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Abstract

The purpose of this paper is to discuss the role of standardised Chart of Accounts (CoA) in public sector accounting and reporting, particularly focusing matters concerning the importance and need to have a CoA at national level, the issues needed to be taken into account when developing a CoA, and the expected impact of using a CoA as a bookkeeping instrument on the accuracy of accounting records and ultimately on the reliability of the financial information.

Based on documentary analysis and on a survey to some of those involved in the development of a CoA for public sector accounting, the research uses a comparative-international perspective to learn from some national experiences and from European and international standard-setters' perspectives, which can be considered by other countries intending to develop a CoA.

Main findings show that the link of the national CoA to National Accounts is important in countries like those from EU, where a common fiscal discipline is monitored using these figures.

It is generally acknowledged, including by international standard-setters, that a CoA in public sector accounting is important for a need to support standardised records and accounting, and the preparation of financial statements, including consolidated and WGA.

All in all, this paper suggests that harmonising CoA within countries makes sense and the development at national level should consider specificities of public sector transactions, the link to the financial statements items, and the link to the budget as most important issues.

Keywords: Chart of Accounts; Conception; Harmonisation; Convergence; IPSAS; Comparative-international analysis.

1. Introduction

In recent decades, countries around the world have embarked on public sector accounting and financial management reforms. This movement embraces a global trend to introduce accrual accounting, approaching to business accounting, while at the same time striving for increasing global harmonisation of financial reporting in the public sector (Brusca et al., 2015).

The main reference for reforming General Purpose Financial Reporting (GPFR) have been the International Public Sector Accounting Standards (IPSAS) issued by the International Public Sector Accounting Standards Board (IPSASB) (Manes-Rossi et al., 2015; Jorge et al, 2016). IPSASB seeks to provide high quality accounting standards, through the issuance of IPSAS, intended to enhance the quality and transparency of public sector financial reporting (IPSASB 2017, Preface to IPSAS, para 5-6).

IPSAS provide principle-based standards, for recognition and measurement criteria, and for disclosing financial information, within a GPFR framework. Recently, in 2014, the suite of IPSAS was accompanied by the IPSASB's Conceptual Framework (CF). The CF provides the foundation for key accounting concepts supporting the IPSAS (IPSASB, 2014).

IPSAS have been developed using private sector accounting standards, International Financial Reporting Standards (IFRS) / International Accounting Standards (IAS) as a starting point. This means that IPSAS are based on full accrual basis accounting and reporting, assuming double entry. Nevertheless, IPSAS neither suggest nor provide any type of classification of accounts to be used for bookkeeping, hence no guidance is offered regarding the defining and use of a Chart of Accounts (CoA).

However, some countries that have recently adopted IPSAS or are moving towards these standards (e.g. Portugal, Brazil, Estonia, Belgium) have also developed standardised CoA at national level or adopted previously existing ones, to support the new IPSAS-based accounting system. Also, in the context of the European Union (EU), the European Public Sector Accounting Standards (EPSAS) project (Aggestam and Brusca, 2016) is considering the standardisation of national CoA within each Member State as an important component of the EPSAS (Eurostat, 2017). Eurostat is more precisely arguing that a harmonised CoA at national level would underlie harmonised accounting rules, and that a standardised CoA might improve accounting records accuracy, increasing comparability and overall reliability and quality of financial reporting (Eurostat, 2017). In addition, it has been argued that it is desirable there be uniformity in the language of the CoA for the consolidation of the governmental financial statements (Moura et al., 2012).

Notwithstanding, whether a CoA would in fact facilitate all this, is still yet to be debated.

Taking the above into consideration, this paper discusses the role of standardised CoA in public sector accounting and reporting, particularly addressing the following research questions:

1) Why is a standardised CoA found important/needed at national level?
2) What issues need to be taken into account when developing a CoA (By whom? Inspired by what? Following which categorisation criteria?)
3) What can be the expected impact of using a CoA as a bookkeeping instrument on the accuracy of accounting records and ultimately on the reliability of the financial information?

The paper aims at contributing with some insights from the countries' experiences and from the European and international standard-setters' perspectives, which can be considered by other countries when developing CoA.

Henceforth it is organised as follows. Section 2 presents a literature review about charts of accounts, its development and importance, in the public sector context. Section 3 briefly describes the methodology used in the research. Section 4 presents the results of the empirical study, firstly, describing the country cases, and then analysing the survey main findings. Section 5 summarises the concluding remarks.

2. Charts of Accounts in public sector accounting realm

The first undertakings towards the facilitation of international accounting harmonisation for the private business sector were observed in the early 1970s The wave of interest of international accounting harmonisation started with the establishment, in 1973, of the then International Accounting Standards Committee (IASC), today the International Accounting Standards Board (IASB), and flourished since the convergence of accounting practices and systems across borders should establish a largely homogenous basis for underlying assumptions, for accounting and financial reporting. The relevance of academic research investigating the reasons behind the differences among accounting practices since them has increasingly grown.

A similar process of international harmonisation in the area of public sector accounting came about approximately a decade later. The need to undertake harmonisation in the area of public sector accounting, has been pursued by international organisations, such as the Organization for Economic Cooperation and Development (OECD), the World Bank, and the International Monetary Fund (IMF), who are pushing for convergence towards accrual accounting and international accounting standards to create high-quality comparable data, and to facilitate auditing and to fight corruption, by improving accountability. The first International Public Sector Accounting Standards (IPSAS) were published in May 2000. IPSAS serve as a mechanism for enabling increased homogeneity between public sector financial reporting in different countries. Recently a new body of literature on the adoption of common accounting standards in the public sector is emerging (e.g., Heiling *et al*., 2013; Biondi, 2014; Brusca et al., 2016; Caruana et al., 2019). In addition, a number of studies have particularly examined adoptions of IPSAS (e.g., Oulasvirta, 2014; Bellanca and Vandernoot, 2014; Brusca et al., 2015; Christiaens et al., 2015; Jorge et al., 2016; Manes-Rossi et al, 2016; Jorge et al., 2019).

The global financial crisis in 2008 has played a role in increasing pressure on governments to be more transparent and produce comparable information. Following this crisis, the European Union initiated a project aimed at regional harmonisation and governance of public sector accounting, through the EPSAS (Pontoppidan and Brusca, 2016). Manes-Rossi et al. (2018) address the pros and cons of the proposed solutions at a European level for harmonising public sector accounting and financial reporting.

Nevertheless, the role of the CoA in the process of working toward the harmonisation of public sector accounting literature has yet not been examined in the literature. Yet, the European Commission has expressed already in 2013 that, with regards to the adoption of EPSAS, "the development of a new chart of accounts is a key step in the adoption of accruals accounting. A well-planned chart of accounts can assist in the efficient generation of financial information for a variety of purposes" (European Commission, 2013). In turn, the IMF (2011) has explicitly stated that "it is possibly the most critical element or lynchpin of a well-functioning Public Financial Management (PFM) system" (p.1). Therefore, it is suggested that the CoA is crucial for effective budget management, including tracking and reporting on budget execution. The CoA is also considered a tool to improve comparability, allowing for better consistency of accounting practices.

Moura et al. (2012) explain that the preparation of a CoA in the public sector has as main objectives: control, standardisation of accounting records, disclosure of the entity's equity and its variations, and consolidation of accounts, aiming at producing standardised reports, enabling the generation of information that effectively contributes for decision-making process, namely by public managers, and for accountability, allowing monitoring the management of the public thing by the society in general.

The CoA is considered as the foundation for accounting information systems within public sector entities and governments. In general terms, CoA are lists of account titles and corresponding numerical coding structures used to record financial data such as revenues and expenses as well as to describe assets and liabilities. CoA are important "for classifying, recording and reporting information on financial plans, transactions and events in a systematic and consistent way. … is an organized and coded listing of all the individual accounts that are used to record transactions and make up the ledger system" (IMF, 2011, p.3)

By using a CoA, financial data can be uniformly sorted and aggregated into operating classifications such as product lines, cost centres, operational functions, or other categories specific to a particular organisation.

“The CoA specifies how the financial transactions are recorded in a series of accounts that are required to be maintained to support the needs of various users/stakeholders. It defines the scope and content of these accounts for capturing the relevant financial information” (IMF, 2011, p.3).

According to Moura et al. (2012) and Viana (1976), the structure of a CoA must comprise: (a) the title of all necessary accounts and their arrangement in a system; (b) the enunciation of the functions assigned to each of the accounts that make up the plan, also known as the ‘accounts manual’; and (c) the establishment of the routine of the records, according to the development of the management.

The chart of accounts should be structured through accounts that express the assets in a qualitative (by the nature of the elements that compose it, such as money, property, etc.) and quantitative way (expressing the equity components in value) (Iudicibus et al., 2006; Moura et al., 2012).

The IMF (2011) suggested that the structure of the budget, in particular the budget classification, and the CoA have a “symbiotic relationship”. Explaining that as such, a mistake in designing the CoA could have a long lasting impact on the ability of the PFM system to provide required financial information for key decisions. This means that the definition, use and maintenance of the CoA segments are critical to ensure data integrity and usefulness of reports coming out of the financial accounting and reporting system.

In November 2017 the European Commission released an EPSAS issue paper addressing the national approaches to harmonisation of the CoA (EUROSTAT, 2017). The issue paper was prepared with the aim of exploring the approaches taken, as well as the opportunities and challenges faced, in regards to the harmonisation of CoA with a view to financial reporting requirements for national purposes in at least three European Union Member States. The issue paper addresses harmonisation of CoA within individual Member States, not at the EU level.

3. Methodology

The research relies on information from country case studies, hence using a qualitative exploratory approach (Ryan et al., 2002). It compares four countries that, because of their national accounting practices and traditions, have developed charts of accounts while adapting their public sector accounting systems to IPSAS – Belgium, Brazil, Estonia and Portugal.

Based on documentary analysis, the research starts by comparing the different CoA, evidencing differences and similarities. In complement, aiming to investigate objectives, criteria and issues considered in the conception/development of the CoA (e.g., proximity to business accounting, GFS, linking to budget, etc.) and derived differences, a survey was carried out with the standard-setters and/or working groups in charge of developing the CoA for public sector accounting in those countries. Given the current interest within the EPSAS project, the survey was also applied to those in charge of the EPSAS Group. The IPSASB was also surveyed as possible part of the development process, in their capacity to issue recommended guidelines.

The survey comprised 11 main questions (some with sub questions), mostly open questions, to be freely answered by the respondents (Foddy, 1993). These questions addressed the following:

- The work role of the respondent, and how was it related to the CoA;
- Whether a CoA existed or not in the country and, if existent or considered to be developed soon:
    - The reasons of its consideration and importance;
    - The main purposes;
    - The key actors (standard-setters, politicians, accountants, EU, other, …);
    - Whether it was developed from scratch (zero base) or which were the sources of inspiration;
    - Pros and cons of different models considered;
    - Accounts categorization criteria specifically followed;
    - Technical issues considered – e.g., link to the budget, link to ESA/GFS and the National Accounts sectors, alignment with IPSAS, …
- General issues needed to be taken into account when developing a CoA in public sector accounting, e.g.:
    - What is practicable and reasonable in terms of CoA development (e.g., IT, comparability across (sub)sectors, …);
    - By whom it must developed;
    - Main criteria that should inspire such development;
    - Accounts categorization criteria to be specifically followed;
    - Level of detail useful/feasible to consider.
- Importance of a CoA at national level and at the EU level;
- The awareness and views about the EU's initial work on a standardised CoA at national level; and
- The expected impact of using a CoA as a bookkeeping instrument on the accuracy of accounting records and ultimately on the reliability of public sector entities' financial information.

Some of the above questions related to the specific context of a country. Therefore, if the respondent would not be a country representative, but would instead belong to an international or European body, he/she would not answer to these country specific questions.

The survey was operationalised using the *Lime Survey* tool and the link sent via e-mail, to selected respondents in each of the national standard-setters or working groups, and also in the IPSASB and EPSAS Group. The selection of the potential respondents was carried out on the basis of the possible role played in development of CoA, as a representative of a country and/or international standard setters The respondents are listed in Table 1.

Table 1: Respondents

Country/Body	Target	Answers received
Portugal	4	3
Brazil	3	2
Estonia	1	--
Belgium	1	1
IPSASB	2	1
EPSAS Group	2	--
TOTAL	**13**	**7**

4. Some country cases: Portugal, Brazil, Estonia and Belgium

4.1 Characterization of the existent CoA

Belgium

The Belgium government is a federal state. It includes Central Government; Public social security institutions; State government, and Local government. The Central government is composed of the federal parliament, ministries and public entities. The State government is composed of several communities and regions. The Local government is composed of provinces and cities, and of public entities at the province and city level. The Social funds are composed of the Social security services (Bellanca and Vandernoot 2013).

The financial accounting and budgeting systems in Belgium has been shaped by a diversity of laws at the different levels of government, which resulted in a diversity of accounting and budgeting systems. The related conceptual framework has been developed by the Public Services Accounting Standardization Commission, with a reform that from 1991 to 2003, established a dual system of budgetary and financial accounting and introduced in 2003 accrual-based financial accounting at the Federal level. A harmonised chart of accounts was introduced from 2009 applicable to federal and regional level (which includes the communities). In 2012 the Royal Decree 29/04/2012 also regulated notes to financial statements (EUROSTAT, 2017).

The resulting legislative framework is structured as follows (Eurostat, 2016).

Compilation of public accounting at central level (federal government is considered central government) is regulated by the Federal accounting & budgeting Law of May 22 2003, concerning the organisation of the budget and accounting of the federal government. Such a Law lays down general provisions applicable to budgets, subsidies supervision, the accounts of the communities and the regions, and the organisation of supervision by the Belgian Court of Audit. It has been integrated and updated by various (near to 20) royal decrees, in particular the Royal Decree of November 10 2009, on the chart of accounts, which was prepared by the Standardization Commission. It is applied to the public services of the Central government and Federal Planning Services.

A double-entry bookkeeping system was developed with the so called 'FEDCOM' project completed in 2012 in parallel with the implementation of a new ERP system. This system is used by Federal Public Services and Federal Planning Services and is based on an accrual basis in which financial and cost accounting is integrated with budgetary accounts.

Development to accrual budget components is in progress, adding to the still available cash data (Van Helden and Reichard, 2018). The reform was inspired by the private sector business accounting.

For the public interest bodies (to be consolidated with the central government), accounting systems are regulated by the Law of March 16 1954 on the control of some public interest bodies. For these bodies, bookkeeping system is based on an accrual budgeting system according to the Royal Decree of November 10 2009, on the chart of accounts. These entities may also adopt – in some specific cases linked to their previous accounting system – the Belgian generally accepted accounting principles (GAAP) for private law corporations. These units use a double-entry bookkeeping system in accordance with the Royal Decree of September 12 1983, defining the contents and presentation of a standardized chart of accounts or, for units with a status of non-profit organization, the Royal Decree of December 19 2003 for the bookkeeping obligations system of accounts of some non-profit organizations.

For the public interest bodies, bookkeeping standards are the same as for services of the central government, but different from those of the social security institutions.

Accounting systems in State government in Belgium are regulated by five accounting laws (Brussels-Capital Region accounting & budgeting laws; French Community accounting & budgeting laws until 2012, starting from 2013; Walloon Region accounting & budgeting laws; German-speaking community budgeting laws; Community Commissions where are different systems comparable to other systems (e.g., state budgets, communal accounting). Notwithstanding their autonomy, general principles of the federal law must be respected. Pending the development of the project at federal level, the regions developed their own chart of accounts before the standardized chart of accounts then issued by the federal level in 2009 (Christiaens and Neyt, 2016) inspired by the private accounting.

For Local government, a number of specific laws at local level regulate accounting of cities: provinces apply province accounting laws and (Flemish City accounting laws until 2013) and public corporations law starting from 2014; Brussels City accounting laws, German-speaking cities and Walloon provinces, cities and their social assistance centres, apply public corporations law. Municipalities introduced budgeting towards accruals with some regional differences (Van Helden and Reichard, 2018).

The social funds are regulated by Social Security accounting & budgeting laws. For these institutions, accounting is regulated by the Royal Decree of April 3 1997 concerning the accountability of public social security institutions under article 47 of the Law of July 26 1996 modernizing the social security and ensuring the viability of the statutory pension schemes. A reform aiming at standardizing the accounts of public social security institutions has been introduced by Royal Decree of January 26 2014 introduced the charts of accounts of the public social security institutions. The chart of accounts has been prepared by the Commission for Standardisation of the Accounting of the Social Security institutions. This is defined by the Royal Decree of June 22 2001 laying down rules about budget, accounting and accounts of the public social security institutions. The public social security institutions use their own bookkeeping system on an accrual basis (inspired by the both bookkeeping system of the services of the Federal government and the bookkeeping system of the private sector).

There are plans to change bookkeeping system used by (other) public entities with the objective in the next years to apply to all units classified in central government the Law of May 22 2003. They will also have to submit their accounting data to the FEDCOM system via a new software (eBMC for the consolidation of the data of the public interest bodies).

A Commission for Public Sector Accounting (CCP) has been established in 2010 with the Law of Jan 18 2010, which role is advising on application of the public sector accounting framework and adaptations of the chart of accounts and to deal with its application. Its members have been appointed by the federal and the regional governments. However, the Federal Accounting Department play an important role in implementation of the chart of accounts and in introduction of international accounting standards.

The harmonised chart of accounts, which applies to the central and regional government entities (excluding as above mentioned social security funds) is multidimensional and structured along 10 classes including: off balance sheet accounts; balance sheet accounts; income statement accounts; and accounts for budgetary expenditures and receipts. Each class is divided into subclasses, headings, subheadings, accounts and general ledger accounts The balance sheet and income statement is derived directly from the harmonised chart of accounts. The integrated chart of accounts includes integrated financial, budgetary and management accounting system and allows to also derive the statistical (ESA 2010) codes facilitating the consolidation process.

Brazil

In Brazil, until 2014 each Brazilian federal entity (Central Government, States and Municipalities) had its own CoA, and the accountant of the public entities had complete freedom to change, exclude or include accounts in that list. With the process of convergence of Brazilian public accounting to international standards, a new CoA structure was established by the National Treasury Secretariat (STN), the central accounting body of the Federal Government, entitled Plan of Accounts Applied to the Public Sector (PCASP).

However, despite the fact that Brazilian CoA (PCASP) has been mandatory in all Brazilian federated entities since 2014, in practice several charts of accounts continue to coexist. One explanation is that the local Courts of Audit, which are the accountability courts, continue to require the information be sent in a pattern of accounts that meet the needs of those courts themselves. This problem is more recurrent in the unfolding of the accounts from the fifth level onwards – for up to that level, the STN has obligatorily restricted the relevant accounts for consolidation purposes, leaving the other account splits to the discretion of the federated entities.

An institutional effort has been made so that the PCASP can be effectively used throughout Brazil. In 2018 a technical cooperation agreement was signed between the STN and the States Audit Courts in order to harmonise accounting rules used by the Federal Government and local courts. It is a consensus that the lack of standardisation makes it difficult to compare the fiscal situations of the states.

With the adoption of the harmonised PCASP, the CoA to be adopted by Brazilian public entities was structured into eight classes of accounts: two classes of asset accounts (Assets and Liabilities); two classes of income accounts (Decreasing Equity Variation and Incremental Equity Variation); two classes of budget control accounts (Planning and Execution); and two classes of potential acts control accounts (Debtor Controls and Creditors Controls) (Table 2).

Table 2: Table-summary of the PCASP main accounts, Brazil

1 Assets	**2 Liabilities**
11 Current Assets 12 Non-Current Assets	21Current Liabilities 22 Non-Current Liabilities 23 Net Assets/Equity
3 DEV (Expenses)	**4 IEV (Revenue)**
31 Personnel costs 32 Social security benefits 33 Depreciation and amortisation expenses 34 Financing expenses and losses 35 Transfers and subsidies granted 36 Impairment losses and losses on fair value reductions 37 Cost of goods sold and materials consumed 38 Provisions for the period 39 Other expenses and losses	41 Taxes, contributions and fees 42 Social security contributions 43 Sales, services and concessions 44 Interest, dividends and other similar income 45 Transfers and subsidies received 46 Gains on fair value increases 47 Other income and gains
5 Controls of planning and budget approval	**6 Controls of planning and budget execution**
51 Approved planning 52 Approved budget	61 Execution of planning 62 Execution of budget

53 Inscription of remains to be paid	63 Execution of remains to be paid
7 Debtors Controls	**8 Creditors Controls**
71 Potential acts 72 Financial management 73 Active debt 74 Fiscal risks 75 Public consortia 76 Costs 77 Other controls	81 Execution of potential acts 82 Execution of financial management 83 Execution of active debt 84 Execution of fiscal risks 85 Execution of public consortia 86 Calculation of costs 87 Other controls

The first classes of accounts of the PCASP (Classes 1 and 2) record, respectively, assets and rights, and liabilities, including the registration and disclosure of the public entity's equity structure. Classes 3 and 4 represent the expenses and revenues that give rise to a change in shareholders' equity and the decreases and additions of assets. As in Brazil the budgetary culture is very strong, these classes of income accounts have received a new denomination (DEV and IEV).

The control of the approval and execution of the budget is recorded in the Class 5 – Control and Approval of Planning and Budget, and in the Class 6 - Control of the Execution of Planning and Budget, where the steps of the budget revenue must be recorded (forecasting, launching, and collection) and the stages of budget expenditure (fixation, commitment, settlement and payment). The control of potential acts is now recorded in the Class 7 – Debtors Controls, and in Class 8 - Creditors Controls. In the accounts of Classes 7 and 8, the control of the availability of resources is also recorded, which must be done for both revenue (at the time of collection) and expenditure (commitment, settlement and payment).

The CoA of Brazil is updated annually and published exclusively on the internet for mandatory use in the following year. In addition, the STN offers the 'Extended PCASP', with a greater unfolding of accounts, of optional adoption, for public entities that need a reference to develop their routines and systems.

Estonia

In December 2003, the Minister of Finance approved the General Rules for Public Sector Accounting, which came into force on 1 January 2004. A major change was that the public sector accounting rules were brought in line with the basic accounting principles of the IPSAS International Public Sector Accounting Standards (IPSAS).

In Estonia, public sector accounting is regulated by the Accounting Act, the General Rules for Public Sector Accounting, the Guidelines of the Estonian Accounting Standards Board (Estonian GAAP) and internal accounting principles and procedures of a reporting entity. All public sector entities (including government sector entities) apply the same accounting standards, although non-profit oriented entities apply IPSAS and profit oriented entities apply IFRS.

In 2005, for the first time, the consolidated annual report of the state for the year 2004 was compiled using internationally acknowledged accounting principles similar to those applied in the private sector. In addition, the requirements for a compilation of consolidated statements were laid down as well as the adoption of common accounting principles and rules for submitting statements to the Ministry of Finance (from the year 2013 to the State Shared Service Centre (SSSC)) based on a common chart of accounts. SSSC is the government agency established in 1 January 2013, which provides human resources, payroll accounting services and financial services (including accounting and financial reporting services) to the government.

The General Rules for Public Sector Accounting include a uniform chart of accounts, obligatory for the reporting by public sector institutions (in practice all units of the central and local governments use the same chart of accounts, as well as many other public sector institutions); if an institution does not use the uniform chart on accounts, it should put in place a correlation table between its chart of accounts and the unified chart of accounts for reporting purposes).

As a result of the General Rules for Public Sector Accounting including a uniform chart of accounts, this is used by all public sector entities, including all units belonging to the government sector (central government, local government, social funds). It should be noted that the State/regional government level does not exist in Estonia.

According to the General Rules for Public Sector Accounting, all public sector accounting entities insert their financial reports into a public sector financial statements database. The reports are based on the harmonised chart of accounts and are inserted into the database in the form of a special unified report. This special unified report consists of balance sheet accounts, revenue, and expenses. SSSC is in charge of the management of the public sector financial statements database.

In Estonia, it was argued that a harmonised chart of accounts facilitates the production of consolidated public sector financial reports. It is thus stated in the EUROSTAT (2017) report that in Estonia “Accounting units within the public sector speak the same language, which enhances the communication between entities, and comprehensive guidelines and instructions are made available to all entities” (p.35). Furthermore, budgeting, cost accounting, financial accounting and statistical reporting are integrated within the same chart of accounts (multidimensional chart of accounts), which makes it easier to meet information needs of several users of government reports.

It should be noted that Estonia moved to an accrual-based state budget in 2017, which places it among the most innovative countries in terms of budgetary accounting. “Accrual-based budget enables using the taxpayers’ money in a more efficient and transparent manner than the current cash-based budget,” said the Minister of Finance Sven Sester (EUROSTAT, 2017, p.35). In this context, setting up a uniform chart of accounts for financial accounting and budgetary accounting proved useful.

The unified chart of accounts for national purposes was established in 2003 and negotiated then with all public sector entities. It was set as compulsory as from 2004 by regulation of the Minister of Finance. All IT-systems were prepared for the new chart of accounts and explanatory guidelines for the chart of accounts were distributed, describing every account and explaining when and how to use each account, including examples of accounting entries. The unified chart of accounts was implemented during the accrual accounting reform.

The current lists of codes included in the chart of accounts are available under the heading “Klassifikaatorid” (Classification) on the dedicated web-site. The uniform chart of accounts includes the following information (EUROSTAT, 2017):
1. List of accounts;
2. List of counterpart codes;
3. List of codes of function (similar to the classification of the functions of government [COFOG]);
4. List of source codes (used to identify EU funds and other foreign aid);

5. List of cash-flow codes.

The list of accounts is hierarchical and presents six levels, each account has a six-digit code. Accounts can be grouped together to sub-groups, groups, sets, classes and types. There are altogether eight account types which are identified based on the first digit of the account:
1. Assets
2. Liabilities
3. Revenues
4. Benefits and grants provided
5. Operating costs
6. Other expenditures
7. Net financing from the state budget
8. Additional information for compilation of financial statements

The last two types are used only as additional information for the compilation of consolidated financial statements of the central government.

Portugal

Portugal has recently approved a new system of Public Sector Accounting adapted from IPSAS – System of Accounting Standards for Public Administrations (SNC-AP) in September 2015 (Law-decree 192/2015). It was supposed to start implementation from January 2017, but was postponed and has started in 2018, except for local governments (starting in January 2019). So, many public sector entities will have the first set of annual accounts prepared according to this new system by April 2019.

This system comprises three subsystems – budgetary, financial and management accounting, including a conceptual framework for financial accounting, twenty-five standards for financial accounting and reporting (NCP 1 to NCP 25, very close to IPSAS), one standard for budgetary accounting and reporting (NCP 26) and one standard for management accounting (NCP 27). Therefore, SNC-AP allows for individual, consolidated and segment reporting.

Additionally, it includes a multidimensional chart of accounts (PCM), with codes to be used for: financial accounting transactions, correspondence to National Accounts aggregates, and assets inventory. These codes might also come to be used to classify the nature of budgetary expenditure and revenue, this way allowing for ‘four-dimensional’ reporting.

The main purposes of the PCM (Annex III of the Law-decree 192/2015) are:

- Ensuring the classification, recording and reporting of transactions and events in a standardised, systematic and consistent manner;
- Supporting the classification, recording and presentation of comparable, reliable and relevant information, aiming at:
    - Providing information on the nature of public revenue and expenditure for the purpose of reporting on the budget execution, as well as to support the assessment of budgetary performance;
    - Elaborating general purpose financial statements through the financial accounting subsystem;
    - Preparing the inventory of government and public sector entities’ assets and calculation of the respective depreciation and amortization;

- Supporting the preparation of the management report accompanying the individual and consolidated accounts;
- Supporting the preparation of National Accounts (government financial statistics aggregates), considering the classification included in ESA2010.

The concept of having a single chart (set or classifier) of accounts allowing for recording transactions in several dimensions and even according to different accounting basis – from the same account code, information might be obtained simultaneously on an accrual basis (financial accounting and National Accounts) and on a modified cash basis (budgetary accounting) – is believed to provide for greater accuracy of records, preventing inconsistencies and improving the reliability of information.
PCM follows the principles of (Annex III of the Law-decree 192/2015, para. 8):

- Completeness – scope to capture all budgetary, financial, patrimonial, economic and statistical information;
- Segmentation – responds to the information needs of users at various levels of government, as well as other relevant potential users (e.g., parliament, oversight bodies, *media*, citizens in general);
- Multidimensionality – accounts without overlaps; the same information should not be obtained from two different accounts or subaccounts in order to avoid redundancies;
- Unified structure – a single chart for all Public Administration entities and other entities that, by law, are required to apply the SNC-AP, even if there is a simplified regime;
- Adaptability – entities can create subaccounts to suit their needs;
- Accounting basis – accounts providing information on either a cash basis and a modified cash basis or an accrual basis.

Despite based on the structure of the CoA for business accounting, so as to facilitate the preparation of consolidated accounts, the PCM includes accounts to record specific transactions proper to the public sector, such as public domain assets, taxes, and grants and transfers. It considers specific levels of subaccounts disaggregation to meet sectoral needs (e.g., health, education, local government or social security sectors), while ensuring homogeneity of the main accounts (Annex III of the Law-decree 192/2015, para. 10).
According to Annex III of the Law-decree 192/2015, para. 12, PCM is composed by:

- A table summarising Classes 1 to 8 accounts to record transactions and events in financial accounting, which might also be used to classify transactions by nature in budgetary accounting (Table 3);
- A coded detailed list of accounts (Accounts Codes) of Classes 1 to 8; Class 9 of accounts, traditionally used for management accounting, is not developed, as its use is optional;
- A correspondence table between the budget line items and the PCM accounts, to be used in case the latter come to be applied in budgetary accounting to classify transactions by nature[1];
- A table of correspondence between the PCM accounts and the main ESA accounts;
- A classifier of entities (Supplementary Classifier 1);
- A classifier of goods and rights for inventory purposes, and their useful lives (Supplementary classifier 2).

[1] Currently, the natures of budgetary revenues and expenditures follow the classification in Decree-law 26/2002, distinguishing between current and capital.

Table 3: Table-summary of the PCM main accounts, Portugal

1 Net Financial Means	**2 Receivables and Payables**
11 Cash on hand 12 Demand deposits 13 Other bank deposits 14 Other short-term financial instruments	20 Debtors and creditors for transfers, subsidies and subsidised loans 21 Customers, taxpayers and users 22 Suppliers 23 Personnel 24 State and other public entities 25 Financing obtained 26 Shareholders / partners 27 Other accounts receivable and payable 28 Deferrals 29 Provisions
3 Inventories and Biological Assets	**4 Investments**
31 Purchases 32 Merchandises 33 Raw materials, subsidiaries and consumables 34 Finished and intermediate products 35 By-products, waste, scrap and waste 36 Products and work in progress 37 Biological Assets 38 Reclassification and regularization of inventories and biological assets 39 Advances on account of purchases	41 Financial investments 42 Investment properties 43 Property, plant and equipment (tangible assets) 44 Intangible Assets 45 Investments in progress
5 Equity, reserves and results	**6 Expenses**
51 Equity / Capital 52 Own shares 53 Other equity instruments 54 Issuance premiums 55 Reserves 56 Results carried forward 57 Adjustments to financial assets 58 Revaluation surplus of property, plant and equipment and intangible assets 59 Other changes in equity	60 Transfers and subsidies granted 61 Cost of goods sold and materials consumed 62 External supplies and services 63 Personnel costs 64 Depreciation and amortisation expenses 65 Impairment losses 66 Losses on fair value reductions 67 Provisions for the period 68 Other expenses and losses 69 Financing expenses and losses
7 Revenues	**8 Results**
70 Taxes, contributions and fees 71 Sales 72 Services and concessions 73 Variations in production inventories 74 Works for the entity itself 75 Current transfers and subsidies obtained 76 Reversals 77 Gains on fair value increases 78 Other income and gains 79 Interest, dividends and other similar income	81 Net surplus/deficit for the period ... 89 Advance Dividends

The PCM is accompanied by the framing notes, explaining the content and how to use each account (Legal Order 189/2016).

Additionally, there is a Class 0 of accounts, out of the PCM and within the scope of standard *NCP 26 – Budgetary Accounting and Reporting*, to record budgetary transactions in a cash and commitments basis.

4.2 Comparative analysis

From the above, it is notorious that all countries in the analysis seem to find important to develop CoA for public sector accounting, in their realities. Considering recent trends of international harmonisation that have reflected nationally, in the latter years, efforts towards single standardised CoA are evident. Due to the administrative and political organisation in the country (e.g., with states, regions and provinces or a unified country) and perhaps also as a consequence of different centralisation traditions and cultures, while Portugal and Estonia have one single CoA, Belgium and Brazil, despite having approved one, are struggling to put it in practice.

Table 4 summarises this and other main differences that can be highlighted analysing the previous descriptions.

Table 4: CoA main features: comparative analysis

Characteristics	Portugal	Brazil	Estonia	Belgium
Single CoA	Yes	Yes(No)	Yes	No
Proximity to business accounting	Yes	Yes	Yes	Yes
Specific accounts to public sector	Yes	Yes	Yes	Yes
Level of detail	Subaccounts up to 5 digit level	Subaccounts standardised up to 5 digit level; further detail allowed, but not standardised	Subaccounts up to 6 digit level	Subaccounts up to 6 digit level
Link to the budget classification	Yes(No) (Cash budget)	Yes (Cash budget)	Yes (cash budget)	Yes (Toward accrual budget)
Inclusion of budgetary accounts	No (separate chart)	Yes	Yes	Yes
Consideration of GFS/National Accounts	Yes	No	Yes	Yes
Endorsing consolidation (micro and macro level)	Yes (both)	Yes (only micro)	Yes (both)	Yes (both)

In the case of Brazil, some influence from the state's Courts of Auditors seem to be the hampering factor. In the case of Belgium, the standardised CoA does not address local governments.

Taking into account the existent standardised CoA in each country, it becomes evident that, despite all endorsing accrual accounting deriving from the business private sector, all have also included specific accounts to record transactions more specific to the public sector. Furthermore, the level of detail allowed, and sometimes required, to be used in the CoA in all countries reflect needs for specification and control, derived from traditional public sector accounting.

The link to budget classifications is a concern in all countries, mostly with budgets still cash-based excepting Belgium, which is moving towards accrual-based budgets. In Portugal, despite the CoA including classifications to be used both in financial accounting and budget revenues and expenditures, the latter function is not in practice.

Another important issue in the CoA analysed relates to the possibility of facilitating consolidation, either at micro level, meaning public sector groups, or at macro level, taking into account the link to National Accounts and Government Finance Statistics (GFS). While the link to macro scenario and economics statistics it is clear in EU countries, in Brazil there is not such link. In EU, it is now clear the importance of the alignment of governmental accounting systems with the National Accounts, namely ESA2010, given the fact that the figures from the former are input for the latter, on the basis of which, the EU fiscal discipline and macroeconomic convergence criteria are assessed.

5. Importance and development of CoA

This section summarises the main findings from the survey applied, being organised according to the structure of the major questions.

Table 5 summarises reasons, importance and main purposes of the CoA in PSA, all country specific. Respondents tended to repeat the same issues across these questions.

Table 5: Reasons for a CoA in public sector accounting, its importance and main purposes

	Portugal	Brazil	Belgium	IPSASB(*)
REASONS	– Comparability – Standardisation of accounting practices – IT reasons – Provide better management information and accountability	– Proper structuring of information – Assure technical adequacy for consolidation – Accountability – Proper decision-making – Rationalization of costs – Transparency of fiscal management and social control	– Uniform format – Configuration of an IT accounting system	------
IMPORTANCE	– Record accounting transactions – Prepare financial statements	– Understand accounting records – Preparation of financial statements – Better assimilations of accounting policies – Effective application of (international) standards – Preparing WGA	– Record accounting transactions – Facilitate consolidation	– Information customised for the reporting entity's information needs
PURPOSES	– Standardise accounting practices – Support	– Establishment of accounting routines – Consolidation and WGA – Accounting records;	– Standardisation in preparing the financial statements	– Generate information required by the standards

	practitioners in recording transactions – Analysing information – Reporting – Consolidation – Link to national accounts	detail and distinguish between patrimonial, budgetary and control records – Prepare management reports and financial statements – Compilation of public finance statistics	– Facilitate consolidation	– Generate the financial statements

(*) Information provided when replying to how his/her work was related to CoA development.

From Table 5, issues concerning the standardization of accounts and accounting practices, facilitating accounting records and the preparation of financial statements and consolidated accounts, stand out. The link to national statistics is particular referred to by respondents from Portugal and Brazil.

The following sentences referred by the respondents deserve highlighting.
About the importance of the CoA:
"without chart of accounts it is not possible to record accounting transactions and prepare financial statements" (Portuguese R2)
"It helps the whole Brazilian PS "speak" the same accounting language, thus making it easier to understand the way that transactions are being registered by PS entities" (Brazilian R2)

On the purposes of the CoA:
"[in] *rule-based countries, practitioners, want to know exactly the code of the account to be used"* (Portuguese R1)
"Accounting, reporting, consolidation and linkages to national accounts codes (ESA 2010)" (Portuguese R2)
"Allows the accounting of the acts and facts practiced by the entity in a standardized and systematized manner" (Brazilian R1)
"Recording of accounting transactions of the same nature, performed by different public sector entities, on the appropriate general ledger accounts, results in them being reported within the same heading on the face of the financial statements" (Belgian R1)

Table 6 displays the main key actors and sources of inspiration to the development of the CoA in each country.

Table 6: Key actors and sources of inspiration

	Portugal	Brazil	Belgium
KEY ACTORS	– Standard-setter (technical competencies) – Ministry of Finance	– Standard-setter – National Treasury – Advisory Body for PSA Practices – Public Managers and Policymakers – Courts of Auditors – IT and ERP companies – Subnational Governments and the Parliament – Academics	– Standard-setter

SOURCES OF INSPIRATION	– Private sector CoA, especially for financial accounting – Requirements of the standards (IPSAS) – Budgetary accounting CoA adapted formerly from the Spanish CoA	– Previous CoA existent for central government, now extended to the entire federation – Develop from scratch to Brazil – no international sources	– No sources; developed from scratch

The main actor pointed out by all respondents in the national standard-setter for public sector accounting. Brazilian respondents refer to a diversity of actors, including advisory bodies and academics, who *"meet twice a year in order to discuss PSA accounting rules, including CoA"* (Brazilian R2).

Regarding sources of inspiration, while the business accounting CoA was a clear inspiration in Portugal, so as to facilitate consolidation, in the other countries apparently that was not so important. In Brazil the previous existent CoA for central government was taken into account; in Portugal, that also happened in the accounts for the Budgetary accounting subsystem.

One the Portuguese respondents highlighted that
"The CoAs had their roots in the French and Spanish models, and were adapted over the time to adjust to international accounting standards" (Portuguese R1).

As to the discussion of pros and cons of different models, another of the Portuguese respondents, while referring to the need of *"integrating the specific transactions of the public administrations"* (Portuguese R3) in the existent private sector CoA model, also highlighted the ESA requirements in reclassifying public sector business enterprises within the perimeter of Public Administrations; therefore, *"the public sector CoA should be consistent with that of the private sector to serve the purpose of consolidating Public Administrations"* (Portuguese R3).

Brazilian respondents have given contradictory answers. One stated that nothing was discussed:
"It was assumed that the Central Government CoA had been effectively tested and improved for a significant time" (Brazilian R1).
The other clearly explained that there was discussion:
"…while discussing the CoA development, it was considered including cost accounts in it, as well as the best way to identify reciprocal transactions. The whole process of developing a CoA from scratch took more than 4 years, and CoA is still being improved" (Brazilian R2).

Table 7: Accounts and other technical issues

	Portugal	Brazil	Belgium
ACCOUNTS	– Assets, Liabilities, Revenues, Expenses, Earnings, and Equity – Separate accounts to budgetary accounting, along with budget classifications	– Assets, Liabilities, Revenues and Expenses – Budget accounts reflecting the phases of budget execution, with budget classifications – Control accounts, to controls required by the legislation (e.g. guarantees, contracts, etc.) or by management issues	– Assets, Liabilities, Revenues and Expenses – Off balance sheet rights and obligations – Specific headings for public sector items
TECHNICAL	– Consistency with private	– Common and standardised	– General ledger

ISSUES	sector CoA, but taking specificities of public sector into account – Accounts aligned with IFRS/IPSAS and ESA/GFS – Independence between the accounts related to financial and to budgetary accounting – Linking to the items in the financial statements	structure for the whole federation, but each unit of the federation can detail in order to attend to its peculiarities – Hierarchical structure with numerical coding – Linking to IPSAS and to the items in the financial statements – Strong link to the budget, given its important role in the public sector	accounts linked to budgetary accounts and statistical reporting codes – Linking to the items in the financial statements

Regarding the accounts in the CoA in each country, information summarised in Table 7 reflects, as it should be expected, what was found in documentary analysis.

While in Portugal and Brazil, respondents clear refer to accounts for financial accounting and accounts for budgetary accounting, the very summarized answers from the Belgium respondent did not refer to separate accounts for that. Accounts to control off-balance sheet elements are explicitly referred as sued in Brazil and Belgium.

As to technical issues to be considered, alignment with IPSAS, linking to the items of financial statements, and linking to budget, are common issues considered in all countries. However, as to the latter, both in Portugal and in Brazil, it seems important to keep independency between the CoA for budgetary accounting and that for financial accounting, due to different accounting basis (cash and accrual, respectively).

As to **general issues to be considered in the development of a CoA in public sector accounting (not referring to country's specifics)**, main findings are described as follows.

Portugal

The Portuguese R1 stated that *"Comparability is Key"*.
All respondents somehow referred that the accounts must take into account the standards, and link to the items of the main financial statements.
At this respect, one of the respondents referred to the need to accomplish with information needs via a *"linkage of the chart of accounts to reporting requirements for financial accounting and national accounts"* (Portuguese R2).

Two of the respondents implied for centralization and standardization of the CoA:
"[the] *chart of accounts should be the same for all public entities"* (Portuguese R2),
"but sufficiently detailed to serve consolidation and analysis purposes" (Portuguese R3).
Apart from the standard-setter, there should be an *"entity responsible for the implementation that manages a central chart of accounts"* (Portuguese R3).

As to (dis)aggregation level of the accounts, it
"depends on the class of accounts, but the basic chart of accounts for consolidation should be more disaggregated than that approved by the standard-setter" (Portuguese R3).
The same respondent also highlighted that, although assuring comparability at a broad level, *"consideration should be given to the needs of each subsector"* (Portuguese R3).

Belgium

The Belgian respondent R1 refer to the following issues to consider when developing a CoA:

- Accounts to distinguish private and public sector, taking into account particularities of the latter;
- Linking with budget and statistical reporting;
- Consideration of off balance sheet rights and obligations;
- The level of accounts detail depends on stakeholders' needs;
- All stakeholders who will implement the CoA in several levels of government, should participate in its development.

Understandability comparability of information (including with the budget), facilitating the process of accounts consolidation, and support statistical reporting, were underlined as key issues.

Brazil

Considering the diversity of realities across the country, the possibility for some customization was pointed out by one of the respondents:
"it is necessary to allow each unit that applies the standards to be able to do some kind of customization to suit its peculiarities" (Brazilian R1).

Requisites to fit with local regulation were mentioned by the other respondent.

The need to separate between budget (cash-based) and financial (accrual-based) accounts was also mentioned by both respondents *"in order to reduce possible resistance in implementation, it is necessary to work with independent dimensions, such as recording budget execution and accrual accounting on different bases"* (Brazilian R1).
Additionally, *"most accounting professionals still have to learn how to work with IPSAS converged accounting standards"* (Brazilian R2).

As to the level of detail to be considered in the accounts, respondents generally referred that it should depend on the context, country or jurisdiction.

Centralization issues were also raised, tightening these to the country's culture.
"According to ours, CoA should be issued by a central body that holds the role to edit consolidation accounting standards" (Brazilian R2).

IPSASB

(to be completed)

Regarding the **expected impact of the CoA on accuracy and reliability of information**, issued related to increased comparability were raised by the Portuguese respondents.

Portuguese R2 explains that
"A standardised chart of accounts with clear instructions about the content of each account and associated accounting records enhances the accuracy and comparability of accounts".

Brazilian R1 also underlined that
"standardizing the entry of information into accounting systems […] allows the traceability of balance sheet information, allows greater transparency of public accounts, and provides structured queries of all public finance data".
Brazilian R2 explained that

"A standardized CoA makes it easier to understand accounting language. Thus, it propels knowledge exchange. Furthermore, activities such as control and auditing can be facilitated".

The Belgium respondent, while acknowledging that information quality might be improved with the CoA, also refers to the need to accomplish with the criteria within the standards:
"It can be an instrument to enhance completeness of information in financial statements but accuracy and reliability of the information presented itself, is as much dependent on appropriate recognition criteria and measurement bases" (Belgian R1).

IPSASB
(to be completed)

6. Conclusion

The importance of developing CoA in public sector accounting within countries has been recognised by some national standard-setters. Lately, it has also been acknowledged by European and international standard-setters and a possibility to foster intra and inter countries harmonisation, hence contributing for increasing comparability and ultimately to overall improvement of the quality of reported financial information.

The study in this paper allowed to understand that countries under analysis find of utmost importance to have a standardised CoA to facilitate accounting records and the preparation of financial reporting, including consolidated accounts. They also generally acknowledge that having such a standardised CoA facilitates the monitoring of budgetary accomplishment and the preparation of the National Accounts.

While accepting the leading role of standard-setters in developing the CoA, other stakeholders involved in the implementation of the CoA were also referred to as of some importance to be heard in the process.

Deriving the CoA structure from the business CoA was highlighted by some as facilitating consolidation and being according to IPSAS (as derived from IFRS). However, the need to include accounts specific for public sector transactions was evidenced by all, with Portugal and Brazil even stressing the need to separate budgetary accounts from financial accounts, specially due to different concepts and accounting bases to be used. Still, some link to the budget as well as to the national statistics (the latter particularly underlined in the EU context) were general issues mentioned as important to be considered in the development of a CoA in public sector accounting.

The level of detail used in the accounts is expected to depend on where the CoA is to be applied, hence on information need. While some customisation was underlined as a need to be allowed, a centralized root was highlighted as central to keep consistency. Some countries clearly refer to the need to have a single CoA in the country.

As to the expected impact of using a CoA as a bookkeeping instrument on the accuracy of accounting records and ultimately on the reliability of the financial information, overall the expectations of all respondents were quite positive. An interesting note pointed out was that accuracy and reliability could be indirectly improved, inasmuch as a CoA can also facilitate control and auditing procedures.

This paper is still a work in progress. Because of this, some limitations must be immediately recognized, concerning the low number of respondents and the need to complete the analysis, namely with European and international standard-setters' views, as well to better tight the findings from the survey to those of the documentary analysis.

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