

# **Adoption and diffusion of double entry book-keeping in Mexico and Spain: A related but under-investigated development**

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## **Abstract**

There are conflicting and even contradictory claims as to when exactly did double entry bookkeeping arrived to *Nueva España* (New Spain) as well as its appropriation during the colonial era. We address these apparent contradictions while putting forward the idea that the history of ‘modern’ accounting practice in Latin America should be framed by developments in its former colonial power. The analysis of primary and secondary source material supports the view that there was continuity in the use of double entry in Spain and therefore, the so called ‘period of silence and apparent oblivion’ seems limited to the production of indigenous accounting thought (as expressed in the production of bibliographic material such as manuals and textbooks). Our conclusion is that the history of Latin American accounting should be wary of extrapolating everyday practice by interpreting bibliographic material and proceed by examining surviving company documents as well as informal educational practices amongst organizations based in Spain and its then colonies.

**Key words:** double entry, diffusion of accounting systems, knowledge transfer, Mexico (New Spain), Spain

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# **Adoption and diffusion of double entry book-keeping in Mexico and Spain: A related but under-investigated development**

## **Abstract**

There is a consensus within Mexican accounting historiography regarding widespread use of double entry bookkeeping by the end of the 19<sup>th</sup> Century in the realm of both private and public enterprise. However, there are conflicting and even contradictory claims as to when exactly this technique arrived to the then *Nueva España* (New Spain) as well as its diffusion during the colonial era. In this article we address these apparent contradictions while putting forward the idea that the history of ‘modern’ accounting practice in Latin America should be framed by developments in its former colonial power. This article offers an analysis of primary and secondary source material to support the view that there was continuity in the use of double entry in Spain and therefore, the so called ‘period of silence and apparent oblivion’ seems limited to the production of indigenous accounting thought (as expressed in the production of bibliographic material such as manuals and textbooks). Our conclusion is that the history of Latin American accounting should be wary of extrapolating everyday practice by interpreting bibliographic material and proceed by examining surviving company documents as well as informal educational practices amongst organizations based in Spain and its then colonies.

**Key words:** double entry, diffusion of accounting systems, knowledge transfer, Mexico (New Spain), Spain

## **INTRODUCTION**

Research in this article aims to enhance the understanding of the use and diffusion of ‘modern’ accounting techniques outside of Europe and Anglo Saxon countries by outlining empirical considerations for the comparison of practices in the American colonies with those in Spain. The issues at hand are the timing and nature in the adoption and diffusion of double entry accounting in Latin America. This article does not provide a definitive answer to these questions. Instead, it offers a new empirical framework for the discussion while pointing towards a research agenda for an accounting history of Latin America.

The motivation for this project lies in the handful of contributions exploring accounting practices in former Spanish colonies in Latin America before and after their independence (Avella, 2001; Domínguez, 2009; A. Donoso, 1996 and 1997; Klein and TePaske, 1986 and 1988; Larruga, 1794; Maniau, 1793; Núñez, 2002; TePaske *et al.*, 1976; TePaske *et al.*, 1982-1990). The idea is put forward that developments in Latin America should not be studied in isolation but as an educational process in which the transfer of knowledge is mapped while considering developments in accounting practice and accounting thought within the former colonial power. As a result, research in this article supports the basic principles of so-called ‘new accounting history’ (e.g. Hopwood and Miller, 1994, Miller *et al.*, 2002). This by considering accounting as a social and institutional practice which has to be studied in the context in which operates. In other words, culture and context are relevant in researching accounting history in Latin America when supporting the claim that it is everyday practice (rather than interpreting bibliographic material) that which will show there was continuity in the use of double entry in Spain and its Latin American colonies.

The research is focused on developments in the *virreinato de la Nueva España* (Viceroyalty of New Spain), a territory whose location, extension and wealth made it a geo-strategic priority for both the Spanish Crown and Spanish merchant houses. Most of this territory became a sovereign state after a process of independence which started in 1810. Since 1917 this republic has been formally known as *Estados Unidos Mexicanos* (United Mexican States, henceforward Mexico).<sup>1</sup>

As a starting point, the second section offers a survey and a reinterpretation of contributions published in Mexico dealing with the arrival and diffusion of double entry bookkeeping. This handful of studies date primarily to the 1950s and offer conflicting evidence as to when and where this accounting technique was first adopted and when it became common practice within private and public enterprise in the former Spanish colony.

The third section summarizes established views regarding the introduction and diffusion of that accounting technique within Spain, before and after Mexican independence, while aiming to better understand some of the sources of conflict in Mexican historiography. This section also looks at accounting practice in Spanish firms emerging from primary records and detailing the use of double entry bookkeeping in private organizations based in Madrid and Barcelona circa

1690s and 1800s. The aim here is addressing the possibilities of knowledge transfer amongst private companies across the Atlantic during the colonial era.

In the course of the research, however, it became evident there was a need to revisit the consensus about the evolution of ‘modern’ accounting in Spain. Specifically the so called ‘stage of silence and apparent oblivion’ (R. Donoso, 1996; Hernández-Esteve, 1996a), which oscillates between the end of 17<sup>th</sup> Century and the early 18<sup>th</sup> Century. As its name suggests, it claims that double entry bookkeeping was ‘abandoned’ or at least ‘overlooked’ as far as the production of didactic texts was concerned. Yet evidence documented in this article suggests it was very much alive in the every-day practice of business organizations based in key geographies of economic activity in the Spanish mainland. This clarification is the basis for a framework for the analysis of the adoption and diffusion of double entry bookkeeping in the Mexican private sector.

The fourth section looks at the context and rationale behind the first attempt to adopt the double entry method in the public management of colonial institutions. In other words, it looks in detail at accounting guidelines introduced during Borbonic reforms in order to identify its influence on colonial and postcolonial accounting practice in Mexico.

The last section offers a discussion and conclusions. Here it is claimed that the future for the study of the history of accounting in Latin America will emerge from a synthesis based on contrasting contemporary accounting practices (as reflected in surviving documents of public and private organizations), trade regulation, contemporary manuals and treaties as well as informal education practices (such as apprenticeships and visiting stays).

## **ADOPTION AND DIFFUSION OF DOUBLE ENTRY BOOKKEEPING IN MEXICO**

### **Studies claiming the use of double entry after 1850**

What follows is a review of Mexican authors discussing the introduction of double entry, its widespread use or both. These are clearly different aspects. Double entry may have been introduced at some stage in Latin America but its widespread use may have only occurred sometime, or a long period of time after. There is also no reason to assume it was introduced at the same time in all geographies or that it spread at the same rate. As it will shown, the lack of primary research and over-reliance in secondary source material has been perpetuated confusions

and misunderstandings not only in terms of adoption and diffusion of 'modern' accounting but also blurring differences of accounting practices in private enterprise and public sector.

Table 1 summarizes contributions by Mexican authors published in professional and academic forums and dealing with the adoption of double entry bookkeeping in Mexico. Two of these studies date to the colonial period while most of them date to the second half of 20<sup>th</sup> Century. A 'bird's eye view' seems to predominate in the latter contributions, that is, studies which offer a broad and rather general overview of the development of accounting methods in capitalist societies (with a bias towards developments in Western Europe and North America). A common thread of these contributions is their didactic nature and textbook roots. Most of these sources progressed using secondary source material. Lack of research based on primary sources thus resulted in the perpetuation of myths, errors, omissions and misunderstandings; particularly regarding the arrival and diffusion of double entry bookkeeping.

The small quantity of systematic studies also reflects a lack of a research program around the history of accounting within Mexican educational institutions.<sup>2</sup> Indeed, systematic studies on the diffusion of accounting history as a research agenda have failed to identify any critical mass of activity in Mexico (Carnegie and Rodrigues, 2007; Mattessich, 2003 and 2007) while others point to the absence of any substantive effort for the whole of Latin America (Carmona, 2004).

**Table 1: Summary of studies on Mexican accounting history**

Author (Chronological)	Type of publication	Use of sources	Observations
Maniau (1793)	Book	Surviving business records.	Summary of the <i>Real Hacienda de Nueva España</i> . History presented by the author in 1793 to the <i>Ministro Secretario de Estado Don Diego de Gardoquí</i> .
Fonseca and Urrutia (1845-53)	Book	Surviving business records.	<i>Historia General de la Real Hacienda en Nueva España</i> (General history of royal holdings in New Spain) (6 volumes).
García (1940)	Article	No specified.	General commentary regarding accounting practice in the colonial period.
García (1952)	Article	Surviving business records and secondary resources.	Inventory of the accounting developments from the colonial period until mid-20 <sup>th</sup> Century.
Gallo (1957)	Article	Surviving business records.	Textbook and manual dated 1804 ( <i>hacienda</i> or private farm in Guanajuato).
Puente (1959)	Dissertation	Secondary resources.	Emphasis in the colonial period.
Gertz (1976)	Book	No specified.	Compilation of the development of accounting in the world since early history
TePaske <i>et al.</i> (1976)	Book	Surviving business records and secondary resources.	Systematic study of accounting practice in public enterprise during the colonial period.
Alvarado <i>et al.</i> (1983)	Book	Secondary resources.	Study of accountancy in Mexico since pre-Columbian era to the 20 <sup>th</sup> Century.
Klein and TePaske (1986; 1988)	Book	Surviving business records and secondary resources.	Systematic study of accounting practice in public enterprise during the colonial period (two volumes).
Rodríguez and Yáñez (1995)	Book	Secondary resources and oral histories.	Possibly the most detailed and complete study on Mexican accounting history and the accounting profession in Mexico. Emphasis in the 19 <sup>th</sup> and 20 <sup>th</sup> Centuries.
Millán (2000)	Book	Secondary sources.	Analysis of a random collection of text books used in 19 <sup>th</sup> Century.
Avella (2001)	Article	Secondary sources.	Analysis of double entry in the 18 <sup>th</sup> Century public accounting.

It is possible that Table 1 is not inclusive of all studies in the area. Due to the scarcity of systematic studies in Mexican accounting history it is possible (if not probable) that there are dissertations and other published and unpublished contributions that might be of relevance. However, no other study was identified within the digital catalogues of the largest public and private universities.<sup>3</sup>

At the same time, there are citations within the studies in Table 1, to other studies (mainly dissertations) that in all cases have not survived (or have not been catalogued by the largest universities). The research thus proceed under the assumption that Table 1 encompassed the totality of empirical studies by Mexican authors dealing with the adoption and diffusion of ‘modern’ accounting techniques during the colonial and post-colonial eras.

A recurrent theme within the studies summarized in Table 1 is a debate regarding the adoption and first use of double entry bookkeeping in Mexico. For instance, Gallo (1957, p. 51) criticises the view stated by ‘Alfredo Chavero, Esq., C.P.A.’<sup>4</sup> in the latter’s newspaper article published in *El Universal* (June 7<sup>th</sup> 1957). Chavero claims that ‘university lectures’ in the 1900s taught single entry bookkeeping and dates widespread use of double entry bookkeeping to the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. This was consistent with common wisdom beliefs which dated the start of professional accounting in Mexico to two key developments, firstly, the creation of a *Contador de comercio* (business accounting degree) in 1905 and its first graduate, Fernando Díez Barroso in 1907, who was instrumental in changing the title of graduates to *Contador público titulado* (Certified Public Accountant). Secondly, the establishment of the *Asociación de Contadores Titulados* (Mexican Association of Accountants) in 1917, that is, four years before the American Accounting Association (Gertz, 1976, pp. 138-9; Rodríguez and Yáñez, 1995).<sup>5</sup>

Chavero’s view also coincides with the publication of several ‘novel books on modern accounting’ in Mexico City as identified by Millán (2000): firstly *Tratado de teneduría de libros en partida doble* (A Treatise on Double Entry Bookkeeping) by Eduardo Jiménez de la Cuesta in 1886; secondly the *Teoría de la partida doble* (The Theory of Double Entry Bookkeeping) by Antonio Orozco in 1894; and thirdly, *Tratado complejo de teneduría de libros por partida doble* (A Complex Treatise on Double Entry Bookkeeping) by Emilio A. Marín in 1903.

In an independent move, Alvarado *et al.* (1983, p. 107) claim that the earliest attempt to introduce double entry bookkeeping dates to 1874. These authors claim that 1874 is the year that

marks the introduction of an unspecified piece of regulation which was enacted to institute the use the double entry method across the colonial government. They further claim that Spanish authorities lost the ‘tough of war’ with civil servants who opposed the former’s attempts and the regulation was repealed three years later. Alvarado and colleagues also state that in the decades that followed the birth of the Mexican Republic (after its independence from Spain in 1824):

‘... [accountants in public and private enterprise] continued using colonial administration standards and accounting practices, with the further difficulty that volatility in the economic environment and political situation originated confusion in public and private enterprise, loosing with it the pressures associated with day to day practice.’ (Alvarado *et al.* 1983, p. 106)

Some 25 years after the publication of Chavero’s newspaper articles, Alvarado *et al.* (1983) were in agreement in dating the arrival of double entry bookkeeping to the late 19<sup>th</sup> Century.<sup>6</sup> Alvarado *et al.* (1983) failed to reference Gallo (1957) as a source and hence, we were unable to determine whether they were aware of its existence. They also fail to disclose their source material and thus it is hard to ascertain the overall validity of their claims.

### **Studies claiming adoption and widespread use of double entry during the colonial era (16<sup>th</sup> to 18<sup>th</sup> centuries)**

As noted above, the aim of Gallo (1957) was to refute Chavero’s claim of a ‘late’ adoption and diffusion of double entry bookkeeping in Mexico. Gallo (1957, p. 51) offers evidence on the use of double entry bookkeeping from an *hacienda* in Guanajato. The *hacienda* was a large, autonomous, self sustaining holdings of private land typically associated with agriculture or mining. During the colonial period these grew to be the dominant productive unit and remain so until the 1930s. Some of these engaged in international trade mainly by exporting agricultural products such as natural dyes (e.g. cochineal) or precious metals (e.g. silver). Gallo (1957) dates his evidence to 1802 and to the estate of Count Pérez Gálvez. He claims that there was extensive use of double entry bookkeeping in the everyday trading of that *hacienda* and that this should be seen as representative of accounting practice within private businesses of the time. He implicitly claims that double entry arrived sometime before but fails to specify when or through which means.

Whether Gallo (1957) was right and there was widespread use of double entry in Mexico at the start of the 19<sup>th</sup> Century is not altogether clear. Any view on the matter is largely speculative in the absence of systematic studies of surviving company documents. For instance, Alvarado *et al.* (1983, pp. 105-6) point to Manuel Payno's report to his successor as Minister of Finance (circa 1850). In this report Payno gives his opinion on the failed attempt to introduce double entry bookkeeping in the Mexican central government during his tenure (see further Anonymous, 1850). Alvarado *et al.* (1983) interpretation of this evidence is to suggest there was wide acceptance of double entry bookkeeping within private enterprise 'otherwise [Manuel] Payno would not have moaned about the lack of skills within the public sector.' (p. 106). This view has some merit when considering that Rafael Cancino's translation of Deplangue's (1843) text was printed in Mexico City in 1844, that is, a year later after its original publication in France. Cancino's translation (i.e. Deplanque, 1844), together with Salvador (1852), are the oldest indigenous accounting textbooks currently on record in electronic libraries in Mexico.

One is led to believe that at least in the mid-19<sup>th</sup> Century there was intense interest in double entry accounting. But it is hard to ascertain if that was the case fifty years before or when exactly this accounting technique first arrived in Mexico. In this regard García (1952) points to the same Pérez de Gálvez's *hacienda* in Guanajuato as well as the 'thriving Mexican mining sector' as examples of the widespread use of double entry bookkeeping 'at the dawn of 19<sup>th</sup> Century' (p. 17). García (1952) is thus in agreement with Gallo (1957) that there was widespread use of double entry in Mexico at the start of the 19<sup>th</sup> Century.

However, García (1952) uses the same evidence from the Pérez de Gálvez's *hacienda* as the basis to support his argument regarding the success of introducing that accounting technique to Mexico in the late 18<sup>th</sup> Century. Specifically García (1952, pp. 16-7) dates the introduction of double entry bookkeeping to the passing and adoption of the *Instrucción Práctica y Provisional* (Practice and Provisional Instruction) by the *Contaduría General de Indias* (General Accounting Office of the Indies) in 1774 and a *Real Orden* (Royal Decree) of November 26, 1787 by the *Tribunal de Cuentas* (Accounting Court).

### **The debate and a proposal for further research**

The comparison between, on the one hand, Gertz (1976), Alvarado *et al.* (1983), Rodríguez and Yáñez (1995); and, on the other hand, García (1952), Gallo (1957) and Avella (2001) suggests

that double entry bookkeeping was known in Mexico during last decades of the 18<sup>th</sup> Century. This view claims that there was some initial success while the handful of systematic studies are somewhat biased towards developments in the public sector (e.g. Avella, 2001; TePaske *et al.*, 1976; Klein and TePaske, 1986 and 1988).

There seems to be some consistency in the view that this accounting technique diffused at lukewarm pace so that it was ‘overlooked’ as a practice during the first half of 19<sup>th</sup> Century. Double entry book keeping was then reintroduced from 1850 onwards, first in some private firms, as suggested by the publication of Deplanque (1844) and Salvador (1852). This was followed by its adoption in central government thanks to the successful use within the Mexican Army (Alvarado *et al.*,1983, p. 107; Ejército Mexicano, 1868) and as a remnant of the French military intervention (Gertz, 1976, p. 128). Meanwhile, foreign direct investments from USA, France and Britain during the *Porfiriato* (1876-1910) brought about widespread use within private enterprise.<sup>7</sup>

However, there is evidence to suggest that the studies identified above proceed in rather weak underpinnings. For one, Hernández Esteve (1989, p.94) notes that 150 copies of Bartolomé Salvador de Solorzano’s treaty on double entry accounting were taken by Diego Felipe de Aldino and Bartolomé Porrás in 1591 to be sold in New Spain. Second, there is an implicit assumption that accounting manuals and textbooks in some way are an unbiased reflection of the development of accounting practice and thought. At the time there were some formal education outlets. Mexico City was home to the oldest university in the continent<sup>8</sup> and there were some institutions offering business administration and accounting courses (Bátiz-Lazo, 2008). But by and large most of the knowledge transfer during the Spanish American Empire took place through informal, on-the-job training (such as apprenticeships, visiting stays, etc.).

The existence of surviving contemporary manuals and textbooks would be helpful but not a decisive piece of information to determine everyday accounting practices. Indeed, there is evidence documented for other geographies which points to the development of accounting regardless of an absence of accounting texts and university curricula. For instance, Fleischman and Parker (1991: 362) point to this conclusion in the context of cost-accounting during the British Industrial Revolution. In an independent study, Edwards and Boyns (1997, 2007) state

that businessmen and key individuals employed or developed accounting techniques in Britain, despite the lack of any significant industrial accounting literature to guide them.

Third, in the above citations from Mexican authors statements are often made without clear distinction as to whether the double entry method was established in the public sector or in the *haciendas* (and more the point, whether any of these were involved in international trade with merchant houses in Spain). This blurring of economic activity is as much a concern as is the assumptions regarding the speed of diffusion of ‘modern’ accounting in Mexico.

In summary, all indigenous authors identified above have made implicit or explicit claims regarding how the continuity of accounting practice in Mexico was subject to vicissitudes in its colonial ruler. It is indeed fair to assume that introduction of double entry bookkeeping in Mexico was influenced by practices and institutions in Spain during the colonial period. But when exactly Mexicans adopted double entry bookkeeping is the key issue. Given the handful of primary and secondary sources that survive from pre-independence Mexico, the remainder of this article addresses that debate by examining accounting practices in Spain before as well as immediately after Mexican independence. This enables tracing the use and development of double entry bookkeeping across time as well as within organizations trading with American colonies. Of course, widespread use of this accounting technique in Spain is not in itself sufficient to make a similar claim for its colony. There is a possibility for other accounting techniques to have had better fit for purpose in Mexico. As a result, this article offers new evidence regarding accounting practice in Mexico during the Spanish colony.

## **DEVELOPMENT OF ACCOUNTING PRACTICE IN SPAIN**

### **Pre-modern capitalism (circa 1200 to 1500)**

This section summarizes established views regarding the introduction and diffusion of double entry accounting technique in Spain. Carnegie and Rodrigues (2007, p. 453) have noted how academic circles in Spain are one of the handful of non-English speaking spaces characterized by a vibrant research agenda in accounting history. This ‘maturity’ implies there are a considerable number of systematic studies documenting the overall development of Spanish accounting practices.

In particular, Hernández Esteve (1996a) and González (1996) offer comprehensive compilations on the evolution of accounting technology in both public and private spheres (such as accounting for merchants, local and central treasury) (see also Carnegie and Parker, 1996, p. 24). Hernández Esteve (1996, pp. 71ff) proposes an interesting scheme to segment developments from the Middle Ages and up to the 20<sup>th</sup> Century. Its starting point is the period which immediately precedes the development of double entry bookkeeping (labelled ‘pre-modern state, circa 1200 to 1500). Accounting documents act chiefly as an *aide-memoir*, due to the number of operations businessmen had to remember or consider. Documents (sometimes called ‘memorials’) registered operations in chronological order, describing them with precision (i.e. detailed narrative) while mixing debits and credits.

Vlaemminck (1961, p. 47) observed that memorials evolved into various types of accounting books, for personal accounts and for merchandise accounts, and these gave rise to single entry bookkeeping. Memorial books continued to be used for some time even after the adoption of double entry bookkeeping given their simplicity and suitability when the organizations only recorded a few operations per year (Hernandez Borreguero, 2006, p. 6). Vlaemminck (1961) also states that the single entry method replaced memorial and merchant books as it offered greater order, was much more systematic and methodical and incorporated a greater number of books (as this method was responsible for introducing dedicated books to record debits and credits).

Although interesting, this first stage is of little relevance interest to the overall purpose of our study given that Spanish conquerors first arrived in what was to become Latin America until 1492.

### **Adoption and diffusion of double entry bookkeeping (circa 1500 to 1630)**

A second stage for Hernández Esteve (1996a) and González (1996) evolution of accounting technology in Spain coincides with Columbus’ voyages and the start of the process constructing modern day Spain. Specifically they point to the *Reales Pragmáticas de* (Royal decrees of) Cigales (1549) and Madrid (1552) enacted under Felipe II, which became the first ever recorded regulation in Spain (and in the world) that required private enterprise to adopt double entry bookkeeping.<sup>9</sup> Specifically, ‘to have and to register entries in the Spanish language on a *handbook* (journal) and *cash book* (ledger) using debits and credits’. Interestingly, in the

vernacular this method was identified as *libro de caja con manual* (journal and ledger system) rather than ‘double entry’ (Hernández Borreguero, 2003, p. 297).

Double entry system began to be used as part of government records during the 16<sup>th</sup> Century. For instance the local government of Seville used this method from 1565 onwards, that is, 25 years before the Spanish central Treasury.<sup>10</sup> Another early adopter was also found in Seville, namely the treasury office of the *Casa de la Contratación* (Board of Trade with the Americas) (Hernández Esteve, 1986, p. 58; R. Donoso, 1996, pp. 119ff).

Here it is interesting to note that Hernández Esteve (1982, p. 7) considers the use of a double reference insufficient to articulate a double entry accounting system. He states the necessity of using a full catalogue of accounts (i.e. an accounting plan or chart of accounts) that enables entries for personal and non-personal transactions, including shareholder stock, income and expenses, net income or net loss.<sup>11</sup> In our opinion, the view of Hernández Esteve (1982) is appropriate to describe the chart of accounts used by merchants and businessmen. However, anyone will be hard pressed to find concepts such as share capital and earnings within the public sector and ecclesiastical organizations, yet would be able to find the use of double entry as the basis for a system of accounts in those and other types of not-for-profit organization.<sup>12</sup>

Ideally the above contributions could be used to structure the starting point of the analysis for the adoption and diffusion of double entry in Latin America as suggested by the so called ‘Transfer of Accounting Technology’ framework (Jeremy, 1991, pp. 3-5; Carnegie and Parker, 1996, p. 25). According to this approach, accounting can be transferred from one country to another through a rather complex process that can be described by answering one or several of the following questions:

- 1) What inhibiting factors were there (technical and non-technical)?
- 2) What were the vehicles of transfer, the networks of access to the originating economy, the information goals of the acquirers, the methods of information collection, the speed of transfer of the technology?
- 3) What was the rate of adoption, the networks of distribution into the receptor economy, the hindrances faced by the carriers of the new technology?

- 4) Was the incoming technology reshaped by economic conditions, social factors or conditions in the physical environment?
- 5) Were there any reverse flows of the technology?

However, during the course of our research and as it will be show in the next section, it became evident there was a need to reinterpret some of the key studies of accounting history in Spain because these studies often tackled the adoption and diffusion of double entry bookkeeping on the back of evidence emerging from accounting manuals and textbooks. In other words, some of these contributions failed to consider accounting as a social and institutional practice which has to be studied in the context in which operates (Miller, 1994). Without this reassessment, therefore, current and future work on accounting history in Latin America risks building upon false premises.

#### **The silence and apparent oblivion (circa 1630 to 1730)**

Hernández Esteve (1996, p.71) was the first to introduce the idea that the 1630s saw the start of a third stage in the production of accounting manuals and textbooks in the former Kingdom of Castille. He labelled this period ‘silence and apparent oblivion of double entry bookkeeping’. The proposed partition was then supported by a detailed study of this period (R. Donoso, 1996, p. 140), where it was claimed that this was a time when double entry as a method ‘disappears’ from regulation and accounting thought in Spain.

Other empirical studies have failed to clarify the extent to which double entry was indeed ‘forgotten’. For instance, there are reports telling that contemporary bookkeepers in Spain and elsewhere in Europe were familiar with the intricacies of double entry but these same studies admitted that this method was not evenly distributed amongst bookkeepers (Hernández Borreguero, 2003, p. 298; Gomes *et al.*, 2008, p. 1180). Later on, Hernández Esteve (2008) emphasised the lack of production of Spanish accounting titles dealing with double entry to support the ‘silence and apparent oblivion’ hypothesis. More recently, however, in a personal communication, Hernández Esteve (2009) has noted that it was ‘obvious’ that the most important merchant houses in key economic areas of Spain during the 17<sup>th</sup> and 18<sup>th</sup> Century would have continued using the double entry method. Nevertheless, to date and to the best of our knowledge, the potential effect that ‘silence and apparent oblivion’ might have had over public or private sector accounting in Latin America has not been documented.

### **The silence of which lamb?**

As noted above, there was a ‘deceleration’ in the use of and analytical developments around double entry accounting in Spain during the 18<sup>th</sup> Century. In a way and in the absence of research using primary records, this apparent oblivion helps to explain the contradictions in modern Mexican historiography. Determining the nature and scope of this apparent ‘silence’ requires ascertaining whether there is evidence of a void in terms of analytical developments as well as in terms of everyday practice.

As mentioned, the doctrinal production of Spanish authors was conspicuously absent from the Mediterranean basin from circa 1630 to circa 1730. The dearth of an idiosyncratic production in Spanish accounting thought was substituted by (or remedied through the study of) foreign contributions, some of which were read in original while others were translated into Spanish. This emerges from evidence documented by Capelo and Alvarez-Dardet (2004) for Andalusian companies active in commerce across the Atlantic; as well as those by Manera (1988) for Mallorca; Franch (1989) for Valencia; and Vilar (1962) and Maixé-Altés (1994a,b) for Catalonia.

Spanish traders and merchants particularly favoured Genovese authors. These included the likes of Domenico Peri (Venecia, 1682; new edition in 1744) and Carlo Targa (Génova, 1692; Madrid, 1753); as well as Sicilian writers such as G. Carlo Amato ed Urso (1740), Onofrio Pugliesi (1678; new editions in 1745, 1770) and other Italian authors such as Francesco Garatti (1711) and Joseph L. Casarregis (1740). There is also evidence of a French influence through the production of authors such as Samuel Ricard (1724) and Jacques Savary des Bruslons (1723).

But what of everyday practice? The record is obscure as to whether business organization, especially in the maritime trade activities, had simply an intellectual interest on developments in ‘modern’ accounting or whether these handbooks, guides and treatises actually influenced daily practice. Indeed, accounts of ‘silence and oblivion’ in Spain have failed to pin point the nature of this phenomenon in specific geographical domains and types of business activity. In order to readdress this, the next section provides empirical evidence emerging from companies established in Madrid and Catalonia which effectively challenges the ‘silence and apparent oblivion’ hypothesis. See Table 2.

**Table 2: Summary of mini-case studies on the use of double entry in Spanish private firms**

Period	Case Study		Distinctive Features of Double Entry Accounting	
c.1680-1750	Catalonian Merchants	- Duran & Llorens (Barcelona) - Bensi & Merizano (Barcelona)	<ul style="list-style-type: none"> <li>• Long narratives in entries</li> <li>• Focus on recording transactions with customers and correspondents</li> </ul>	Apparently archaic
c.1750-1800		- Armengol Gener and Co. (Barcelona)	<ul style="list-style-type: none"> <li>• Greater structure and precision in the layout of the accounts</li> <li>• Greater precision in accruing final balances</li> </ul>	Apparently modern and structured
	Madrid-Based Firms	- Dutari Hermanos - Gio Batista Rossi and Co. - Quenau and Co. - Banco de San Carlos		

Table 2 summarises the discussion that follows. This is based on surviving records of accounting systems within private businesses whose activities were related to domestic and international commerce as well as some activities related to financial intermediation during the 17<sup>th</sup> and 18<sup>th</sup> centuries. This evidence documents how double entry rooted in the accounting system of wholesalers during the course of the second half of 17<sup>th</sup> Century. This evidence thus helps to support the idea that during this period, different levels of complexity co-existed. Accounting systems could be more or less sophisticated according to user's 'needs' and nature of their business (Maixé-Altés, 1994b, p. 43). Of course this, in turn, opens the question as to whether co-existence of accounting systems in Spain was also the case for organizations in New Spain.

### **Accounting for domestic and international wholesale trade in the Mediterranean**

There are noticeable differences in bookkeeping practices within *compañías de comercio* or *casas de comercio* (merchant houses) based along the Spanish Mediterranean coastline at the end of the 1690s from the accounting practices these same companies used after the 1750s. These differences are greater in terms of analytical precision than regarding accounting method. Below evidence is provided to support the idea that greater analytical precision resulted from a

combination of overall economic growth and business practices of individual firms. Indeed during the 18<sup>th</sup> Century the turnover of Catalan businesses grew substantially while individual wholesalers aimed to diversify their investments. As the examples that follow suggest, double entry bookkeeping was well established. But it was the need to ascertain the profitability of different investments the element that impinged a more detailed set of accounts and sophisticated bookkeeping system. This suggests that the bookkeepers of 1699 or 1725 were as skilled and knowledgeable as those of the 1750s (Maixé-Altés, 1994a & 1994b, p. 44).

Surviving records of two merchant houses helped to ascertain the continuity in the use of double entry accounting. On the one hand, *Bensi & Merizano* provided an insight into their accounting practices between 1724 and 1750. On the other hand, similar records were available for the *Duran & Llorens* for last years of 17<sup>th</sup> Century and early years of 18<sup>th</sup> Century (AHMB, several sources).<sup>13</sup> Together they provide a first approximation to the changes in accounting practice between those typical of the first half of the 18<sup>th</sup> Century and those at the end of that century.

The accounting system at *Duran & Llorens* displayed all the technical characteristics of double entry bookkeeping as they kept the two basic books, *libro diario* or *manual* (the daily journal) and *libro mayor* (the ledger).<sup>14</sup> The basic accounts were perfectly defined: for example, the cash account in the assets/debits side and the capital account in the liabilities/credits side. The principal analytical difficulty of these accounting books related to the lack of definition of what 19<sup>th</sup> Century authors called *cuentas transitorias* (auxiliary accounts). Here clearly defined accounts were only found for debits and credits relating to the profit and loss account. The use of other accounts, such as general expenses account, is inconsistent. While other ‘first class accounts’ such as those to register *cambios marítimos* (bottomry contracts),<sup>15</sup> bills of exchange and commissions, were non-existent (see Martí, 1819). Hence, this only offered a collection of accounts that lacked any aggregate analytical concepts on debits and credits.

The only accounts that showed a certain degree of ‘maturity’ in that regard were called customer current accounts and current accounts for correspondents. These were representative of accounting practices at that point in time because in their construction bookkeepers indistinctively mixed debits and credits. This particular organization of the accounting plan responded to the interweaving of two idiosyncratic elements of Catalonian accounting in the

early 18<sup>th</sup> Century (Maixé-Altés, 1994b, 1995). On the one hand, until the middle of 18<sup>th</sup> Century entries in ledgers by bookkeepers in Catalonian companies followed the entry style of the primary books. This involved a rather descriptive type of entry, which was closer to an explanation in the draft book or the journal than to the rather ‘analytical’ nature of the charge and discharge system of the ledgers. There was thus no basic function, system, key or index to reconcile the whole system of accounts. On the other hand, the rather archaic, desegregated and unconsolidated nature of Catalonian accounting systems also responded to the diversification of Catalonian investment portfolio. Businessmen opened a dedicated account for every business and even individual investments. The idea was that, at a later date, this approach would facilitate prompt recognition of the profit or loss for each and every transaction. The analytical nature of this approach was evident in the fact that these accounts were consolidated into a balance sheet (AHMB, FC. A-213).<sup>16</sup>

Strong similarities were also found when comparing the accounting system at *Duran & Llorens* with that at *Bensi & Merizano*. A superficial examination of the accounting system at *Bensi & Merizano* could have branded it as elementary, archaic, and even backward in comparison with that at *Duran & Llorens*. But closer examination suggested that accounting at *Bensi & Merizano* offered a large degree of flexibility. The accounting plan opted for a procedure that gave analytical priority to the customer-correspondent. As a result, entries for personal current accounts predominated within the ledger. The ledger as the key source of information for the running of the business focused on two concepts: it informed and provided details of account balances for all the intermediaries of the company and it also provided a summary of profit and loss per account.

Other information could be obtained by consulting two auxiliary books, namely the invoice book and the *libro de tratas* (bills of exchange book). The invoice book recorded information regarding the traffic of goods while the second book recorded future payments.<sup>17</sup> Several objections could be made to the accounting plan at *Bensi & Merizano*. However, we must admit that its approach seemed ‘fit for purpose’ when considering other options for a medium size company, with a highly diversified business portfolio (that encompassed both mercantile trade and financial services) and a business model geared to fee income generation. Moreover, building the accounts system around personal current accounts offered the possibility of a prompt and swift calculation of the balance sheet.<sup>18</sup>

Accounting systems at *Duran & Llorens* and *Bensi & Merizano* seemed to be in contrast with practices and accounting plans of other businesses in Catalonia during the second half of 18<sup>th</sup> Century. For instance, practices at *Armengol Gener y Compañía* in 1747 have been documented as the first case of a well structured accounting system as well as representative of the ‘modern’ practices pursued by 18<sup>th</sup> Century companies in Barcelona. Firstly, the ‘basic’ accounts were found to be perfectly determined: capital account, profit and loss, cash, overheads, fee income and commissions, bottomry contracts, *diners deixats a la part* (income derived from the medieval *commenda* contracts), insurance and *barca* (the share of ownership of merchant ships). Secondly, accounts to record transactions around bills of exchange followed mixed system. In 1747 this mixed system was consolidated into a single account (*cuenta de sacas y remesas*). Later on, however, growth of trading and financial activity resulted in the creation of new accounts.

Thirdly, accounting for merchandise trade and commerce also offered a system geared towards the business model of *Armengol Gener*. This part of the accounting system was found to offer greater precision and aggregation of the entries than those relating to the bill of exchange account and ‘basic’ accounts. Although it should be noted that there was a bias towards creating individual accounts by business sector or type of goods traded. Hence, there was a high degree of personalized entries (reflecting large personal customers and business correspondents). However, a key element of the accounting system of *Armengol Gener* was the precision and speed at which they could draft a closing balance sheet. For instance, the ledger systematically recorded initial and final balance statements for every year. These balances clearly specified creditors and debtors as well as the different concepts contributing to overall profitability of the business. Indeed, as a snapshot of the financial situation of the company at that point in time.

Accounting practices at other highly diversified businesses such as the business activities of the *Glòria* family and merchant house *Huguet & Dupré* at end of the 18<sup>th</sup> Century as well as *Cristóbal Roig y Compañía* in the first quarter of the 19<sup>th</sup> Century bear great similarity to the system pioneered by *Armengol Gener* (1747-1784) (AHMB, FC, A. 1-9).<sup>19</sup> This evidence helps to support the claim that by the 1750s the double entry system was used by some family firms and merchant houses in Barcelona with certain degree of sophistication and structure. Yet at the same time, great variety can be observed in the accounting practices of Catalonian and many other merchant houses established within the Mediterranean basin. But this does not mean that

some firms with rather archaic accounting practices developed qualitatively inferior business, when compared with other businesses with apparently more structured system of accounts.<sup>20</sup> Our evidence suggested that many merchant houses kept their accounting system largely unchanged and ran their organization based on tailor-made approaches to their small volume of trade and high degree specialization in investments and business portfolio.

There could be a temptation to classify the accounting systems at merchants such as *Duran & Llorens* and *Bensi & Merizano* from 1690 to 1750 as confusing and archaic when compared with the ‘technically modern systems’ at merchant houses such as that of *Armengol Gener* from 1747 to 1784. However, evidence presented above suggests that such a view would be somewhat inappropriate because all these accounting systems ultimately rely on double entry bookkeeping. Their design and end result were quite different and given the absence of detailed regulation or generally accepted accounting principles, each followed a number of practices which were largely idiosyncratic to the custom and business model of the merchant or family firm.

### **Brief comparison of accounting practices in Catalonia and Madrid-based firms**

The discussion in the previous section argued that there were minimal differences in basic architecture between the Catalan accounts plan between circa 1675 and 1800. All ultimately build on the concept of double entry. The idea that variants in accounting method related to degree of diversification and turnover size has been advanced. It is further contended that similar conclusions could be reached when considering the accounts kept by some Madrid-based companies. Comparing these accounting systems within Madrid-based firms in the second half of 18<sup>th</sup> Century is interesting since the latter offer the opportunity to analyze firms involved in ‘domestic’ trading within the Iberian peninsula as well as being involved in foreign trade and financial services.

Further analysis of the accounting practices at *Dutari Hermanos* suggests that from 1742 onwards this company developed significant financial services activities by providing credit in the form of discounting bills of exchange and direct loans to businesses involved in the production of Castellan wool. Similar analysis was carried out of the activities of *Gio Batista Rossi* after 1758, *Quenau & Co.* after 1759, and *Banco de San Carlos* after 1782 (AHBE, several sources).<sup>21</sup> Besides having an important part of their business located in Madrid, they all engaged in financial services, This as they all acted as independent clearing houses for bills of exchange

and offered *bureau de change* facilities to customers. Another common characteristic was that they all developed a double entry bookkeeping system with a 'classic' structure, that is, using the ledger and journal for the management of their accounting system.

At *Dutari Hermanos*, for example, discounting bills of exchange was one of the most important income generating activities of the company, so naturally it had a bearing on the account plan. These activities required keeping detailed records and control of the number of days elapsed since an advance was made (whether in the form of a direct loan or discounting a bill of exchange). This tally was the basis to calculate accumulated interest. To record the transaction several auxiliary books were used together with the journal and ledger. These auxiliary books included one for cash, one for discounted bills of exchange and another for outstanding bills of exchange.<sup>22</sup>

In summary, to the best of our knowledge there is no systematic study that documents links in the use of 'sophisticated' accounting technology between Spain and its colonies in Latin America. With the aim of undertaking such a study in the future, this section documented evidence from Madrid-based firms involved in domestic and foreign trade and financial services, together with Catalanian firms involved in wholesale international trade and investment, suggesting that double entry bookkeeping was common practice in the accounting of private firms in the Spanish mainland at the end of the 17<sup>th</sup> Century and during the 18<sup>th</sup> Century. This evidence contests the current framework for the historical analysis of accounting technology in Spain and in particular, the soundness of the so called 'stage of silence and apparent oblivion' hypothesis (as stated in R. Donoso, 1996 and Hernández-Esteve, 1996a). It must be acknowledged that Madrid-based and even more so Catalanian merchant houses were, in general, excluded from trade with the American colonies in the early colonial period. However, there is enough evidence to suggest there was a possibility for the early adoption of this technique in Latin America and that this could have happened much earlier than anticipated by Mexican authors.

Neither is this article making the claim that there was a generalized use of double entry in Spain during the 17<sup>th</sup> and 18<sup>th</sup> centuries. The absence of widely accepted accounting principles together with the gloomy intellectual and economic environment of the end of the Habsburg Monarchy in Spain (A. Donoso, 1996) resulted in many bookkeepers devising accounting

systems that best fitted the purpose of their organization. Accounting practices in firms of different size and degree of diversification discussed above, suggest that the nature of the accounting system and the prevalence of rudimentary methods was strongly influenced by the business model and level of complexity in their operations. Complexity that arose from a combination of the type of market they were involved and the volume of their trade. Our evidence thus suggests that double entry bookkeeping was most likely to be found amongst large or diversified organization. These were the type of firms that usually engaged in trade with others elsewhere in Europe and the American dominions, thus opening the possibility for technological transfer to private firms established in the colonies.

## **THE REAPPEARANCE OF DOUBLE ENTRY**

### **The influence of French Enlightenment (circa 1700 to 1900)**

Charles II of Spain, the last of the Habsburg, died in 1700. This was immediately followed by the coronation of Phillip V, who became the first monarch of the ruling Bourbon dynasty. The establishment of a new dynasty introduced several institutional, economic and administrative changes, many of which took more than one attempt to be successfully implemented. The introduction of innovations in the social, economic and political spheres were inspired by the philosophical tenants of the French Enlightenment. These reforms extended to the Spanish overseas dominions (Anes, 1994; Navarro, 1991).

Bourbonic administrative reforms initially attempted to introduce double entry in the public sector in 1743 at the *Giro Real* or Cross Border Payments Department and later on in the *Real Hacienda de las Indias* or the Indies Administration Department in 1785 (González Ferrando, 1992, p. 62 and A. Donoso, 1996, p. 140). Both were unsuccessful as they found resistance from bureaucrats who were unwilling or unable to adopt that method due to a lack of training as well as being doubting its usefulness on ‘ideological’ and ‘conceptual’ grounds. The initial effort was therefore aborted in 1787. In spite of this, however, there exist written statements of the use of double entry bookkeeping with the public administration of the Spanish empire in Peru and Mexico (more below). Double entry seems to have been successful implemented in those geographies and people responsible for public accounting fought hard for it to remain in place. For instance, the then viceroy of New Spain, *Conde de Revillagigedo*, sent

a letter to the Spanish Crown defending the usefulness of a ‘such an interesting development.’ (A. Donoso, 1997, p. 1083).

At the same time, the technique regained popularity within the private sector. The most important regulation for private enterprise of that epoch in Europe was the passing of the *Ordenanzas de Bilbao* (Bilbao Regulations) which were published in 1737 (see further Hernández Esteve, 1996). In chapter 9 (*Sobre los mercaderes y sus libros* or About Merchants and their Books) the regulator or *Casa de Contratación de Bilbao* (Bilbao’s Board of Trade), explicitly stated that accounts could be kept by following either the single or double entry method, leaving the ultimate choice to the merchant’s own discretion. It is quite clear that both accounting methods were well known to the members of the Board of Trade. Otherwise the Board of Trade would have been unable to point to them in such general terms. Yet the Regulations are mute on detailing the superiority of one or other accounting technique in any of its 723 articles. Instead, restoring and guaranteeing commercial good faith were recurrent topics. This suggests the latter were the priority for the Board of Trade in issuing its Regulations.

The activity in public and private organizations led to a renewal in the production of Spanish accounting literature (with a notable revitalization from the 1770 onwards). Of great importance was the publication of the seminal contributions by Luque (1773) and that of Jócano (1791).

In the absence of widespread surviving company records of Mexican haciendas, what follows centres on developments in the public sector. This will detail how Bourbonic reforms had an impact on accounting regulation and practice (e.g. Baños *et al.*, 2005). However, as the studies suggest and will be evident below, ledgers for the different ‘monopolies’ were all prepared *in situ* and then posted to Metropolitan authorities for auditing, thus opening the possibility for reverse flows of the technology – a possibility that has been neglected by other studies of public accounting in New Spain.

### **Management of public finance in New Spain in the 18<sup>th</sup> Century**

Since early in the 18<sup>th</sup> Century, the newly arrived Bourbon administrators gave the Viceroyalty of New Spain priority as a geo-strategic enclave for three main reasons, namely:

- Deep water coastal ports on two oceans, which also allowed maritime links with Spanish possession in the Far East (namely, the Philippines) (Navarro, 1994);
- Act as a platform to originate capital investments into Asian and Caribbean possessions, with the side effect that these investments strengthen the *raison d'être* to remain part of the Spanish Crown (Humboldt, 1822);
- It regularly made substantial fiscal contributions to the Treasury as well as transferred precious metals (mainly silver) to the peninsular economy.

The pace of the Bourbonic reforms strengthens during the reign of Charles III (1759-1788). This period of change began with major fiscal measures introduced following the arrival of José de Gálvez y Gallardo, Marquis of Sonora as *Visitador de Hacienda y Justicia e Intendente General del Ejército* (Visitor for Treasury and Justice as well as Army Quartermaster General) (Arcila, 1955). Gálvez's mandate was detailed in a confidential memorandum dated 14<sup>th</sup> April 1765. In his letter, Charles III urged Gálvez to look for ways to maximize financial returns to the Crown but without creating new taxes or increasing taxable income thresholds (AGI, México, 1249).<sup>23</sup> The king wanted Gálvez to compile as much information as possible regarding the situation of public finances in New Spain so that, at later date, this would be the basis for a plan of action to achieve greater efficiency in the use of public funds while also looking to improve the running of public bodies.

The general disorder of New Spain's treasury was considerable. For instance, the *Tribunal de Cuentas de Nueva España* (General Accounts Court of New Spain) had a duty to send an income and expense report every six months to the *Contaduría General del Consejo de Indias* (General Accounts Office of the Council of the Indies). By 1759, when Charles III ascends to the throne, the Accounts Court had failed to inform the General Accounts Office for many years (Arcila, 1955). In view of the situation, the king immediately ordered a review and audit of all the books and accounts of the viceroyalty between 1703 and 1759. After a meticulous examination, the General Accountant Office's report criticized the lack of method and procedure to determine the order of entries in the books of account as well as the absence of any rigor in the process of checking and verification of these books (Royal Certificate of 11 December 1763; General Archive of the Nation, quoted in Arcila, 1955, p. 240).

Indeed it was the apparent loss of income to the Crown, due to the lack of order and lack of information regarding New Spain's accounts, which led to Gálvez's visit. To highlight its importance, the king issued a Royal Order (11<sup>th</sup> March 1765). In this Order he instructed the General Accounts Court to send detailed accounts of all incomes that belong to the Royal Treasury (AGI, México, 2045-A).<sup>24</sup>

In response to the Royal Order, the General Accounts Court issued a Decree dated 1<sup>st</sup> July 1765. This Decree basically reinstated the contents of the Royal Order but retroactively, so that the information not yet supplied to the Council of the Indies was forthcoming (AGI, México, 2045-A). Meanwhile, when Gálvez arrived to New Spain, he found that most sources of income were leased to private bodies. This *arrendamiento* or *asiento* (leasing system) had been typical of the Hapsburg administration, where a person or company gained exclusivity in the exploitation of a specific source of income of the Royal Treasury. In return for allowing the exploitation of a lease, the *asentista* (contractor) paid to the Crown a fixed amount in cash and/or made a payment in kind (AGI, México, 1249). Under the Hapsburgs, therefore, the Royal Treasury effectively outsourced to private contractors unknown income streams emerging from the collection of taxes, import duties, tithes, etc., in exchange for a known fixed payment.

However, the leasing system was detrimental to both taxpayers and the Royal Treasury. On the one hand, contractors profited from the ignorance of Crown representatives regarding the potential of individual leases. On the other, in cases where winning bidders were forced to pay a predetermined *canon* (tax or rent), they would simply pass on these to taxpayers or ultimate consumers.

The introduction and relative success fiscal reforms in Spain were the basis to eliminate the leasing system while increasing tax income but without changing the tax base in New Spain. To achieve this, Gálvez engaged in a swift process of economic reform while implementing a new collection system. It replaced the leasing system for one where cadres of trained and competent bureaucrats were directly responsible for the collection of all the Royal Treasury's income streams. Actually, direct management of the collection system by Crown representatives met ideals such as centralization and more effective administration which had been instrumental in fuelling the start of the reforms.

Gálvez's first set of measures were resisted by Tomás Ortiz de Landázuri, *Contador General del Consejo de Indias* (General Comptroller of the Council of Indies) with the support of the *Consulado de México* (Mexican Consulate). The latter was a body that brought together representatives of the most important merchants and importing houses, which in a letter dated 22<sup>th</sup> December 1767 detailed their complaints about the reforms. To resolve the dispute, the then Minister for the Indies, Julián de Arriaga, requested the intervention of Pedro Rodríguez Campomanes, *fiscal del Consejo de Castilla* (Public Prosecutor of the Council of Castile). In his long and meticulous report, Rodríguez effectively obliterated the main arguments against the fiscal reform. Arriaga considered that the new method could 'prevent by using fair and recognized means in all cultured Nations, the frauds which annihilated the Exchequer and destroyed legitimate commerce [...] the new rules were clear, easy, fair, destroyed vices, suitable for the public good' (AGI, Mexico 1250).

The reform also faced the challenge of ending with the long establish custom of interpreting colonial laws and regulations according to personal or local interests. It was common practice in the dominions that regulation from Spain was acknowledged but in fact it was seldom implemented<sup>25</sup>.

A major challenge that Gálvez had to tackle was ascertaining the fair value of the Royal Treasury's income streams. The income paid by contractors to the Royal Treasury appeared as a debit in the annual accounts of the Royal Public Office of Mexico (AGI, Mexico 2045-A). But as mentioned, the Royal Treasury lacked the means and relevant information (AGI, Mexico 1123). It seems the contractors were so secretive that no record of their transactions survived even to their contemporaries.

In summary, Gálvez introduced measures for centralized and direct administration of the Royal Treasury's income streams during the last quarter of 18<sup>th</sup> Century. These measures brought about a radical change in the financial management of the Royal Treasury in New Spain and included an exhaustive control of cashflows, detailed explanations of the concepts related to these cashflows as well as physical inventories related to individual income streams.

### **Changes in the accounting system of the Royal Treasury in New Spain**

A consequence of the new measures for centralized the administration of the Royal Treasury's income stream in New Spain was the introduction of changes in the accounting

system. Initially the new accounting system used the *método de Cargo y Data* or *partida simple* (charge and discharge or single entry method), which envisioned, first, charging all the amounts perceived and, second, crediting all the amounts spent or delivered (Hernandez Esteve, 1992). Gálvez was thus following the prescribed method for public administration accounting in Spain since 1596.

However and according to Donoso (1997), there was a first attempt to introduce double entry bookkeeping in all the royal public offices of the Indies in 1784. Donoso points to the years 1786 and 1787 as those marking the introduction and subsequent derogation of the double entry method in the management of the viceroyalty of New Spain. Rivarola (2008, pp. 159ff) provides additional empirical support by documenting developments in the Province of Paraguay (viceroyalty of the River Plate).<sup>26</sup> Rivarola's daily journals and ledgers for 1786 show that double entry was used only after 1784 and abandoned circa 1787. He also notes there was no immediate return to single entry but to a 'hybrid' method (Rivarola, 2008, p. 189). At the time of writing, Domínguez (2009) was in the process of documenting similar developments for the general government of the viceroyalty of the River Plate.

Further empirical evidence in support of Donoso (1997), Rivarola (2008) and Domínguez (2009) was found in the General Archive of the Indies (or AGI for its acronym in Spanish) for the viceroyalty of New Spain. As references above suggest the AGI is source which enables the mapping of accounting studies in the public sector. But as mentioned before, to the best of our knowledge there is no systematic study that documents links in the use of 'sophisticated' accounting technology between Spain and its colonies in Latin America.

The AGI held in reserve monthly cashflow statements of the *monopolio* or *renta de la pólvora de Nueva España* (New Spain's gunpowder monopoly) (AGI, Mexico 2217). Figure 1 illustrates a facsimile of these statements for the 1786-1787 period, where entries appear ordered by debits and credits instead of the single entry or charge and discharge method.

**Figure 1. Monthly statement for New Spain's gunpowder monopoly using double entry bookkeeping, 1787**

ESTADO MENSUAL DE CAXA DE LA R <sup>a</sup> . RENTA DE POLVORA DE N. E. POR <i>Noviembre</i> DE 1777							
Del Libro Mayor.		Haberes.	Del Libro de Caja.		Haberes.	Existencias.	
1556.7.4	Pólvera y sus Ingredientes.....	287.001.3.0	296.454.3.11	Caja.....	268750.6.7	17766.1.4	
19839.7.6	Pólvera del Rey.....		183035.6.6	Libranzas.....	243845.2.10	34020.3.8	
140216.3.0	Salitre de primera cocha.....		42457.4.0	Reservas.....	10782.7.1	31706.4.11	
4228.6.0	Azúfre.....		60438.2.6	Buenas Cuentas.....	33519.7.0	26915.3.6	
152.5.6	Candela.....	021.7.3	2.000.0.0	Varios Deudores.....	2000.0.0	000.0.0	
364374.5.6	Aprovechamientos.....	520265.9.0	222.7.0	Efectos aprehendidos.....	021.8.6	201.2.3	
49.620.3.0	Sueldos de la Renta.....						
1284.2.5	Resguardos.....						
	Premios.....						446880.5.0
8132.0.0	Fábrica de Chapultepec.....						
25387.7.0	Fábrica de Santa Fe.....						
2192.6.6	Embases.....						
7595.4.0	Firres.....						
	Obras de las Reales Fábricas.....						
917.7.0	Gastos generales.....						
22432.9.10	Renta en Comun.....	104539.2.5					
6.000.0.0	Préstamos.....						
10.000.0.0	Cajas generales.....						
	Monte pío de Ministros.....	001.7.2					
727.5.1	Monte pío de Oficinas.....	811.5.1					
021.5.6	Depósitos.....	194.0.0					
802326.7.2	Deducir.....	913542.6.10	575506.4.8				
		802326.7.2	464800.5.0				
		8110615.7.8	110615.7.8				

Contaduría general 1<sup>a</sup> de Diciembre de 1777.

Visto Bueno.

*Mariosal de Castilla*  
*Marqués de Cerda*  
*Dow*

*Joseph Manuel Bascuñan*  
*Joseph Manuel Bascuñan*  
*Joseph Manuel Bascuñan*  
*Joseph Manuel Bascuñan*

Source: Archivo General de Indias (Mexico 2217)

As mentioned above, the differences between double and single entry methods were beyond issues of format and presentation. The financial statements of the double entry accounting system of the gunpowder monopoly included information about accounts receivable, whereas in the single entry that same information would have been added through off-balance sheet documents and specifically through sworn statements (AGI, México 320).<sup>27</sup> Moreover, the double entry system resulted in the delivery to the General Accounting Office of the Council of the Indies copies of the journal, ledger and cash book.

José de Gálvez returned to Spain in 1772. Upon his return he was appointed both Minister of the Indies and President of the Council of the Indies in 1776. He held these offices until his death in June 1787. During his tenure, Francisco Machado, who replaced Tomás Ortíz de Landázuri as General Comptroller of the Council of Indies, was the precursor of the establishment of double entry bookkeeping at the royal public offices of the Indies in 1786. The

rationale was that with this method, the employees of the General Accounting Office could swiftly detect possible frauds or errors in the accounts.

After Gálvez's death, his successor as Minister of the Indies, Antonio Valdes, commissioned in July 1787 several reports regarding the convenience of using double entry bookkeeping for the financial control of Spanish public administration. The people responsible for elaborating these reports were government employees that had not been involved in the process of introduction of the accounting reforms in the colonial administration. The reports were unanimous in asking for a return to the single entry method, using similar arguments that those used by Baron Von Bielfeld in his '*Institutions Politiques*' of 1762. Valdes disregarded the arguments put forward by Machado and other top government officials in support of the double entry method while, at the same time, took steps so the King would fail to learn about alternative views. As a result, the double entry bookkeeping method was abolished from Spanish public accounting on the 25<sup>th</sup> October 1797.

Donoso (1999 and 2001) claims that the rejection of double entry took place solely on the basis of political considerations. No evidence was found that double entry would cause problems or was indeed an inferior accounting technique. The double entry system was abolished without considering its effects on the management of royal public offices of the Indies. The latter were ignored simply because financial statements and books of accounts took two to three years to arrive to Spain. The double entry method was abolished before any such statements or books had physically arrived to the Spanish mainland. Thus, the double entry method was abolished without regard to any difficulties or shortcomings during its introduction to colonial institutions (problems and shortcomings that never existed). Moreover, it was abolished while disregarding the support to double entry from government employees in the colonies.

## **Conclusion**

This article puts forward the idea that future studies of Latin-American accounting history should be framed by the evolution of accounting practice in Spain. These studies should offer a synthesis that emerges from different contemporary sources such as textbooks and manuals and

surviving company records as well as attention to educational practices. Furthermore, there is evidence to suggest that different accounting systems co-existed for long periods in early modern capitalism in Spain. Sometimes even in the same organization. That is, different organizational forms in Spain are seen as adopting the accounting system that best suited their purpose and business model. In the absence of empirical evidence to the contrary, there is reason to believe that private firms on the west coast of the Atlantic also adopted fit-for-purpose accounting.

The point of departure to illustrate the above is a reinterpretation of indigenous contributions discussing the arrival of double entry bookkeeping to private and public accounting in Mexico. These contributions debate whether there was continuity or discontinuity in Mexican practice immediately after independence from Spain (i.e. the end of the colonial period). These contributions also seem to agree that double entry really established in the second half of the 19<sup>th</sup> Century.

The path of adoption and diffusion of this accounting technology in Spain then provides a framework to ascertain the validity of claims by Mexican authors. A brief summary of the historiography of double entry in Spain noted that some Spanish authors have pointed to an apparent crisis in the Spanish history of double entry while pointing to a desertion in the use of this method between the 17<sup>th</sup> and 18<sup>th</sup> Centuries. However, through the analysis of surviving company records evidence documented in this article show how the technique had a much wider use in private companies than otherwise claimed. This is very much the case for firms involved in large volume business or diversified investments. This result was in line to developments documented elsewhere and in particular around Anglo-American accounting.

That evidence also led us to believe that, first, the apparent desertion (at least as far as the production of Spanish bibliographic material is concerned) must be understood in the context of the predicaments and general chaos that characterized the end of the Hapsburg dynasty. This period had a significant impact on accounting regulation and doctrinal production in Spain. The Hapsburg's economic mismanagement was also instrumental in decimating the number of skilled practitioners by reducing opportunities for training new cadres of competent bookkeepers. At the same time, large numbers of bankruptcies and business failures with the consequent reduction of surviving records significantly reduced possibilities to study this epoch systematically. Hence

one must be careful not equate a ‘slow down’ in the diffusion of the double entry method in Spain with total desertion or even neglect of this accounting technology.

Second, this article presents evidence which suggests that the use of double entry method had taken a hold in firms established in the more industrious geographies of Spain by the 1690s. There is no reason to believe that firms outside of the colonial powerhouse and particularly those based in New Spain and involved in foreign trade or investments in Asia and the Caribbean, were excluded from learning about the double entry method. However, it is likely that Mexican (i.e. Novo Spanish) firms adopted European accounting technologies with some delay and chiefly through the interaction with peers in business and commerce as well as migration of skilled employees and entrepreneurs. This because ‘on the job training’ rather than formal education was the chief method for knowledge transfer. But as noted above, the crisis at the end of the Hapsburg Empire could have disrupted opportunities for knowledge transfer to the colonies. One is thus led to believe that this accounting technique was first adopted in New Spain as early as the 17<sup>th</sup> Century. That is, considerably earlier than that claimed in most Mexican contributions.

Third, with regards to the public sector, it could be said that public accounting systems may have had a lesser degree of complexity when compared with the requirements of private accounting systems. But in fact the accounting systems of public and private bodies were by far very different during the early modern capitalist era. It would be erroneous to think they are equivalent mainly because the analytical criteria each type of corporate body was very different. For instance, evidence has been provided where accounting systems in private firms associated with a greater number of accounts and accounting books. For private firms concepts such as capital, profits and the role of partners were key, whereas they are non-existent for public administration.

Nonetheless, our interest in highlighting in the comparison of public and private bodies is that public accounting systems had introduced criteria that went beyond the charge and discharge method much earlier than anticipated by Mexican sources. Indeed, the numerous forms of Spanish institutions and administrations (municipalities, colonial, etc.) first introduced the double entry method during the second half of 16<sup>th</sup> Century. In the beginning of 17<sup>th</sup> Century the Spanish Treasury and other public administration bodies developed double entry accounting

systems while it was in the middle of 18<sup>th</sup> Century when the Bourbon introduced double entry bookkeeping to colonial public administration (although these efforts were not always successful). Specifically, top officials of the viceroyalty of New Spain (namely administrators at the Accounting Court and General Accounting Office of the Indies) were keener to adopt double entry bookkeeping than top officials at colonial administrative bodies. However, it seems that the progressive deterioration of political and economic control of the dominions at the end of 18<sup>th</sup> Century together with non-standardized rules (i.e. no concept of generally accepted accounting principles) and the processes leading to independence, generated a break up in New Spanish/Mexican accounting practices which indigenous firms most have found difficult to solve in the short term.

The lack of clarity regarding accounting practice at the end of the colonial period and during the early independent Mexico, probably resulted in an informal framework where some individuals employed double entry bookkeeping while others in similar organizations stuck to the charge and discharge method. This view helps to explain why our survey of Mexican sources apparently found contradicting claims based on surviving records of several *haciendas* and mines at the beginning of 19<sup>th</sup> Century. The volatile economic and political climate that followed included mass outward migration of Spanish businessmen and capital, the separation of Central American states as well as armed conflict with France and the USA, the latter resulting in the loss of over half the territory at independence from Spain. Moreover, industrialization in Europe meant a loss of many traditional export markets for natural dyes. All this had a profound effect on any attempt at the former colony to regain continuity in accounting practice. In fact it is until the second half of the 19<sup>th</sup> Century when a more stable economic and political environment as well as restart of European investments and some migration, when the modernization of the economic system entailed the gradual introduction of double entry bookkeeping in Mexico. This ‘normalization’ is evident in several areas of public administration (first in Army accounts and then in the Treasury itself) and in Mexican business (practices which were also influenced by the foreign investment in developing manufacturing capacity). The introduction and adoption of double entry bookkeeping in Mexico was thus a consequence of knowledge transfer from its former colonial ruler as much as a consequence of institutional ‘normalization’.

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## Endnotes

<sup>1</sup> *Estados Unidos Mexicanos* was first adopted in 1824 at the end of the war of independence. However, it changed a number of times during the 19<sup>th</sup> Century following changes in forms of government. It was reinstated with the passing of the Constitution of 1917 and has remained its official name ever since. However, in 2003 the then *Diputado* (Congressman) Felipe Calderón (who took office as President of the Republic in 2006) introduced a motion to replace it with *México* in 2010.

<sup>2</sup> The same view was shared by participants at the recent 3<sup>rd</sup> International Congress of the Asociación Mexicana de Historia Económica (AMHE) (Cuernavaca, 2007).

<sup>3</sup> Universidad Nacional Autónoma de México (catálogo general y Biblioteca Nacional de México), Instituto Politécnico Nacional, Instituto Tecnológico Autónomo de México, Universidad Iberoamericana, Universidad Panamericana, Universidad Anáhuac, Universidad Anáhuac del Sur, Universidad Metropolitana, and Mexico City campi of the Instituto Tecnológico y de Estudios Superiores de Monterrey.

<sup>4</sup> In 1917 university graduates of accounting programs adopted the *Contador Público Titulado* (CPT) to distinguish themselves from those with ‘technical’ degrees (*contadores* or bookkeepers). It also made reference to the American, Certified Public Accountant or CPA. This form was replaced by *Contador Público* or *C.P.* (Public Accountant) in the 1950s following changes in the study plan at the National University (UNAM). See further Alvarado *et al.* (1983), Bátiz-Lazo (2008), Gertz (1976) or Rodríguez and Yáñez (1995).

<sup>5</sup> In 1923 the *Asociación de Contadores Titulados* (Mexican Association of Accountants) changed its name to *Asociación de Contadores Públicos Titulados* (Mexican Association of Certified Public Accountants) and in 1955 to *Instituto Mexicano de Contadores Públicos* (Mexican Institute of Public Accountants). See <http://portal.imcp.org.mx/content/view/23/287/> (Accessed 18/Jul/2008).

<sup>6</sup> Alvarado *et al.* (1983:107) also state: ‘From the discussion above, we can deduct a considerable delay within Mexican governmental accounting practice in relation to European countries where [the double entry bookkeeping] method was used from the 15<sup>th</sup> Century onwards.’ These authors do not specify their sources nor on what basis they were able to support such a daring diagnosis.

<sup>7</sup> The belated arrival of German investments and their emphasis in financial transactions before the start of the revolution in 1910, could explain the lack of influence of accounting thinking of this country in Mexico. However, this is purely speculative and thus, a question open to empirical investigation.

<sup>8</sup> Today’s *Universidad Nacional Autónoma de México* or UNAM (National University) traces its roots to the *Real y Pontificia Universidad de México*, which was established in 1551.

<sup>9</sup> These *Reales Pragmaticas* (Royal Laws) appeared in the *Novísima Recopilación de las leyes de España, mandada formar por el Señor don Carlos IV* (New Compilation of Spanish Laws, entrusted by King Carlos IV) of 1805. Specifically the 12<sup>th</sup> Law stated that ‘all banks and public lenders, and merchants, and other people, Spanish as well as foreign people, making business here as well as other countries’.

<sup>10</sup> See further Hernández Esteve (1986, p. 20); Martínez (1988 and 1992); Rubín (1998); Rubín and Mallado (2000).

<sup>11</sup> Raymond de Roover (1937, pp. 270-271) defined a widely accepted minimum set of characteristics to consider an accounting system using the double entry method. These guidelines are similar to those mentioned above but also require that debits and credits add up the same amount and that all amounts must be in the same currency.

<sup>12</sup> Some authors define the public accounting system as double entry although the accounts chart had similar limitations. See further Donoso (1996, p. 144). Note that Hernández Esteve (2005) has softened the view on what constituted a double entry system as expressed in Hernández Esteve (1982).

<sup>13</sup> Archivo Histórico Municipal de Barcelona (henceforth AHMB), Fondo Comercial (FC), A. 195, 197 (Duran-Llorens Co.), A. 199, 213 (Ignasi Llorens). Archivo y Biblioteca de Can Mayans (ACM), Vilassar de Dalt-Barcelona, Accounting books of Bensi & Merizano (1724-1750).

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<sup>14</sup> As mentioned above, we consider these practices as using double entry bookkeeping. Not because they employed the journal and ledger, but because the accounting system actively employed double references: every credit demanded the existence of one debit (G. C. Amato ed Urso, *Il microscopio de computisti*, Palermo, A. Felicella, 1740, p. 333).

<sup>15</sup> The *cambios marítimos* or *préstamo a la gruesa ventura* (bottomry contract) was a variant of the mutual contract. This contract involved lenders providing money (or any other consumable) to a ship owner (or his agent) with the sole purpose of maritime transportation (usually for trans-Atlantic voyages). The owner of the ship or his agent (be the master or a sailor), mortgages and binds the ship (and sometimes the accruing freight) as security for the repayment of money advanced or lent. If he terminated his voyage successfully then the ship owner (or his agent) paid to the lender a *pretium periculi* (interest or premium). If the ship wrecked or the cargo failed to arrive to the port of destination, then the lender lost capital and interest.

<sup>16</sup> The use of double entry bookkeeping is clear in other cases as well. This evidence proceeded from the existence of opening and closing balances at the beginning and at the end of the accounting year. For instance, in the ledger for 1719-1722 of *Ignasi Llorens* shows entries for 1722 while stating: '*Bilans del present llibre a 1722*' (Balance sheet at the end of 1722) (AHMB, FC. A-213).

<sup>17</sup> The *Ordenanzas de Bilbao* (1735) stipulated four compulsory books: a draft book or a journal, the ledger, a book to record the largest volume of business or an invoice book and a letter copier (Cap. IX, tit. 1). Evidently, this norm or rule fitted what was usually practiced at a large number of merchant houses.

<sup>18</sup> The constitution certificate of the company in 1724 made a specific reference to this point (Arxiu Històric de Protocols de Barcelona, henceforth AHPB, A. Comellas (mayor), 1<sup>o</sup> manual).

<sup>19</sup> AHMB, FC, A. 1-9, Ledger of Armengol Gener y Cía. (1747-1784). The other companies were stored in the same archive.

<sup>20</sup> See Bici (1991). In this sense we could include the case of the *Durazzo* family firm (Genova) (Archivio Storico dei Durazzo, marchesi di Gabiano. Génova). This was a very important and well-known company. Its accounting system could be considered as quite 'advanced', yet the entries for the ledger were accompanied by substantial handwritten details about the transaction. This approach confirms the idiosyncratic nature of accounting systems at this point in time (where the development was strongly influenced by previous practices within each organization).

<sup>21</sup> Archivo Histórico del Banco de España (henceforth AHBE), Secretaría: Dutari Hermanos, libros 18560, 18637, 18638, 18616; Gio Batista Rossi, libros 18558, 18559, 278P, 235P, 272; Rossi, Gosse y Cía., libro 322; Casa Quenau, libro 272, 423, 453; Banco de San Carlos, libros, 240, 246, 251.

<sup>22</sup> AHBE, Secretaria, libro 322 de Rossi, Gosse y Cía. y libro 18616 de Dutari Hermanos.

<sup>23</sup> Archivo General de Indias (henceforth AGI), México, folio 1249.

<sup>24</sup> AGI, México 2045-A, Cuenta general de la Caja Real de México, 1764-1769.

<sup>25</sup> This kind of behaviour was caused by the distance between the metropolis and the colonies, together with the independent proceedings followed by some institutions in the Indies. This occurred at the Royal Treasury Board in New Spain, which was sometimes used as a way not to obey Royal Decrees coming from the Crown. When a Royal decree arrived in the Indies, the Viceroy had to execute its contents. He would call a meeting of the Treasury Board to make a decision regarding the Decree, and if the resolution of the Board was against it the implementation process was stopped until the matter had been reported to the King. They postponed the implementation of the Decree seeking protection under the slogan 'I obey but not execute, because I must report about it' (A. Donoso, 1996, p. 72).

<sup>26</sup> The *virreynato del Río de la Plata* (Viceroyalty of the River Plate), roughly contained the territories of present day Argentina, Bolivia, Paraguay and Uruguay.

<sup>27</sup> Real Cédula 20<sup>th</sup> May 1629, Accounting Court of New Spain, AGI, México 320.