
ARTÍCULOS DOCTRINALES / ARTICLES

**THE EARLIER SYNTHETIC BALANCE SHEET OF DATINI'S
COMPANY IN AVIGNON (1410):
THE COMBINED ACCOUNTING SYSTEM****Mikhail Kuter**

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Abstract: When studying accounting history, the use of archival sources is very important. Unfortunately, when scholars explore the genesis of accounting practice, archival sources are not often used. This paper does so, presenting a detailed explanation of features of the accounting system used by Francesco di Marco Datini's company in Avignon 1409-1410. This accounting system used stocktaking and double entry in order to determination of the operating result and produce an analytical balance sheet. This study analyzed the *Quaderno di Ragionamento* (the book for drawing-up final accounts, including the financial result) with the aim of clarifying the features of this process. It also investigated the procedure used in preparing the synthetic balance sheet, a process not known previously elsewhere. This research was based on the archival material comprising of account books of the medieval merchant company of Datini, preserved in the State Archive in Prato.

Keywords: *stocktaking and assessment, Double entry, Quaderno di Ragionamento, Synthetic Balance Sheet,*

**EL MÁS ANTIGUO BALANCE SINTÉTICO DE LA COMPAÑÍA DE DATINI
EN AVIÑÓN (1410): EL SISTEMA CONTABLE COMBINADO**

Resumen: Cuando estudiamos la historia de la contabilidad el uso de las fuentes de archivos es muy importante. Desafortunadamente, cuando los académicos exploran la génesis de la práctica contable, a menudo las fuentes de

archivos no son usadas. Este trabajo lo hace, presentando una explicación detallada de las características del sistema de contabilidad utilizado por la compañía de Francesco di Marco Datini en Aviñón 1409-1410. Este sistema contable utilizaba el inventario y la doble entrada para determinar el resultado operativo y producir su balance analítico. Este estudio analizó el *Quaderno di Ragionamento* (el libro para la elaboración de las cuentas finales, incluido el resultado financiero) con el objetivo de aclarar las características de este proceso. También investigó el procedimiento utilizado en la preparación del balance sintético, un proceso que anteriormente no se conocía en otros lugares. Esta investigación se ha basado en el material de archivo compuesto por libros de cuentas de la compañía mercantil medieval de Datini, conservados en el Archivo Estatal de Prato.

Palabras clave: *inventario y evaluación, doble entrada, Quaderno di Ragionamento, balance sintético.*

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Introduction

The life and archives of the medieval merchant Francesco di Marco Datini of Prato are described in detail by many researchers of both the history of economics and the history of accounting. However, few of these studies relate to Datini's accounting practices. Instead, they cover such issues as the history of the emergence and preservation of the archive; the role of the acknowledged authority on Datini, Federigo Melis; and, the structure and contents of the archive. One exception that predates Melis, was the literature-based study published by Raymond de Roover in 1937 that summarized what was known at that time concerning use of double entry bookkeeping in the various Datini enterprises. After Melis began working on Datini's account books, only he and his PhD students were granted access to the archive, putting the emphasis on Melis to inform everyone else what he and his students had discovered. However, Melis published very resulting from this more than 20 year of study, unfortunately only four of his 134 publications are dedicated to studying the history of accounting in Datini's firms. Thus, although we know from Raymond de Roover that Datini switched gradually to double entry bookkeeping in all his firms, no-one has investigated how that switch took place, and no-one has checked the accuracy of what de Roover reported. This paper is an interest to anyone interested in the manner in which medieval businesses kept their account books. Thus, very little is known about what the archives reveal to us of the development of single-entry and double-entry bookkeeping in the various Datini proprietorships and companies.

Our 13-year study of the Datini archives in Prato allow to find a lot of things undescribed before. In Datini's archives alone we were able to find the early "Profit on Merchandise" account (1392), Trial Balances and the Statement for sending to the headquarters (1393) (Kuter, 2017), early examples of asset impairment and depreciation (1392–1399) (Kuter, 2018a), the formation and use of a profit reserve (Kuter, 2019a), adjusting entries (Kuter, 2019b), cash accounting (Aleinikov, 2018b), early accounting of insurance transactions (Kuter, 2019c). There is no doubt that further studies of the archives of Datini, both by the authors of this research into primary sources of medieval accounting books. The supporters of the return to research on primary sources should include A. Sangster's paper (2015) and other researchers, will greatly help us to understand the process of formation and development of accounting. All this justifies the reasonability of further research in this way.

The purpose of this paper is to review and analyze, on the basis of archival data, the procedure for constructing an analytical balance sheet for deriving a financial result as of December 31, 1410, and on its basis the formation of a synthetic (compressed) balance sheet; to identify the motives that prompted the responsible for accounting and reporting manager to use this balance in a specific situation; confirm or refute the opinion of Melis about veiling reporting data.

The term Synthetic Balance Sheet in this context was first applied by Melis. The term “Summarized balance” is quite acceptable here, when individual (analytical) indicators are aggregated into synthetic (group) ones.

The contribution of this paper is that the authors on specific examples have described in detail the procedure of determination of the financial result from the data of analytical inventories and Secret books. The sequence of formation of “synthetic indicators” by the results of analytical constructions is also investigated.

The purpose of our research and publications based on them is to revive the interest in archival research.

Review of Prior Literature

Some authors of the end of the 19th century [Bellini (1883); Del Lungo I. (1897), Guasti (1880)] and the first half of the 20th century [Livi (1910); Nicastro (1914); and Bensa (1923; 1925; 1928)] described the account books stored in the State Archive of Prato, the city where Datini lived and worked. The distinctiveness of their publications lies in the fact that none of them focused attention on the manner the medieval accountant maintained various accounting procedures, or in which accounts kind or other transactions were reflected.

The aforementioned archival researchers did not make it aim to place emphasis on disclosing the accounting method by means of double entry or any accounting procedures based on it, which had already existed in the Middle Ages.

As evidenced by the publications of contemporary authors [Antonelli and Sargiacomo (2015); Sargiacomo, Servalli and Andrei (2012)], Fabio Besta was the first to describe Francesco Datini’s proprietorship and companies (1909, 317–320). The information on Datini’s accounting can also be found in the works by Alberto Ceccherelli (1913; 1914a; 1914b; 1939).

Neither Besta nor Ceccherelli worked with the documents in the Archive of Datini. Instead, they used the secondary sources that Corsani (1922, 83–85), one of Besta’s followers, prepared for them. This is evidenced by the gratitude expressed by Besta on the pages of his book (1909, 318).

Many authors investigated the life and business history of Datini, including Brown (2012); Carrère (1978); Gurevich (1990); Jouanique (1996); Nanni (2010); Nigro G (2010); Origo (1958); Orlandi (2014); and, Yamey (2005).

Numerous publications are dedicated to Datini’s archives in Prato, their structure and content, the stages of their creation and storage. With reference to the structure of pre-industrial enterprises in the early Middle Ages, Claude Carrère (1978, p. 56) “speaks of gigantism Italian style, a phrase which is indeed appropriate to describe the Datini group” (Jouanique, 1996, p. 265).

Hyde, referring to Melis (1962, pp. 3–28, 107–21), described the contents of the Archive: “The sheer bulk of the documentation involved in long-distance trade could be, by medieval

standards, enormous. The only business archive of this period to survive in anything like its entirety is that of Francesco Datini of Prato. According to Federigo Melis, this now contains 574 account books with fragments of twenty-one more. The commercial letters for the years 1384 to 1411 number 125,549, representing 267 places of origin: 2,383 are from Bruges alone. Private and family correspondence accounts for another 8,049 pieces, and miscellaneous items bring the total to 152,648 letters ranging in length from one to twenty-four sides; it is estimated that the total correspondence covers some 600,000 pages. This represents the accumulation of seven or eight companies run by Datini over a period of thirty or forty years. After he settled down in Tuscany, the greater part of Francesco Datini's working life and much of his pleasure was taken up with reading and writing; for example, in 1395 he wrote "Since this morning, Stoldo and I have done nothing but read, except for prayers and lunch, and we still have enough to read to last us two days" (Hyde, 1979, pp. 114–5).

Hyde reached the conclusion: "It is probable that Francesco Datini was unusually fanatical in his attachment to written records. The practice of returning old company letters and accounts from distant branches to the head office seems to have been exceptional, and the care with which the archive was preserved suggests that Datini regarded it in a special way as his personal memorial. But although his enterprises were unusually large and successful, they were far from unique in their day, and it is hard to see how any business of this size could function without documentation on something like this scale" (Hyde, 1979, p. 115).

Hoskin and Macve (1986, p. 122) described in detail the contents of the archives with the references to Hyde (1979, p. 115) and Goldthwaite (1968).

Gurevich expressed his views about Datini's Archive: "The ledgers of Francesco di Marco Datini, the 'merchant of Prato', are fine examples of early DEB as practiced in Tuscany. Datini amassed a fortune. However, like many other merchants or bankers in fifteenth-century Italy, towards the end of his life (he died in 1410) Datini had an 'afflicted conscience', and he 'dedicated himself to repentance in his old age. He went on pilgrimages, fasted, and at the end left nearly all his enormous estate (75,000 florini) to works of charity – all of which did not free him from a sense of guilt and "melancholy" (Gurevich, 1990: pp. 272–273) – "his ledgers did not assuage his worried conscience" (Yamey, 2005, 82).

As you can see, there are secondary and tertiary references and absolutely no publications on studies directly related to the history of the development of accounting systems in the companies of Datini. There is an explanation for this: it is believed that all the most important studies have already been conducted by Federico Melis. But this view is mistaken: Melis published remarkably little about Datini's account books and his accounting practices.

With very few exceptions, for many years, very few medieval accounting historians have been conducting archival research. Most studies have, instead, followed the lead of Besta, Ceccherelli, and de Roover, with Datini's records, by focusing on secondary sources. Modern researcher of the evolution of the bill of exchange, Sergii Moshenskyi, while choosing the methodological positions of his research (2008, p. 8), refers "to Fernand Braudel's approach", the approach adopted by the French Annals School, with its motto, "Back to the primary sources", supported by use of a significant amount of various materials and facts of economic history. This approach is the one adopted in this study.

What is known about Datini’s “synthetic” balance sheet of 1410

The earliest known example of a “synthetic” balance sheet was described for the first time by Federigo Melis (1962, p. 162). The page concerning the synthetic balance sheet did not include an image, but the narrative manner of the text was quite detailed. We offer our variant of translation of Melis' text: “Almost all analytical balances are the richest with data. These balances present the balance of all unclosed property accounts in the accounting book, after certain corrections which, however, have not survived in full and those which managed to survive do not always single out the capital – which is veiled between partner's different Credits and Debits and the distribution of profit.

The condensed balance hides the capital between the creditors of the company, as it follows from this unique copy. It will be described in subsequent.

The “Quaderni di Ragionamenti” of the same company has also survived, i.e. the analytical budget where even 11 creditors are listed, which make up the only entry (with profit) in liabilities side, does not single out that part of Credit which is owed to “*corpo*” (initial investment) and “*sovraccorpo*” (reinvestment capital, formed by the shareholders of the company at the expense of the profit which was meant for the liquidity replenishment).

And even then when made simultaneously, or just before the closure of the business, entries in the books give us the basis to prepare positions “*corpo*”, “*sovraccorpo*” and the balance, quite intensive revisions made afterwards, change their content in whole (in particular, it concerns the profits which influence the “*sovraccorpo*”), for a number of firms cancelling intermediate decision” (Melis, 1962, p. 162).

A year before his death, Federigo Melis had time to publish his capital work “Documenti per la storia economica dei secoli XIII–XVI”, in which he acquainted the reader in detail with the archival document that we are discussing now and introduced its photocopy (Figure 1) (Melis, 1972, p. 459). There is no doubt he simply did not have enough time to complete everything that he had planned.

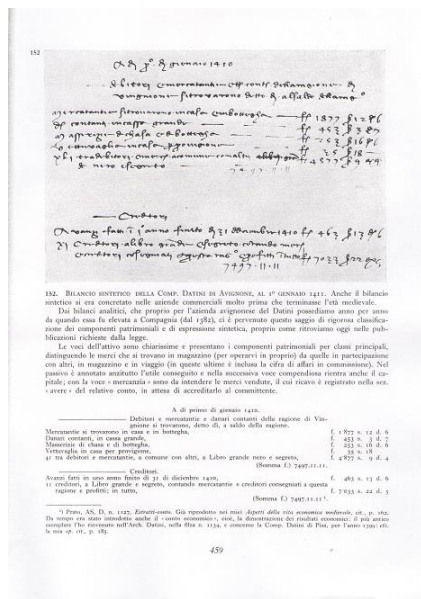


Figure 1 – The page from the book by Federigo Melis (Melis, 1972, p. 459) describing the first synthetic balance sheet

It should be noted here that at the early stage of our archival research Melis's authority was unshakable for us. It remains only to express regret that Melis's outstanding life was very short. He lived for less than sixty years. This included the war, the front of the Italian army, Africa, captivity. But most importantly, exhausting work, combining the lectures of a professor, the search of a scientist and the daily concern for preserving the archives of the medieval merchant Francesco Datini. The traces of this can be found on each page of the archive's account books in addition to the folio number, affixed by medieval accountants, Melis put down the numbers of the extant pages.

Melis left the greatest legacy in the form of "Aspetti della vita economica medievale (studi nel'Archivio Datini di Prato)" (Melis, 1962), which allows subsequent generations of researchers of Prato archives without much effort to identify the pertinence of any medieval exhibit (a book, a letter, a document, etc.) to Datini's particular company or enterprise. As stated in (Nigro, 2013, p. 3) biography of Melis: "The innovation didn't consist just in introducing the statistics-quantitative analysis (even if it met with many resistances among the historians of those times), but chiefly in the fact that just starting from his experience in accountancy studies, he had the opportunity to understand, better and before others, the significance of a typical very new source for the economic history studies, constituted by a direct documentation from merchant emanation. Melis was convinced that, in order to improve the knowledge and the interdependence of the historical phenomena, the economic history, which till then availed itself of notarial, literary and legislative sources, could and had to adopt some new autonomous research methodologies, chiefly applied to the firm documentation and accountancy. The incessant long years of work, which marked his life, has been first of all characterized by a methodical examination of an enormous quantity of Tuscan, Italian and European archives sources, the study of which joined into works still considered to be basic for the economic history, as *Documenti per la storia economica dei secoli XIII–XVI (a real systematics of the economic history sources)*, and *Origini e sviluppo delle assicurazioni in Italia*".

However, our subsequent study of the archives changed our first impressions of the contribution of Melis to the study of the archives of Datini. While he and his students spent many years in the archive, he wrote in details about the Datini materials in only one of his works (1954), published in Italian and English. That is, his major contribution to Datini is that he prepared the way for others to follow by cataloguing the entire collection.

Unfortunately, while economic historians have been consulting the archive ever since, accounting historians have not; and, so far as the Synthetic balance from 1410 is concerned, it has been largely ignored, as has the manner in which each of Datini's various firms evolved their bookkeeping systems from single to double entry.

Research method

The principal research method adopted in this study is archival. That is, it entails examining and critically analysing original sources which, in this case, are account books held in the State Archive of Prato. This research team has been working with this material for the past decade and many of the entries have been recorded and linked together using logical-analytical modelling. This is a flowchart-based approach that we developed for the purpose of enabling entries in the account books to be traced visually between accounts and books and

from page to page.

By adopting this approach, we can see the entire accounting system, making entries and their sources clear in a way that is not possible if all that you have is the original set of account books. This enables us to consider each transaction in detail, trace its classification, and so explain the bookkeeping and accounting methods adopted without the possibility of misinterpretation. This approach represents a new paradigm in how to analyse and interpret accounting practice for periods when there was no concept of either a standard method or a unified approach to either financial recording or financial reporting. This research method provides the greatest efficiency in the study of accounting systems of double-entry bookkeeping.

Francesco Datini's archives, located in the Prato State Archives, contain a folder with the identifier Prato, AS. D. No. 178, in which there are 18 separate folders of documents. In each folder, there is the *Quaderno di Ragionamento* (the book used for the drawing-up of final accounts, including the financial result), starting from 1392 to 1410. De Roover in such cases purposely avoided using the term "balance" (Roover, 1956, p. 124).

The *Quaderni di Ragionamento*, were used as preparatory scriptures to the Secret Books (Cecchi, 2004, p.80), that first aroused our interest was the one for 1410, which is directly related to what Melis called the "Synthetic Balance" for 1410. (Prato, AS. D. No. 1127.) Figure 2 shows the relevant page from the notebook. Its translation is shown in Table 1.

However, a complete understanding of the relationship between the analytical balance list for 1410 (*Quaderno di Ragionamento*) and the "Synthetic Balance" for 1410 was achieved only after the detailed study of most of the analytical notebooks, which used in Avignon's companies from 1366. This made it possible to identify common and specific features of all these analytical balances.

Up to 1401, the basis for all the balances was the stocktaking results. Subsequently, to record settlements with owners, debtors and creditors, the double-entry method was used and then there was neither pure stocktaking accounting nor double-entry accounting. There was combined accounting, consisting of a combination of both, the former and the latter.

We should say in advance that before we have never met a similar organization of bookkeeping – combined of two types of accounting, in any of the companies studied. Moreover, we have also never met the description of similar cases in the literature.

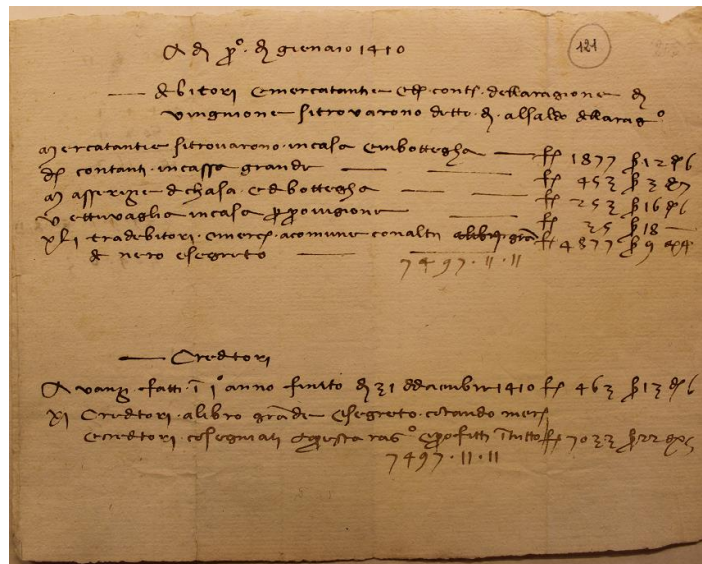


Figure 2 – Prato, AS. D. No. 1127: The First “Synthetic Balance” (the author’s photo) ¹

Table 1 – Synthetic Balance Sheet of Datini’s Company in Avignon,
as of January 1, 1410
January 1, 1410

*Debtors and goods and cash of the Avignon enterprise that are,
at this date, as balance of the enterprise*

Goods in the house and in the shop	f. 1877 s. 12 d. 6
Money, in the main cash	f. 453 s. 3 d. 7
Household goods in the house and in the shop	f. 253 s. 16 d. 6
Provisions in the house	f. 35 s. 18
41 debtors and goods, jointly with others, to the Black main and secret Ledger	f. 4877 s. 9 d. 4
<i>(sum f.)</i> 7497.11.11	
 <i>Creditors.</i>	
Gains of a year ended December 31, 1410	f. 463 s. 13 d. 6
11 creditors, to main and secret Ledger, counting	
Goods and creditors of this enterprise and profits; all in all,	f. 7033 s. 22 d. 5
<i>(sum f.)</i> 7497.11.11	

Formation of Quaderno di Ragionamento

Structurally, each *Quaderno di Ragionamento* consists of three sections: (1) “Debtors and

¹ The archival material is printed with the permission of the Ministry of Heritage, Culture and Tourism of the Italian Republic, Minutes № 668 / 28.13.10 dated October 28, 2013 (№ 35/2013), Minutes № 669/28.13.10 dated October 28, 2013 (№ 36/2013), Minutes № 670/23.13.10 dated November 26, 2013 (№ 37/2013), Minutes № 672/23.13.10 dated November 28, 2013 (№ 39/2013).

other assets” (“What we must be given”); (2) “Creditors” (“What they must have”); and (3), the “Financial result”. It was the latter that confused earlier researchers when they first looked at the *Quaderni di Ragionamento*.

In Table 2, we show the composition of the first of these sections, the one for debtors and other assets. This section of the *Quaderno di Ragionamento* occupies 37 pages from 1r to 19r. It contains the amounts to be entered for each of the five entries in this section in the “Synthetic Balance”.

Table 2 – Algorithm for the formation of the total of the first “Debtors and other assets” section of the *Quaderno di Ragionamento*

No.	Object of accounting	Page in 178/18	Accounting method	Sum, (f. s. d.)
Debtors and goods and cash of the Avignon enterprise that are, at this date, as balance of the enterprise				
1	Goods in the house and in the shop	1r–13v	Stocktaking	1877.12.6
2	Money, in the main cash	13v	Entrata e Uscita labeled “Due” at c. 40	453.3.7
	The total amount of all the merchandise, and bales	13v	Quaderno di Ragionamento	2330.16.1
3	Household goods in the house and in the shop	14r–16v	Stocktaking	253.16.6
4	Provisions in the house	16v	Stocktaking	35.18.0
5	41 debtors and goods, jointly with others, to the Black Main and secret Ledger	17v–19r	Black Main and Secret Ledger	4877.9.4
	The total amount of all the merchandise, and bales shipped, and cash money, and workshop's furniture, and food and beverage, and everybody has to give to the partnership and the merchandise shared with our Florentine partners and with others, as can be seen in this Quaderno di ragionamento (Handbook of calculations) from c. 1 until the end of it. Here below the total sum of f. 7497 s. 11 d. 11, at s. 24 for florin	19v	Quaderno di Ragionamento	7497.11.11

Goods in the house and in the shop

Figure 3 shows the first (1r) and last (13r) pages of the first element in the “Debtors and other assets” section: “*Goods in the house and in the shop*”. Subsection D1.1 is called “All the entries are related to “*bacinetti*” (iron helmets) and “*visiere*” (iron visors)”. The source of these entries was the inventory sheet. Table 3 shows the structure and content of the first section.

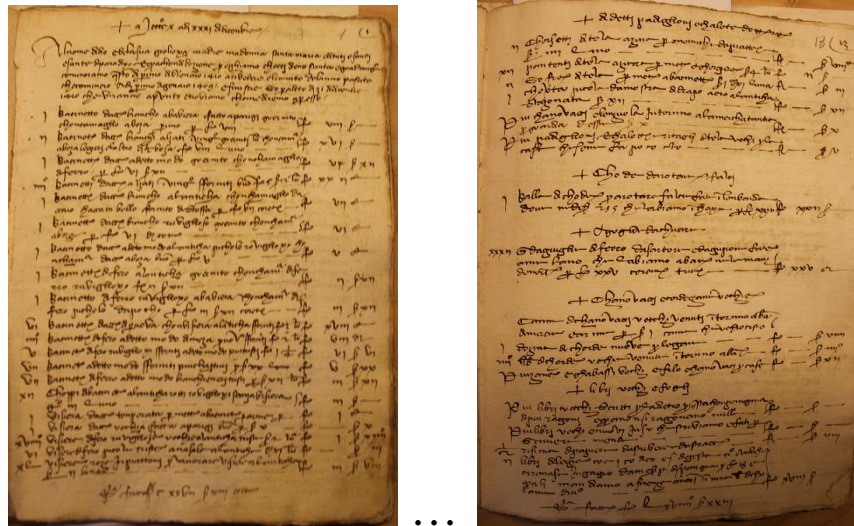


Figure 3 – Prato, AS. D. No. 178/18. The first (1r) and last (13r) pages of section “Goods in the house and in the shop” of “Debtors and other assets” section of the *Quaderno di Ragionamento*, formed according to the information dated 31.12.1410

Table 3 shows the content of each subsection of inventory sheets, which provide for the translation of the subsections titles, page numbers in the *Quaderno di Ragionamento*, the codes of analytics subsection assigned by the researchers, the number of filled lines in the subsection, the valuation (sum) of inventory on hand included in subsection.

The section “Goods in the house and in the shop” occupies 25 pages, consists of 576 entries, combined into 94 subsections and evaluated f. 1877 s. 12 d.

Table 3 – Analytical table of the first section of the inventory list, pages 1r–13v (Datini’s company in Avignon, 1410), beginning

Page	Text	Account		Number of lines	Sum (f. s. d.)
		page	code		
1r	All the entries are related to “ <i>bacinetti</i> ”, some kind of iron helmets and “ <i>visiere</i> ”, some parts of iron visors	1r	D1.1	20	127.13.0
	Total		1	20	127.13.0
1v	“ <i>Chapelli elmetti a barbotta</i> ” (Iron helmets)	1v(1)	D1.2	7	53.0.0
	“ <i>Chappelline coperte e schoperte</i> ” (closed and open iron helmets)	1v(2)	D1.3	7	7.16.0
	“ <i>Uvette e corbelliere di ferro</i> ” (other kinds of iron helmets)	1v(3)	D1.4	3	1.16.0
	“ <i>Peze d'acciaio e di ferro</i> ” (pieces of steel and iron)	1v(4)	D1.5	5	70.0.0
	Total		4	22	132.8.0
2r	“ <i>Arnesi di ghamba e di choscia</i> ” (pieces of armors aiming to protect the legs and the things)	2r(1)	D1.6	5	10.8.0
	“ <i>Braccali d'acciaio e di ferro</i> ” (steel and iron pieces of armors aiming to protect the wrist and the arm)	2r(2)	D1.7	5	31.6.0

	“Guardalbracci d'acciaio e di ferro” (steel and iron pieces of armors aiming to protect the wrist and the arm)	2r(3)	D1.8	3	2.12.0
	“Ghuanti di fero e d'acciaio” (iron and steel gloves)	2r(4)	D1.9	9	37.18.0
	Total		4	23	81.20.0
2v	“Choraze d'acciaio e di ferro” (steel and iron armour)	2v(1)	D1.10	3	11.21.0
	“Accie d'acciaio e di ferro” (steel and iron armour)	2v(2)	D1.11	3	23.0.0
	“Spiedi e manichi e ferri per cinghaly” (swords and parts of swords)	2v(3)	D1.12	4	8.16.0
	“Aresti di ferro” (other iron tools for armour)	2v(4)	D1.13	3	2.6.0
	“Smeriglio per traversare” (material for sanding metallic tools)	2v(5)	D1.14	1	0.1.0
	“Cotte d'acciaio chaccato e di ferro” (steel and iron coats)	2v(6)	D1.15	4	125.0.0
	Total		6	18	170.20.0
...
7v	“Di detti freni da mula” (bits for mules)	7v(1)	D1.45	6	4.17.0
	“Filo di ferro” (iron wire)	7v(2)	D1.46	2	20.10.0
	“Finesti (?) e puntetti e serraglie” (various metal tools)	7v(3)	D1.47	3	4.3.0
	“Sunagli e torneti d'ottone” (brass rattles)	7v(4)	D1.48	16	20.17.4
			4	27	50.0.0 (49.23.4)
...
12v	“Seta veluto bocchacci tela filo” (raw silk, velvet, bocchacci, silks, silk wire)	12v(1)	D1.88	20	25.17.0
	“Padiglioni e chalotte” (curtains)	12v(2)	D1.89	10	9.15.0
	Total		2	30	35.8.0
13r	“Di detti padiglioni e chalote” (curtains)	13r(1)	D1.90	6	3.14.0
	“Chode d'arotare falci” (sharpener for sickles)	13r(2)	D1.91	1	22.0.0
	“Aguglie da cucire” (sewing needles)	13r(3)	D1.92	1	25.0.0
	“Chanovacci e ??? vechie” (old ??? and canvas)	13r(4)	D1.93	3	1.1.0
	“Libri vechi e fogli” (old books and papers)	13r(5)	D1.94	4	18.8.0
	Total		5	15	69.23.0
13v	Goods in the house and in the shop	25	94	576	1877.12.6

Figure 4 shows folio Prato, AS. D. No.178/18 c. 13v–14r.

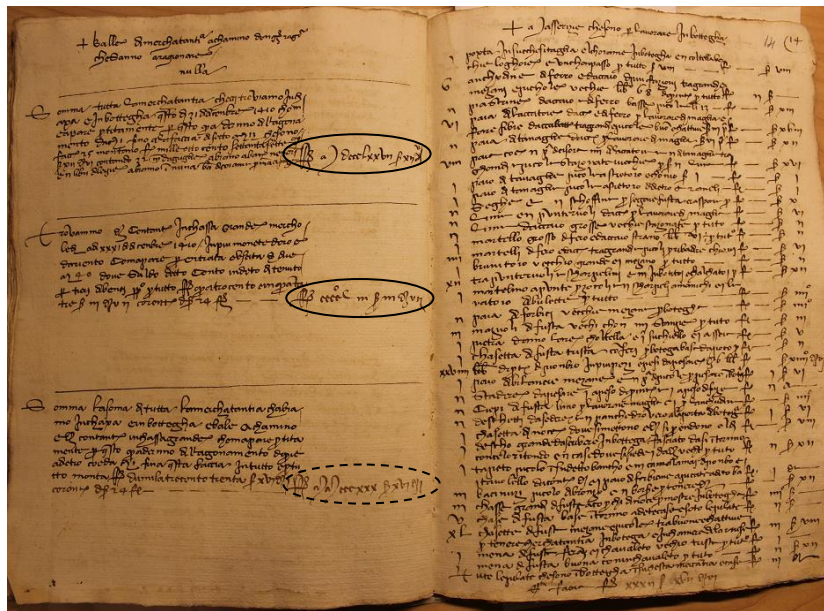


Figure 4. Prato, AS. D. No. 178/18, totals of the first two sections of *Quaderno di Ragionamento* (c. 13v) and the first page of section “Household goods in the house and in the shop” (14r)

The first entry on page 13v says: “Bales of all kind of merchandise in transit which should be devalued. Nothing”. This means that all the batches of goods are stored and there are no “goods in transit”.

The same page also shows three totals:

- The total of all the merchandise we found in our house and workshop on December 31st 1410 as it can be seen in this *Quaderno del ragionamento* from c. 1 until the page here below at c. 13, they are 25 pages and the amount is f. 1877 s. 12 d. 6, counting 32 m. of *aguglie* (needles) we have in Barcelona at our partners and 2 books of law. And we have in one bale of leather ...

- We found in the large cash on December 31, 1410, in many golden and silver coins as it can be seen in *Entrata e Uscita* labelled “Due” at c. 40 where this account was balanced. The book was kept by Tieri di Berti himself; the total sum is f. 453 s. 3 d. 7 at s. 24 for florin.

- The total sum of all the merchandise we have in our house and workshop, and bales in transit and money in the large cash as it can be clearly seen in this *Quaderno di Ragionamento* until here, from c. 1 until this page, the total amount is f. 2330 s. 16 d. 1 at s. 24 for florin.

The total of the first section of “Goods in the house and in the shop” is the sum of f. 1877 s. 12 d. 6, in Figure 4 it is marked with the upper ellipse. The given indicator is transferred by a separate (first) position to “Synthetic Balance” (Figure 2, Table 1).

Money, in the main cash

The first book for money accounting appeared in Datini’s company in Avignon in 1367. In 2014, it became the subject of study by the Russian researchers (Kuter, 2015). The methodology used in the company’s first accountants turned out to be a high-level

methodology like those that would be used in Pisa and other Datini’s companies two decades later during the transition to DEB.

As for Datini’s company in Avignon in 1410, there is no Entrata e Uscita labelled “Due” in the archives. However, this period (1408–1412) includes Entrata e Uscita labelled “B” (Prato, AS, D. No. 130), which Melis recommended when studying *Quaderno di Ragionamento* of the previous period (Melis, 1962).

We have attempted to verify whether the given book of cash accounting relates to the example in question, especially since the above mentioned Entrata e Uscita was significantly different from all the earlier ones we studied before.

All the books of this type, as a rule, consisted of two separate sections: Entrata (inflow of cash – at the beginning of the book) and Uscita (outflow of cash – at the end of the book). For each section, the totals were calculated at the stated time, and the difference between the Entrata total and the Uscita total was understood as balance in cash. It is from this indicator that section Entrata began in the new period. The difference between the cash registers was that in some registers the balance in cash was formed under the Entrata total, in others – under the Uscita total.

The distinctive feature of Entrata e Uscita in Avignon in 1408–1412 is that it does not calculate the totals according to operational days, but only draws up totals for each page. Moreover, the totals are not drawn up for each section of the book, the balance in cash is determined neither by the years nor by the book as a whole.

We have not established a correspondence between the cash balance in cash account (according to Entrata e Uscita labelled “B” (Prato, AS, D. No. 130)) and *Quaderno di Ragionamento*.

Household goods in the house and in the shop

The following section, which in the complex accounting is conducted by means of inventory, is “Household goods in the house and in the shop”. In *Quaderno di Ragionamento* the section occupies pages 14r–16v. The first page of the section is shown on the right side of Figure 4. The last page of the section (16v) is shown in Figure 5. Table 4 shows the characteristic features of the given section.

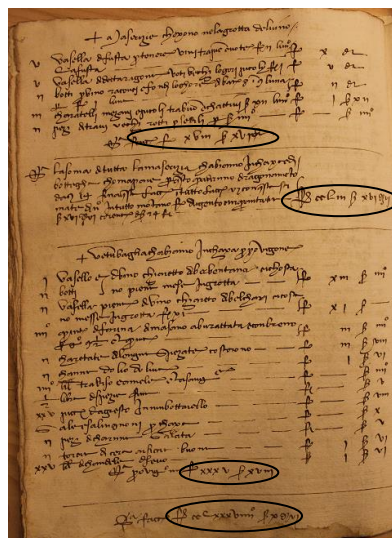


Figure 5 – Prato, AS. D. No. 178/18, c. 16v, the last page of section of “Household goods in the house and in the shop” in Quaderno di Ragionamento and section “Provisions in the house”

Table 4 – Analytical formation of the third section of the first Quaderno di Ragionamento section as of December 31, 1410, (pages 14r – 16v), according to Prato, AS. D. No. 178/18

Page	Text	Account		Number of lines	Sum (f. s. d.)
		Page	code		
14r	Household goods in our workshop	14r(1)	D3.1	35	32.17.6
	Total		1	35	32.17.6
14v	Household goods in the small warehouse behind the workshop	14v(1)	D3.2	6	12.10.0
	Household goods in the small room above the workshop	14v(2)	D3.3	9	20.8.0
	Household goods in the equipment room	14v(3)	D3.4	4	19.8.0
	Household goods in the dining room	14v(4)	D3.5	7	5.17.0
	Total		4	26	57.19.0
15r	Household goods in the room in front of the hall	15r(1)	D3.6	12	28.10.0
	Household goods in the curtain room	15r(2)	D3.7	5	6.0.0
	Household goods in the servant’s room	15r(3)	D3.8	10	12.22.0
	Total		3	27	47.8.0
15v	Sheets, tablecloths, towels, linen, bathrobes	15v(1)	D3.9	23	62.1.0
	Household goods in the kitchen	15v(2)	D3.10	6	15.20.0
	Total		2	29	77.21.0
16r	Household goods in the kitchen	16r(1)	D3.11	23	12.12.0
	Household goods in the house where Tieri lives	16r(2)	D3.12	2	3.0.0
	Household goods in the storehouse under the previous house	16r(3)	D3.13	4	3.19.0
	Total		3	29	19.7.0
16v	Goods in the cave	16v(1)	D3.14	5	18.16.0
	Total		1	5	18.16.0
Household goods in the house and in the shop			13	151	253.16.6

As you can see, section “Household goods in the house and in the shop” consists of 13 subsections and includes 151 inventory entries.

We were interested in the last goods group “Goods in the cave”. Here is its translation:

Goods in the cave:

5 jars for wine, both empty and full, f. 2 for each f. 10

5 empty little white jars f. 5

2 old wine barrels, 8 or 9 barrels each, f. 1 each..... f. 2

3 medium and small barrels, in good and poor condition, s. 12 each..... f. 1 s. 12

2 old and broken benches for seating, s. 4f. – s. 4

The total of the subsection ***f. 18 s. 16***

The result of this section is highlighted with an ellipse in Figure 5. The next ellipse in Figure 5 is the section total (f. 253 s. 16 d. 6).

Provisions in the house

The fourth section of the section “Debtors” – “Provisions in the house” in complex accounting is also conducted by means of inventory. The section occupies only 12 lines and is placed in the lower part of the already mentioned page 16v (Figure 5).

We translated the entries mentioned in this *Quaderno di Ragionamento* section:

Provisions in our house:

1 jar and 2 barrels of <i>Berbentana</i> red wine, placed in the cave, where they stand for us	f. 13 s. 4
2 jars full of <i>Belcari</i> red wine placed in the cave where they stand for us	f. 11
4 centers of <i>Masano</i> sifted flour, we bought at s. 9½ per center.....	f. 3 s. 4
2 carts of wood, they lie for us	f. 3 s. 8
2 cores of flaxseed oil	f. 1 s. 6
4 Libs of rice and dried pasta	f. – s. 4
½ Lib of fine spices	f. – s. 5
25 <i>agresto</i> (sour juice) in a small barrel	f. – s. 8
Salt for home	f. – s. 10
2 pieces of salted meat	f. – s. 5
2 wax candles in good condition	f. 1 s. 6
25 libs with tallow candles	f. 1 s. 6

The sum of this section **f. 35 s. 18**

The last entry on the page is the total of the two described subsections – **f. 289 s. 10 d. 6.**

On page 17r (the photocopy is in Figure 6) there is only one final entry – “The sum total of the goods in the house and in the shop, cash, household utensils and the implements of the shop and food supplies, total **f. 2620 s. 10 d. 7**”.

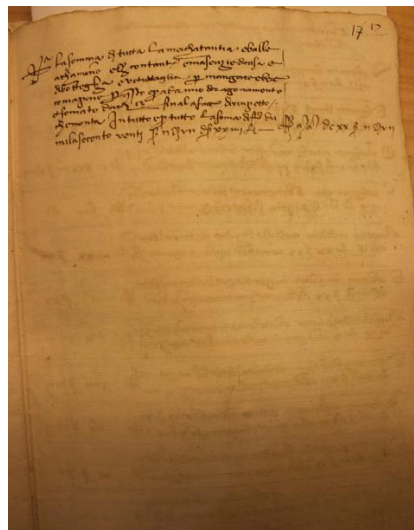


Figure 6 – Sum total of goods in the house and shop, cash, utensils in the house

and in the shop implements and food supplies on page c. 17r

41 debtors and goods, jointly with others, to the Black Main Ledger and Secret Ledger

Thus, we have investigated in detail the first four analytical components of the Synthetic Balance (paragraphs 1–4 Table 1). The fifth (last) component of “Debtors” section is called “41 debtors and goods, jointly with others, to the Black Main and Secret Ledger” (Table 1, paragraph 5). The section occupies 4 pages. Figure 7 shows the final folio of the section – Prato, AS. D. No. 178/18, c. 18v–19r.

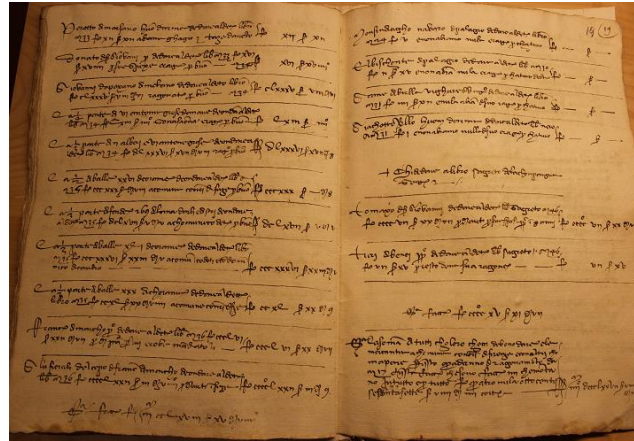


Figure 7 – Prato, AS. D. No. 178/18, c. 18v–19r, final folio of the fifth section of “Debtors” section, Datini’s company in Avignon (1410)

The difficulty of researching into the archival materials of the company in Avignon of this period (1409–1410) lies in the fact that the archives contain limited materials. If we speak about 1409–1410, then, to our great regret, only folder *Quaderno di Ragionamento* (Prato, AS. D. No.178/18), “*Entrata e Uscita*” (Prato, AS. D. No.130) and *Secret Ledger* (Prato, AS. D. No.161), which ends abruptly on page 144v, and which Melis did not mention in any of his books and articles, have survived.

The book (Melis, 1962, p. 162) indicated that the Secret Ledger had been lost. Here, it should be noted that the Black Main Ledger is also missing from the archives. We attempted to establish a possible connection between the Secret Ledger (Prato, AS. D. No. 161) and *Quaderno di Ragionamento* (Prato, AS. D. No. 178/18) to verify the assumption that the given Secret Ledger was the very book, which Melis considered to have been lost.

Table 5 shows the search results in the Secret Ledger of the sums given in *Quaderno di Ragionamento* (Prato, AS. D. No. 178/18). The first two columns of the table refer to *Quaderno di Ragionamento*. They contain page numbers that contain entries in *Quaderno di Ragionamento* and page numbers in the Black Main and Secret Ledger that are referred to. The other two columns contain the sums and page numbers on which the indicated sums are contained in the Secret Ledger (Prato, AS. D. No. 161).

Table 5 – Results of the research into accounting of settlements with debtors by means of double-entry bookkeeping in the General Ledger

(Francesco Datini's Company, Avignon, 1410)

No.N o.	Coordinates in Quaderno di Ragionamento		Found in the Secret Ledger Prato, AS. D. No.161	Sum
	actually	reference		
1	17v(1)	17	139v(1)	2.12.0
2	17v(2)	17	139v(2)	48.4.0
3	17v(3)	18	139v(3)	134.18.0
4	17V(4)	18	139v(4)	50.0
5	17v(5)	18	140v(1)	20.20
6	17v(6)	18	140v(2)	0.20.0
7	17v(7)	20	140v(3)	2.0.0
8	17v(8)	20	140v(4)	14.12.0
9	17v(9)	20	140v(5)	4.18.0
10	17v(10)	20	141v(1)	3.20.0
11	17v(11)	21	141v(2)	2.0.0
12	17v(12)	24	141v(3)	2.0.0
13	18r(1)	25	141v(4)	3.10.0
14	18r(2)	26	141v(5)	5.0.0
15	18r(3)	28		46.6.0
16	18r(4)	29		448.17.9
17	18r(5)	29	142v(1)	1.12.0
16	18r(6)	29		117.10.3
19	18r(7)	30	142v(2)	265.8.0
20	18r(8)	30	142v(3)	1.18.0
21	18r(9)	31	142v(4)	5.0.0
22	18r(10)	31	143v(1)	2.0.0
23	18r(11)	33	143v(2)	6.0.0
24	18r(12)	33		3.16.0
25	18v(1)	33	143v(3)	12.12.0
26	18v(2)	33		16.19.0
27	18v(3)	34	143v(4)	185.8.6
28	18v(4)	34	144v(3)	63.4.0
29	18v(5)	34	144v(4)	586.17.0
30	18v(6)	35		330.0.1
31	18v(7)	35		667.5.5
32	18v(8)	35		336.23.5
33	18v(9)	35		240.20.9
34	18v(10)	36		356.20.7
35	18v(11)	36		472.3.9
36	19r(1)	24		–
37	19r(2)	30		–
38	19r(3)	31		–
39	19r(4)	31		–
40	19r(5)	46		407.20.7
41	19r(6)	46		7.15.0
Bcero				4877.9.4

Let us immediately note that the Secret Ledger (Prato, AS. D. No. 161) was kept in DEB.

It contained the periodic Trial Balances according to which accounts were opened and closed. At the same time, the Merchandise account and the “Profits and Losses” account was missing in the accounting system. The survived Secret Ledger (Prato, AS. D. No. 161) requires special additional research.

The table indicates that most of the sums given in *Quaderno di Ragionamento* are found in the Secret Ledger (Prato, AS. D. No. 161), however, none of them in terms of placement matches the references in *Quaderno di Ragionamento*. The latter to some extent explains Melis’s refusal to research deeply into the first practice of the Synthetic Balance formation.

We will try to give our explanation for this. The Secret Ledger, which is stored in the archive under the identifier Prato, AS. D. No. 161, was opened in 1398. The items were recorded until 1405 when it was closed and a new one was opened. The new one is referenced in the *Quaderno di Ragionamento* (Prato, AS. D. No. 178/18), but it has been lost. In 1410, after the death of Datini and the construction of the Synthetic Balance Sheet, the accountant opened a new Secret Ledger on blank sheets of the Ledger that was closed in 1405. The Secret Ledger (Prato, AS. D. No. 161) for 1398-1405, the *Quaderno di Ragionamento* for 1409-1410, and the Secret Ledger use after 1410 (Prato, AS. D. No. 161) reveal that the company often failed to collect the amounts due from its debtors: the same debtors and the amount of their debt appear in each of the different accounting periods.

The indicator “The total amount of all the merchandise, and bales shipped, and cash money, and workshop's furniture, and food and beverage, and everybody has to give to the partnership and the merchandise shared with our Florentine partners and with others, as can be seen in this *Quaderno di ragionamento* from c. 1 until the end of it”. Here below the total sum of f. 7497 s. 11 d. 11, at s. 24 for florin” (Table 1, position 6) complete the analytical formation of “Debtors” section. This is the upper indicator on page 19v (Figure 8) on the other hand, opens the central “Financial result” section.

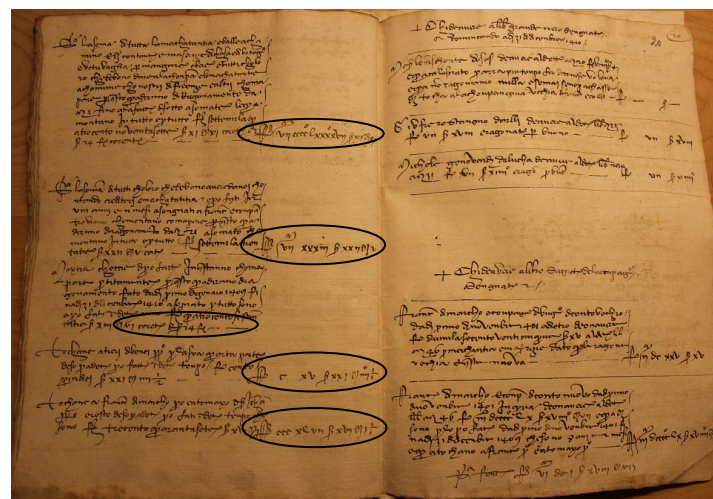


Figure 8 – Prato, AS. D. No. 178/18, c. 19v–20r, “Financial result” section and the first page of “Creditors” section, Datini’s company in Avignon (1410)

There is no doubt that the accountant left the rest of the page blank for the subsequent calculation of the financial result.

Creditors

It is logical that for the calculation of financial result, besides the total of “Debtors and other assets” section, the total of “Creditors” section is required, the section starts from page Prato, AS. D. No. 178/18, c. 20r (the right page in Figure 8). Table 6 proposes the algorithm for forming the total of “Creditors” section in *Quaderno di Ragionamento*. On page c. 20r there are two sections. The first section is called “Who must have in the Libro Grande Nero marked A from the 31 of December 1410 on”. The first entry of the section: “Messer the Visconte D'Osses must have in that book at c. 20, f. 19 s. 4, but we don't add nothing, moreover the debtor is the old partnership of Francesco and Co.” It draws attention. The accountant included the sum of f. 19 s. 4 neither in the total of the page nor in the total of the section.

Table 6 – Algorithm of formation of the total of “Creditors” section in *Quaderno di Ragionamento*

NN	Object of accounting	Page in 178/18	Accounting method	Sum, (f. s. d.)
1	2	3	4	5
Who must have in the Libro Grande Nero marked A from the 31 of December 1410 on				
7	Messer the Visconte D'Osses <i>must have</i> in that book at c. 20, f. 19 s. 4, but we don't add nothing, moreover the debtor is the old partnership of Francesco and Co.	20r	Double entry, Libro Grande Nero “A”	–
8	Giufretero Stangno Darlli <i>must have</i> at the said book at c. 21, f. 7 s. 8 and written because good	20r	Double entry, Libro Grande Nero “A”	7.8.0
9	Michele Genovardi from Lucca <i>must have</i> at the said book at c. 31, f. 7 s. 14, written as it is good	20r	Double entry, Libro Grande Nero “A”	7.14.0
Who must have at the Secret book of the partnership marked “2”				
10	Francesco di Marco and Co. of Bruges of the old account from the 1st of November 1401 <i>must have</i> f. 2625 s. 15 at the said book at c. 46 for merchandises and furniture given by that old account to the new one	20r	Double entry, Secret Book “2”	2625.15.0
11	Francesco di Marco and co. of the new account from the 1st of November 1401 on, <i>must have</i> at the said book at c. 46, f. 3960 s. 19 d 7, they are for the profit made from the 1st of November 1401 to the 31st December 1409, which are 8 years and 2 months, and they are for Francesco himself and Tommaso himself	20r	Double entry, Secret Book “2”	3690.19.7
Sum of this page f. 6601 s. 18 d. 7				

The entries of the first section are performed on the basis of the Libro Grande Nero (Black Main Ledger). The entries of the second section (Who must have at the Secret book of the partnership marked “2”), like all other entries, are kept by means of the Secret book, which is lost.

The first of them says: “Francesco di Marco and Co. of Bruges of the old account from 1st November 1401 must-have f 2625 s 15 at the said book at c. 46 for merchandises and

furniture have given by that old account to the new one”.

It is most likely that we deal here with an extract from closing and transferring into the new book personal account of the inner company established back to 1401 for producing and selling furniture. The owners of the company were not just Francesco di Marco Datini but from Bruges as well.

The next entry is of the most interest for the researchers. The point is that it was quite a rear experience to come across the account of the invested capital, and never of reinvested capital. But we did not manage to find the account of accumulated and not withdrawn profit, because the Secret Ledger with this account was lost forever.

Federigo Melis believed that this account presented “*sovraccorpo*” where the profits were accumulated from 1st November 1401 to 31st December 1409 and reinvested into the company in 1410 (Melis, 1962, p. 162).

And so we read: “Francesco di Marco and co. of the new account from 1st November 1401 on, must have at the said book at c. 46 f 3960 s 18 d 7, they are for the gain made from 1st November 1401 to 31st December 1409, which are 8 years and 2 months, and they are for Francesco himself and Tommaso himself”.

We understand the date “the previous 1st November” is not as the date of somehow nearest to the previous period but as a date of the last reorganization of the company in the past that is 1st November 1401. It should be reminded that the analytical registers of the company from 1392 are kept in Francesco Datini’s archives in Prato.

The company’s accountant and also Francesco Datini’s partner from the Tuscan side (besides there are partners from Bruges side) Tommaso di ser Luca led separate account of the invested (*corpo*) and reinvested capital (*sovraccorpo*). The owner’s capital account, as any account of accounts payables (the common practice was too grand the receiver with the monetary credit or the credit against goods with the obligation to pay it back within the set period including the set bonuses; the owners give the monetary means or means against goods without claiming it back but with the claim to pay bonuses upon the business results), shows the credit balance. When closing the accounts and transferring the balance into the new book the account is balanced by the debit sum, and in a new account of a new book, it is recorded into the credit of the account as the incoming balance. Thus, we see all features of the invested capital account which is kept unchanged since the date of the company’s establishment or reorganizations.

The page Prato, AS. D. 178-18. c. 20r is concluded by the total calculated by Tommaso di ser Luca:

“Total of this page is f 6601 s 18 d 7”.

We checked the total and it did not have any divergence and did not include the sum of f. 19 s. 4 related to Messer Visconte D'Osses”.

End of Table 7

1	2	3	4	5
Who must have in the Libro Grande Nero marked A from the 31 of December 1410 on				
The creditors of the Secret Book marked “2”				
12	Nanni di Girolamo who stays with us <i>must have</i> at the said book at c. 47, f. 31 s. 12	20v	Double entry, Secret Book “2”	31.12.0
13	Donato di ser Giovanni <i>must have</i> at the said book at c. 47, f. 144 s. 1 d. 6 for balance of his wage	20v	Double entry, Secret Book “2”	144.1. 6

14	Francesco di Marco and Co. of Bruges of the old account from the past 1st of November at the said book at c. 47, f. 196 s. 22 d. 4 for the balance of the debtors and creditors from the old account to the new one	20v	Double entry, Secret Book “2”	196.22.4
Wages of boys for the past year beginning from the 1st January 1409 to the 31st of December 1410				
15	Donato di ser Giovanni <i>must have</i> 31st December 1410 for his wage from 1st of January 1409 to 31st December 1410, which is a year, f 40	20v	Double entry, Secret Book “2”	40.0.0
16	Nanni di Girolamo who stays with us <i>must have</i> the 31st December 1410 for his wage from the 1st of January 1409 to the 31 December 1410, which is a year, f. 15	20v	Double entry, Secret Book “2”	15.0.0
17	Ganino di Marchese who stays with us <i>must have</i> f. 4 s. 16 for his expenses in the last year	20v	Double entry, Secret Book “2”	4.16.0
18	The sum of everybody who <i>must have</i> from us, considering the merchandises, creditors given to this account but made during the past 8 years and 2 months, as it can be seen in this Quaderno di Ragionamento at c. 20 in two pages which sum in total f. 7033 s. 22 d. 5 at s. 24 for Florian	21r	Quaderno di Ragionamento	7033.22.5

Page Prato, AS.D. 178-18. c. 20v (Figure 9) shows 6 last entries related to 11 creditors and goods suppliers, payables to whom were included into sum of “Creditors” section.

In the paper (Kuter, 2018b), it was noted that Alberti’ company (1304–1306) applied a similar model for financial result calculation. It is true, their calculation algorithm had one specific feature: “Profit before salary accounting to employees” was calculated initially. And, only seeing the specified sum, the owners distributed it among the staff and the owners of the company, of course, considering their interests.

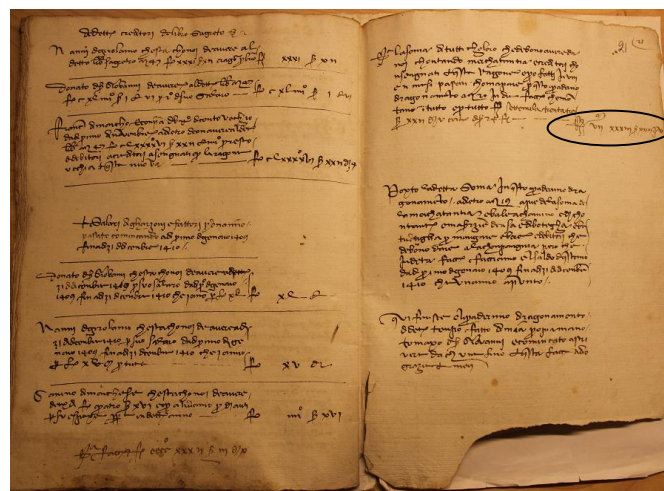


Figure 9 – Prato, AS. D. No. 178/18, p. 20–21r, final folio of “Creditors” section, Datini’s company in Avignon (1410)

In Datini’s company, the staff salary was included in accounts payables before profit

calculation, as evidenced by section “Wages of boys for the past year beginning from the 1st January 1409 to the 31st of December 1410”. The placement of these accounts in the Secret book and not in the Black Ledger is dictated by the preservation of the commercial secret. During the Middle Ages the wages of the main owners, if they took active participation in managing the company, the wages of partners, top managers and managers, their bonuses and the owners’ rewards were always recorded in the Secret book.

The concluding page of the analytical entries (Quaderno di ragionamento) Prato, AS.D. 178/18. c. 21r (Figure 9, right page) consists of the total of all credit entries (except for divided and not withdrawn bonuses):

“The sum of everybody who must have from us, considering the merchandises, creditors are given to this account but made during the past 8 years and 2 months, as it can be seen in this *Quaderno di Ragionamento* at c. 20 in two pages which sum in total f. 7033 s. 22 d. 5 at s. 24 for florin”.

Further Tommaso di ser Luca writes:

“The above-mentioned sum is put in this Quaderno di ragionamento at c. 19 under the sum of the merchandise and the bales sent, and cash money and the furniture of the workshop, and the food and beverage, and debtors who must have to the partnership, and the balance from 1st January 1409 to 31st December 1410, which is a year”.

Quaderno di Ragionamento ends with the words: “Here ends the Quaderno di Ragionamento, made by my own hand, Tommaso di ser Giovanni and began from c. 1 until this page. In God’s grace”.

Thus, two important totals were formed (for “Debtors” and “Creditors” sections) that were necessary for calculation and distribution of the financial result. Both totals are listed on page Prato, AS.D. 178/18. c. 19v (Figure 8, left page). The algorithm is introduced in Table 8.

Table 8 – Algorithm of financial result formation in Quaderno di Ragionamento

NN	Object of accounting	Page in 178/18	Accounting method	Sum, (f. s. d.)
Financial result				
6	The total amount of all the merchandise, and bales shipped, and cash money, and workshop's furniture, and food and beverage, and everybody has to give to the partnership and the merchandise shared with our Florentine partners and with others, as can be seen in this Quaderno di ragionamento (Handbook of calculations) from c. 1 until the end of it. Here below the total sum of f. 7497 s. 11 d. 11, at s. 24 for florin	19v	Quaderno di Ragionamento	7497.11.11
19	The sum of everybody who <i>must have</i> from us, creditors and merchandises, in last 8 years and 2 months, given to Francesco and partners. We found in this Quaderno di ragionamento from c. 21, they sum f. 7033 s. 22 d. 5	19v	Quaderno di Ragionamento	7033.22.5
20	Profit made during this year as can be seen in this Quaderno di ragionamento from the 1st of January 1409 to the 31 of December 1410, they are in total f. 463 s. 13 d. 6 at s. 24 for florin	19v	Quaderno di Ragionamento	
21	That money is for Tuci di Benci himself for his share	19v	Quaderno di	115.11.4

	f. 115 s. 11 d. 4½		Ragionamento	
22	The share of Francesco di Marco himself and Tommaso di ser Luca himself what remains of the above-mentioned money, that is f. 347 s. 16 d. 1½	19v	Quaderno di Ragionamento	347.16.1½

The difference between the first two indicators is the sum of the profit of the reporting period – f. 463 s. 13 d. 6. Further, the given sum is distributed between Tuci di Benci (f. 115 s. 11 d. 4½) and Francesco di Marco himself and Tommaso di ser Luca (f. 347 s. 16 d. 1½). Melis in his work (Melis, 1962) distributed the sum of f. 347 s. 16 d. 1½ between Francesco di Marco (f. 193 s. 3 d. 8) and Tommaso di ser Luca (f. 154 s. 5 d. 5½).

A generalized diagram of the formation and distribution of the financial result in *Quaderno di Ragionamento* and formation of the Synthetic Balance Sheet on this basis is shown in Figure 10.

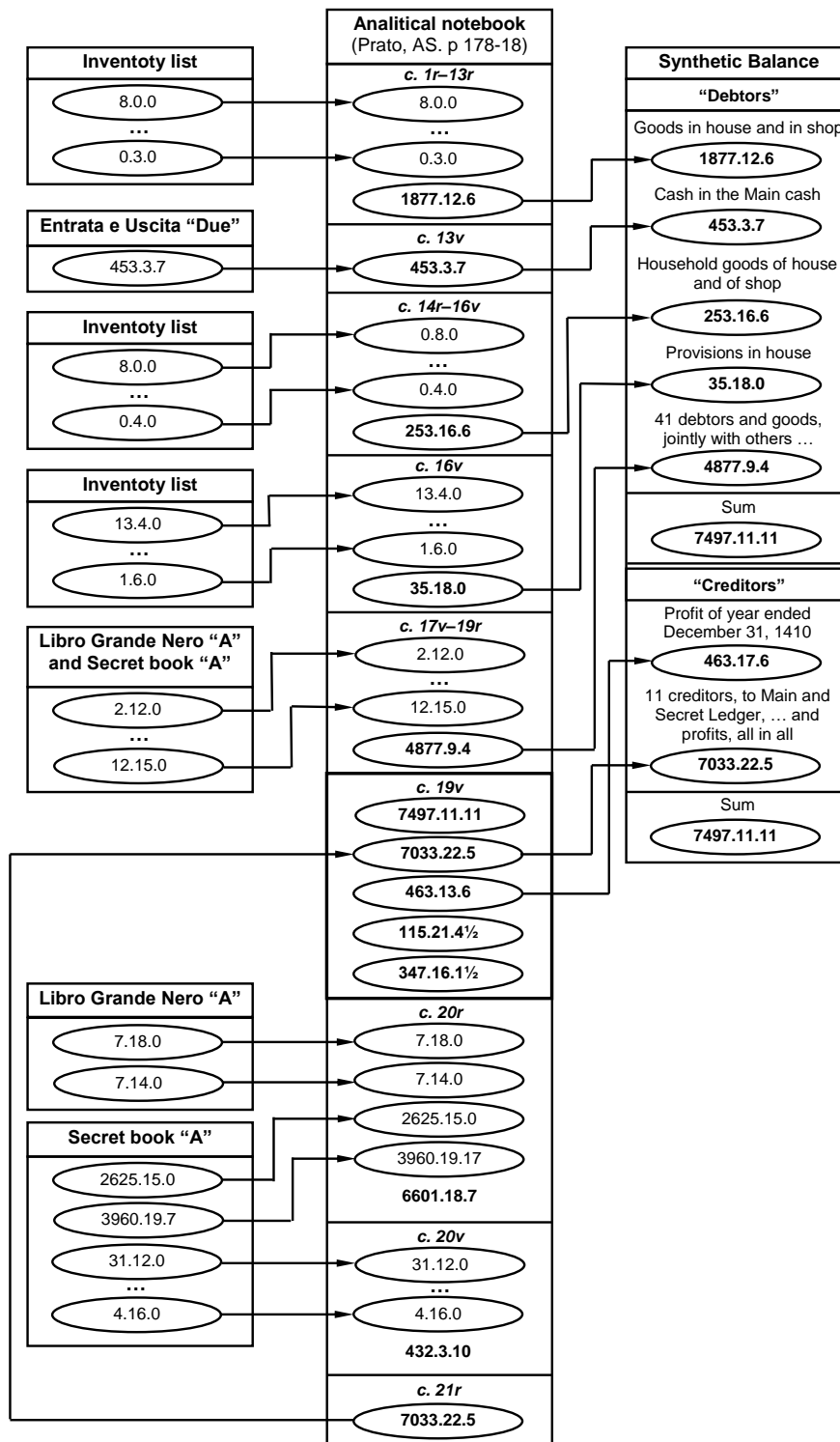


Figure 10 – Generalized diagram of formation and distribution of the financial result in Quaderno di Ragionamento and formation of the Synthetic Balance Sheet

Now we will try to understand the reason for the appearance of the Synthetic Balance Sheet and substantiate its structure. As for *Quaderno di Ragionamento*, named by Melis “Analytic Notebook”, in 1410 it differs neither in structure nor in content from the earlier *Quaderno di Ragionamento* starting from 1366. The folder with the identifier No.177 in the archives stores ten *Quaderno di Ragionamento* sets relating to the companies established with Datini’s participation in 1365–1382 before Francesco Datini’s leaving for Prato. Neither during the time of direct management of the companies in Avignon (1363–1382) nor during the period of “remote” management of the companies from Italy, an attempt was made to form the Synthetic Balance Sheet.

However, one circumstance is conspicuous. In all the previous *Quaderno di Ragionamento* the totals were calculated according to the pages, and in the last one, the totals were also formed according to sections. This indicates that Tommaso di ser Giovanni prepared the Synthetic Balance Sheet not spontaneously, but purposefully. Already at the stage of *Quaderno di Ragionamento* he formed the totals that he planned to include in the Synthetic Balance Sheet.

Then a fair question arises: why did Tommaso di ser Giovanni prepare it at the end of 1410, six months after Francesco Datini’s death (August 16th 1410)? As is well “Having no children by his own marriage, Datini left in his will a substantial legacy for the establishment of a welfare institution, the Ceppo dei poveri Francesco di Marco, i.e., the alms box of Francesco di Marco, an institution which was given a site in the Palazzo Datini and which still exists today” (Jouanique, 1996, p. 263). Francesco’s share in the Avignon company also went over to “Ceppo dei poveri”.

Initially, a very simple explanation suggests itself. Tommaso di ser Giovanni wrote down on a separate sheet the central sheet of *Quaderno di Ragionamento* (19v), on which the financial result was calculated. But then three totals were enough: “Debtors”, “Creditors” and “Financial result”. Tommaso shows all five components of the total of “Debtors” section, while in “Creditors” section he shows “where 11 creditors are listed, which make up the only entry (with profit) in liabilities side, does not single out that part of Credit which is owed to “*corpo*” (initial investment) and “*sovraccorpo*” (reinvestment capital, formed by the shareholders of the company at the expense of the profit which was meant for the liquidity replenishment)” (Melis, 1962, p. 162).

The situation could be explained by the knowledge of the situation of that time: whether Tommaso di ser Giovanni sent the Synthetic Balance Sheet together with *Quaderno di Ragionamento* by mail or by courier or the last *Quaderno di Ragionamento* got to Prato over the date. In the case of the second variant, abuses are not excluded.

At the same time, we should not forget that during Datini’s life Tommaso di ser Giovanni was one of the people who enjoyed the unlimited trust of Francesco di Marco (Nigro, 2010, p. 249–265). He was entrusted with the most important missions where it was necessary to negotiate. Even the fire that broke out on the 3rd of June 1401 and caused heavy damage to Avignon’s companies did not undermine this confidence.

But it was during the life and under control of watchful Francesco Datini. It is difficult to imagine how the partner who remained with Tieri di Benci, another partner, would behave without external management until the day of the complete liquidation of the company.

One further detail was found during our study. In the Secret Ledger (Prato, AS. D. No. 161) on folio 133v – 134r, the accountant prepared an introductory balance sheet on January

1, 1410 (the day after December 31, 1410 in the calendar used at that time). In the section entitled “Debtors and merchandises which should give in this Secret Book labelled O, on this day, the 31th of December 1410 for balance of this region from the 1st of November 1401 until the aforementioned 31th of December 1410, and from here they are put forward to the 1st of January 1410 [that is 1411] into the new account as we shall explain”, he has written: Merchandises and household goods coming from the old account to this new one must give in this book at c. 123, as they must give here at c. 134, sum f. 2625 s. 15”. As previously shown, on page 20r of *Quaderno di Ragionamento*, this amount was shown, on the contrary, in the section “Who must-have in the Libro Grande Nero marked A from the 31 of December 1410”.

One gets the impression that the “partners” began to “take away” the property of the deceased Datini.

Conclusion

Let’s sum up the results of our research.

In 1962 Melis stated that the Synthetic Balance Sheet that he found is a result of “classification and synthesis”. Also, *Quaderno di Ragionamento* is survived in the archives, that was named “Analytic Notebook” by Melis, according to which the Synthetic Balance Sheet was formed.

Many researchers working with the secondary sources state that since 1401 in Datini’s companies in Avignon the accounting was carried out by means of double-entry bookkeeping. Given the fact that many of the accounting books of this period are missing from the archives, Melis neither claimed, nor denied it. At the same time, this was most likely the prime cause of his refusal to study the given archival material in detail.

However, Melis paid his attention to one important aspect that the Synthetic Balance Sheet does not contain in “Creditors” section the division into “*corpo*” (initial investment) and “*sovraccorpo*” (reinvestment capital) and other payables, and all “11 creditors are listed, which make up the only entry”.

In the course of our research, it has been established that the archives in Prato store 28 folders of documents, each of which is called *Quaderno di Ragionamento* and they are intended for calculating of the financial result for the reporting period. They are divided into two independent arrays with archival identifiers “177” and “178”. The first array contains 10 folders (1365–1382), which relate to the period of Datini’s direct stay in Avignon and, no doubt, that they were formed with the participation or under the control of Francesco di Marco. The second array, for the years (1382-1410) when Datini was in Italy, consists of 18 folders. In accordance with folder 178/18 the Synthetic Balance Sheet was formed.

Since 1401 accounting in the company was conducted by the combined method. Part of the indicators (stock of goods, stock in trade, food and beverages) were calculated by means of inventory and evaluation. Settlements with debtors (buyers) and creditors (suppliers and staff) as well as the flow of equity capital were reflected in the Main and Secret books. The data from these sources were transferred to *Quaderno di Ragionamento*, which consisted of three sections “Debtors”, “Creditors” and “Financial result”. Unlike Alberti’s company (1304-1306), which used similar methods, where “Financial result” section was located at the end of the calculation, Datini located this section between the first two. In addition, there is another

difference: in Datini's company, the staff salary was charged before the calculation of profit, and in Alberti's company – after the calculation of profit.

It seemed that the structure and algorithm for financial result calculation in *Quaderno di Ragionamento*, in accordance to which the Synthetic Balance Sheet was formed, does not differ from similar sets of documents. However, one circumstance is conspicuous. In all the previous *Quaderni di Ragionamento* the totals were calculated according to the pages, and in the last one, the totals were also formed according to sections. This indicates that Tommaso di ser Giovanni prepared the Synthetic Balance Sheet not spontaneously, but purposefully. Already at the stage of *Quaderno di Ragionamento* he formed the totals that he planned to include in the Synthetic Balance Sheet.

Seven centuries later, there are no answers to two questions that worried Melis at the proper time and which determined our interest in conducting more detailed research. They are:

- For what purpose Tommaso di ser Giovanni prepared the Synthetic Balance Sheet;
- Why in “Debtors” section of the Synthetic Balance Sheet five totals of the main sections are shown, and in “Creditors” section all “11 creditors are listed, which make up the only entry”.

The answer to the first question depends on the answer to the second one. If we assume an attempt to window dress the reported data, then the same will be the purpose of the Synthetic Balance Sheet formation. If we refuse from such views, then a more progressive approach is obvious: an early attempt to create a simplified form of financial statements containing basic indicators.

The main purpose of our paper is to revive the interest in accounting research based on the primary sources.

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