United Kingdom, although the respective Inventory declares that no cash-accrual adjustments are made to other accounts receivable (Table 2), the Notifications reports analysed present some adjustments, though concerning a very specific issue – military expenditure time adjustment; in addition, no adjustments are made for taxes and social contributions, despite the references to these in the Inventories.

4.1 Analysis per year

Figure 1 compares the total amount of GA–NA accounting basis adjustments with the amount of NA final deficit/surplus (considered after all the adjustments made to the GA working balance in central government accounts).

In general, it can be observed that regardless of the sign of the impact on the deficit/surplus (positive or negative), GA–NA cash-accrual adjustments show some materiality particularly in Germany and in the Netherlands, which still report GA deficit/surplus on a cash basis. Even in Spain, which already reports GA deficit/surplus on accruals basis in TABLE 2A but still uses cash-based budgetary reporting, adjustments tend to reach significant amounts in certain years (e.g. 2008 and 2009).

Furthermore, when looking at the sign of the adjustments, it seems that they might be used to influence proximity to the Maastricht Treaty convergence criteria,



	2005	2006	2007	2008	2009	2010
PT Deficit	-9.145	-7.066	-6.288	-7.031	-16.162	-16.327
PT Adj	336	119	31	-330	-101	103
SP Deficit	2.074	6.802	12.147	-32.952	-97.931	-52.740
SP Adj	50	1.249	-166	-3.620	-3.256	383
NL Deficit	268	4.640	2.832	2.873	-19.881	-23.566
NL Adj	2.005	2.990	1.250	2.281	1.068	772
G Deficit	-47.420	-34.240	-18.610	-16.550	-38.430	-82.550
G Adj	693	1.635	742	1.098	396	1.760
UK Deficit	-53.949	-53.766	-51.010	-71.878	-174.545	-172.374
Uk Adj	-	-1.556	480	788	-431	-947

Figure 1. Total accounting basis (cash-accruals) adjustments versus deficit/surplus

given that they could contribute to reducing the final deficit or even reach a surplus. Therefore, reliability of the final deficit reported by EU member states might be at stake, since accounting basis issues could allow for some discretion. Thus special attention should be paid to these issues when reconciling GA–NA deficits/ surpluses.

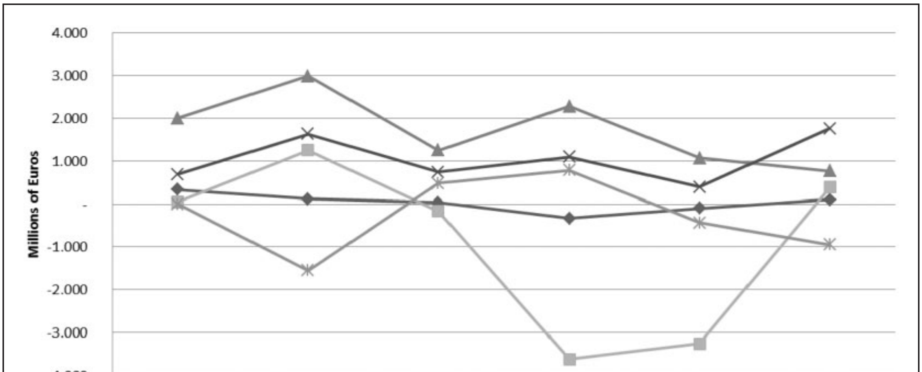
From a different perspective, Figure 2 shows the evolution of the total cash-accrual adjustments over the years analysed.

Overall, it can be observed that GA–NA cash-accrual adjustments generally oscillate over these years for all countries. These fluctuations are considerable, particularly in the cases of the United Kingdom and Spain. This adds to the above analysis showing that adjustment materiality is not constant, reinforcing the idea that these adjustments' possible influence on the final deficit/surplus reported might be used differently in different years.

All in all, regardless of the sign of the GA–NA accrual basis adjustments, its materiality is an issue to be considered when seeking reliable and accurate NA deficit/surplus in EDP reporting in the EU.

4.2 Analysis per category

Since cash-accrual adjustments are a sum of different adjustment categories, both positive and negative, a complementary analysis by category seems important, because each category has dissimilar weights and presents different evolutions.



	2005	2006	2007	2008	2009	2010
PT	336	119	31	-330	-101	103
SP	50	1.249	-166	-3.620	-3.256	383
NL	2.005	2.990	1.250	2.281	1.068	772
G	693	1.635	742	1.098	396	1.760
UK	-	-1.556	480	788	-431	-947

Figure 2. Evolution of cash-accrual adjustments total – 2005 to 2010

Table 7. Cash-accrual adjustments per category versus total (%)

Categories/Countries	PT	SP	NL	G	UK
Year 2005					
Taxes and social contributions	25.38%	0.00%	28.93%	41.41%	0.00%
Other accounts receivable	77.36%	0.00%	5.09%	0.00%	0.00%
Other accounts payable	32.08%	0.00%	29.78%	0.87%	0.00%
Interest paid/accrued	−34.82%	100.00%	36.21%	57.72%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	0.00%
Year 2006					
Taxes and social contributions	184.87%	0.00%	10.60%	137.55%	0.00%
Other accounts receivable	−46.22%	0.00%	21.51%	1.16%	0.00%
Other accounts payable	−38.66%	0.00%	17.29%	−20.98%	0.00%
Interest paid/accrued	0.84%	100.00%	50.60%	−17.74%	100.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%
Year 2007					
Taxes and social contributions	−106.45%	145.18%	77.44%	173.18%	0.00%
Other accounts receivable	438.71%	0.00%	−12.72%	23.85%	100.00%
Other accounts payable	−148.39%	0.00%	−9.44%	−36.66%	0.00%
Interest paid/accrued	−83.87%	−45.18%	44.72%	−60.38%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%
Year 2008					
Taxes and social contributions	104.55%	80.44%	−2.76%	23.86%	0.00%
Other accounts receivable	−43.94%	0.00%	101.49%	19.22%	100.00%
Other accounts payable	25.15%	0.00%	−5.66%	−106.10%	0.00%
Interest paid/accrued	14.24%	19.56%	6.93%	163.02%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%
Year 2009					
Taxes and social contributions	−40.59%	−1.75%	515.26%	−209.09%	0.00%
Other accounts receivable	−207.92%	0.00%	−229.96%	13.38%	100.00%
Other accounts payable	501.98%	0.00%	−37.27%	334.09%	0.00%
Interest paid/accrued	−153.47%	101.75%	−148.03%	−38.38%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%
Year 2010					
Taxes and social contributions	−331.68%	−5.53%	112.08%	−12.63%	0.00%
Other accounts receivable	−1158.42%	0.00%	139.79%	−21.46%	100.00%
Other accounts payable	1364.36%	0.00%	0.56%	328.28%	0.00%
Interest paid/accrued	23.76%	−6.23%	−180.15%	150.25%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

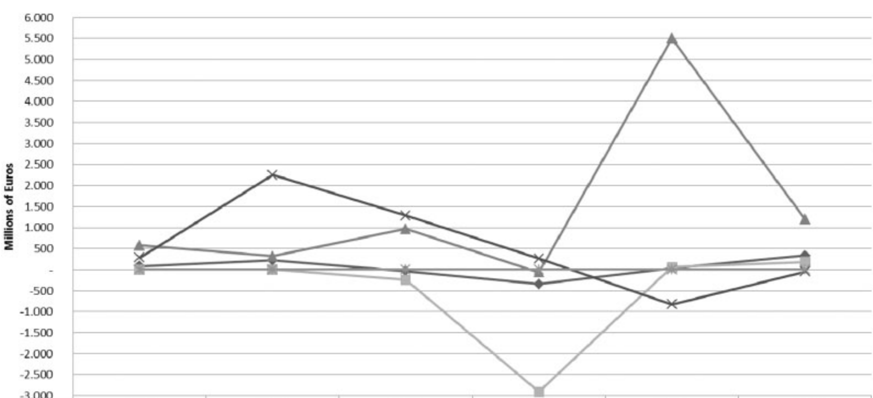
We start by examining the weight in percentage of each cash-accrual adjustment category on the adjustments total, as described in Table 7, over the six years analysed and for all countries selected.

Whatever the sign related to the impact on the final deficit/surplus, it can be observed that generally, up to 2007, for countries reporting several adjustment categories, those related to 'taxes and social contributions' and 'other accounts receivable' tended to reach higher percentages. From 2008, although 'taxes and social contributions' still remain important, we notice that adjustments regarding 'other accounts payable' and 'interest paid/accrued' increased their relative weights.

Therefore, adding to the previous analysis, within the materiality of the total cash-accrual adjustments already discussed, special attention must be paid to the adjustment categories with higher relative weights, drawing attention to the accounting treatment given to these types of transactions when reconciling GA–NA deficits/surpluses.

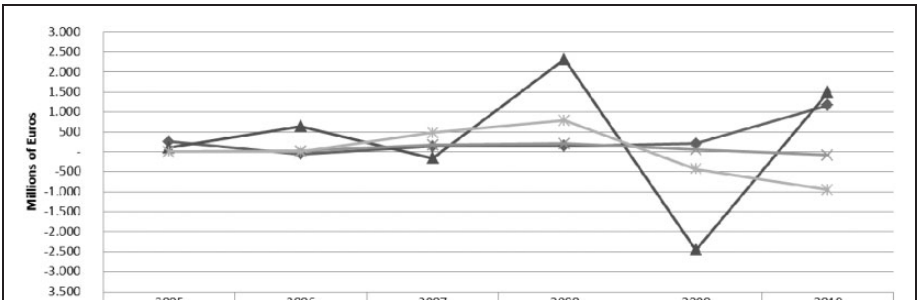
Figures 3 to 6 illustrate the evolution from 2005 to 2010 of each cash-accrual adjustment category reported.

In general, regardless of the country, we observe that all adjustment categories fluctuate over time, the fluctuation in 'interest paid/accrued' being more pronounced. Furthermore, oscillations increase significantly in all cash-accrual adjustment categories from 2008, and are particularly significant in countries still using a cash basis in GA, especially in budgetary accounting and reporting (e.g. the



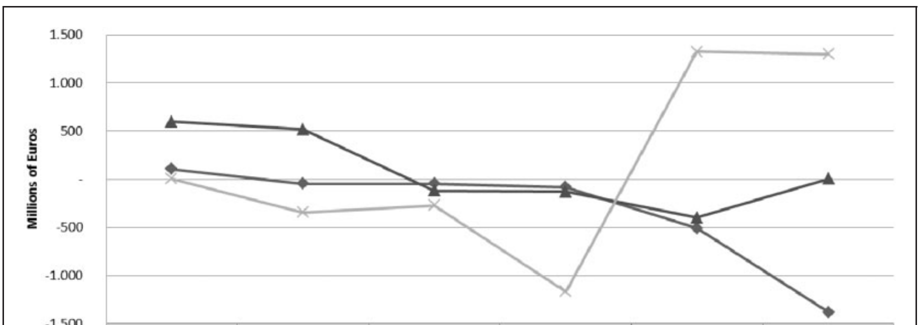
	2005	2006	2007	2008	2009	2010
PT	85	220	-33	-345	41	335
SP	-	-	-241	-2.912	57	180
NL	580	317	968	-63	5.503	1.197
G	287	2.249	1.285	262	-828	-50
UK	-	-	-	-	-	-

Figure 3. Evolution of cash-accrual adjustments for 'taxes and social contributions' – 2005 to 2010



	2005	2006	2007	2008	2009	2010
PT	260	-55	136	145	210	1.170
NL	102	643	-159	2.315	-2.456	1.493
G	-	19	177	211	53	-85
UK	-	-	480	788	-431	-947

Figure 4. Evolution of cash-accrual adjustments for 'other accounts receivable' – 2005 to 2010

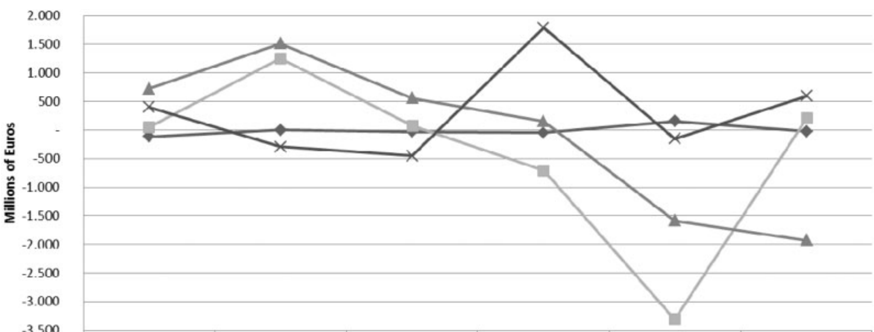


	2005	2006	2007	2008	2009	2010
PT	108	-46	-46	-83	-507	-1.378
NL	597	517	-118	-129	-398	6
G	6	-343	-272	-1.165	1.323	1.300

Figure 5. Evolution of cash-accrual adjustments for 'other accounts payable' – 2005 to 2010

Netherlands and Germany). This shows that, along with attention paid to the categories with higher relative weights within the total cash-accrual adjustments, consideration must also be given to those categories showing more fluctuations.

The year 2008 was a turning point in terms of the worldwide economic and financial crisis and, within the EU there were new requirements concerning budgetary discipline, drawing attention to the need to have more reliable government financial statistics to support monitoring of the Stability and Growth pact, namely to check deficit and debt compliance. Given that all countries present



	2005	2006	2007	2008	2009	2010
PT	-117	1	-26	-47	155	-24
SP	50	1.249	75	708	3.313	203
NL	726	1.513	559	158	-1.581	-1.924
G	400	-290	-448	1.790	-152	595

Figure 6. Evolution of cash-accrual adjustments for 'interest paid/accrued' – 2005 to 2010

higher adjustment fluctuations precisely from 2008, assuring final deficit/surplus reliability requires procedures to avoid accounting discretion, especially in certain cash-accrual adjustment categories, when transforming data from GA to NA.

5. Conclusions

The main research question this article addressed concerns the relevance of using different accounting bases in GA and NA budgetary reporting systems for the reliability of EU member states' deficit/surplus.

The literature review identified the main differences between GA and NA, underlining the differences in recognition criteria, because NA data concerning the central government sector is obtained from GA budgetary accounting and reporting systems, which are generally cash-based. This creates the need to make adjustments when transforming GA data into NA data, the latter generally requiring an accrual basis, despite considering exceptions for taxes and social contributions.

Following a qualitative methodology, the empirical study embraced five EU countries: Germany, Portugal and Spain as representative of the Continental European accounting perspective, the Netherlands as a Continental country considered in the Nordic accounting approach and the United Kingdom as the typical Anglo-Saxon view of accounting.

First, we identified and compared the main cash-accrual adjustments according to the categories described in the countries' Inventories. These were also compared with what each country effectively showed in TABLE 2A of the EDP reporting. The analysis demonstrated great diversity, given that each country explains different accounting treatments to convert GA data into NA; in addition, each country discloses different cash-accrual adjustments in TABLE 2A.

Concerning the materiality of those adjustments, the study used central government quantitative final data, covering the years 2005 to 2010 and EDP notifications from October 2009 to April 2013. The analysis demonstrated that cash-accrual adjustments as a whole are more significant in countries still using cash-based budgetary accounting in GA (e.g. Spain, Germany and the Netherlands). Evolution of the adjustments over the last six years revealed considerable fluctuations, adding to the idea that they affect the deficits/surpluses with different materiality over time.

A detailed analysis of several categories of accounting basis GA–NA deficit/surplus adjustments showed that, after 2008, the relative weights of 'taxes and social contributions' and 'other accounts receivable' adjustments seem to be reducing at the expense of the relative weights of adjustments in 'other accounts payable' and 'interest paid/accrued'. Therefore, these last two categories seem to become critical, requiring particular attention in accounting treatment when reconciling GA and NA deficit/surplus. In addition, while all categories of accounting basis adjustments generally vary over time, variations are more pronounced after 2008 and in countries still using cash-based budgetary reporting in GA.

Given the context of international economic crisis and the regulations meanwhile approved within the EU demanding increased budgetary control and reliability of governments' financial statistics to support monitoring of the Stability and Growth pact, namely to check compliance with the deficit, reliability is an imperative.

To summarize, together with the sign of the GA–NA accounting basis adjustments (positively or negatively impacting on the final deficit/surplus reported), their diversity and materiality shown in this article raise questions concerning the reliability of the deficit/surplus reported to Eurostat by EU member states, after those adjustments have been considered. It seems possible that these adjustments might influence the amounts reported, so special attention should be given to their accounting treatment in order to avoid discretion when reconciling GA–NA deficits/surpluses.

Highlighting how important it is that GA moves from cash to accruals, especially concerning budgetary accounting and reporting systems, this article pointed to the need for more convergence between GA and NA, namely regarding recognition criteria, for both systems to use a common accounting basis.

While this does not happen, application of a common framework to harmonize the accounting treatment to be adopted when translating GA data into NA must be considered in EU countries. This framework is of the utmost importance in spite of the current EDP Consolidated Inventory of Source and Methods each country discloses, because the Inventories merely explain particular and dissimilar accounting treatments and procedures in converting GA data to NA. The existence of such a great diversity of situations is an obstacle to obtaining reliable, accurate and comparable NA data (such as deficit and debt), used to sustain decisions regarding

EU member states' fiscal and monetary policies. The need for standardized procedures to convert cash-based data into accrual-based data should be underlined as a crucial step towards increasing the reliability of informative outputs from both micro and macro perspectives.

Notes

1. This is Sector S.13 – Public Administrations, according to the definition of institutional sectors in ESA95 (§ 2.17).
2. In accordance with Council Regulation (EC) No. 479/2009 and the Statements contained in the Council minutes of 22/11/1993.
3. E.g. EU Council Directive 2011/85/EU, 8 November 2011, on requirements for budgetary frameworks of the member-states; IFAC 11 October 2011, Recommendations for the G-20 Nations – Meeting of 3–4 November 2011.
4. Council Regulation no. 448/98; Commission Regulation no. 1500/2000; Parliament and Council Regulation no. 2516/2000; Commission Regulation no. 995/2001; Parliament and Council Regulation no. 2258/2002; Commission Regulation no. 113/2002.
5. These are the only types of adjustment reported on the Excessive Deficit Procedure, relating to accounting basis issues.
6. This study, focused on the Portuguese case and covering the years 2004 to 2007, is one of the rare attempts to quantify the accounting differences between GA and NA.
7. According to the Excessive Deficit Procedure requirements, EU member states are obliged to prepare the Reporting of Government Deficit and Debt Levels twice a year: 1st Notification in April (N) and 2nd Notification in October (N), covering planned data (year N), half-finalized data (year N-1 and year N-2) and final data (years N-3 and N-4).
8. These adjustments concern primary expenditure – current and capital.
9. This concept is close to the so-called 'modified cash basis', according to which budgetary revenue and expenditure are recognized when the associated administrative decisions have been taken, regardless of when the associated transactions occur (Montesinos and Vela, 2000).

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