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Adoption of the budget by competence in Brazil based on comparative experiences in the USA, Canada, United Kingdom, Australia, and New Zealand

Adopción del presupuesto por devengo en Brasil basado en experiencias en EEUU, Canadá, Reino Unido, Australia y Nueva Zelanda

Adoção do orçamento por competência no Brasil a partir de experiências comparadas dos EUA, Canadá, Reino Unido, Austrália e Nova Zelândia

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Abstract

Purpose: To analyze the feasibility of adopting competency budgeting in Brazil.

Methodology: Qualitative, exploratory, bibliographic, documental, and content analysis nature, with the cataloguing of the material based on environmental attributes (political commitment, human capital, long-term sustainability, and macroeconomic policy) and technical attributes (depreciation and valuation of assets, capital expenditure, symmetry between reports, recognition of benefits and *accountability*). The work is comparative in nature based on the practices adopted in the USA, Canada, United Kingdom, Australia, and New Zealand.

Results: The examinations of environmental attributes in comparison with technical attributes were more homogeneous in reference to the countries analysed. It was identified that the technical attributes were the ones that were more casuistic, aiming to meet the specific situations of the participating countries. In Brazil, if the reform were implemented, the study pointed to attributes related to macroeconomic (environmental) policy and *accountability* (technical) as being the most favorable.

Contributions of the Study: It was identified that the most advanced experiences on accrual budgeting come from countries of Anglo-Saxon origin, whose accounting systems are convergent with those used by companies. In this sense, it is hoped that the work can contribute to the broadening of the discussion of the systematics, in view of the indication of environmental and technical attributes considered to facilitate and/or hinder the process.

Keywords: Accrual budgeting. *IPSAS*. Anglo-Saxon. Content analysis.

Resumen

Objetivo: Analizar la viabilidad de adoptar el presupuesto devengado en Brasil.

Metodología: Carácter cualitativo, exploratorio, bibliográfico, documental y de análisis de contenido, con la catalogación de materiales basada en atributos ambientales (compromiso político, capital humano, sostenibilidad a largo plazo y política macroeconómica) y atributos técnicos (depreciación y valoración de activos, gasto de capital, simetría entre informes, reconocimiento de beneficios y responsabilidad). El trabajo es de carácter comparativo basado en experiencias de Estados Unidos, Canadá, Reino Unido, Australia y Nueva Zelanda.

Resultados: Los exámenes de atributos ambientales en comparación con los técnicos resultaron ser más homogéneos en referencia a los países analizados. Se identificó que los atributos técnicos fueron los más casuísticos, buscando atender situaciones específicas de los países participantes. En Brasil, si la reforma se implementara aquí, el estudio señaló que los atributos de la política macroeconómica (ambiental) y la rendición de cuentas (técnica) serían favorables.

Aportes del Estudio: Se identificó que las experiencias más avanzadas en materia de presupuesto devengado provienen de países de origen anglosajón, cuyos sistemas contables son convergentes con los utilizados por las empresas. En este sentido, se espera que el trabajo pueda contribuir a ampliar la discusión de la sistemática, con la indicación de atributos ambientales y técnicos que pueden ser considerados facilitadores y/o obstaculizadores del proceso.

Palabras clave: Presupuesto de devengo. NICSP. Anglosajón. Análisis de contenido.

Resumo

Objetivo: Analisar a viabilidade da adoção do orçamento por competência no Brasil.

Metodologia: Natureza qualitativa, exploratória, bibliográfica, documental e de análise de conteúdo, com a catalogação do material com base em atributos ambientais (comprometimento político, capital humano, sustentabilidade a longo prazo e política macroeconômica) e técnicos (depreciação e avaliação de ativos, despesa de capital, simetria entre relatórios, reconhecimento de benefícios e *accountability*). O trabalho possui natureza comparativa a partir das práticas adotadas nos EUA, Canadá, Reino Unido, Austrália, Nova Zelândia.

Resultados: Os exames dos atributos ambientais em comparação aos técnicos se mostraram mais homogêneos em referência aos países analisados. Identificou-se que os atributos técnicos foram os que se evidenciaram mais casuísticos, visando ao atendimento de situações específicas dos países participantes. No Brasil, caso a reforma fosse implementada, o estudo apontou os atributos relacionados à política macroeconômica (ambiental) e *accountability* (técnico) como sendo as mais favoráveis.

Contribuições do Estudo: Identificou-se que as experiências mais avançadas sobre orçamento por competência são oriundas de países de origem anglo-saxônica, cujos sistemas contábeis são convergentes com os utilizados pelas empresas. Neste sentido, espera-se que o trabalho possa contribuir para ampliação da discussão da sistemática, face a indicação de atributos ambientais e técnicos considerados facilitadores e/ou dificultadores do processo.

Palavras-chave: Orçamento por competência. *IPSAS*. Anglo-saxônico. Análise de conteúdo.

1 Introduction

The Organization for Economic Co-operation and Development (OECD, 2017) has noted that citizens are increasingly looking for information on the use of resources entrusted to the government. In the context of public accounting and the globalized world, this need is associated with the preparation of high-quality financial reports and the use of a common economic language for the interpretation of financial statements (Ismaili, Ismajli, & Vokshi, 2021).

Globally, the financial communication code companies use to present their results is accounting, which uses the accrual basis to show most of the necessary changes in the equity equation on an accrual basis. Cruvinel and Lima (2011) clarify that among the existing accounting regimes, accrual accounting is the method that most closely reflects economic performance in the results of the year, according to which revenues and expenses are recognized regardless of the inflow or outflow of financial resources in the company. This regime contrasts the cash basis, where revenue is recognized only when amounts are received and expenses are recognized only when payment is made (Sousa, Vasconcelos, Caneca, & Niyama, 2013). The *International Federation of Accountants* (IFAC, 2011) even considered it as an accountability tool that provides more assurance to the user of accounting information as it more appropriately reflects the reality of transactions.

Currently, the application of the accrual regime in the preparation of the public budget

is also being considered, as it has already been applied to the assets of the patrimonial field of public organizations as part of the public sector reforms initiated by the *New Public Management* (NPM) movement in the 1980s. However, the extension of the accrual regime for the budget still lacks consensus among countries due to difficulties in recording and valuing assets, accounting for depreciation and capital investments, etc. (OECD, 2004).

Compared to accrual-based accounting, budgeting in the same framework is even more recent, with the first experiences starting in the 1990s and gaining space for discussion in the international literature from the 2000s onwards (*Government Accountability Office* ([GAO], 2000; Pallot, 2001; Carlin & Guthrie, 2003; OECD, 2004; Hoek, 2005). There are reports on New Zealand from 1992, the United Kingdom in 1994, followed by Switzerland, Australia, Canada, Iceland, the Netherlands, etc.

There is also information on the existence of substantial variation in the characteristics of the adopted models and their implementation (Pollitt & Bouckaert, 2011; Liguori & Steccolini, 2018; Hyndman, Liguori, Meyer, Polzer, Seiwald, & Steccolini, 2019). According to the GAO (GAO, 2000), the systems differ in a wide variety of aspects, from which management bodies use them to more specific aspects such as the recognition of assets, liabilities, pension expenses, appropriations, etc.

The essence of the use of accrual budgeting is the use of accrual basis for determining expenditures and forecasting revenues, with a number of advantages and disadvantages being advocated. The positive aspects include increased transparency of the costs of public services and improved *accountability* for the results achieved. Disadvantages cited include the difficulties in making accounting estimates, the complexity of the budget preparation process and the reduced parliamentary control over the budget (Nascimento, Gonçalves, Corrêa, Machado and Viotto, 2022).

In view of these attributes – positive and negative – this article has as its research problem the following question: **is there technical feasibility for the adoption of competency budgeting in Brazil?** In this context, the general objective is to analyze the technical feasibility of adopting accrual accounting for the preparation of the public budget in this country. It was also specifically necessary to: a) review the international literature on the adoption of the competency-based budget for the preparation of the budget; b) identify the countries that are leaders in this field and point out the main results obtained with the system introduced in relation to budgetary issues; c) list the main barriers to the process of implementing the competency-based budget, if it is adopted in Brazil.

The importance of the question raised in the investigation stems from the need to broaden the studies on the subject and deepen the aspects that surround it, especially in Latin American countries. In addition, it is important to demystify possible obstacles to the adoption of the method so that Brazil can evaluate its possible implementation or not.

Regarding the methodological structure, the research is characterized as qualitative, exploratory, and bibliographic with the use of content analysis.

2 Literature Review

2.1 Modernization of Public Accounting and adoption of the Accrual Basis

With the advent of *New Public Management* (NPM), public accounting has changed fundamentally worldwide, especially in Brazil with the advent of the convergence process to *International Public Sector Accounting Standards* (IPSAS). The new model was initiated in 2008 with the support of the CFC and the STN and consisted of the convergence of IPSAS with the *Brazilian Public Sector Accounting Standards* (NBC TSP); currently 34 standards have been converged.

In the public sector, the core of the reform was the adoption of international accounting standards: rules for measuring, formatting, and including new financial statements, increased judgment based on principles rather than rules, and records based on equity rather than budgetary perspectives, including changes in accounting regime for accounting transactions, cash, for competence.

One of the widely cited studies in the international literature on the introduction of innovations in public accounting systems is by Klaus G. Lüder (Lüder, 1992). By analyzing accounting systems in the light of contingency theory, the author recognized that countries have natural predispositions (stimuli, characteristics of the country's political-administrative and social system, and environmental conditions that hinder change) that, when combined, can facilitate or hinder changes in their accounting structures.

Accrual accounting is based on recording transactions as they occur, rather than as a result of payments and receipts, and more appropriately reflects economic performance in the results for the year (Cruvinel & Lima, 2011). The reforms implemented by countries after the introduction of NPM significantly changed the recording of transactions on a cash basis, as the focus of the movement was on greater transparency and the defense that the move to accrual accounting would allow a better assessment of public sector performance.

In the course of these changes, reference is made to a number of discussions that lack maturity, which is only present in the public sector, such as: the recognition of cultural assets, military assets, social programs and infrastructure assets. Furthermore, there is still no consensus among researchers on the results achieved (Blöndal, 2004; Bergmann, 2006; Hughes, 2007; Monsen, 2008).

According to Hoek (2005), four different basic types of accounting systems can be observed in the field of international accounting, which are used by governments all over the world: *Full cash accounting, modified cash accounting, modified accrual accounting and full accrual accounting*.

Precisely, in relation to the modified regimes, Sousa et al. (2013) see the amended regulations as a variation resulting from the different specifications and the difficulty of full implementation between the cash basis and accrual basis in the budget of some countries. The latter seeks to record the receipt of funds that are not recognized on an accrual basis when they are measurable and available to settle the liabilities of the current period (Botelho & Lima, 2015; Dutra & Jesus, 2012).

Even before the adoption or not of another type of regime in the public budget, there are doubts about the full implementation of the budget. The OECD (2017) points out that in some country's accrual-based allocations are used for current expenditure, while capital expenditure continues to be accounted for on a cash basis (Botelho & Lima, 2015; Rossi, Aversano, Christiaens, Vanhee, & Cauwenberge, 2015).

Thus, the research is presented in terms of the positive and/or negative attributes of the extension of accrual basis to the budget. In this context, Rogoff (1990) highlights in favor of the process the reduction of information asymmetry that benefits politicians, a situation evidenced by Barcellos and Nascimento (2020) in relation to fiscal policy in pre-election periods.

On the other hand, Blondal's (2004) study focuses on the cost perspective in decision making, as it improves capital management and is able to shift the level of the level of attention from the short term to the long term. For Jagalla, Becker and Weber (2011), accountability is favored as the competency budget provides a more efficient analysis of the real costs of strategic decisions, allowing, for example the measurement of the outcome of the costs generated by government activities compared to the costs of outsourcing these activities.

According to Monteiro and Gomes (2013), the adoption of accrual basis in budgetary matters can increase the transparency of public service costs, allocate spending on the maintenance of public assets and better identify unforeseen expenses that will be paid in the future. However, they pointed out that accounting estimates in the budget increase and parliamentary control over the document decreases due to less understanding of this document.

According to Carnegie and West (2013), the adoption of accrual basis in the public sector would need to be modified and strengthened in order to meet the specific requirements of the public sector. Therefore, the IFAC's effort to popularize accrual basis for the statement of financial position (IPSAS 1) was fundamental, while at the same time allowing countries to choose which accrual or accrual regime system they want to adopt in relation to budgetary information (*IPSAS 24*).

Botelho and Lima (2015), in turn, recall that accrual basis, if also applied to budgetary issues, would be perfectly suited to the international convergence movement and, moreover, would have the capacity to improve countries' fiscal discipline, with an emphasis on transparency and accountability of government agencies. In the same vein, Cekodhima (2016) assesses that this type of regime provides more detailed information, both for the understanding of previous decisions and for the making of new ones, by providing information that was not previously known about the previous model.

In line with favorable aspects, Dabbicco and Mattei (2021) note that the adoption of accrual basis with the budget line item allows for better compliance and better expenditure control to promote the proper evaluation of public performance, as well as greater fiscal responsibility and transparency. The authors emphasize the success of the transition, the need for a high level of technical expertise, the creation of a greater number of controls and the need for sectoral budgeting.

For their part, Ismaili *et. al* (2021) emphasized that the regulation drives the development of better information systems while contributing to a better decision-making process, better use of public resources and greater transparency of reports produced by governments. In contrast, they pointed out the costs associated with the reform of current budget systems, particularly the structure of the budget from program to performance, as well as the difficulties in measuring and valuing assets, as also highlighted by Cekodhima (2016).

2.2 Adoption of competency budgeting in some Anglo-Saxon countries: the experiences of the USA, Canada, Australia, and New Zealand

The implementation of the so-called competence budget has proven to be a major challenge for countries, as can be seen from the aspects addressed by the OECD (2017). While IFAC advises the adoption of IPSAS 24, which deals with the presentation of budgetary information in financial statements, it allows the cash basis to coexist for budgetary matters and the accrual basis for the other financial statements.

Also, according to IFAC and the *Chartered Institute of Public Finance and Accountancy (IFAC & CIPFA, 2018)*, most OECD countries have faced many similar challenges in the preparation and implementation of the accrual basis, including: capacity building, establishing an inventory and valuation of assets and liabilities, designing, and deploying new IT systems, and preparing consolidated budget reports. Such attributes can be gathered in terms of social, normative and legal characteristics that, once existing, can leverage the adoption of accrual. Also according to IFAC and the Chartered Institute of Public Finance and Accountancy (IFAC & CIPFA, 2018), most OECD countries faced many similar challenges in preparing and implementing accrual basis, including: Capacity building, preparation of an inventory and valuation of assets and liabilities, development and deployment of new IT systems and

preparation of consolidated budget reports. Such features can be summarized in terms of social, normative, and legal features that, once in place, can drive the adoption of accrual budgeting in line with Lüder's (1992) examination of accounting systems in the light of the contingency theory.

Thus, countries with higher levels of transparency, accountability and social control tend to improve these mechanisms and reinforce others with identical attributes (social characteristic). As for the regulatory environment, it must be improved through specific budget laws and the adoption of international accounting standards aimed at ensuring high standards of comparability to approach consistency in records (normative characteristic). The legal aspect, on the other hand, is related to the recognition of the principle of competence as the ballast of public accounting, so that the disclosure of revenues and expenditures is based on the occurrence of the taxable event, which in turn emphasizes the process of accountability and audit of public accounts (legal characteristic). Countries with more developed levels of transparency, accountability and social control therefore tend to improve these mechanisms and reinforce others with identical characteristics (social characteristic). As for the regulatory environment, it must be improved through specific budgetary laws and the adoption of international accounting standards aimed at ensuring high standards of comparability in order to approach the coherence of the records produced (normative characteristic). The legal aspect, on the other hand, is linked to the recognition of the principle of competence as the ballast of public accounting, so that the disclosure of revenues and expenditure is made on the basis of the occurrence of the taxable event, which in turn emphasizes the process of accountability and audit of public accounting (legal characteristic).

In light of these features, Ijeoma and Oghoghomeh (2014) add specific aspects that arise in the implementation of the delimitation rule. One of them refers to the identification of public goods as a problem in the use of accrual basis since the monitoring of capital goods is extremely important for the effective control of budget deficit or surplus. The lack of specific criteria for the valuation of capital goods may result in these goods being sold undervalued, reducing the budget deficit and leaving room for creative accounting by governments, even when using accrual basis (Monteiro & Gomes, 2013).

Following the same line of reasoning, IFAC (2007) points to a number of situations related to capital assets in the United States, the most important being effective control and a concrete depreciation infrastructure. This context has been exacerbated by the complexity of valuing these assets in the public sector, which requires governments to precisely define both the valuation strategy and the useful life for calculating the depreciation of the asset, as evidenced in the public budget, which uses accrual basis as a model (Diamond, 2006).

Authors such as Dabbico and Mattei (2021), on the other hand, summarize that despite the complexity attributed to accrual basis, the reform model cited by Australia in relation to capital goods hoped to address problems that were not covered by the previous cash regime. For Francesco (2016), one of the key outcomes of the Australian reform was the possibility for agencies to retain cash flows for use in future budgets as they began to be financed by non-monetary costs (Blondal, 2004).

Diamond (2006), in turn, observes the United Kingdom's regarding the valuation of capital goods. In Great Britain, unlike the lowering of the budgetary limit adopted by the United States, nominal values were assigned to non-operating assets - such as those exhibited in public art galleries - while new acquisitions were registered on the basis of the purchase price. In line with this practice, a recent analysis by Ismaili et al. (2021) recommended conducting studies on the transfer of the obligation to identify, register and value assets of all kinds to the institutions in order to ensure efficient means that are consistent not only with asset control but

also with the application of the accrual basis in the public budget.

For Dabbico and Mattei (2021), these subsequent efforts by the United Kingdom is due to the fact that the government did not initially aim to replace cash-based accounting, but to supplement it with consolidated accounts. Therefore, it was later necessary to standardize their multi-year plan based on a competence basis to obtain a common starting point that would guarantee a set of uniform accounts used in the budget (Jones & Caruana, 2015).

With all this substantial progress, pending standardization, the UK has reiterated in its reports the scope of the reform undertaken by highlighting the following expenditure components as the most significant in the country's budget: i) employee costs, including pensions and training; (ii) ongoing accommodation costs, including rent, fees and maintenance; (iii) ongoing office services expenditure; and (iv) depreciation charges (HM Treasury, 2019).

On the other hand, the highlight of New Zealand's experience is the fact that the government spearheaded a reform in its reports from the budget. Newberry (2014) presents the Public Finance Act of 1989 (PFA) as the initial regulatory framework for the production of budgetary information by each government department based on the accrual basis.

Jones, Lande, Lüder and Portal (2013) point out that the experience gained in the reform of the budgetary regime towards accrual accounting under the leadership of New Zealand was the cause of a major reform in its accounting system there. The country has adopted accrual accounting not only as the basis for its budgetary policy, but also as the basis for budget planning, financial management and reporting. This made it possible not to follow the exception provided by *IPSAS 24*, according to which the financial statements and the budget, once they are based on a non-comparable basis, must be reconciled, and presented separately and specifically (OECD, 2017).

In line with the implementation of departmental competency budgeting in New Zealand, Australia has achieved positive results in its implementation and programme costs. A study conducted by Francesco (2016) indicated that accrual-based budget allocations brought a new arrangement to the country's spending. However, the model adopted by the country would tend to inflate the total cost of departments in public accounting, making it unfeasible to compare with the private sector (Carlin, 2005).

In the specific case of the United Kingdom, Dabbico and Mattei (2021) clarify that the accrual basis approach in that country was created with the intention of identifying the costs of government departments and linking them to their performance in order to promote strategic action. Jones et al. (2013) report that the UK Treasury has a database that collects budget data from all government departments.

On the other hand, according to Sterck and Scheers (2006), the adoption of accrual budgeting in Canada was only partial, as it was limited to the macroeconomic aspect of the budget and the main estimates and appropriations continue to be based on the cash and obligations regime. A study conducted by Solomon and Stone (2012) identified that the agencies with the greatest need for assets were most affected by the accrual basis reform. The following are studies on this topic that have been conducted over the past 20 years.

Table 1

International studies over the last 20 years (2000 to 2020) on the adoption of accrual budgeting

Country	Author	N° of studies
United States	GAO (2000); Sterck e Scheers; (2006); Lu, Mohr e Ho (2015)	03
New Zealand	Pallot (2001); Marti (2006); Cortes (2006); Sterck e Scheers; (2006); Marti (2013); OCDE (2015)	06
Australia	Carlin e Guthrie (2003); Cortes (2006); Sterck e Scheers; (2006);	06

	Martí (2013); Sterck (2007); OCDE (2015)	
United Kingdom	Likierman (2003); Martí (2006); Cortes (2006); Sterck e Scheers (2006); Martí (2013)	05
Germany	Hoek (2005); Jones e Lüder (2011)	02
Sweden	Martí (2006); Sterck (2007); Sterck e Scheers (2006)	03
Canada	Sterck e Scheers (2006); Department of Finance (2007); Solomon e Stone (2012); Sterck (2007); OCDE (2015)	05
Netherlands (Holland)	Sterck e Scheers (2006); Sterck (2007)	02
Total		32

Source: Research data.

3 Methodological procedures

Regarding the objectives, the present study was described as exploratory. According to Bonin (2012), exploratory research is characterized by providing an overview of the relationships between theory and observed practical experiences in order to support the realization of the research output.

Regarding the procedures, the work was developed through a bibliographical and documentary analysis using the following research terms: *Performance Budgeting, Accrual Budgeting, Public Budgeting and Public Accounting Reforms*. The articles considered the analytical treatment of the materials related to the transition of their budgets from the modified cash or cash basis to accrual basis, the latter being considered the most advanced in several websites (*Spell, Scopus, Science direct* and in the Brazilian Digital Library of Theses and Dissertations – BDTD). Regarding official documents, the search was carried out on the websites of the Ministries of Finance (Finance, Economics and Treasury) of the governments of the United States (www.treasury.gov), Canada (<https://www.canada.ca/en/departement-finance.html>), the United Kingdom (<https://www.gov.uk/government/organizations/hm-treasury>), New Zealand (www.treasury.govt.nz) and Australia (www.treasury.gov.au), using the same search terms as for the search for scientific articles. The official reports and guidelines that were produced were taken into account.

As far as nature is concerned, it was classified as qualitative. Prodanov and Freitas (2013) state that in this type of research, the emphasis is not on the application of quantitative methods, but on the interpretation and attribution of meanings to the phenomena. For this reason, this paper has attempted to outline a future perspective based on past experiences which can shed light on the impacts generated in accrual accounting of the budget from the accrual basis.

In order to understand the selected texts, content analysis was chosen, which Bauer (2018) considers to be a qualitative research methodology which is divided into pre-analysis, exploration of the material and categorization (coding) as well as the treatment of the results, conclusions and outcomes.

In the initial phase of the preliminary analysis and considering the content of official documents and international studies, the selected materials were reviewed with regard to the literature, the description of the adopted model and the countries that have implemented it. This phase served to categorize the collected material, as a period of the last 10 years was established in reference to them (academic publications and international reports).

In the next phase, the exploration of the material, the coding of the objects of study was carried out in accordance with the general objective described in order to identify similar practices of budget adoption by competence as opposed to those considered different between countries. This approach made it possible to classify the material in terms of environmental

aspects (political commitment, human capital, long-term sustainability and macroeconomic policies) and technical aspects (depreciation and valuation of assets, capital expenditure, symmetry between reports and recognition of benefits, accountability) that favored or not the adoption of the competency-based budget. This research also made it possible to identify the countries to be studied (USA, Canada, United Kingdom, Australia, and New Zealand), as the number of studies/documents was considered crucial for the selection process of the participants.

Finally, the treatment of the results consists of the investigation contained in the item analysis and discussion (next topic), with reference to the previously identified criteria (environmental and technical). In this phase, we try to confront the experiences of the participants with the Brazilian reality, in terms of the progress achieved in the country after the implementation of the IPSAS converged in the NBCASP.

According to IFAC (2018), 70 % of the 150 jurisdictions (countries) analysed have their accounts registered on an accrual basis or are in a transition phase to this regime. However, there is little experience when it comes to the use of accrual-called accrual budgeting. Among the selected countries, ten have English as an official language and the research participants have a significant academic contribution at the forefront of the process of convergence to international accounting standards in the public sector, especially with regard to the application of this budgeting modality.

Although the participants have a variety of cultural and economic elements compared to the Brazilian reality, the identification of the practices they use is considered salutary as a way of eventual adoption of the rules in the future. It is positively argued that they can serve as benchmarking because they are advanced in terms of the accounting system and are closer to the companies. In addition, it is considered an advantage to locate them in three different continents (America, Europe, and Oceania), which reinforces the experience demonstrated and the eventual dissemination of the results at a global level. With regard to the selected countries, the research revealed the following situation in relation to the adoption of accrual regime, which deserves to be emphasized:

Table 2

List of countries analyzed and structure of the accounting regime used

Countries	Current Regime	Goal 2023	Current Structure	Structure Goal
United States	Competence	Competence	National	National
Canada	Competence	Competence	National	National
Australia	Competence	Competence	IFRS/National	IFRS/National
New Zealand	Competence	Competence	IPSAS/National	IPSAS/National

Source: *Research data.*

4 Results and Analysis

It has been shown in advance that the research of bibliographical and documentary material complements each other. While the former defend the adoption of the competence budget from the perspective of the progress of the NPM, the official reports highlight specific situations that emphasize the difficulties and the arrangements adopted.

In this sense, it was possible to identify a set of attributes that were classified according to environmental (Table 3) and technical (Table 4) aspects due to the similarity of the topics:

Table 3
Environmental aspects

1. Political Commitment	
United States	The budget is the expression of public policy priorities; The strong constitutional power of the legislator over the executive government makes reform difficult as it is considered likely to undermine the constitutional powers of the legislature.
Canada	Competence regime initially considered as a possible actor for diluting control of public resources since parliament would be restricted to appropriations.
United Kingdom	It sought to increase government accountability before parliament; initial fear on the part of parliamentarians and subsequent measurement with the results presented in the reform.
Austrália	Aversion to change due to the technical complexity of the accrual budget and its decentralization to parliament.
New Zealand	The weakness of parliamentary controls compared to the role of the executive was one of the success factors for the reforms carried out.
2. Human capital	
United States	Not observed.
Canada	Budget allocations are still cash-based, as parliamentarians' understanding is reduced under the accrual system.
United Kingdom	Not observed.
Australia	Difficulty understanding the accrual budget.
New Zealand	Departmental executives now have responsibilities for achieving results with a 5-year contract.
3. Long-Term Sustainability	
United States	The reform arose with the interest of improving the recognition of long-term programs in the public budget. The expense began to be executed at the beginning of long-term projects once their legal link had been established.
Canada	The reform made it clear that the accrual budget increased the country's control over its money and public debt.
United Kingdom	Impacts between periods began to gain notoriety in the budget.
Australia	Impacts between periods began to gain notoriety in the budget.
New Zealand	The recognition of long-term obligations improved current decision-making, taking into account the reflection of the year-to-year variation in assets and liabilities in the budget.
4. Macroeconomic Policy	
United States	It aimed to consider new aggregates in the public budget previously not observed in the cash basis, without removing control from the legislature.
Canada	Competence Regime presented as a macroeconomic budget plan; interest in making the budget a tool for evaluating departmental results.
United Kingdom	Budgetary authorizations made based on performance indicators of agencies and performance as a basis for planning and controlling public expenditure.
Australia	A reforma objetivou inicialmente levar o setor público para uma base empresarial. Estratégias baseadas no <i>corporatization</i> e <i>New Public Management</i> .
New Zealand	It boosted the quality of the country's fiscal policy.

Source: *research data*

One of the main factors for the slowness of the proposed budget reform in the traditional sense of the competence budget is the one observed in attribute 1 - political commitment. It is important to emphasize that the initiative to apply reforms in the regimes, not only in the field of budgetary, but also patrimonial assets and finance, is essentially composed of technical

interests, so it is expected that the political class will present itself as one of the first obstacles in this process. The need to understand this commitment as an environmental factor of great relevance, especially when analyzing experiences from different countries, allows a punctual observation of the role of government structures.

However, although the crisis environment is favorable for the political assessment of the reforms, there are concerns about the structural differences between the governments examined. This is because the most successful experiences with the reform of the competency budget were observed in countries with parliamentary, English-speaking, common law monarchies such as New Zealand, Australia and the United Kingdom. In these governments, while parliamentarians' reluctance to reform can initially be observed, the positive influence of the executive on the process is notorious for reducing the power of parliament.

In relation to Brazil, despite the different regime of government – a federal republic – the perception of the Brazilian legislative power is not necessarily characterized by aversion to the necessary reforms, but by the importance that this power attaches to them. A good example of this is that, to this day, the project to modernize Law 4320/64, which in part contains aspects related to the modernization of the country's budget and asset accounting, is still in progress in the Chamber of Deputies today, more than 14 years after the original proposal presented in the federal Senate.

As for attribute 2 – human capital – the need for understanding on the part of politicians tends to be another obstacle to progress in the adoption of the budget by competence in the country. The technical inefficiency of legislators is worrisome and further delays any interest in the budget by competence, such as what occurs in the Canadian Parliament, which analyzes budget appropriations based on a cash basis, precisely because of the difficulty in understanding the items discussed in the budget by competence. With regard to Brazil, no reality was identified that differs from those in the countries analyzed, even though it was only in 2008 that the process of convergence of public accounting with international standards began, which became mandatory from 2015. Although the adoption of the principle of jurisdiction is mandatory throughout the national territory, difficulties in the knowledge of the regulations themselves, in the conversion of tax information to property law accounting and the low involvement of the Courts of Audit in the process are still a reality in this country.

In attribute 3 – long-term sustainability – further aspects can be observed that go beyond political mandates and which were brought to the fore with the reform of the budget system. Again, the European experience that has led this movement has shown that budgetary decisions made on the accrual basis have an impact on subsequent periods. Therefore, the budget gains transparency and expands the responsibility of the public manager, while at the same time highlighting the variation of controlled assets and liabilities on the same basis. However, the political variable is once again an obstacle to long-term sustainability in countries with little commitment to the quality of public information. The short-term nature provided by the cash regime allows for a careless treatment of the budget with the aim of serving electoral interests that not only harm the current budget, but also make it unassertive for those who do not identify these variations in their items based on financial flows. Furthermore, when assessing the change in how the public apparatus views a budget by competence, it is speculated that financial appropriations are being forgotten and non-monetary items are becoming the legislator's greatest concern.

In Brazil, given the country's prevailing immediacy in the search for current results, the short-term view also works in the opposite direction of the necessary reforms, with the public budget being the main source of information on the amounts to be spent. The reports collected point to a wide variety of problems, including the complexity of accounting for capital goods

(IFAC, 2007; Diamond, 2006), the direct implications on budget policy, financial management and reporting (Jones et al, 2013; Newberry, 2014), highlighting the challenge nature of change when implemented in the country. These factors, observed individually, rehearse what the macroeconomic policy (attribute 4) of each country may be. New Zealand's experience, which served as a showcase for budget reforms around the world, demonstrated that the initial collective interest in restoring the country's economy by maximizing the long-term economic returns on financial assets and public debt became the economic policy that the country's treasury adopted. The use of this aspect, in fact, was the solution adopted by Canada to set in motion the reform that occurred there in a partial way (Serck and Scheers, 2006), which could be a good idea to be adopted in Brazil, given the advances in the solidity of tax information in Brazil.

It is necessary to consider, however, that converging on the process of applying the budget by accrual can also be an attempt to bring public accounting closer to the private model that is already a characteristic of the Anglo-American tradition. In addition, the liberal capitalist model in which the United States remains the most important economy on the planet is ideal for the application of the reform in the competency-based budget, as it tends to increase the number of privatizations and outsourcing of public goods and services, as observed in the *Australian Government's* corporatization strategy.

Therefore, countries with social-democratic or more left-wing governments tend to face an almost natural macroeconomic barrier when broadening the debate for the reform of their public budget. Unlike the U.S. experience, the change in these countries in Brazil, given the country's prevailing immediacy in the search for current results, the short-term view also works in the opposite direction of the necessary reforms, with the public budget being the main source of information on the amounts to be spent. The reports collected point to a wide variety of problems, including the complexity of accounting for capital goods (IFAC, 2007; Diamond, 2006), the direct implications on budget policy, financial management and reporting (Jones et al, 2013; Newberry, 2014), highlighting the challenge nature of change when implemented in the country.

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structure, especially when the objective is an accounting, financial and budgetary reform for the accrual basis.

Contrary to the present report, the progress of the STN here in Brazil has shown that the rotation of the parties (left, right or center) in power has not been an obstacle to the progress of the reform of the Brazilian public accounting system. With regard to the infra-legislative aspects, which do not depend on the approval/alteration of the legal framework, both the CFC and the STN have made joint efforts, revealing the experience observed in the production of norms by these bodies has been positive, with the greatest obstacles being those that effectively depend on the federal legislature.

The main technical characteristics identified are presented below (Table 4):

Table 4
Technical aspects

1. Depreciation and Evaluation of Assets.	
United States	Reduces control and increases the uncertainty of budget estimates.
Canada	Budget based on accrual, initially, without considering the depreciation of assets.
United Kingdom	Reduced parliamentary control and valuation based on nominal value for already registered assets and began valuing new ones based on purchase price.
Australia	Use of non-monetary resources to finance depreciation costs. Difficulty in valuing historical assets and expanding control over the valuation of new acquired assets.
New Zealand	Included all categories of capital goods in its assets and expanded control over valuation based on the historical cost of its assets.
2. Capital Expenditure	
United States	Reduced parliamentary control of capital expenditure; implemented lower budget limit in an attempt to maintain parliamentary control.
Canada	From the 2003-2004 financial year, the country began to adopt the full accrual basis after recognizing fixed assets in the budget headings. The increase in capital costs on an accrual basis.
United Kingdom	Creation of a budget limit for departmental capital expenditures.
Australia	Initially, financed by the amount of accumulated depreciation approved in the previous budget and carried out based on the total financial resources required for a year, based on the previous one.
New Zealand	Creation of a budget limit for departmental capital expenditures.
3. Symmetry between reports	
United States	Difficulty in centralizing reports, given the complexity of the regimes used.
Canada	The migration to the accrual budget occurred alongside the reform of its accounting reports.
United Kingdom	It underwent a restructuring of its accounts and structural reports. Clear Line of Light project ensured symmetry between reporting by creating a single database.
Australia	Adopted budgeting and accrual accounting and created a single database capable of providing departmental data in a more transparent way.
New Zealand	Asset, financial and budgetary reports are produced and presented on the same accrual basis without the need for reconciliation.
4. Benefit Recognition	
United States	Benefits for civil servants, military personnel and compensation for veterans were the areas of greatest difference between the cash basis and the accrual basis.
Canada	Labor benefits, pensions, vacation payments and licenses were the first items considered in the country's budget.
United Kingdom	Social Security is not recognized in the accrual budget.

Australia	Budgets allocate allocations for funds (goods and services) and not for specific objectives. Social Security is not recognized in the accrual budget.
New Zealand	Budgets allocate allocations for funds (goods and services) and not for specific objectives.

5. Accountability

United States	Improved information on costs to decision makers and better discipline for budget execution.
Canada	The initial interest in maintaining a focus on results made the information delivered by the departments more robust, however, without cost information for legislative consideration.
United Kingdom	Increased transparency regarding agencies' expenses and improved information about costs for decision makers and improved discipline for budget execution.
Australia	Evidence of higher costs for activities carried out by the public sector and which could be outsourced.
New Zealand	Improved information on costs for decision makers and better discipline for budget execution.

Source: research data.

An examination of the information presented in Table 4 shows that the depreciation of government assets (attribute 1) is one of the most important technical barriers faced by the countries analyzed. Therefore, the direct relationship that attribute 2 – capital expenditure – has with the valuation of public assets and their subsequent depreciation is clear. One of the solutions found was to finance the new needs of capital goods based on the total cost of the results provided by the agencies and departments, which in turn begin to take into account the cost of depreciation. In this way, the agencies accumulate the depreciation amounts and can execute the budget expenditure without external approval. In this sense, the analysis of the British Treasury (HM Treasury, 2019) is very timely due to the breadth of aspects considered in their reform in relation to budgetary issues (costs of servers, pensions and training, current expenditure on accommodation, office services and depreciation).

In relation to Brazil, the disclosure of public assets, especially depreciation and valuation of assets, has only been addressed with the beginning of the convergence process, which represents a major challenge for this aspect when the accrual-based budget were implemented (Ribeiro, Vale, Souza, & Ferreira, 2020). As for the solution found for the recognition of capital goods, based on the total cost of the results to be achieved by the departments, which would take into account the depreciation costs, it is understood that such an alternative would pose a risk if it were applied in Brazil, since it grants autonomy to public institutions autonomy over the budget, which would make it difficult to track the realization of capital expenditure.

Attribute 3 – symmetry between reports – is considered by several authors (Botelho and Lima, 2015; Cekodhima, 2016; Dabbicco and Mattei, 2021 and Ismaili et al., 2021) as a fundamental element for the quality of accounting information in the public sector. Asset and budget reporting is a system that, once worked on the same basis and is analyzed together, enables assertive decision-making, and ensures the correct management of public resources. In Brazil, it is understood that the country can design its financial reports appropriately, even if legal adjustments are required considering the international convergence process.

In addition to depreciation, attribute 4 – the recording of benefits – is one of the main differences between the cash basis and accrual basis of government accounting, as these are accounts that are non-monetary in nature in the short term and incorporate the budget structure. By including these items in the budget debate, the quality of accounting information was extremely high, as it enables budget approvers to focus on the efficiency of some existing

programs. In Brazil, it is proposed not only to discuss the impact of the benefits mentioned in the experience reports, but also to deeply broaden the discussion on social security in the country's budget, whose expenditure is increasing.

Finally, in reference to attribute 5 – accountability – it was considered that the reform is a tool to improve decision-making when compared to the cash basis. This is due to the fact that it brings the environmental and technical attributes categorized in Tables 3 and 4 into the budget debate, making it more transparent. For the models observed in this study, the reform provided an analysis of performance indicators that brings the agencies and departments responsible for budget approval closer to those responsible for budget execution. In the country, this is presented as the main advantage of the introduction of the competency budget among the countries analyzed. This would occur due to the continuous Brazilian progress in terms of transparency and access to information since the promulgation of the 1988 Constitution, which facilitates accountability for public funds.

5 Final Thoughts

The focus of this study was to analyze the feasibility of adopting competency budgeting in Brazil. Specifically, the aim was to identify the leading countries that have adopted the accrual budgeting and possible obstacles to the introduction of accrual budgeting if it were adopted in Brazil.

The study compared five Anglo-Saxon speaking countries (United States, Canada, United Kingdom, Australia, and New Zealand) with Brazil, whose social and political realities are different from Brazil's, but which have similar characteristics from a technical point of view, as they deal with accounting practices related to administrative management.

The main advantages of adopting competency-based budgeting were increased transparency, accountability, and social control. According to the proponents, by controlling the variation of assets and liabilities on the same basis of the budget, public administrators would have expanded their vision for decision-making for future periods beyond those to which they refer when forecasting revenues and expenditures.

The study was based on the categorization of the experiences of the selected countries in terms of environmental and technical characteristics. The first referred to whether the environment is conducive to the implementation of the competency budget would be conducive in terms of political commitment, human capital, long-term sustainability, and macroeconomic policies, while the second sought to identify the technical conditions in terms of asset depreciation and valuation, capital expenditure, symmetry between reports, recognition of benefits and accountability for the adoption of the proposed changes.

In general, it was evidenced that the environmental attributes were more homogeneous in terms of results among the countries analyzed, when compared to the technical aspect, which was more heterogeneous.

After parameterizing the experiments, the possibility of them being transposed to the Brazilian reality was analyzed.

From an environmental point of view, the evidence pointed to similarities with the Brazilian situation. The occurrence of possible obstacles related to the lack of commitment of political actors, the qualification of human capital and long-term sustainability was pointed out, but with a favorable aspect for the macroeconomic policy attribute. It was argued that in Brazil the environment is not conducive to structural reform, that there is little understanding of the benefits of using accrual basis in the public sector and that there is a tendency to consider short-term rather than long-term outcomes.

About the technical aspect, it was observed that the countries do not apply uniform practices for similar issues such as the accounting of depreciation and the valuation of assets and the recording of investments, despite having consolidated public accounting systems. In Brazil, the main difficulty would arise precisely from the fact that the process of convergence to international standards in the public sector has not yet been completed and therefore the assumptions of the new standards have not been fully internalized. Therefore, it would be normal to be resistant to change in the spectrum of changes in the field of public budget generation, such as the recognition of assets and liabilities during their preparation and the need to recognize non-financial expenses.

The main limitation was the lack of discussion on the topic, even with the implementation of the process of internationalization of public accounting around the world. Another aspect that complicated the study was the multiplicity of technical solutions for similar aspects, including the adoption of partial measures depending on the country analyzed, which highlighted the lack of coherence between them.

As a suggestion for future research, it is proposed to extend the study to countries of Latin origin, as the accounting models there have special features, particularly about vocational training. Such models could provide solutions for the technical aspects that have proven to be different in the countries involved in the study.

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