CASH-ACCRRUALS ADJUSTMENTS FROM GOVERNMENTAL ACCOUNTING TO NATIONAL ACCOUNTS: IMPLICATIONS ON THE ITALIAN, PORTUGUESE AND SPANISH CENTRAL GOVERNMENTAL BUDGETARY BALANCES

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Resumen

El principal propósito de este artículo es evaluar las implicaciones de las diferencias de base contable entre la Contabilidad Pública e la Contabilidad Nacional, en los déficits/excedentes de los Gobiernos Centrales de algunos Estado-miembros del sud de la Unión Europea que, como todos, son obligados a cumplir con los criterios de convergencia de lo Tratado de Maastricht.

El análisis empírico desarrolla un estudio comparativo con enfoque en Portugal, España y Italia, representando as perspectivas contables de los países del sud de la Unión Europea. Siguiendo una metodología cualitativa, es basado en fuentes documentales, nombradamente en lo Inventario de Fuentes y Métodos divulgado por cada país y también en las respectivas notificaciones en el ámbito de lo Procedimiento de Déficit Excesivo, cubriendo los años de 2006 a 2009 y datos de los Gobiernos Centrales.

Los principales resultados enfatizan la necesidad de procedimientos normalizados para convertir los datos caja-devengo como un paso crucial para aumentar la fiabilidad de los outputs informativos para las perspectivas micro y macro.

Abstract

The main purpose of this paper is to assess the implications of the accounting basis differences between Governmental Accounting and National Accounting on the Central Government deficit/surplus of EU southern countries, obliged to accomplish with the Maastricht Treaty convergence criteria.

The empirical study develops a comparative study focalising Italy, Portugal and Spain, representing the Continental European (south) accounting perspectives. Following a qualitative methodology, it is supported by documental sources, namely the Inventory of Sources and Methods disclosed by each country and the respective EDP Notifications covering years 2006 to 2009 and Central Government data.

Main findings point out to the need of standardized procedures to convert cash-based data into accrual-based data as a crucial step to increase the reliability of informative outputs for both micro and macro perspectives.
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 ESA95 requirements, namely in what relates to the data provided by the General Government Sector – GGS (Lüder, 2000; Jones, 2000a and 2000b; Montesinos and Vela, 2000; Jones, 2003; Keuning and Tongeren, 2004; Hoek, 2005).

This issue is much more relevant and actual since several countries all over the world and particularly the European Union (EU) member-States have started implementing important GA accounting reforms in the early nineties, following a common trend with a progressive approach to business accounting, introducing the accrual basis in their GA systems. Therefore, two different accounting bases exist in GA – accrual basis for financial accounting and modified cash basis for budgetary accounting.

EU member-States are obliged to prepare their NA in accordance with the ESA95 and to accomplish with the convergence criteria of the EU Treaty regarding budgetary discipline. ESA95 requires full accrual basis to all transactions, except taxes. Consequently, several adjustments must be made when converting data from GA to NA, because the former are mostly cash-based, since they come from budgetary reporting.

Following previous studies to Portugal and Spain, this research identifies, from the conceptual point of view, the major differences between GA and NA, namely concerning the recognition criteria – cash versus accrual bases.

The empirical study focuses on three EU countries – Italy, Portugal and Spain, developing a comparative analysis gathering countries representative of South Continental European governmental accounting perspectives. These countries also symbolize similar cultures and economic developments models, facing nowadays comparable difficulties in accomplishing the Maastricht criteria.

It aims to analyse the main data adjustments to be made when passing from GA to NA as a consequence of the accounting bases differences and also to evaluate their implications on the Central Government Sector (CGS) deficit/surplus reported by selected countries. It develops a comparative analysis assembly the most recent Excessive Deficit Procedure (EDP) Notification available – October 2010, covering years 2006 to 2009 and Central Government data.

The paper follows divided into five sections. Section 1 discusses the relationships and differences between GA and NA. Section 2 concerns methodological issues and sources used in the empirical study. Section 3 identifies the most important data adjustments from GA into NA in the European countries and Section 4 analyses the subsequent relative impact on the Central Government deficit/surplus reported. At last, Section 5 presents some conclusions and expected future developments of this research.
1. Governmental Accounting and National Accounting

Concerning GA, we start underlying the adoption of the accrual basis as the most important common feature in the GA reform processes under the NPM context, identified by authors as Vela Bargues (1996), Brusca and Condor (2002), Benito et al. (2007) and Groot and Budding (2008).

These authors also emphasize other relevant features of the GA reform process, such as:

- The adoption of General Accepted Accounting Principles (GAAP) with a progressive approach to business accounting;
- Though the budgetary accounting systems remain the most important, they emerge as a subsystem of the whole Public Sector Management Information System and tend to be gradually accrual-based;
- A trend for an harmonisation of accounting systems between different levels of government;
- A more relevant role given to accounting information for performance evaluation management and as a tool for transparency and accountability;
- Moving to approaching GA and NA, so that the adjustments, reclassifications and eliminations are easier and more reliable.

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

Also Groot and Budding (2008) highlight that one of the most relevant characteristic of the NPM is replacing traditional cash-based by accrual-based accounting, for purposes of financial reporting in order to achieve better transparency and accountability. However they underline, as Paulsson (2006) does, that accrual accounting is more used for performance and control of governmental agencies and less adopted for budgetary decision and policy making.

In what relates to the innovations between financial and budgetary systems, Sterck et al. (2006) stated that only very few countries, like Australia, New Zealand and The United Kingdom, have introduced full accrual basis in both systems. Most countries that have earlier adopted accrual basis in their financial systems, still keep cash and commitments bases in the budget preparation and reporting. These authors and also Yamamoto (2006) stressed that the main reason for this situation is the general thinking that the preparation of accrual-based budgets may be a risk for budgetary discipline.

The study of Carlin (2005) shows that, while full accrual basis was largely adopted by the budget funded agencies, most counties still apply modified cash basis, sometimes with additional accrual data, at the Local and Central Government entities. On other hand, Hoek (2005) underlines that despite a general trend among industrialized
countries moving from cash to accrual accounting, it must be distinguished between budgeting and reporting systems. The former are connected to mixed cash/commitments accounting bases; at the same time the reporting systems are mostly linked to modified or full accrual accounting, with different practices and degrees of implementation in the several countries (Lüder and Jones, 2003; Torres, 2004; Hoek, 2005).

According to Martí (2006), the adoption of accrual basis in the budget is one of the most controversial issues in public sector accounting, with different impacts on the fiscal aggregates, such as deficit/surplus. Also the Anessi-Pessina and Steccolini (2007) study, covering Italian Local Governments, demonstrate that the coexistence of cash/commitments budgeting and accrual accounting might be antagonistic, as budgetary current deficit/surplus and accrual accounting income present different meanings.

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

In what regards specifically to NA, its main purpose is to provide information about the key aggregate indicators (e.g. gross domestic product, volume growth, national income, disposal income, savings and consumption) of the economic activity of all organisations of households in a certain country, so that a whole national economy could be evaluated and compared with other countries’ aggregates (Jones and Lüder, 1996; Jones, 2003; Benito et al., 2006; Bos, 2008).

Jones (2010) underlines NA is a statistical system and focuses on five sectors within a single economy: two for business activities (finance and non-finance companies), one for non-profits entities, one for households and one for government, known as General Government Sector (GGS), to which GA is applied.

On her turn, Martí (2006) highlights that the Systems of National Accounts (SNA) as the Government Finance Statistics (GFS) Manual and the European System of National Accounts (ESA95), compile aggregated data in order to evaluate national income and net worth for the whole economy, divided into instructional sectors, being the General Government Sector (GGS) one of the NA sectors.

NA systems work over an economics and statistical-based conceptual framework and apply to economic activities taking place within an economy and also between it and the rest of the world (IPSAB, 2010). They forecast and describe macro aggregates for a Nation as a whole and the interaction between the different economic agents grouped by institutional sectors, including the General Government Sector (Vanoli, 2005; IPSASB, 2010).

ESA95 – Council Regulation nº 2223/96 and subsequent amendments³, as the conceptual framework which all European member-States are obliged to prepare their
National Accounts according to, faces great diversity of political and social systems. Nevertheless, it must facilitate not only objectives of analysis and evaluation of the economy of the member-States as a whole, but also allow monitoring and controlling their political and economic policies in order to sustain the European Monetary Union (Lüder, 2000; Keuning and Tongeren, 2004; Sierra Molina et al., 2005; Hoek, 2005; Barton, 2007; Bastida and Benito, 2007; Benito and Bastida, 2009).

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

Consequently the study of the relationship between GA and NA is very relevant for several reasons, such as (Cordes, 1996; Jones and Lüder, 1996; Lüder, 2000; Montesinos and Vela, 2000; Sierra Molina et al., 2005; Martí, 2006; Benito et al., 2007):

- The NA aggregates relating to 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 the EU fiscal decisions;
- The adoption of full accrual basis for the majority of transactions is compulsory for all EU members-States while preparing their NA;
- The GA reforms in progress in several countries, especially in the EU member-States, moving from cash-based to accrual-based accounting systems, has not embracing all GA systems, namely has excluded budgetary systems, the main source of data from GA for NA.

The literature review allows us to emphasise 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-based for budgetary systems (Cordes, 1996; Jones and Lüder, 1996; Montesinos and Vela, 2000; Lüder and Jones, 2003; Torres, 2004; Martí 2006; Barton, 2007, among others).

Table 1 compares, for both systems, the main differences relating recognition and measurement criteria.

**Table 1: GA versus NA – recognition and measurement criteria**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Governmental Accounting</th>
<th>National Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECOGNITION</td>
<td>Budgetary accounting – cash basis or modified cash basis</td>
<td>Full accrual basis for all transactions (monetary and non monetary)</td>
</tr>
<tr>
<td></td>
<td>Financial accounting – cash basis or accrual basis (modified accrual basis or full accrual basis)</td>
<td></td>
</tr>
<tr>
<td>MEASUREMENT</td>
<td>Historical cost – purchase price or production cost</td>
<td>Market prices (main reference)</td>
</tr>
</tbody>
</table>
Thus, each accounting system presents different criteria for transactions recognition. Nevertheless, ESA95 general recognition criterion was later modified regarding taxes and social contributions, by EU Parliament and Council Regulation (EC) nº 2516/2000, allowing member-States to recognise these according to three different methods, thus becoming an exception to the accrual basis regime:

- Accrual basis – recognition when the taxes 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 none of the other methods.

Regarding differences between GA and NA, IPSASB (*International Public Sector Accounting Standards Board*) developed a working program concerning the convergence of IPSASs with NA systems, issuing in January 2005 a Research Report with the purpose of identifying the differences between financial reporting provided by the statistical-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 identifies the key issues that involve different accounting treatment in GA and NA and makes recommendations in order to reduce or eliminate the divergences between the two accounting systems wherever it is possible (Jesus and Jorge, 2010a).

Nevertheless, here our research focal point is the differences related to recognition criteria, namely concerning taxes, accounts receivable/payable and interest paid/accrued. This focus is justified because material differences GA-NA 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 harmonise the moment when transactions are recorded (Lande, 2000; Luder, 2000; Keuning and Tongeren, 2004).

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, like deficit and debt, which has consequences on their reliability and comparability. They highlight this situation requires the adoption of accrual basis under GA and also a standardisation of procedures and practices among the two accounting systems. Their study on the relationship between GA and NA applied to The Netherlands, describes the main steps that must be considered when taking data sources of governmental sector to NA:

- Transformation of cash-based (GA) to accrual-based data (NA) – identifying the proper asset and transaction category; consolidating some internal flows; adjusting time of recognition of taxes, interest payments on central government debt, payments in advance, among others;
- Transformation of accrual-based (GA) to accrual-based data (NA) – identifying
the 'quasi-corporations' and also identifying the proper asset and transaction category and deconsolidate some internal flows.

Hoek’s (2005) study, also focused on the Dutch experience, concludes that accrual-based budgeting and accounting systems are used both in The Netherlands Local and Central Government, although the budget information for NA purposes is still based on a mixed cash/commitments system.

On her hand, Martí (2006) underlines accrual budgeting is a fundamental problem to be solved in the relationships between GA and the NA aggregates that allow comparing countries’ financial performance. She discusses the key items with different accounting recognition alternatives, such as:

- The recognition of taxes and social contributions revenues – tax credits, tax gap and moment of recording the tax revenues;
- The accounting treatment of infrastructures, heritage collections and military equipment.

Recently, Kober et al. (2010), whose research focus the Australian public sector reality, debate the usefulness of accounting information prepared and disclosed under three different accounting methods: cash-based, GAAP accrual-based, both in the GA context, and GFS accrual-based reporting under NA. They evidence the existence of two different perspectives about the usefulness of accounting information. Following Hoek, (2005) and Benito et al. (2007), the macro statistical data must be used only for NA purposes and not at micro level. On other hand, these authors emphasise the position of Jones (2000a, 2000b), as well as of Lande (2000), Lüder, (2000) and Montesinos and Vela (2000), arguing in favour of searching a link between GA and NA, due the inconsistence of the two systems, compromising the usefulness and reliability of the information for both micro and macro level.

This last perspective is also pointed out in a previous study regarding the impact of the GA to NA differences on the Portuguese Central Government deficit (Jesus and Jorge, 2010a). The current research pursues the previous study but explores the accounting bases differences and the consequent adjustments from GA to NA data, extending the analysis of the quantitative impact to tree EU member-States deficit/surplus, as explained.

2. Methodology and Data

This research essentially follows a qualitative methodology, since the purpose is to describe, analyse and compare accounting practices, focalising 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 focused on three EU countries – Italy, Portugal and Spain, representing the European (south) Continental countries, influenced by administrate law, with a hierarchical public administration, as Brusca and Condor (2002), Torres and Pina (2003) and Torres (2004) highlight.

This study uses qualitative and quantitative data together, following a research design as suggested by Miles and Huberman (1994). It adopts a multiple case method as the

It also follows the CIGAR trends in Comparative International Governmental Accounting researches, adopting an explorative multi-country case study (Lüder, 2009).

About qualitative data, several sources and research techniques have been used, such as analysis of documents and archival records, following the research lines designed by Yin (2003) to a descriptive case study.

The main documental source is, for the three countries, the respective EDP Consolidated Inventory of Sources and Methods (INE, 2007; EUROSTAT, 2009a and 2009b). This document presents a description of sources and methods to be used in the preparation of the EDP Notification Tables.

Quantitative data were collected from TABLE 2A of the Excessive Deficit Procedure (EDP) October 2010 Notification, covering years 2006 to 2009. TABLE 2A provides data explaining the transition between the public sector accounts budget deficit/surplus in GA and the deficit/surplus in NA, regarding CGS (EUROSTAT, 2010a, 2010b and 2010c).

As this subsector is our analysis object, it is important to clarify its delimitation for each country in order to better understand the data sources from GA to NA and consequent accounting basis adjustments. Table 2 shows the entities included in CGS by country.

<table>
<thead>
<tr>
<th>Country</th>
<th>Entities included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>• Subsector State</td>
</tr>
<tr>
<td></td>
<td>• Research Bodies (Experimental research bodies)</td>
</tr>
<tr>
<td></td>
<td>• Economic Service Bodies (economic activities regulatory bodies, economic service producers, autonomous funds, independent administrative authorities and Associati type bodies)</td>
</tr>
<tr>
<td>Portugal</td>
<td>• Subsector State</td>
</tr>
<tr>
<td></td>
<td>• Central Government Autonomous Services and Funds</td>
</tr>
<tr>
<td>Spain</td>
<td>• Subsector State</td>
</tr>
<tr>
<td></td>
<td>• Other entities/Other Central Government Autonomous bodies</td>
</tr>
</tbody>
</table>

Source: Inventory of Sources and Methods (INE, 2007; EUROSTAT, 2009a and 2009b)

Regarding CGS, Italy and Portugal moved from cash to accrual accounting in the agencies’ financial systems, remaining the subsector State’s bodies almost cash-based; in both countries budgetary systems are still cash-based. Concerning Spain, all CGS entities already adopt accrual basis.

This study uses October 2010 Notification data (the most recent available data), embracing both final and half-finalised data, with different status for each country.
analysed, as follows:

- Final data – Italy year 2006; Portugal years 2006 and 2007; Spain years 2006, 2007 and 2008;

3. Cash-accrual data adjustments from GA into NA in Central Government Sector

The Inventories of Sources and Methods (hereafter called Inventories), disclosed by each country analysed, identify the delimitation of General Government Sector (GGS) and describe the composition of Central Government Sector (CGS) – S.1311, the focus of this study.

They additionally describe the main adjustments from GA data into NA. In previous studies concerning Portugal and Spain we have classified these adjustments into two major categories that imply standardized adjustments procedures: (1) cash-accrual adjustments for taxes, social contributions, primary expenditures and interest; and (2) reclassification of some transactions, namely capital injections in State-owned corporations, dividends paid to GGS entities, military equipment expenditures and EU Union grants (Jesus and Jorge, 2010a and 2010b).

This research explores category (1) – accounting basis adjustments, for which all countries have specific accounting procedures, as the Inventories explain. Some of them are much more detailed than others, but it is possible to summarise the information regarding the accounting treatment for cash-accruals adjustments in the following groups: (1) taxes and social contributions; (2) other accounts receivable and other accounts payables (primary expenditures); and (3) differences between interest paid and accrued.

Table 3 illustrates the adjustments types each country carries out, according to the respective Inventory.

Table 3: Cash-accruals adjustments in the analysed countries according to the Inventories

<table>
<thead>
<tr>
<th>Types of Adjustments</th>
<th>Italy</th>
<th>Portugal</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes and Social contributions</td>
<td>X</td>
<td>X</td>
<td>_</td>
</tr>
<tr>
<td>Other accounts receivable / Other accounts payable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(primary expenditures)</td>
<td>X</td>
<td>X</td>
<td>_</td>
</tr>
<tr>
<td>Difference between interest paid and accrued</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Inventory of Sources and Methods (INE, 2007; EUROSTAT, 2009a, 2009b)

As Spain uses accrual-based information from GA systems, it does not describe cash-accrual adjustments, except regarding interest paid and accrued under some circumstances, as explained in Table 6.
Tables 4 to 6 detail the adjustments procedures relating the three types of cash-accruals adjustments, considering each country’s Inventory.

**Table 4: Adjustments procedures relating to “Taxes and Social Contributions”**

<table>
<thead>
<tr>
<th>Country</th>
<th>Adjustments</th>
<th>Value Added Tax (VAT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Others Taxes and Social Contributions</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Italy   | • Regarding taxes on production and imports, information is supported by the budgetary assessments and tax rolls in cash-based, deducting or adding settlements and transfers between government bodies and also time lag adjustments  
          • As to social contributions, information is based on budgetary assessments too, deducting claim-depreciation provisions and making adjustments for time lag | • As regards to VAT, the adjustment made takes into account the time lag between declarations and subsequent payment |
| 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) – taxes on tobacco, petrol and alcoholic beverages and social contributions  
          • No time adjustment cash-accrual is applied to income taxes data | 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   | • The amounts accrued in each fiscal year recognised in GA based on the fiscal entitlements (liquidation time), deducting the annulments and cancellations occurred 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) | |

Source: Inventory of Sources and Methods (INE, 2007; EUROSTAT, 2009a, 2009b)

Accordingly, regarding “taxes and social contributions”, a very important topic of possible adjustments, the countries analysed present a great diversity of treatments.
Cash or accrual data are used and there are different adjustments for the same taxes and duties items. Additionally, every country data demonstrates different cash bases in the same EDP Notification to diverse tax categories.

Table 5: Adjustments procedures relating to “Other accounts receivable / payable”

<table>
<thead>
<tr>
<th>Country</th>
<th>Other accounts receivable</th>
<th>Other accounts payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>Budgetary commitments are used in all cases – they represent safe claims</td>
<td>Budgetary commitments are used for the transactions in products, labour costs and social benefits</td>
</tr>
<tr>
<td></td>
<td>Cash-based data are used in all cases which assessments contain elements of uncertainty</td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>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)</td>
<td>Modified cash-based expenditures of year (N) + Expenditures of year (N) in debt for year (N+1) – Expenditures paid in year (N) related to commitments of previous years</td>
</tr>
<tr>
<td>Spain</td>
<td>There is no cash-accrual adjustment regarding primary expenditures, since they are already recognised under an accrual basis in GA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For capital expenditures which contract establishes a single payment at the time of completion of the project, it is necessary to make an adjustment in order to consider, at year N, the payment related to the asset recognised</td>
<td></td>
</tr>
</tbody>
</table>

Source: Inventory of Sources and Methods (INE, 2007; EUROSTAT, 2009a, 2009b)

Italy reports accounts payable based on budgetary commitments, although not explaining any adjustment associated to this category. Portugal displays cash-accrual adjustments for both groups, while Spain does not disclose any adjustment regarding this category, as the GA data are already accrual-based.
Table 6: Adjustments procedures relating to “Difference between interests paid and accrued”

<table>
<thead>
<tr>
<th>Country</th>
<th>Adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>• The information used does not come from budgetary data but from a methodology in line with ESA95 requirements, e.g. accrual based, implying time adjustments in any cases</td>
</tr>
<tr>
<td>Portugal</td>
<td>• Interest paid on year (N) + Interest occurred in year (N) to be paid in year (N+1) – Interest paid in year (N) occurred in year (N-1)</td>
</tr>
</tbody>
</table>
| Spain   | • Interest revenues and expenditures are recorded when the corresponding administrative acts are complete  
• There is no adjustment unless there are pendent administrative acts, which must be detailed in the income statement  
• Accrual basis is already adopted under the Public Accounting General Plan for all public sector entities |

Source: Inventory of Sources and Methods (INE, 2007; EUROSTAT, 2009a, 2009b)

Italy and Spain do not disclose detailed procedures for this item, opposing the Portuguese situation.

4. Impact of the accounting basis differences

The quantitative impact of the accounting differences between GA and NA on the CG deficit/surplus reported by the three counties analysed, is evaluated from TABLE 2A and, as explained in section 2, data from October 2010 EDP Notification have been used, in different status and covering years 2006 to 2009.

For every country, EDP Reporting TABLE 2A is based on the Central Governmental Accounts (CGA) budget deficit/surplus, designated as “working balance”. This Table evidences data adjustments to reach final deficit/surplus – net borrowing (-)/lending (+) of Central Government Sector (S13.11), according to NA requirements.

Regarding Portugal and Spain, the working balance in TABLE 2A concerns only to subsector State data and the deficit/surplus of other CG entities is disclosed as a whole in a separate issue (Jesus and Jorge, 2010a and 2010b). The Italian working balance reports the CG deficit/surplus for all the entities included in Central Government subsector (EUROSTAT, 2010a).

About accounting bases, the working balance is supported in cash-based budgetary reporting (balance from expenditures and revenues) in Portugal and Italy. However, these countries CG reporting is cash-based for the subsector State and accrual-based for most of the other CG entities. The working balance data is accrual-based in the Spanish notifications (EUROSTAT, 2010a, 2010b and 2010c).
TABLE 2A discloses four specific categories relating to cash-accruals adjustments, similar to those identified under the Inventories (Table 3). However, when analysing each country’s TABLES 2A, Italy does not display a specific item to the category designated “taxes and social contributions”. Table 7 evidences this circumstances, in spite of the adjustments disclosed in the Inventories (EUROSTAT, 2009b, 2010a).

Table 7: Cash-accruals adjustments in the analysed countries, according to TABLE 2A

<table>
<thead>
<tr>
<th>Categories</th>
<th>Italy</th>
<th>Portugal</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes and Social contributions</td>
<td>X</td>
<td>X</td>
<td>_</td>
</tr>
<tr>
<td>Other accounts receivable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other accounts payables (primary expenditures)</td>
<td>X</td>
<td>X</td>
<td>_</td>
</tr>
<tr>
<td>Difference between interest paid and accrued</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Source: (EUROSTAT, 2010a, 2010b and 2010c).

4.1 Analysis per year

Graphic 1 compares for the chosen countries and every year the cash-accrual adjustments as a whole against the respective deficit/surplus. This aggregate reported on TABLE 2A is calculated after all the adjustments made from the working balance in CG accounts.

Meanwhile, Table 8 evidences that cash-accrual basis adjustments are, as expected, more significant, both in magnitude and percentage, in Italy and Portugal, being much less important in the Spanish case, except for 2006 final data, because this country surplus presents a smaller absolute amount in this year.
Table 8 - Total accounting basis adjustments versus deficit/surplus (%)

<table>
<thead>
<tr>
<th>Countries</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>-36,1</td>
<td>13,69</td>
<td>-7,00</td>
<td>5,05</td>
</tr>
<tr>
<td>Portugal</td>
<td>-1,68</td>
<td>-1,08</td>
<td>3,89</td>
<td>1,12</td>
</tr>
<tr>
<td>Spain</td>
<td>18,36</td>
<td>0,70</td>
<td>2,06</td>
<td>3,29</td>
</tr>
</tbody>
</table>

On its turn, Graphic 2 illustrates the evolution of all cash-accrual adjustments over the years analysed. Italy presents great oscillations from a data status to another, with huge amounts and positive impact in 2006 and 2008; the impact is negative in 2007 and 2009 data. The Portuguese cash-accrual adjustments are very regular and the Spanish data demonstrate a decreasing evolution.

Graphic 2: Evolution of cash-accruals adjustments as a whole – 2006 to 2009

4.2 Analysis results per category

As the cash-accrual adjustments means a sum of different adjustments types, positive and negatives, it is important to analyse category by category, as described in Table 7.

Graphic 3 demonstrate the weight in percentage of “other accounts receivable” (including taxes and social contributions) category, on the cash-accrual adjustments as a while. This category is displayed only on the Italian and Portuguese reports.

Graphic 3: Weight of “other accounts receivable” in the total cash-accrual adjustments (%)
It must be noticed that this category presents a higher weight in the Portuguese case, either with positive or negative impact, but much more regular than the Italian reporting, which percentages show a decreasing tendency, namely from 2006 final to 2007 half-finalized data, as Graphic 4 illustrates.

**Graphic 5: Evolution of “other accounts receivable” adjustments – years 2006 to 2009**

Meanwhile, Graphic 5 presents the weight in percentage of “other accounts payable”, on the total cash-accrual adjustments too. This category, only reported by Italy and Portugal, is the more significant in the Portuguese cash-accrual adjustments, like in the Italian case, namely in the most recent data (year 2009).

**Graphic 5: Weight of “other accounts payable” in the total cash-accrual adjustments (%)**
It must be noticed that “other accounts payable” category is the most relevant category reported in both countries Notifications, namely as 2007 and 2009.

The evolution of this category may be analysed in Graphic 6, showing not so significant figures and a constancy in the Portuguese data between 2006 and 2008, with a decreasing impact in 2009. The Italian data demonstrate huge oscillations, decreasing from 2006 to 2007, increasing again in 2008 and decreasing in 2009 data once more.

**Graphic 6: Evolution of “other accounts payable” adjustments – years 2006 to 2009**

At last, Graphics 7 and 8 relate to “interest paid/accrued”, supporting this category weight in the cash-accrual adjustments as a whole and its evolution along the years analyzed, respectively. We must keep in mind this is the only category displayed by Spain.
This category is the only one displayed by Spain and has a decreasing tendency with positive impact on the balance (surplus) in 2006 and 2007 data and negative afterwards. As to Portugal, it represents not significant weights in the first three years while 2009 data display a huge percentage on the deficit/surplus. This category has always positive impact and show a regular tendency.

The Italian figures evidence this category represents most part of cash-accruals adjustments in 2007 and 2008 and is still significant in 2009 data. The evolution analysis demonstrates an alternate impact, positive in 2006 and 2008, negative in 2007 and 2009.

5. Conclusions

The literature review identified main differences between GA and NA, underlining
recognition criteria differences, because NA concerning Central Government sector is obtained from GA budgetary accounting systems, generally cash-based. This leads to the need of making adjustments when transforming GA data into NA data, which generally require accrual basis, although considering exceptions to taxes and social contributions.

Following a qualitative methodology, the empirical study focus three EU countries – Italy, Portugal and Spain – representative of the southern Continental European accounting perspective.

The paper identifies and compares the main cash-accrual adjustments according to the categories described in the countries’ Inventories of Sources and Methods. This analysis reveals each country discloses different cash-accrual adjustments as well as different treatment procedures to convert GA data into NA data. The adjustments centred on “taxes and social contributions” exist in all countries except Spain, which GA working balance is already accrual-based. Regarding the “other accounts receivable/payable” categories, adjustments are displayed by those countries which GA working balance is cash-based (Italy and Portugal). The adjustments related to “interest paid/accrued” are discriminated through all countries’ Inventories, even though Spanish data are already accrual-based.

In what respects the quantitative impact of those adjustments on each country’s deficit/surplus, the study uses the most recent available data for Central Government. The findings show that cash-accrual adjustments as a whole are more significant in the Italian case, although they are also relevant in Portugal and Spain. The most noteworthy categories are the “other accounts receivable”, including “taxes and social contributions” adjustments for Italy. The “other accounts payable” category is the most important in the Portuguese case and the “interest paid/accrued” adjustments are the most relevant for Italian and Spanish data.

In summary, this study allows to support, as expected, that cash-accrual adjustments are less significant in countries already adopting accrual accounting in GA systems, reporting the NA working balance also accrual-based. Therefore, it is important that GA moves from cash to accrual-based systems, namely in what concerns budgetary accounting systems.

This research should be extended to other EU countries in order to evaluate the impact of accounting basis differences and to propose a common framework to harmonize the accounting treatment to be adopted when translating GA data to NA. This framework is almost imperative in spite of the actual EDP Consolidated Inventory of Source and Methods each country discloses, because the Inventories explain particular accounting treatments and procedures, evidencing a great diversity of situations, which represents an obstacle to reach reliable, accurate and comparable NA data, used to sustain the financial decision of the EU member-States. Additionally, we find evidence that the procedures disclosed are not applied, as data displayed on EDP Notifications demonstrate, when comparing with the Inventories disclosures.

The need of standardized procedures is, in our viewpoint, a crucial step to increase the reliability of informative outputs for both micro and macro governmental accounting perspectives.
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1 This is Sector S.13 – Public Administrations, according to the definition of institutional sectors in the ESA95 (§ 2.17).
3 This study, focused in 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.
4 These adjustments concern to primary expenditures – current and capital.