

An Examination of the 'Simultaneous Theory' for the Origins of Double Entry Bookkeeping

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I. Introduction

Theories on the origins of double entry bookkeeping are attempts to identify when, where and how double entry bookkeeping was first introduced. An important consideration in this debate is precisely what constitutes double entry bookkeeping. By clarifying what it means we will identify its origins, the period and place in which it was introduced. Conversely, identifying its origins will clarify its composition. In this way it will be possible to define double entry bookkeeping, which I believe is extremely difficult.

There are two opposing views on the origins of double entry bookkeeping, one that it originated in Ancient Rome, the other that it originated in Mediaeval Italy. If we were to choose the Ancient Rome theory, profit and loss accounts and capital accounts would not be one of the requirements of double entry bookkeeping.

The Mediaeval Italy theories can be further divided into the Tuscany theory, the Genoa theory, the Lombardy theory, and the Venice theory. These theories argue that double entry bookkeeping was first introduced in one of these cities, from where it spread to the others. The most influential one, based on our knowledge of the ledger of the Massari of Genoese commune for 1340, is that it was introduced in Genoa, and then spread to the other Italian cities. Recently, however, another theory has been put forward, that it did not originate in one particular city, but instead that it evolved in several Italian cities at virtually the same time, during the 13th and 14th centuries. This is the simultaneous double entry origins theory.

In this paper I explain the Ancient Rome and the Mediaeval Italian City theories, discuss what constitutes double entry bookkeeping in each of these theories, and then examine the simultaneous origins theory.

II. The Ancient Rome Origin Theory

This theory asserts that double entry bookkeeping originated in the accounts of ancient Rome. In Ancient Rome the law forbade Roman citizens from trading openly, so they used slaves to carry out business for them, and these slaves recorded the transactions in accounting books. They traded on behalf of their masters and used masters' accounts and cash accounts to record the transactions.

It is argued that this relationship, noblemen = masters, entrusting trading to slaves = agents, developed into a system of related credits and debits, and the birth of double entry bookkeeping. The bookkeeping system they used, the objective of which was to clarify the financial relationship between master and agent, is referred to as 'agent bookkeeping'. P. Kats asserted that agent bookkeeping was double entry, and that double entry bookkeeping therefore originated in ancient Rome. However there is no clear historical evidence to support this theory¹.

Agent bookkeeping based on cash accounts and masters' accounts was also seen in the 16th century, in Matthäus Schwarz's first bookkeeping exercise, and Valentin Mennher's bookkeeping exercises. In both, transactions commence with the receipt of cash from the master. Hence, in the journal, cash accounts are entered on the debit side, while the master's accounts are entered on the credit side. In the 'book of debt' (i. e. the ledger) the whole of the account balance, excluding cash, was transferred to the master's accounts, and closure was effected by checking that the balance for the cash account and the master's account was the same. The cash accounts and master's accounts are important, but there are no profit and loss accounts or capital accounts².

III. Mediaeval Italian Origin Theories

1. The Tuscany Theory

(a) The 1211 Accounting Books of a Banker

A section of the accounting books of a certain banker for the year 1211 are kept in a library in Florence, the Bibliotheca Medici-Laurenziana di Firenze. Since being copied by a linguist, Pietro Santini, in 1887, these books, the world's oldest surviving recorded accounts, have been the subject of much attention. However the consensus among most scholars is that it is not double entry bookkeeping.

However Torao Motegi, a Japanese scholar, argues that in addition to the entries for

transfers for the creation and elimination of debts, there was also interest on loans recovered, and that such profits indicated that there were profit and loss accounts, in other words nominal accounts. He concluded that because this profit from interest was cash-based, there must have been personal accounts, nominal accounts and cash accounts, and that these Florence accounting books of 1211 represented the origins of double entry bookkeeping³. If Motegi's views are correct, these accounts would indeed be double entry, because there would be upwards / downwards transfers of debits and credit, personal accounts and nominal accounts. However only 4 pages have survived, which is surely insufficient to determine whether this was really double entry. I believe that the real value of these accounting books is that they are the oldest surviving ones with debit and credit transfers.

(b) Renieri Fini's Accounting Books

The Tuscany region, of which Florence is the centre, is a treasure house for researchers, with its many collections of mediaeval accounting documents. Arrigo Castellani and Federigo Melis claimed that one of these collections, the books of Renieri Fini for 1296 to 1305, constitute the oldest surviving example of double entry bookkeeping.

Headings used in these books were personal accounts, expense (*chosto*) accounts, expenditure (*dispenso*) accounts and profit (*avanço*) accounts. The debit and credit terms used throughout are *de dare* or *deono dare* (must give) on the debit side, and *de avere* or *deono avere* (must have) on the credit side. A characteristic feature of the ledger is that it is an independent account, not copied from a journal. The accounts are recorded on separate folios, the debit and credit items, which correspond with each other, are kept separate. There are personal accounts, and nominal accounts for expenses, expenditure and profit. Cash accounts are not used.

Personal accounts are used instead of cash. In this respect only, these accounts do not differ greatly from the 1211 banker's books. Where they do differ significantly from the banker's accounts is that there are clear nominal accounts for expenses, expenditure and profit for items involving interest. Also, they use a left/right corresponding format for cash transactions, namely loans and the recovery of loans.

2. The Genoa Theory

This theory argues that double entry bookkeeping originated in the financial accounts of the Massari of Genoese commune for the year 1340. These accounts were first introduced to the world as double entry bookkeeping in 1865 by Cornelio Desimoni, a historian, who was the head of the Genoa City Archives.

Subsequently Sieveking, Fogo, Woolf, Penndorf, Besta, Peragallo and Martinelli all argued that the Massari of Genoa's accounts are the oldest example of double entry bookkeeping. The pages of these accounts are divided down the middle, with debits on the right and credits on the left. The debit and credit items correspond with each other. The first entries in the accounts for debits/credits are always *debet nobis pro* (they owe us) on the debit side and *Recepimus in* (we received from) on the credit side.

Items recorded in the ledger are merchandise accounts for commodities such as pepper and silk, personal accounts, the Massari of Genoa's accounts, consular accounts, commodity sales profit and loss accounts, accounts for profit and loss on money exchanges, the Massari of Genoa's expense accounts, accounts for damage, and expense accounts. The aspect particularly worthy of attention is the complicated procedure for account transfers in respect of profit and loss calculations.

On Folio 119 of the Massari's account, the final totals for 17 items are recorded in the debits and for 7 items in the credits. Expenditure is recorded on the debit side and income on the credit side, showing the Massari's total expenditure and total income for one year. It also shows the balance after the total for the credits is subtracted from the total for the debits, a sum of 16, 285 lira, 18 soldi and 5 denari, and this balance is carried forward to the Massari's account in a new ledger, as losses.

The left/right corresponding double entry ledger contains personal accounts, merchandise sales profit and loss accounts, expense accounts, accounts for profit and loss on money exchanges, profit accounts and the Massari of Genoa's account. Cash accounts, however, were not used. If this is the oldest record of double entry, the prerequisites for double entry are a left/right corresponding debits and credits format, with merchandise accounts, personal accounts, capital accounts and profit and loss accounts.

3. The Lombardy Theory

This theory claims that double entry bookkeeping originated with the Catalogna company (*Societa di Catalogna*) ledger (for 1395 to 1398), which is kept in the Duomo Building Archives (*Archivio della Fabbrica de Duomo*), part of the Reggio Emilia State Archives (*Archivio di Stato di Reggio nell'Emilia*). The theory was postulated by Zerbi and de Roover.

In the Catalogna ledger the pages are divided into left and right sections, with the debits on the left and the credits on the right. This is similar to the method used in the accounts of the Maino Bank (*Banco del Maino*). The terms used throughout are *debet* (or *debent*) *dare* for debits, and *debet* (or *debent*) *habere* for credits.

The items recorded in the ledger can be classified as merchandise accounts (cotton cloth, furs etc.), cash accounts, Marcho Sennainerio's account, Johannino de Dugnano's account, a joint profit and loss account, and various personal accounts. There is no account referred to as a capital account. The personal accounts of the 2 investors in the company, who are also the managers, are in effect the capital account for the company.

If this is the oldest record of double entry bookkeeping, the prerequisites for double entry are a left/right corresponding debits and credits format with personal accounts, merchandise accounts, capital accounts, profit and loss accounts and cash accounts.

4. The Venice Theory

The Venice theory asserts that double entry bookkeeping originated in the Soranzo brothers' (*Fraterna Soranzo*) new ledger (for 1406 to 1434), kept in the Venice State Archive (*Archivio di Stato di Venezia*). This theory was postulated by Kiyoshi Kurosawa⁴.

The terms used for credit and debits throughout are *de dar* or *deno dar* on the debit side and *de aver* or *deno aver* on the credit side. There are double entry debits and credits, personal accounts, cash accounts, travelling traders' accounts, merchandise accounts and capital accounts.

At one time, the Venice theory was extremely influential. In the first chapter of his treatise on bookkeeping, '*Summa*,' Luca Pacioli said, 'We will use the Venetian method, which is greatly recommended. This method can be applied in all areas.' Casanova and

Moschetti also argued that Venice was the birthplace of double entry bookkeeping. There is, however a problem with the theory. All the surviving accounting books of Venetian traders are from the 15th century, later than the purported origin of double entry bookkeeping according to the other Mediaeval Italy theories. The lack of historical evidence from the 13th–14th centuries means that a theory stating that double entry bookkeeping originated in Venice and spread to other city states from the 14th century onwards does not stand up to examination.

If, however, we accept the simultaneous theory, which I discuss next, we may argue that double entry bookkeeping developed simultaneously in various Italian cities, but was perfected in Pacioli's bookkeeping treatise at the end of the 15th century. This method subsequently spread, not just within Italy, but throughout Europe. Hence, Venice can indeed be said to have been the birthplace of double entry bookkeeping for the world.

5. The Simultaneous Theory

According to the simultaneous theory, the origins of double entry bookkeeping were not limited to a particular Italian city or set of accounts. Instead, it evolved during virtually the same period, the 13th and 14th centuries, in several cities, including Genoa, Florence, Milan and Venice.

As I explained earlier, it used to be widely believed that double entry bookkeeping was perfected in one city then spread to others. However, double entry bookkeeping was not suddenly invented by one person or developed by the traders of one city.

With the fall of the Roman Empire in AD467, Europe's ancient civilisation and the Empire itself degenerated into decline. During the latter part of the 5th century civilisation went backwards and accounting, which had evolved during the Oriental period and in the Roman Empire, was engulfed by the darkness, as commerce also fell into decline. Eventually, however, civilisation began to reawaken. It was in Italy that the beacons were lit that heralded commerce's emergence from its long period of darkness, and its subsequent brilliance. The renaissance of commerce was led by cities such as Venice, the Queen of the Adriatic, Florence, renowned for its role in the renaissance of the arts, along with Genoa and Milan.

The prosperity of commerce in the cities of Italy reached its zenith in the 13th

century, and double entry bookkeeping emerged at this time in these independent, vibrant cities. It had a significant effect, not only on the development of commerce, but also on the development of banks, partnerships (e. g. *Commenda*, *Societas Maris*), bills of exchange, insurance and business communications. In the banking sector, for example, if one customer of a bank wanted to pay some money to another, he would transfer it through the bank rather than hand over cash. Debts were settled by transferring money from one's own account (*conto*) to the payee's account. In partnerships of 2 or more employees providing capital and labour, profits from their activities in a particular period would be calculated and distributed to those employees.

A *commenda*, for example, was a contract drawn up between the members of a partnership who travelled to other lands (the *tractator*) and the members who stayed in their homeland (the *stans*). The travelling members provided labour but not capital, all the capital was provided by the members who stayed in their homeland. The profit from these commercial ventures was divided between the former and the latter according to the terms of the contract.

This era saw major developments in business communications. For overland communications the major traders had their own couriers, and independent couriers sprung up who carried out services for other traders. Communications by sea expanded as marine engineering improved. Captains of ships were entrusted with documents, which they delivered to merchants in the ports they called at. Items sent included bills of exchange, bills of lading, and bills, as well as the normal communications. People in cities throughout Europe, not just in Italy, kept in close touch through the communications network. Also, established merchants in one city would use an established merchant in another city as their agent, and carry out their business through him⁵.

While commerce developed in these ways, merchants in each city would record their business transactions in accounting books. As they received information from merchants in their own and other cities, double entry bookkeeping emerged. The merchants in a particular city came to record things in their own particular way, and the upshot was that (double entry) bookkeeping records in each city developed their own peculiar characteristics.

In other words, the double entry bookkeeping system used in the books for the

financial accounts of Genoa in 1340, the books of the Maino Bank (*Banco del Maino*) and the Catalogna Company in 14th century Lombardy, and the Tuscany account books of the 13th – 14th century (such as those of Fini and Farolfi e Compagni) each had their own characteristic style.

This is illustrated by the Latin terms used for debits and credits. In the 1340 Genoa financial accounts *debet nobis pro* (they owe us) and *Recepimus in* (we received from) were used. The same terms were used in another Genoese ledger, that of the *Casa di San Giorgio* for 1408. However, the terms used most commonly in Tuscany, Lombardy and Venice were *de dare* (must give) for debits and *de avere* (must have) for credits. Hence, at least with regard to these terms, the Genoese accounts are not related to those from other cities. If double entry had originated in the books of Genoa and the Genoese system had spread to the other cities, one would have expected these terms to be used in the other cities as well. Even if double entry bookkeeping was first perfected in Genoa, the theory that Genoa was the origin of double entry bookkeeping in other cities should be rejected.

In the ledger of the Maino Bank (*Banco del Maino*) of Milan, *Banchum* was used for profit and loss, while the Catalogna Company, also in Milan, used *Lucra et perdite* for profit and loss in their ledger. In the accounting books of Genoa, however, *Proventus et dapnum* were used. In Venice the Soranzo brothers used *Utile e Danno*, Andrea Barbarigo used *Uteli e dani*, and Giacomo Badoer used *utel e dano*. Pacioli talked about *pro e dano, utile e dan, and avançi e desavançi* when he explained profit and loss. Renieri Fini of Tuscany used *avanço* for profit. Based on this evidence from profit and loss accounts, it seems unlikely that one particular city was the birthplace of double entry bookkeeping.

Besta and Martinelli linked profit and loss accounts with capital accounts, and argued that because the Genoa accounting books of 1340 are the oldest ones in which closure was carried out, this was historical evidence supporting the Genoa theory for the origin of double entry bookkeeping⁶. However, this procedure had already been used in Florence by the company of Iachapo Girolami, Filippo Corbizzi and Tommaso Cobizzi (1332-1337)⁷, and the Covoni company (*Covoni et Compagnia*, 1336-1340)⁸. By around 1340 the emergence of double entry bookkeeping could be seen in Tuscany as well as in Genoa.

According to Penndorf, Paliano di Folco's 1383 accounts (Florence) contain the following entry: 'I keep my books using the Venetian method'⁹. Double entry did not spread from Florence to Venice. It had already emerged in 14th century Venice as well as in Florence. It seems highly likely say that it evolved at the same time in Lombardy and Venice as well as in Genoa and Tuscany, while those exchanges between the cities that were taking place. The simultaneous theory was also supported by Peragallo (in 1938) and de Roover (in 1956). Peragallo said 'No one particular locality may lay exclusive claim to being the birthplace of the system. The cause of its appearance and of its development are to be found and explained only in that burst of intellectual, artistic, and commercial activity which characterized the Italy of the Communes and of the Renaissance. Double entry was not conceived as a whole, but came about gradually, imperceptibly—the result of efforts of generations of merchants who unwittingly contributed to its origin and evolution by modifying their crude systems of bookkeeping to meet the exigencies of a fast growing foreign trade'¹⁰.

The theory put forward by de Roover was as follows: 'Until recently it was generally believed that double-entry book-keeping originated in Genoa around 1340 and that it spread from there to other trading centres such as Florence, Milan and Venice. This hypothesis has been shattered and its place has been taken by a much more complicated and confused picture. It is now doubtful whether Genoa may be considered as the birthplace of double entry; Florence is henceforth a serious contender to the Genoese claims, but it is even more likely that double entry developed almost simultaneously in several Italian trading centres. Since trade rests on the exchange of goods and services, the duality which forms the basis of double-entry book-keeping is deeply rooted in the nature of the business. Is it then surprising that the merchants would eventually hit upon a system founded on an equation between debits and credits? By 1300 the times were ripe; the merchants were already using equity and expense accounts and very little was needed to perfect the system by making it a rule that there should never be a debit without a corresponding credit or vice versa. This result was most probably achieved gradually; double entry did not grow out of any pre-established theory but was developed step by step by a process of trial and error. As improvements were made, they spread from one counting-house to another, until they gained general acceptance'¹¹.

IV. In Conclusion

It appears that double entry bookkeeping was more or less perfected in the Genoese accounting books. The content of these books met the requirements for double entry, a left/right corresponding debits and credits format, with commodity accounts, capital accounts and profit and loss accounts. However this bookkeeping method did not subsequently spread to other cities.

The merchants in each city developed their own independent double entry bookkeeping systems, within the communications network that grew up between the cities. They recorded their transactions in their accounting books using a double entry bookkeeping method based on the customs that had grown up and been handed down in their own city. Double entry bookkeeping was not conceived overnight in a particular city. It was gradually perfected during a period of great prosperity, in several Italian city states, at the same time. This is the 'simultaneous theory' of the origins of double entry bookkeeping.

Eventually bookkeeping theory was documented, based on the bookkeeping practice that had been created. The pioneer in documenting bookkeeping theory was Benedetto Cotrugli of Raguseo. He wrote a work on double entry bookkeeping in 1458, although it was not published until 115 years later, in 1573. The content was quite simple and it was by then out of date, so was not taken very seriously. Recently, however, 2 manuscripts have been discovered, and they contain a more detailed explanation of double entry bookkeeping. It is hoped that in future Cotrugli's bookkeeping theory will be re-examined.

In 1494 the world's first treatise on double entry bookkeeping was published. It was by Luca Pacioli, and it described Venetian bookkeeping¹². The completed 'Pacioli Bookkeeping Theory' was a truly monumental work, and it was the result of the unceasing efforts of the merchants in several Italian cities in developing double entry bookkeeping over a long period of time.

Sources of Reference

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