

# The roots of budgetary and financial accounting in Brazil

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This article presents evidence of Italian influences on the Brazilian Public Sector Accounting in the early twentieth century, using the analytically structured history approach and the institutional theory. The study presents the institutional work developed by accountant Carlos de Carvalho in employing a new accounting methodology at the time. The article proposes a new perspective on the literature on the history of accounting in Brazil, suggesting that the emergence of budgetary and financial accounting was due to the innovation of local practices in a municipality of the state of São Paulo, and then expanded to the entire state, influenced by the Italian legal doctrine. Therefore, the use of dual accounting in Brazil during the early twentieth century was first disseminated in practice and transformed into legislation afterward. The Italian roots that influenced this movement are present in the current model, which is being reviewed by the current process of convergence to international IPSAS standards.

**Keywords:** accounting history; Italian influences; dual accounting; public sector accounting.

## Raízes da contabilidade orçamentária e patrimonial no Brasil

Este artigo trata da influência italiana na contabilidade do setor público no Brasil do início do século XX. A análise aplica a metodologia de história estruturada e a vertente sociológica da teoria institucional. Narra-se o trabalho institucional desenvolvido pelo contador Carlos de Carvalho ao empregar uma nova metodologia contábil. Este estudo reposiciona a literatura sobre história da contabilidade no Brasil, pois propõe que a contabilidade dual (orçamentária e patrimonial) iniciou sua evidência conjunta em um município (São Carlos-SP), mas só alcançou sua integração no Estado de São Paulo sob a influência doutrinária e legal italiana. Seu uso foi difundido primeiro e transformado em lei depois. As raízes italianas da inovação contábil do início do século XX no Brasil continuam presentes no modelo atual, que vem sendo revisto pelo processo de convergência às normas internacionais de contabilidade do setor público (*International Public Sector Accounting Standards* [IPSAS]).

**Palavras-chave:** história da contabilidade; influência italiana; contabilidade dual; contabilidade pública.

## Las raíces de la contabilidad presupuestaria y patrimonial en Brasil

El artículo presenta evidencias de la influencia italiana sobre la contabilidad del sector público en Brasil a principios del siglo XX. El análisis aplica la metodología de la historia estructurada y el aspecto sociológico de la teoría institucional. Se narra el trabajo institucional desarrollado por el contador Carlos de Carvalho al emplear una nueva metodología contable en ese momento. Este estudio reposiciona la literatura histórica sobre contabilidad en Brasil, puesto que propone que el surgimiento de la contabilidad presupuestaria y patrimonial se debió a la innovación de las prácticas locales en un municipio influenciado por los métodos empleados en la contabilidad dual italiana de la época, difundida y estandarizada en la ley. Las raíces italianas que influyeron en este movimiento permanecen presentes en el modelo actual, que está siendo revisado por el proceso actual de convergencia hacia las normas internacionales IPSAS.

**Palabras clave:** historia de la contabilidad; influencia italiana; contabilidad dual; contabilidad pública.

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## 1. INTRODUCTION

Following an international trend of reforms (Brusca & Martínez, 2016), public sector accounting in Brazil has been officially converging to international standards since 2008 (Gama, Duque, & Almeida, 2014). Accounting practices used in the country for decades have been changed and the focus on recording accounting transactions based on budgetary information has been extended to include comprehensive net assets control (Aquino & Batley, 2016).

Accounting practices on recording financial and economic transactions used today are based on standards established in the early twentieth century. The practice that stands out is dual accounting, where the same economic event is recorded twice, simultaneously and separately (two different records), reflecting both the budgetary and the financial aspects of an event. Dual accounting considers, therefore, budgetary and financial records.

An historical analysis of Brazilian public sector accounting conducted recently discussed elements such as: a) its development during the period of the First Republic (Adde, 2012); b) the adoption of the double-entry bookkeeping method (which requires recording both credits and debits for each transaction) by the central government (Adde, Iudícibus, Ricardino, & Martins, 2014; Gonçalves, Lira, & Marques, 2013); c) comparing budget estimates and execution in municipalities (Lopes & Hanley, 2014); and d) the development of Portugal's accounting processes in Brazil during the colonial period (Rodrigues & Sangster, 2017). However, there are only a few works on the emergence and development of public sector accounting in Brazil (Rodrigues, Schmidt, Santos, & Fonseca, 2011) and little is known about how accounting technologies that have been used for decades in the country were constructed and diffused.

This article presents the Italian influence on public sector accounting in the early twentieth century in Brazil, discussing the introduction and diffusion of dual accounting in the public sector, from the transition from the Empire of Brazil to the proclamation of the Republic in 1889, until 1922, when the central government published its Accounting Code (Decree 4536, 1922). The analysis suggests that the formulation, organization, and diffusion of dual accounting were adapted from an Italian model used at that time. This study presents evidence that the introduction of this type of accounting was a bottom-up movement (Gama et al., 2014), i.e., the method was firstly established and diffused by its users, and later transformed into legislation. Therefore, the use of dual accounting was a local innovation inspired by the Italian method, which spread in a non-compulsory way until it was made law. This bottom up process was completely distinct from the recent changes that occurred due to the country's convergence to the International Public Sector Accounting Standards (IPSAS). In the latter case, the changes are introduced by force of law, in a top-down movement.

This research adopted the analytically structured history methodology (Rowlinson, Hassard, & Decker, 2014), based on secondary sources and narrative texts. The study considers a narrative in which accountant Carlos de Carvalho was an institutional entrepreneur working in the process of introducing and adapting the Italian model, bringing the dual accounting method to Brazil in the early twentieth century. This method, adopted immediately after (still at the beginning of the twentieth century) by the Government of the State of São Paulo, became a reference for other jurisdictions in Brazil and was standardized in the central government's Accounting Code (Decree 4,536, 1922). This bottom-up movement, with Italian roots, organized the "chaos" in the practice

of public accounting at the time, and inaugurated the “modern accounting period” (Pineiro & Pineiro, 1998).

Like other social phenomena, accounting must be considered within a context. It is influenced by – and is part of – social structures (Ryan, Scapens, & Theobald, 2002), and groups and individuals can alter or reinforce its practices (Neu & Graham, 2006). The historical analysis of accounting, considering these characteristics, and from the perspective of the institutional entrepreneur, has been widely used in research in the field. Gomes, Carnegie, and Rodrigues (2008), for example, analyzed the role as institutional entrepreneur of Marquis of Pombal in the adoption of double-entry accounting in Portugal, in 1761. Baker and Rennie (2013) examined the role of institutional entrepreneurs in the process of adopting the first accounting system in Canada; and Yamamoto and Noguchi (2013) studied the transformation of cash basis to accrual basis accounting systems among local governments in Japan, since the 1990s.

This research contributes to the historiography of public sector accounting in Brazil in two ways. First, it finds evidence of the Italian influence in the introduction of the currently used accounting method that allows to record and disclose, simultaneously, both the budgetary and the accounting aspects of each transaction. This study also contributes to the historiography by presenting a change originated and diffused through a bottom-up movement, in times when the means of diffusion were scarce. Thus, the intense previous process of theorizing the method favored its incorporation and subsequent maintenance in the legislation, which is a relevant aspect to consider in the discussion of the current – and still little theorized – process of accounting changes.

## 2. THEORETICAL FRAMEWORK

Accounting encompasses a set of practices, concepts, and procedures socially built and justified for application, developed within a specific context and for a particular purpose. Over time, such practices and concepts are “institutionalized,” i.e., they become widely accepted and considered appropriate and necessary for the organization (Tolbert & Zucker, 1996). Alternatively, like any social practice – even though weakly institutionalized, questioned, or considered inappropriate – they are applied by legal coercion.

Such practices, concepts, and procedures shared and taken for granted, “given and not questioned,” are conventionally called “institutions.” Such institutions are intrinsically enduring abstract social structures. The way in which such institutions emerge, persist, or change, is a topic widely studied in the literature of sociology and organizations (Greenwood, Oliver, Sahlin, & Suddaby, 2008), which demonstrates how such structures are created, maintained, and altered by the actions of groups or individuals (Hampel, Lawrence, & Tracey, 2017). Institutionalization can be studied emphasizing processes (Greenwood & Hinings, 1996; Tolbert & Zucker, 1996) or examining practices, observing how they are transformed – the sequence of form and content within the practices over time. Also, institutionalization may be analyzed through the work of groups and individuals (referred to here as “actors”) in an attempt to change or shape processes, as they work to create, maintain, and disrupt institutions. Finally, the study on institutionalization may focus on the action of the actors, the so-called “institutional entrepreneurs,” in the creation, maintenance, or rupture of institutions (Battilana, Leca, & Boxenbaum, 2009; Dimaggio, 1988; Hardy & Maguire, 2008; Lawrence & Suddaby, 2006).

Institutional entrepreneurs can be individuals, groups, or organizations. According to Lawrence and Suddaby (2006), the action of these actors in the creation, change, and maintenance of institutions, may be expressed in ten different forms of institutional work (not exhaustive), which can be aggregated in three groups. In the first group, the entrepreneur reestablishes rules, property rights, and limits that define access to material resources. In the second group, the entrepreneur acts to build identities and networks, or change norms, emphasizing activities aimed at shaping the actors' belief systems. Finally, the entrepreneur may act to change meanings, by modifying the abstract categories that define the boundaries of systems of meaning.

These entrepreneurs are central to institutional processes (DiMaggio, 1988). However, the fact that these actors have some reflexivity and develop the forms of institutional work mentioned above, does not make them heroic actors (Hampel et al., 2017; Hardy & Maguire, 2017). They are in a condition known as “embedded agency” (Battilana et al., 2009; Thornton & Ocasio, 2008), in which entrepreneurs, even when reflecting and seeking the means and ends of their interests, are influenced by the institutions they try to change. In addition, they are under the influence of other institutions – of which they are unaware, or whose reflexivity is low – i.e., the entrepreneurs' action capacity is structured by institutions. Such individuals, within certain limits, can visualize contradictions present in some institutions and propose changes by convincing, involving, sensitizing other individuals, or organizations. This entrepreneur must leverage resources, for example, political, material, discursive, and relational, such as the mobilization of alliances (Battilana et al., 2009).

The literature points to some factors related to the higher or lower reflexivity of the entrepreneur. One of these factors is the transition among different organizational fields, which are arenas where a specific group of organizations and individuals share a system of rules, beliefs, and common meanings (DiMaggio & Powell, 1983). When in contact with different fields, the entrepreneur is more likely to identify the rules and meanings of each of them, understanding the particularities of institutions. For example, actors who introduced new management practices in Denmark (diversity management, a human resources management strategy on equal employment and affirmative action introduced in the US in 1964) had already been exposed to these practices in previous professional tasks at the Organization for Economic Cooperation and Development (OECD) and the World Bank (Boxenbaum & Battilana, 2005).

In order to propose changes in one field, institutional entrepreneurs could bring ideas and propositions from another. In addition to identifying the need to change practices, these entrepreneurs would be able to identify new useful practices that would meet the desired improvements in that context, as mentioned in the case of Denmark (Boxenbaum & Battilana, 2005). These ideas have been applied in different contexts. For change to occur, it is necessary for the entrepreneur to develop one or more forms of institutional work (Lawrence & Suddaby, 2006), such as “theorizing,” seeking to encode them in a more general way that allows their later transmission and decoding by other actors (Boxenbaum & Battilana, 2005; Strang & Meyer, 1993).

Some factors may favor the institutional entrepreneur's performance in driving change. The existence of problems already identified in the organizational field, which can generate tensions and expose contradictions, gives opportunities for new ideas, especially in emerging and not fully established organizational fields (Hardy & Maguire, 2008). For these ideas to circulate, they must

make sense to individuals and groups who need to recognize them as having some positive value, otherwise they will not be supported or obtain resources to be implemented (Meyer & Rowan, 1977; Tolbert & Zucker, 1996). The new practices are adopted to the extent that they seem more effective or efficient than other options (Strang & Meyer, 1993).

Based on the action of institutional entrepreneurs in theorizing the new practice, it may be adopted by other organizations, through a diffusion process (Tolbert & Zucker, 1996).

### 3. METHODOLOGY

This study analyzed the emergence and diffusion of dual accounting in Brazil, based on evidence of a process of changing accounting practices in the public sector between 1889 and 1922. The research adopted the analytically structured history methodology (Rowlinson et al., 2014), based on primary sources (balance sheets, journals, ledgers, etc.) and narrative texts (secondary sources). The methodology uses multiple verifiable documents and texts to achieve a narrative constructed in the first stance, based on primary social documents such as the minutes of meetings and their attached files, which is less likely to incorporate a narrative from the past as if it were an original historical narrative (Rowlinson et al., 2014). The validity of the analyzes presented (verisimilitude) is obtained through verification logic, in which the exact location of the sources must be provided so that they can be consulted to verify whether they support the historian's claims.

The concepts of the sociological institutional theory were used to construct the historical narrative. In particular, the literature on the role of the institutional entrepreneur and institutional work, was studied to help understanding and relating the actions of a local government's accountant Carlos de Carvalho in the emergence of new accounting practices and how these practices were diffused to other levels of government in Brazil.

The research collected evidence from primary documents, which were read and interpreted. Some of the documents contained testimonies from individuals that experienced the process at that time, such as state government reports. Also, objects related to the researched event were examined (such as balance sheets and accounting records), in addition to exploring secondary sources. The data come from sources of different nature, and the combination of these sources forms the body of evidence used in the historical analysis (Carneiro & Barros, 2017). First, the authors accessed historical files available in digital format from a) Hemeroteca da Biblioteca Nacional (newspaper library of the Brazilian national library); b) Biblioteca Nacional (Brazilian national library); c) Memória Estatística do Brasil (statistical memory of Brazil); d) Historical Collection of the Legislative Assembly of the State of São Paulo; and e) Biblioteca do Conselho Federal de Contabilidade (Library of the Federal Council of Accounting). The research examined newspapers, books, journals and accounting records for the researched period. The research also analyzed legislation and reports from the federal and subnational governments. In the case of the municipality of São Carlos (SP), the primary data were collected in loco, at the Fundação Pró-Memória de São Carlos, an institution dedicated to preserve the history and memory of the municipality.

The collected data were organized in chronological order, to reconstruct the stages of the emergence and diffusion of the analyzed accounting practices. The research is based on the assumption that there is no objective, innocuous, or primary historical document, so the researcher must critically

investigate the material sources, and contextualize them, minimizing the risks of reproducing the opinion of those involved in the documentation used in the analysis (Carneiro & Barros, 2017). Above all, the data in the accounting books were triangulated with other sources and documents of the same period, to reconstruct the narrative history. However, it is important to clarify that the opinion of the researchers conducting the analysis represent a limitation of this method since the narratives that constitute historical reconstruction are permanently subject to the researchers' thoughts about the process (Gaffikin, 2011).

The next section presents some of the events that occurred during the period studied to offer a background, considering that the historical documentary narrative requires prior knowledge of the context around the documents (Carneiro & Barros, 2017).

#### 4. INTEGRATED BUDGETARY AND FINANCIAL ACCOUNTING – THE DUAL MODEL

Governments annually prepare, approve, and disclose their budget for the following year, providing financial information to society regarding a) the government planning; b) capital needs; and, more recently, c) the services to be provided (Conselho Federal de Contabilidade [CFC], 2016b). There are accounting records of both the initial budget and its execution, with the public revenues and expenditures, which allows monitoring the fiscal position of public sector entities. At the same time, it is necessary to record the governments' assets and liabilities, as well as their flow, i.e., to record their information regarding net assets position<sup>1</sup>. These two types of information “coexist” and operate in an integrated manner, enabling to perspectives, one for net assets control and another for budgetary control purposes, named dual accounting, or “dual reporting,” as named by Poljašević, Vašiček, and Jovanović (2019).

The need for processing budgetary information makes governmental accounting more complex than that of the private sector (Poljašević et al., 2019). Brusca and Condor (2002) describe three models for the treatment of budgetary and net assets information: (i) an accounting system limited to recording budgetary operations; (ii) the integration of budgetary and financial accounting systems (called dual accounting); and (iii) independent budgetary and financial accounting systems. Budgetary control “records, processes, and discloses the acts and events related to budgetary planning and execution,” while net assets control “registers, processes, and discloses the financial and non-financial events related to the qualitative and quantitative changes in the public sector net assets” (Secretaria do Tesouro Nacional [STN], 2018, p. 383). Some transactions are recorded only in the budgetary point of view (e.g., expenditure commitments), while others only according to the financial accounting view (e.g., liability recognition) and can also be recorded simultaneously in both (e.g., collection of delinquent taxes).

Therefore, dual accounting uses double-entry bookkeeping to record simultaneously the administrative events with budgetary and financial accounting impacts. This practice was introduced in Italy through the Regulation of the Italian Accounting Code (Regio Decreto 3074, 1885) and discussed in books (D'Alvise, 1912; Gitti, 1921; Massa, 1912). In Italian dual accounting, the recording of budget flows coexisted in an integrated manner with the recording of assets and liabilities (Pigatto,

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<sup>1</sup> The term in Brazilian Portuguese “*contabilidade patrimonial*” (literally “assets accounting,” or “equity accounting”) refers to accounts (and their changes) recognized in the balance sheet. To adequately translate the concept, this article uses “financial accounting.” As for the term in Brazilian Portuguese “*controle patrimonial*” (literally net assets or equity control), the article adopts “net assets control.”

2004). Italy was the only country to use this method, until then considered the most innovative in Europe (Couder, 1888). Paragraph 1 of art. 161 of the Accounting Code Regulation (Regio Decreto 3074, 1885) determined a demonstration of consistency between the budgetary and the financial accounting with reconciliation between both, as explained by Massa (1912).

The essential element of accounting in the Regulation of the Italian Accounting Code (Regio Decreto 3074, 1885) was the distinction between effective budgetary transactions and capital movements (arts. 136 to 138), in which only the former changed net assets balance (Couder, 1888).

The adoption of dual accounting makes it possible to classify assets and liabilities into two groups: a) financial; and b) permanent. Cash besides budgetary receivables and payables carried forward form the net financial assets balance. The other assets and liabilities set the net permanent assets position (Massa, 1912). This classification was incorporated in Brazil later, both in the Federal Accounting Code (Decree 4536, 1922, arts. 21-23) and in the law that succeeded it, still in effect (Law 4320, 1964, art. 105).

## 5. THE EMERGENCE OF INTEGRATED BUDGETARY AND FINANCIAL ACCOUNTING IN BRAZIL

After the proclamation of the Republic in 1889, the Brazilian states (called provinces during the period of the Empire) started to access the credit market. It was necessary, therefore, to establish liability control, resulting in a need for accounting reports, which were required by international creditors as a condition to provide loans (D'Auria, 1920). The states sought new accounting standards, as observed in the studies by Lins (1905), Figueiredo (1907), Carvalho (1914a, 1914b, 1914c) and, particularly for the state of Pernambuco, in the study by Gonçalves (1908). The context in the organizational field was therefore favorable for new ideas and practices.

As of 1892, a new accounting process emerged in the City Council of the municipality of São Carlos, in the inner of the state of São Paulo, which represented the start of a modernization of public sector accounting (Adde et al., 2014; D'Auria, 1920; Mancini, 1978; Peleias & Bacci, 2004; Pigatto, 2004). An immigrant Pole, Mr. Estanislau Kruszynski taught accounting to the then tax collector, Mr. Carlos de Carvalho, who developed an accounting method for the City Council (Mancini, 1978; Pigatto, 2004). For Mancini (1978), this method was the embryo of dual accounting, that is, of the integration of budgetary and financial accounting. However, the discussion on the authorship of this new method of public accounting is controversial:

[...] it was not exactly Carlos de Carvalho, who did so much for Brazil through his work in São Carlos, who introduced the modern method of commercial bookkeeping in the country. It was Estanislau Kruszinski. [...] However, it is undeniable the need to acknowledge the importance of the great accountant of our municipality for his work of diffusion of the method. He later went on a special mission to the state capital [São Paulo] and to the state of Rio de Janeiro, to inaugurate public bookkeeping using the Kruszinski method (Mancini, 1978, p. 5).

Carlos de Carvalho worked as a bookkeeper in Rio Claro, state of São Paulo (SP) (Gouveia, 2015) before moving to São Carlos, where he worked as an accountant for the bank “Banco União”, for the nonprofit hospital and philanthropic organization “Santa Casa”, and for the City Council, between 1896 and 1903 (Penteado, 1977). The work record indicates that Carvalho had already accumulated some

experience before starting the job at the City Council. This study does not explore the exact relationship between Estanislau Kruszinski and Carlos de Carvalho as there is no detailed information about the training Kruszinski offered or the level of influence this training had on Carvalho's later ideas, even though Mancini (1978) argues that the relationship with Kruszinski had some influence in Carvalho's training.

### 5.1. Carlos de Carvalho in São Carlos, before the innovation

The documentary analysis of the City Council's accounting books indicated the use of the modified cash basis accounting system since they recorded amounts receivable and payable. The method was similar to commercial accounting, without recording any revenue and expenditure estimates. The bookkeeping was handwritten and kept in three large and heavy books, with wooden covers a) Journal; b) Ledger; and c) Revenue and Expenditures Book.

**FIGURE 1** COVER OF THE 1897 ACCOUNTING BOOKS "LEDGER" AND "JOURNAL" OF THE CITY COUNCIL OF SÃO CARLOS DO PINHAL (CURRENTLY SÃO CARLOS – SP)



Source: Fundação Pró-Memória de São Carlos.

Revenue and expenditures of 1896 were posted in detail in the Revenue and Expenditure Book, using double-entry accounting. Transactions were recorded at their daily totals on a cash basis in the Journal and the Ledger. The Ledger was organized in such a way that each page contained only debits and credits posted against a single account.

The pages were numbered sequentially, and the records were carefully handwritten, with high calligraphic quality. Loose sheets were found with manual calculations in the middle of the books, which indicates the use of drafts before the final entry in the books. These books contained terms of opening and closing signed by the chief of the local executive branch at the time, Major Julio de Salles, cousin of the then governor and future president of the Republic, Campos Salles.



**FIGURE 2** 1896 JOURNAL OF THE CITY COUNCIL OF SÃO CARLOS DO PINHAL (CURRENTLY SÃO CARLOS – SP)

1896		Exercicio Fimdo = (1895-1896)		59
Datas		Debito	Credito	
Julho 11	Receitas de impostos cobradas - custas de 60 milreis no caso de junho proximo pass. auto, conferencia e tabelas cab. n. 77		1.240.000	
	Talares de salos em caixa em de de junho proximo passate		2.300.000	
4	Receitas de Janguires illuvas - impostos de Intendencia e Propriedades - conferencia e tabelas n. 800		40.000	
6	Receitas de Volata Janguires - impostos de Int. e Prop. conferencia e tabelas n. 817		12.000	
7	Receitas de Janguires - impostos de Intendencia - conferencia e tabelas n. 800 e 803		20.000	
	Receitas de Janguires - impostos de Intendencia - conferencia e tabelas n. 800		200.000	
	Pago em 11 de setembro, a Janguires de Volata, pela conta - Off. de Publicaçoes	20.000		
	Pago em 11 de setembro, a Janguires de Volata, pela conta - Off. de Publicaçoes e Intendencia	750.000		
	Pago em 11 de setembro, a Intendencia, pela conta - Publicaçoes e Intendencia	1.22.180		
	Pago em 11 de setembro, a Intendencia, pela conta - Intendencia e Intendencia	1.20.000		

Source: Accounting books archived at the Fundação Pró-Memória de São Carlos.

The analysis of accounting applied at the time considered three aspects: a) evidence of dual accounting; b) analysis of cash and accrual basis accounting; and c) single and double-entry method of recording.

### **Budgetary and financial accounting: dual accounting**

Until 1904, the municipality of São Carlos had not used dual accounting method, but the system adopted was considered a reference, since there was information circulating in the region about a new and modern local accounting system in the municipality (Mancini, 1978).

The Revenue and Expenditure Book recorded transactions of revenue and expenditure on a cash basis. From the daily totals registered in the book, a record was made using double-entry accounting in the Ledger. For example, coffee and sugar revenues posted against the cash account. The same transaction was recorded in the Journal, using the double-entry method. No evidence was found of accounting records of the opening budget in São Carlos, but only of revenue collection. This indicates that the accounting had not yet incorporated the transactions of the initial budget, to match the estimates with the budget execution.

However, if on the one hand there was no evidence of budgetary accounting from 1896, the statement of the revenue and expenditure budget and its execution had been presented since, at least, 1893, as shown in figures 3 and 4 (Augusto, 2007). This indicates that there was monitoring of the budget execution, carried out outside the accounting records. The comparison of these data sources

reveals that budgetary and net assets controls were practiced, placing São Carlos as the embryo of dual accounting method in Brazil. At the same time, it is evident that the modus operandi of integration between the two systems had not yet been practiced.

**FIGURE 3** 1893 STATEMENT OF REVENUES OF THE CITY COUNCIL OF SÃO CARLOS DO PINHAL (CURRENTLY SÃO CARLOS – SP)

**Estudo comparativo entre o orçamento da receita e a receita realizada**

	Orçamento	Realizado	Exc. de renda	Falta de renda
Industrias e profissões.....	15.000\$000	26.793\$660	11.793\$660	.....
Capitação.....	1.000\$000	527\$000	.....	473\$000
Imposto predial.....	12.000\$000	20.868\$387	8.868\$387	.....
Multas do Jury.....	800\$000	2.070\$000	1.270\$000	.....
Rendas do Cemiterio.....	6.000\$000	5.095\$000	.....	905\$000
Rendas do Matadouro.....	7.500\$000	7.050\$600	.....	449\$400
Café e assucar.....	16.000\$000	17.428\$200	1.428\$200	.....
Outros impostos.....	42.719\$000	39.282\$820	.....	3.436\$180
	101.019\$000	119.115\$667		
Orçamento da Receita.....			101.019\$000	
Receita realizada.....			119.115\$667	
Excesso da Receita sobre o Orçamento.....			18.096\$667	

Source: Augusto (2007, p. 47).

**FIGURE 4** 1893 STATEMENT OF EXPENDITURES OF THE CITY COUNCIL OF SÃO CARLOS DO PINHAL (CURRENTLY SÃO CARLOS – SP)

**Estudo comparativo entre o orçamento da despesa e a despesa realizada**

	ORÇAMENTO	REALIZADO	Excesso de despesa	Diferença para menos
Ordenados de empregados.....	21.911\$140	28.360\$541	6.449\$401	.....
Obras Publicas.....	34.607\$860	52.312\$633	17.704\$773	.....
Eventuaes.....	4.000\$000	6.984\$080	2.984\$080	.....
Expediente.....	4.000\$000	4.814\$790	814\$790	.....
Iluminação publica.....	7.200\$000	8.179\$106	979\$106	.....
Extinção de formigas.....	500\$000	40\$000	.....	460\$000
Limpeza publica.....	20.000\$000	27.749\$049	7.749\$049	.....
Matadouro.....	1.000\$000	7.483\$340	6.483\$340	.....
Cemiterio.....	1.000\$000	9.491\$832	8.491\$832	.....
Lazareto.....	5.000\$000	2.125\$750	.....	2.874\$250
Custas Judiciarias.....	800\$000	719\$875	.....	80\$125
Auxilio á Santa Casa.....	1.000\$000	.....	.....	1.000\$000
	101.019\$000	148.260\$996		
Despesa realizada.....			148.260\$996	
Orçamento para despesa.....			101.019\$000	
Excesso sobre o orçamento.....			47.241\$996	

Source: Augusto (2007, p. 47).

**Cash and Accrual basis accounting**

The revenue and expenditure flow was initially recorded on a cash basis, and the accounting books at that time followed this system. For example, recording of revenue from fines, use of the graveyard, and taxes in general were recorded on the basis of collection. In turn, the entry of expenses such as payroll, public works, and printed materials were posted on the basis of payments.

However, the cash basis was modified by recording some assets and liabilities. Soon, there were records of receivables and borrowing. Delinquent taxes were posted at the end of the year against a ‘municipality’ account, which received the difference between assets and liabilities, due to the lack of a net assets account.

Despite the limited information, the accounting records, offered a clearer view of the City Council’s net assets position, as shown in the 1896 Balance Sheet (Table 1): there was a deficit between assets and liabilities balances recorded in an account on the assets side. Responsibility controls with countervailing entries either in assets and liabilities were used, and other receivables balances were posted under the heading ‘closed period’.

**TABLE 1 1896 BALANCE SHEET OF THE CITY COUNCIL OF SÃO CARLOS**

Assets		Liabilities	
<b>Cash</b>		<b>Credit operations</b>	
Amount in the safe box	44,502	Balance of the credit in this account, showing credit operations carried out by the Council	176,696
<b>Receiver’s deposit</b>		<b>Deposits, sureties and collaterals</b>	
Represented in real estate	20,500	From receiver: represented in real estate	20,500
<b>License plates</b>		<b>From the cemetery caretaker: cash</b>	<b>500</b>
Balance of the account to be collected	3,625	Others: cash	3,600
<b>Closed period – 1895/1896</b>		<b>Closed period – 1895/1896</b>	
Debit of this account	21,171	Credit of this account, which means the amount of tax collected for the fiscal year and realized in this semester	4,656
<b>Municipality</b>			
Amount of debit in this account – deficit – at the end of the semester from July to December, to be carried forward into 1897	116,153		
<b>TOTAL</b>	<b>205,952</b>	<b>TOTAL</b>	<b>205,952</b>

Source: Elaborated by the authors based on the Journal archived at the Fundação Pró-Memória de São Carlos.

**Double and simple entry bookkeeping**

At the end of the nineteenth century, the accounts were divided into integral (assets and liabilities) and differential (net assets balance, revenues and expenditures). At that time, accounting records

were made by single or double-entry. The single entry was a trivial accounting control that has two variants. The first presents the opening balance of each of the integral accounts separately, followed by the records of their changes, one by one, over time. The second and even more synthetic form, consists only of the opening net assets account (differential balance) followed by the changes one by one, until reaching the final balance (Gitti, 1921). The double-entry accounting method, however, is more complex. It allows the memorization and disclosure of the events that cause changes in the integral and differential accounts. The simultaneous use of full and differential accounts is carried out through the debit and credit mechanism, which allows monitoring the change in the balances of the various accounts concurrently, at any time (Gitti, 1921).

Recent literature has discussed when the double-entry method started to be used in Brazil (Adde et al., 2014; Gonçalves et al., 2013), and some studies have pointed out that the method was first used in the municipality of São Carlos (SP), which may have influenced the adoption by the Federal Government, in 1914, as discussed by Adde et al. (2014). Evidence was found of the use of the double-entry bookkeeping method in the accounting of the São Carlos' City Council, recorded consistently for all the organization's transactions. The form used in the accounting books was adequate and contained the columns "Debit" and "Credit". The printed material was purchased by the municipality in the state's capital São Paulo (SP), as indicated by the stamps on the first page (Figure 5). The existence of a scale production of accounting books with double items at the time may indicate the use of this technique by other types of organizations (particularly businesses).

**FIGURE 5** STATIONARY STORES THAT SOLD PRINT MATERIAL USED IN ACCOUNTING BOOKS IN THE MUNICIPALITY OF SÃO PAULO (SP) (1896)



**Source:** Authors' personal collection, based on the accounting books archived at the Fundação Pró-Memória de São Carlos.

Although the São Carlos City Council had the necessary information to use dual accounting, no records were found demonstrating the execution of concurrent records for double-entries between budgetary and financial accounting transactions, which would characterize dual accounting. There was no record of budgetary estimates, and it was not possible to find any authorization (commitments)

for the use of budget appropriations. The balance sheet presented, in addition to cash and equivalents, receivables and some liabilities. Changes in these accounts were posted against an account called ‘municipality,’ which worked as net assets.

Even though the research did not find records demonstrating the use of dual accounting, the characteristics of the accounting services performed at the São Carlos City Council in the period between 1896 and 1903 have historical relevance as inducing this new practice. The accounting services provided in São Carlos led Carvalho to work at the “Treasury Accounting” of the Government of the State of São Paulo (D’Auria, 1920; Penteadó, 1977).

## 5.2. Carlos de Carvalho in the Government of the State of São Paulo: using the innovation

In February 1906, the state of São Paulo published its first balance sheet, as discussed by Lins (1905) and Mancini (1978):

For the first time, the Treasury of the State of São Paulo presents its statement of financial position – complete and organized according to the standards modernly recommended by the public sector accounting scholars (Lins, 1905, p. 171).

The double-entry method, which is the optimal widely used bookkeeping method, was introduced in the accounting books of the Treasury of the State of São Paulo. The new system of accounts has changed: in addition to purely financial bookkeeping (consisting of revenues and expenditures), it was observed the recording of assets and liabilities (Mancini, 1978, p. 9).

From 1896 to 1905, in almost ten years, there were three improvements in the accounting of the Government of the State of São Paulo in comparison to the municipality of São Carlos. The first was the implementation of budgetary accounting with double-entry records revenues and expenditures estimates and execution. The second improvement was the incorporation of long-term items in the balance sheet. Properties, plants, and equipment were recorded in a summarized account called “State properties,” and on for liability there were domestic and foreign contractual debts. Finally, the integration of budgetary and financial accounting became evident, by means of a statement that reconciled the changes of both accounting systems. This set of statements was signed by “Carlos de Carvalho – Bookkeeper”.

The set of statements that made up the rendering of accounts of the state government in 1905 offered the revenue and expenditure statement (Appendix – Figures 6 and 7) and the financial position statement (Appendix – Figure 7). The latter was divided into two statements, the final balance sheets for the previous year and the current year and the operational statement of changes in the net financial position that occurred during the accounting period (Appendix – Figure 7).

The rendering of accounts of 1905 for the state of São Paulo is the first concrete evidence of the Italian influence on public accounting in Brazil, that is, the record and the concomitant disclosure of budgetary and financial events with assets and liabilities and their changes in an official financial report, i.e., dual accounting. Note that the financial deficit (of 44,514,043\$433) in the statement (recalculated in Table 2) is shown in the statement of revenue and expenditure (Appendix – Figure 7).

The surplus (of 7,763,653\$981) in the changes in the financial position was achieved by excluding the effective cash inflows and outflows (Table 2).

Therefore, the greatest improvement in accounting at the time was not only the use of double-entries, as proposed by Mancini (1978), but also – and in our understanding mainly – the introduction of dual accounting.

The dual accounting model made it possible to assess the immediate result on the government’s solvency and liquidity, in addition to evidence changes in its long-term position or net worth, considering the limitations of capturing assets and liabilities at that time.

**TABLE 2 STATEMENT OF CHANGES IN EQUITY OF THE GOVERNMENT OF THE STATE OF SÃO PAULO – 1905**

Group	Description	Value	Total
Initial financial balance	Difference between assets and liabilities		104,957,349\$739
	Record of amounts with responsible parties	9,706\$687	
	Amortization of foreign debt	948,444\$443	
	Amortization of domestic debt	245,300\$000	
	Recording of outstanding debt	179,590\$178	
	Railroad incorporation	63,479,203\$851	
Subtotal of increase in net assets (a)			64,862,245\$159
Collection (c)			67,346,641\$040
	Rectifications of 1914 errors	-1,560,294\$309	
	Write-off of amounts with responsible parties	-362,892\$620	
	Write-off of amounts with responsible parties	-2,267,968\$981	
	Write-off of amounts with responsible parties	-1,885\$776	
	Railroad debt cancellation	-8,391,206\$059	
Subtotal of decrease in net assets (d)			-12,584,247\$745
Payments (b)			-111,860,684\$473
Final financial balance	Difference between assets and liabilities		112,721,003\$720
Financial deficit (c – b)			-44,514,043\$433
Effective cash inflows e = (c – d)			54,762,393\$295
Effective cash outflows f = (a – b)			-46,998,439\$314
Net worth surplus (e – f)			7,763,953\$981

Source: Elaborated by the authors.

At this point, the research sought to identify where Carlos de Carvalho imported such an accounting model from. It could be the result of chance, as suggested in D’Auria (1920, p. 4), in which case Carvalho would have had access to an Italian accounting book purchased in a bookstore in Campinas-SP:

Vicenzo Gitti, in a little Hoepli guide, exposed this type of accounting in a very simple way. Our Professor Carlos told us that, being in Campinas, he had the opportunity to stop in front of a bookshop and see, among others, Gitti’s modest little book. He purchased it immediately, as he usually did when finding accounting books, and came across the formulas of Italian double accounting. He very much liked the simplicity and beauty of the formulas and then he always thought about adding them to our public sector accounting. That was the spark that would give the beautiful flame that we all admire today!

[...]

Then, Carlos de Carvalho started, with great confidence, the bookkeeping of the Treasury [of the Government of the State of São Paulo] using the double-entry bookkeeping method. This is a noteworthy fact, as budgetary and financial accounting systems were practiced, until then, only in Italy.

However, two other narratives about these events are observed in the literature. First, Kruszynski developed the method and Carvalho’s role was limited by executing Kruszynski method for the state government in São Paulo (Augusto, 2007; Mancini, 1978). In the other narrative, Carvalho developed the method of dual accounting in São Paulo, also inspired by the Italian book. The research was not able to find any evidence of Kruszynski’s activity in the São Carlos City Council, despite the discussions by Mancini (1978) and Augusto (2007). Also, it was not clear whether the interaction between Kruszynski and Carvalho while the second was being trained had encompassed innovations associated with the dual model, or if they worked together with the Italian book, or if the innovation came from the book found by chance in a bookstore. Probably both sources of influence, added to the experiences in São Carlos and the demands placed by the new role in the state, contributed to Carvalho’s creation and entrepreneurial attitude.

In the introduction of the new accounting model in Brazil, Carvalho adapted the method explained in the Italian book acquired in Campinas. The referred guide did not include all the details of dual accounting as it was practiced in Italy. Some problems, such as the lack of budget appropriations control, were left out of the changes proposed in the state accounting. The assumption is that Carvalho had access to other Italian accounting works, as he had mentioned later on (Carvalho, 1914a), and that he knew, for example, the use of commitments as a form of limiting expenditures, even though it was not used in São Carlos or in the state. The last column of Figure 4 shows the existence of excessive expenditures, especially in the Legislative Branch. It is noteworthy that, at the time, the instrument of “commitment” in budget mechanics was not yet used in the country, leaving room for the discretion of the public manager in the execution of expenditures.

Therefore, it is possible to say that the modernization of the public sector accounting in Brazil did not occur simply by adopting the double-entry method, as discussed by Adde et al. (2014), but mainly due to the adoption of dual accounting, as explained by Francisco D’Auria (1920, p. 3):

As is known, public sector accounting covers a double system: the budgetary accounting and the accounting of assets and liabilities. The vast majority of nations are only concerned with budgetary accounting, neglecting the financial accounting. For that reason, however, it happens that nations do not know the size of their assets, failing to provide that beautiful piece of accounting that is the balance sheet. In Italy, however, the issue was faced with other understandings. Financial accounting was taken care of and in one accounting they covered both systems, which, for many professionals, was utopia.

## 6. DIFFUSION OF DUAL ACCOUNTING IN BRAZIL

Until the proclamation of the Republic in 1889, the development of accounting was insignificant in Brazil (J. C. P. Pinheiro & A. V. Pinheiro, 1998). With the republic, the states replaced the provinces, occupying the same territories. The Constitution of the Republic of the United States of Brazil (Constituição de 1891, 1891) adopted the federalism, with autonomy to the states, which practically had no clue on how to act. The former provinces of the Empire had little administrative experience, which caused a period of administrative chaos (Adde, 2012; Andrade, 1991).

In addition to the organizational difficulties at the beginning of the Republic, the situation was aggravated by the governments financial situation. On the one hand, the states sought expenditure control, especially due to extraordinary costs of fighting internal instabilities (Luna & Klein, 2014, p. 40), the drop in exchange rate, and external loans taken out by states and some municipalities, a practice that was not permitted before, during the Empire (Prado, 2012).

At the beginning of the Republic, indebtedness increased due to investment in infrastructure (D'Auria, 1920) and with specific events such as the manipulation in the price of commodities (coffee) in the foreign market (Ribeiro, 1999). This context led the country to need a funding loan (Luna & Klein, 2014).

The increase in indebtedness led to greater demand for accounting information by creditors. However, the public sector accounting system at that time used the single-entry method and the statements of revenues and expenditures were often out of date, due to operational difficulties in consolidating the information from tax collectors (Andrade, 1991). The context at the beginning of the Republic, marked by pressures from external creditors to obtain greater fiscal control and the consequent improvement of accounting information, may have been beneficial to the emergence of accounting innovations, with increasing reflexivity of accountants and governments toward external demands and improvement of the accounting methods in use.

The pressure for better fiscal control was present in several state capitals and in the largest urban centers, in different intensities. Despite the communication difficulties considering the reality of the twentieth century and the size of the country, the organizational field of public accounting was showing signs of some minimal structure that would favor the diffusion of concepts and ideas.

First, some business schools emerged at the end of the nineteenth century teaching accounting practices, such as Lyceu Commercial in Rio de Janeiro (1851), Instituto Comercial do Distrito Federal, Escola Politécnica in São Paulo (1894), and the Fundação Escola de Comércio Álvares Penteado (1902) (Martins, Silva, & Ricardino, 2006). Mancini (1978) also reports the intense demand for accounting courses in the municipality of São Carlos at the end of the nineteenth century.



Second, the actors engaged in accounting started to organize into associations, such as the Association of the Court's Bookkeepers, established in 1869 and holding regular meetings (Adde et al., 2014; Conselho Federal de Contabilidade, 2016a). Later, several other associations emerged – in São Paulo in 1915, and Rio de Janeiro in 1916 (Adde, 2012; Conselho Federal de Contabilidade, 2016a).

Third, specialized accounting journals began to circulate. In 1874 the *Revista da Associação dos Guarda-Livros* (journal of the bookkeepers' association) (Gouveia, 2015) was first published, and in 1876 the same organization launched the *Revista Mercantil* (Silva & Martins, 2009), followed by the *Revista do Grêmio dos Guarda-Livros*, in 1896. The *Revista Brasileira de Contabilidade* (Brazilian journal of accounting) started in 1912 (Conselho Federal de Contabilidade, 2016a). In addition, it was not rare to find specialized publications on state governments accounting (Figueiredo, 1907; Gonçalves, 1908; Lins, 1905; Rios, 1908) and newspapers and magazines dealing with general issues such as *Diário da Capital*, and *Revista do Brasil* offered space to discuss accounting (D'Auria, 1920).

Fourth, professional relations were associated with the roles and responsibilities that state bookkeepers assumed before legislators, public managers, and their peers in municipalities. Although the relationship among the different government levels in the federation was much more embryonic compared to nowadays, a minimal networking among professionals working within the same state was expected.

Carlos de Carvalho counted on means and relationships provided by bookkeepers' associations and shared responsibilities in order to carry out an institutional work diffusing the new practices that were being implemented in the capital of the state of São Paulo. Carvalho may be considered what sociological institutional literature calls an "institutional entrepreneur" (Battilana et al., 2009), mobilizing and using material and relational resources in favor of such diffusion.

Carvalho was the editor of *Revista Brasileira de Contabilidade* (Brazilian journal of accounting) an important knowledge diffusion vehicle at that time. In its first edition, the journal published the accounting method then adopted by the Government of the State of São Paulo. Several sequential editions dealt with the new methodology, explaining it in details (issues 7 to 11, in 1914). His position as editor gave him the advantage necessary to publicize the new method and respond to criticisms made by readers, advancing in terms of social accreditation, as suggested by Tolbert and Zucker (1996).

The proposed accounting method was published in several issues of the journal, which went from a method applied only in São Paulo to being gradually considered as a general model, circulating nationwide and gaining adopters. In addition to using his position as editor, Carvalho also worked on the method's concepts, seeking to consolidate the new method in a general model. Transforming a proposition in a general model facilitates the communication of concepts and increases the influence of those who theorize and adopt the new method (Strang & Meyer, 1993). The following excerpt was retrieved from one of Carvalho's speeches (1914c, p. 208):

It is necessary to open several accounts for the budget, and they must be totally independent from financial accounts (assets and liabilities). Let's look at this. Using two perfectly distinct series of accounts, the double-entry optimally solves the problem of financial bookkeeping (assets and liabilities), being alongside budgetary bookkeeping.

Likewise, the statement of assets and liabilities is drawn up without any difficulty. Just add the various debt and credit accounts of the Ledger.

At the same time the dual accounting method was diffused, Carlos de Carvalho theorized in favor of double-entries, which were essential in the operation of dual accounting:

The double-entry, contrary to what has sometimes been stated, may very well be applied to this bookkeeping method since [...] two series of special accounts are opened, which have nothing to do with the various accounts of the financial bookkeeping. There is no reason not to proceed in this way, it is quite easy (Carvalho, 1914a, p. 129).

Other channels used by Carvalho to diffuse the method were the publication of balance sheets of the Government of the State of São Paulo. In 1905 he presented an extensive 508-page report named “exhibition of all the businesses that ran through the Secretariat of Finance” (Lins, 1905, p. 171). For example, the 1905 balance sheet included, along with the statements signed by Carvalho, considerations on why conventional double-entry should be used instead of other accounting methods that were being discussed at the time. Other articles in newspapers and journals were also used to diffuse the method (D’Auria, 1920).

Carvalho’s prestige in the organizational field was high (D’Auria, 1920). In 1915, the Accounting School in São Paulo adopted his name. The school’s inauguration was attended by political authorities such as Rodrigues Alves, “President of the State of São Paulo” (it was how the head of the state’s executive branch was called at that time), and the institution was another source of diffusion of its techniques. On that event, there were tributes “to the eminent publicist and reformer of public bookkeeping in Brazil, for the invaluable services he provided” (Correio Paulistano, 1915, p. 6).

In creating models (structures), Carvalho sought to provide other accountants and bookkeepers with a model for action. This was an educational job necessary for the development of the skills and knowledge needed to support the new institution (Lawrence & Suddaby, 2006). This activity was intensely developed both in journals and through the publication of several books by Carvalho, which continued to be reissued after his death in 1920 (D’Auria, 1920).

The evidence presented suggests that the new accounting practices were diffused in the organizational field, even before the existence of a general accounting standard for the public sector that made them mandatory.

D’Auria (1920, p. 4) reported “there is no need to mention that the results of our accounting in the state of São Paulo were the most satisfactory. From then on, public affairs were registered in compliance with the purest rules of the purest accounting”. The diffusion occurred relatively quickly in the organizational field, favored by the pressure of fiscal control. Several state and even municipal governments began to send technicians to learn about the accounting carried out by the Government of the State of São Paulo:

The state of Minas Gerais sent two civil servants from its Treasury to São Paulo to study the state’s new accounting organization. [...] do you know what the result was? They perfectly imitated our writing and Minas can now boast of having a model bookkeeping for its Treasury (D’Auria, 1920, p. 4).

The same script was followed by the state governments of Rio de Janeiro and Paraná and the municipalities of São Paulo and the Federal District, which promptly adopted the dual accounting

after sending technicians to learn about the new accounting in São Paulo (D'Auria, 1920). As a result, the innovation's diffusion occurred among state governments and was followed by large cities, such as São Paulo, particularly because there were no general accounting standards to guide the subnational governments. The diffusion among technicians occurred horizontally throughout subnational governments, due to the influence of Carlos de Carvalho's diffusion and institutional work, followed by mimetic isomorphism (Dimaggio & Powell, 1983).

It was not long before the novelty that had been successfully adopted by the state governments and some municipalities to reach the Federal Government. It should be noted that, at the time, the Federal Government was also looking for improvements in accounting information in order to access an international loan. As D'Auria (1920, p. 5) asks, "but how can we provide such a demonstration, if the federal treasury's bookkeeping was extremely difficult and chaotic?"

In the Federal Government, the deficiencies in accounting used at the beginning of the Republic were evident when analyzing its capacity to match the requirements of the international credit market (D'Auria, 1920). In 1898, the President of the Republic, Prudente de Moraes, sent a message to his successor, Campos Salles, expressing the need for a public sector accounting code (Jornal do Recife, 1898). Thus, in 1903, the Minister of Finance, Leopoldo Bulhões, sent an official letter to the President of the Court of Auditors to comply with a determination of Law 953 (1902) – 1903 budget – which was the preparation of guidelines for public sector accounting (A Federação, 1903). The initial draft of an Accounting Code had been prepared in advance by the President of the Court of Auditors and presented to the National Congress in 1903.

Despite the efforts of the Executive Branch and the Court of Auditors, the Legislative Branch has shown no interest in changing the flexibility to amend the budget and change the culture of excessive spending based on budget appropriations, which was grounded on the lack of accounting standards. Perhaps, for this reason, the legislative process did not happen at that time.

The influence of Carlos de Carvalho in the federal efforts to improve accounting information was presumably strong. This claim is supported by the fact that the elements Carvalho brought to the field of accountancy were being readily accepted and assimilated by the several states, and the fact that his team was in charge of the reorganization of the National Treasury accounting since 1914 (Adde et al., 2014; D'Auria, 1920). This influence would explain the presence of the elements Carvalho theorized and diffused in the text of the Federal Government's Accounting Code (Decreto n°. 4.536, 1922).

Then, dual accounting between budgetary and financial accounting was introduced in the Accounting Code of 1922 (Decreto n°. 4.536, 1922). Art. 21 of the code states that "the accounts for the financial year shall comprise: I. budget account. II. balance sheet". Subsequently, this accounting methodology was maintained by the Federal Public Accounting Law (Lei n°. 4.320, 1964).

This study examined the period from 1904 to 1922, from the beginning in São Paulo, until the standardization of practices based on federal legislation. The movement that took the innovation started in São Paulo to be a nationwide practice grounded on federal legislation was a bottom-up phenomenon, starting naturally from Carvalho's institutional work and followed by other actors who joined the movement (who were not the object of this research). This bottom-up movement, with a horizontal influence, using social networks, and without legal coercion, characterizes the emergence of dual accounting at the beginning of the Republic in Brazil.

Some studies have shown that, although the method has been assimilated by federal regulations both in the Accounting Code of 1922 (Decreto n°. 4.536, 1922) and in Law 4320 (1964), over time, the financial perspective of the dual accounting system was put aside and the focus of governments remained on budgetary accounting. The development of financial accounting was put aside and is now undergoing changes due to convergence to international standards (IPSAS), a process that Brazil has been implementing since 2013 (Aquino & Batley, 2016; Aquino, Lino, Cardoso, & Grossi, 2019; Azevedo, Lino, Martins, & Aquino, 2019). The findings of these studies suggest that the current accounting changes in Brazil have been conducted in the opposite way to the model discussed in this article, i.e., through a top-down model in which governments adopt changes imported from an international model.

## 7. CONCLUSION

At the beginning of the Republic, the accounting practices of the Brazilian public sector were influenced by an Italian model that combined recording and disclosure using budgetary and financial accounting systems simultaneously. The dual accounting method, regulated in Brazil by Law 4320 (1964), has roots in the method in force in Italy. The influence of this practice in Brazil was diffused from the accounting performed by the Government of the State of São Paulo, starting in 1905.

The findings point to another interpretation about the origins of the dual accounting method in Brazil, different from what is suggested in the literature (Mancini, 1978; Peleias & Bacci, 2004). The literature suggests that dual accounting was first used in Brazil in the municipality of São Carlos. However, this study found elements associating its birth in Brazil to the Government of the State of São Paulo. In addition, the study reviews the role of Carlos de Carvalho in introducing and driving change, in contrast to the central role (Mancini, 1978) attributed to Estanislau Kruszynski in the “modernization” of national accounting at the beginning of the twentieth century.

This article proposes that Carlos de Carvalho played the role of the institutional entrepreneur in the process of innovation and diffusion of accounting methods. Carvalho was, at that time, bookkeeper of the Government of the State of São Paulo and editor of *Revista Brasileira de Contabilidade* (Brazilian Journal of Accounting). Despite the evidence that Carvalho played a relevant role, he is not considered a ‘heroic figure’ who led the process of change by himself. The changes occurred because Carvalho was able to mobilize resources, form alliances, and gather followers (D’Auria, 1920).

The logic of separating financial assets and liabilities from the others, which was introduced by dual accounting in Brazil in 1905, is still in use today. This separation enables the integration of assets and liabilities in the budgetary accounting system and remains despite the current process of accounting convergence bringing the terminology and classification of public accounting closer to that of the private sector with the IPSAS.

The literature on historical narrative argues that the introduction of double-entry accounting in the public sector occurred in Brazil during the transition from Empire to Republic (Adde et al., 2014; Gonçalves et al., 2013). However, the findings indicate that double-entry accounting was adopted in the country before, at least episodically, and that the main innovation was the integrated accounting of assets and liabilities, combined with the budgetary accounting system. The “double-entry commission,”

created in 1914 by the federal government to organize its accounting, was influenced by the spread of the concepts championed by Carlos de Carvalho.

The analysis of the emergence of this innovation in Brazil leads to a reflection on the current moment of convergence to international accounting standards, which adopts a top-down movement. While in the bottom-up movement that occurred between 1904-1922 the voluntary participation of technicians from states and municipalities was at the origin of the process, in the current top-down movement, government accountants in general are distant from the centralized innovation process. It is possible to observe the international influence in both cases, in the first, the Italian influence regarding the method and the requirements from creditors, concerning the need to disclose quality information. In the second and current case, the influence is consolidated in the design of the International Public Sector Accounting Standards Board (IPSASB) (Aquino et al., 2019). Finally, it is worth emphasizing that the recent model has paid little attention to the institutional work needed to facilitate the process of diffusion of the IPSAS model and its wide acceptance among the adopting governments. About this scenario, Strang and Mayer (1993) argue that the lack of institutional work may pose difficulties in the diffusion process, resulting in resistance to the new model.

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APPENDIX

**FIGURE 6 STATEMENT OF REVENUES AND EXPENDITURES OF THE GOVERNMENT OF THE STATE OF SÃO PAULO (1905 STATEMENT)**

RECEITA	Orçada	Arrecadada	Maior Receita	Menor Receita	DESPESA	Fixada	Paga	Maior Despesa	Menor Despesa
Ordinaria . . . . .	36.025.000\$000	31.448.619\$357		4.575.380\$643	Secretaria do Interior e da Justiça . .	21.803.704\$181	21.093.167\$162	. .	708.537\$019
Extraordinaria . . . . .	750.000\$000	35.897.021\$683	35.127.021\$683		" da Agricultura . . . . .	22.145.107\$822	17.367.441\$687	. .	4.777.666\$133
					" " Fazenda . . . . .	73.814.270\$175	73.398.075\$624	. .	416.194\$551
	36.775.000\$000	67.346.641\$040	35.127.021\$683	4.575.380\$643		117.763.085\$179	111.560.684\$473	. .	5.902.397\$705
Emprestimo do cofre de orphans . . . .	. . .	1.552.904\$851			Emprestimo do cofre de orphans . . . .	. . .	1.288.746\$850		
Bens de defunctos e ausentes . . . . .	. . .	71.263\$300			Bens de defunctos e ausentes . . . . .	. . .	71.333\$355		
Depositos . . . . .	. . .	1.110.267\$507			Depositos . . . . .	. . .	1.165.055\$579		
		70.081.176\$758					114.355.820\$257		
<i>Operações de créditos:</i>					Passivo do balanço de 1904 . . . . .	. . .	48.497\$532		
Emprestimo externo . . . . .	33.777.777\$777				Supprimentos á Caixa de 1906 . . . . .	. . .	30,000\$000		
" interno . . . . .	1.525.000\$000	35.302.777\$777			<i>Saldos que passam para o exercicio de 1906:</i>				
Saldo a favor de diversos . . . . .	. . .	3.542\$500			A' disposição do Thesouro:				
Supprimentos da Caixa do exercicio de 1904	. . .	13.800.000\$000			2.º no poder de Bancos no país e no estrangeiro . . . . .	10.162.215\$546			
<i>Saldo do Exercício de 1904:</i>					1.º Em moeda, na caixa . . . . .	204.424\$267	10.366.639\$513		
Em poder das Estradas de Ferro, snjeito a liquidação . . . . .	161.458\$163				Enjeitos a liquidação:				
Nos Bancos no país e no estrangeiro . .	5.462.087\$308				3.º Em poder de exatores, a terminação de conts. . . . .	27.323\$085			
Em moeda . . . . .	307.834\$576	5.931.380\$047			3.º Em poder de Estradas de ferro, idem	260.596\$395	287.919\$480		
	Rs. . . .	125.118.877\$0*2				Rs. . . .	125.118.877\$0*2		

Source: Lins (1905).

