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Bookkeeping, Double-entry Bookkeeping,

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During the Middle Ages, Italian bookkeeping may be regarded as the leader in all Europe regarding its technique. Even though we may assume that merchants had already kept account books at earlier times, the oldest remaining fragment of such an account book date from the year 1211. The debtors' and creditors' accounts of a Bolognese client of a Florentine bank, which are stated therein, were written out in *volgare*. During the second half of the 13th century, we can already see an increase in the surviving records, but only around the year 1300 not only parts but also complete account books remain for us to review (namely the books of the Fini, Farolfi, Peruzzi, Bardi and Del Bene). Then, starting from the 1360s, we have the account books of Francesco Datini of Prato, which include many auxiliary and sub-books (until 1410 almost a total of 600 books). Without them, an analysis of the accounting systems is always very strongly based on presumptions.

Most of the remaining account books from the period before 1350 were written by Tuscan merchants. The first remaining one from Milan dates to the second half of the 14th century (the Bank of del Maino, the Marco Serrainerio Company). Although these books are written in Latin, they show a structure regarding bookkeeping and accounting which is almost identical with that of the Tuscan account books written in the vernacular. Only in the 15th century do we find evidence of account books from other Italian regions (for example, the account book of the Venetian Giacomo Badoer, 1436-39).

The entries of the accounts consisted mostly of one or several full sentences, which were skillfully made up on a page split into three columns. An entry started with the name of the debtor or creditor, the first letter of his name was sited in the left column. After the expression *dee dare* (shall give) or *dee avere* (shall have), a statement of disposition followed the reason for the entry with a short description of the business transaction, which often contained an exact description of the trade goods. In older account books this was completed with the names of witnesses or guarantors who were present during the business transactions. Here the sentence was made up in such a way that the quantity of the traded goods - as well as the first letter of the client's name - could be written in the left column. At the end of the sentence/entry, the amount was noted so that it could be placed easily in the right column.

Even though the Italian merchants calculated with Arabic numerals as early as the 13th century, Roman figures dominated in their account books until the late 15th century (but with decreasing frequency). The number of traded goods (placed in the left column) and the noted amount in the right column were written in Roman numerals exclusively. The page numbering, date and notes, often appearing as intermediate or sub-sums, were increasingly written in Arabic numerals. The prolonged use of the 'old' writing style is mostly explained by with the general belief of the contemporaries that the Roman were forgery-proof.

For a long time, debits and credits were not placed one next to the other, especially in notebooks, but rather on top of each other (so-called *sezione sovraaposto* entry). If a debt had been paid, it was written down below the debit-entry/entries. The entry was written as a whole sentence similar to the one described above; instead of *dee dare* and *dee avere*, it said *ha dato* (has given), *ha avuto* (have gotten) or *abbiamo dato* (we have given). During the 14th century, the account books were divided as a whole into one debit part in the front and one credit part at the back. Only towards the end of the century was the direct line-up of debit and credit established in Tuscany; perhaps this had already been practiced for somewhat longer in Venice. In the beginning, both the left and right of the two open sheets of the accountant's ledger was used (noted as bookking *alla veneziana*); then the paper itself was divided into two parts by a line.

Merchants kept different books for various areas of business. Therefore, the *libro di entrata e uscita* (book of income and expenditures) represented a cash-book, whereas in the *libro di balle mandate* (book of the bales dispatched), large quantities of goods traded over wide distances were noted. In the *libro secreto* (the secret book), the income and profits of the *socii* as well as agreements made by management up to elaborate business contracts were recorded. The ledger, in which the debtors and creditors were recorded, is called the *libro grande* (Datini), *mastro*, *campione*, *libro dell'asse*, *libro dei debitori e creditori* (Medici) or - in Arezzo - *libro reale*. The great amount of information to be recorded required the use of several successive account books of the same type. In the beginning, they were only differentiated by terms such as *libro nuovo* (for the book most recently used) and *vecchio* (for the book already completed), but then the signing of the account books with single letters and/or colored bindings was rather quickly established (therefore, for example, a* ledger of the Datini is called *libro grande o giallo, segnato A* (large or yellow book, with 'A' signed).

It is important that the books can be classified not only according to their type of business or date order; it is also taken into consideration if they contain entries, which may be noted as the first note for a transaction or if the lots are based on entries that were previously written down in other account books. As it is shown in the early account books of Datini from the 1360s and 1370s, a rough draft - called *ricordanze* - was used even prior to the introduction of double-entry accounting, in which all business events were noted purely chronologically. The entries of the debtors and the creditors in the *ricordanze* were then copied in the *memoriale*, a book which had been divided into a front section for debits and back section for credits. Here, various entries for a particular person could be summarized. In order to condense information further, the entries of the *memoriale* were copied out again in the ledger.

In large companies only we find merchants whose main task was keeping the account books. On the other hand, it had been customary for a number of employees to make entries into the different account ledgers during a more or less continuous period. Quite often there is evidence for more than one hand on one page of an account book. In schools, calculation with Arabic numerals was taught, while the young merchant studied accounting during his 'education' in the shops (*botteghe*) of his company. It seems that only during the first half of the 15th century 'bookkeeping' was taught by teachers or in schools. Nonetheless a relatively homogenous kind of bookkeeping was established due to the tight contracts of the traders among themselves. Merchants from Genoa or Milan could ask their business partners in Tuscany via a letter to enter expenditures for purchased goods on their account into the books of the Tuscan traders and vice versa.

Probably right from the beginning, commercial bookkeeping had to fulfill several functions at the same time. Here again we have to mention the motive of legal security - towards the client as well as towards the *socii* and the associates. Therefore, in the year 1211, besides guarantors witnesses are named who could confirm business transactions, if necessary. After the bankruptcy of the Peruzzi in 1343, their books were examined by a communal committee. Due to the growing acceptance of commercial activity in general and more specifically the wider regularity of noting the proceedings, during the second half of the 14th century account books had increasing validity as evidence in legal courts. Baldus of the Ubaldi grants the ledgers (named by him *codex rationum*) almost the evidential value of a notarial document. About 1400 Francesco Datini sends for the account books of his branch in Avignon because he plans to use them in a legal dispute at the Court of the Guild. On the other hand, merchants generally did not - as Pacioli proposed in 1494 - submit their accounts to guild committees or municipal offices for authentication: and further we find notes (called *ricordanza*) in the books which point out that someone prepared a legal document regarding one or another business transaction.

In addition, control over the employees must be mentioned. Especially the design of cash and *spese di casa* books had to be carried out in such a way that made it hard for the simple employee to embezzle money. If the balance of cash and cash income corresponded, one could assume

proper management. On the other hand, it must be stated that the cash books were not always kept with the necessary continuity.

In researching the subject, it had been assumed for a long time that bookkeeping in the Middle Ages served mainly to maintain exact and quick balances of business transactions, as it is the case today. (This is in fact a third function.) The further development of bookkeeping is therefore interpreted as a result of the early capitalistic mentality of Italian merchants and their rational yearning for profit. The method of double-entry bookkeeping, in which every event must be entered twice, once as a credit and once as a debit, and in which they together formed with at least five different account types a closed system, was particularly considered a sensible manifestation of this way of thinking (for definitions see R. de Roover, *Aux origines*, p. 270 ff). The German sociologist, Werner Sombart, during the 1920s, was one of the first to hold the opinion that the capitalistic profit-oriented way of thinking, the abstract concept of enterprise isolated from the concrete person of the merchant, and the method of double-entry bookkeeping, are inextricably linked together. Italian researchers (F. Melis) in particular subscribed to this and tried to prove this method as early as possible using account books of which nothing else than fragments remained.

The first generally accepted evidence for the application of double-entry bookkeeping derives from the communal account books of the City of Genoa in the year 1340; it is here stated, though, that the books had been kept *ad modum banchi* so that an older use of the method among private merchants may be assumed. But only during the 1380s did this method grow in popularity among Italian merchants. The earliest evidence of a journal, not a necessary but a rather important auxiliary book within the system of double-entry bookkeeping, in which the entries are formulated for assignment of the amounts to the specific accounts, dates from the 1390s. In 1383 Datini changes the bookkeeping of almost all Fondaci to the new system; but even at the end of the 14th century it had been introduced by the Bank of del Maino in Milan for a short period only.

Contrary to former beliefs, a first description of double-entry bookkeeping is not only to be found in 1494 in a chapter of the 'Summa' by the monk Luca Pacioli, but rather in 1458 in *Il libro dell'arte di mercatura* by the merchant Benedetto Cotrugli. The explanations in the 'Summa' are more extensive, however, and they were spread quickly since they were already printed, whereas Cotrugli's writings were not printed before the mids of the 16th century.

The relatively slow spread of the method and its rather late use in tractates and research papers already point to the fact that the people of the 14th century probably regarded the advantage of the use of double-entry bookkeeping as less important than it had been assumed by research for a long time. B. S. Yamey pointed out that due to the rather inconsequential manner in which the method had been used by merchants in the Middle Ages, double-entry bookkeeping could hardly be seen as a suitable instrument for gain and loss determination. Even most balance sheets of the Medici during the 15th century did not balance, and efforts to find the mistakes and to correct them could not be found. Therefore, the importance of double-entry bookkeeping in particular and, generally, the function of bookkeeping for the determination of business successes within the business world of medieval merchants must be seen in relative terms.

Aside from the functions of 'legal security', 'employee control' and determination of business success the memory function is usually named as a basic and very old motive for the establishment of account books. Also the practice of selling goods on credit - contrary to German merchants - made it necessary to note debtors and also creditors (suppliers). This explains why personal expenditures of this kind have been recorded so early and frequently. In the second half of the 14th century, these accounts, kept as memory aids, still seem to form the core of bookkeeping. For this purpose exclusively the first company whose accounts were recorded almost completely - a company under the head of Francesco Datini and Toro di Berto, founded in Avignon 1367 - had noted within a period of less than six years for several hundred clients more than 10,000 lots. Such an amount of information needs further revising since it can hardly be structured in an orderly manner *ad hoc* if one wishes to insure that the layout of the

entries is clear and that no entry could inadvertently be overlooked. The necessary revision of entries written for the purpose of memory was the main motive for the above-mentioned copying of the entries from the *ricordanze* in the *memoriale* and in the end, in the ledger. The inevitable restructure of the material in this context can be drawn mainly from the need to establish a usable base of information in view of the large quantities of notes by copying the entries in a new account book. First steps towards elaborate bookkeeping may be a result of the function as memory aid and of the necessity for a revision. In any case, for some time the running of the accounts of debtors and creditors was the function of bookkeeping which was kept most consistently - understandably so since a forgotten entry of a debtor most certainly meant a loss of money for the company, whereas a cash book, not kept in good order, meant the loss of money only when dealing with dishonest employees.

It must be pointed out that many connections may be drawn between the account books and the so-called *libri di famiglia*, in which merchants noted 'private' events. Beginning with the writing style used (the so-called *mercantesca*, which developed in the course of the 14th century from the notary italics) up to the names of books (*ricordanze*, *libro segreto* are found as names for both types of texts) and entry structure (listing of birth, marriage and death are frequently noted in the same way as entries of an account in 'paragraph form'), numerous structural parallels may be found, and find their roots probably in the intensive use of account books by the merchants. In addition, 'personal notes' may be found in business books and large sections of *libri di famiglia* quite naturally contained commercial transactions.

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