

## **Accounting and Economics “Take Off” in the Sixteenth and Seventeenth Centuries**

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### **Abstract:**

The aim of this paper is to provide an overview of the scientific research evolution on accountancy starting with the sixteenth century, when the various forms of writing emerged and paper was discovered. At the same, time, we consider that in the pre-Classicism period, the mercantilism (most specific, the Kameralism) has generated decisive mutations for the constitution of the early, but substantial elements of the Accounting and Economics. The paper also seeks to emphasize the way in which the schools of accounting thinking dealt with accountancy at different moments in this period of the history.

The paper presents the main moments in the evolution of accountancy and Economics in a homogenous whole. The results of the paper show that although practice is the engine that grounded the development of the accounting processes, the merit of the accounting theoreticians must not be neglected. The practical needs and the societies' demands for development and growth helped the Accounting to flourish, as the Accounting is the core of the general economic scaffolding.

**Keywords:** Newtonian mechanism, accountancy, accounting theories, double entry

**Jel Calification:** M41, N10

## **Introduction**

Accountancy is a scientific discipline within the system of economic sciences, which has its own object and research method. The analysis of the evolution of scientific research on accountancy is extremely important because: “If someone manifests the desire to become a master in a specific art, he or she must study its history.

As some Accounting theorists sustained, without having a historical background, our knowledge is incomplete and the judgment of current phenomena lacks maturity<sup>1</sup>. The raise and development of Accountancy were determined by the practical needs of economic life and environment.

The basic of this science was put by Venetian mathematician Luca Paciolo (Pacioli) in his masterpiece “Summa de Arithmetica, Geometria, Proportioni e Proportionalita”, published in 1494 by Paganino Paganini. In the ninth chapter the author developed various *economic* topics, such as *barter, bills of exchange and Bookkeeping activity*, all these ideas within 150 pages. Paciolo has introduced terms as *double-entry bookkeeping, balance sheet, Magister Register* and other tools to be used (even today) by the accountants. The importance of this book (especially regarding Accounting topic) is that of standardization and dissemination of ideas and practical tools for using by the professionals in the field<sup>2</sup>.

At the beginning the so-called “rudimentary bookkeeping” or “statistical accounting” manifested as a record of various goods, out of

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<sup>1</sup> Amongst those theorists, we can mention Romanian professor Dumitru Rusu in his work *Bazele contabilitatii (The bases of Accountancy)*, 1980, *Didactica si Pedagogica Publishing House, Bucharest*.

<sup>2</sup> Smith, Murphy L. (2013)-Luca Pacioli: The Father of Accounting, *American Accounting Association*, [www.papers.ssrn.com](http://www.papers.ssrn.com)-Retrieved 20<sup>th</sup> of December 2015.

practical needs (cutting marks on animal bones, the using of pebbles, etc.), its development being closely linked to the development of the human society and especially to the great discoveries of mankind. A special moment in history was *the emergence of the trade with goods* and, subsequently, the emergence of the currency as a general equivalent, the emergence and development of the various forms of writing and that of figures.

We must also emphasize the discovery of paper, which was firstly used by the Chinese. The first accounting entries were made in ancient times by the means of the king of Babylon, Hammourabi, the initiator of the first commercial and social law code. The study of Hammourabi's code led to the conclusion that the Babylonian people knew the concept of active and passive and used documentary evidence to record commercial transactions.

Research has shown, without doubt, that the Egyptians, the Greeks and the Romans had accounting occupations, mostly for practical reasons. The work of Leonardo Fibonacci (who will be the subject of a future article) is outstanding for the period of the middle Ages; for the first time, Fibonacci proves how Arabic figures can be used by drawing up an account using these figures.

### **The “take off” of the main economic domains**

The mercantilists have subordinated economy to politics, to the power of time and thus the concept of *Political Economy* was born. This was the first stage (the early beginning) of Political Economy, a concept formulated by the French playwright and mercantilist Antoine de Montchrestien (1575-1621) in the year 1615, in his paper entitled „*Traité de l'économie politique*”. These are steps leading up to the establishment of economy as a science and the concerted efforts to

support the industries (manufacturing) and trade to the detriment of agriculture, to emphasize the major role that cities at the expense of the villages play in the conduct of extensive trade and to ensure more abundant budgetary resources. These issues required concrete and ways of highlighting the inputs and outputs of economic situations. In short, the need of *Accounting* emerged.

There is also another aspect that is worth mentioning: in 1518 when Heinrich Schreiber (Henricus Grammateus) published his work „*Ayn Neu Kunstlich Buech*” which also brought a very important contribution, although less valued and appreciated to the development of **Accounting**. This work deals first of foremost with highlighting the *method of periodic accounting records* in a manner that allowed its coexistence within the **dual match records** with the *method of batch operations accounting (transactions subject to risks)*. This was at the discretion of each analyst to use them interchangeably and this has finally determined *the need for accounting on invested capital*, the defining aspect of any entrepreneurial activity. And thus in the accounting system **the profit and loss account** occurred because the invested capital had to pursue *gaining profits* and accounting and therefore it was governed by this purpose. So **the profit** or **the loss** were embodiments of *efficiency with which capital was used*, just as the increase or decrease its use were seen in absolute terms.

Schreiber (Grammateus) has stated the concept according to which *the accounting records*, by their nature, **should have always been performed regularly**<sup>3</sup>. Although the time between the appearance of the work of Paciolo and his own writings was not too long, the German author has very clearly achieved the importance of **accounting periodic**

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<sup>3</sup> Trifu, Al. (2009)-*Doctrine economice si repere istorice ale contabilitatii (Economic Doctrines and Historic Accounting Landmarks)*, Performantica Publishing House, Iasi, pg. 23-24.

**recording method** and through the examples and explanations that he provided he opened new perspectives for understanding the historical development of the *accounting science*.

Speaking about Romania, later, when D. Iarcu (1844-1845) dealt with the **profit and loss issues in Romania** for the first time in the literature, he presented the *Gain and loss account* at the level of which the profit or loss of the respective management is determined. It was not a financial situation in itself, but a match (an account) in the Master whose balance was taken up by the “Capital”. Thirty years later, Th. Ștefănescu (1874) presents a profit and loss account, whose role was “to summarize all balances subject to damage and benefits of the cases during operates with him by exceptional starring role in accounting is making the overall balance, it receives the results, profit and damage data subdivisions and accounts speculation”. Subsequently, the presentation of the profit and loss account has become a constant and common practice.

At the beginning of the twentieth century, the known American mathematician and economist Irving Fischer has developed a *theory of accounting* as a refutation of Marx, **but he didn't understand the mechanism of double-entry bookkeeping**<sup>4</sup>. His perception regarding “capital” and “income” are far from the reality of these terms, therefore the accounting was separated (“divorced”) from the reality of business transactions. From this aspect, we have to realize the importance of knowing in theory and practice the functioning of the double-entry bookkeeping, which bases are firmly put in this period of the Economics (Political economy) general “take off”, we are talking about in this part of the paper.

And this whole remarkable achievement in the field of economic theory and practice took place during the flourishing of *4 Bryer, Rob (2013)- Americanism and financial accounting theory, in Critical Perspectives on Accounting, vol. 24, issues 7-8, November, pg. 572-615.*

the **House of Fugger** (which has even become a *firm* - that is a productive organizational structure), a native of the city of Augsburg<sup>5</sup>. Its members have dominated between the fifteenth and seventeenth-century the European businesses environment (particularly the financial environment), due to the monopoly on the extraction and marketing of copper, tin, lead from mines located in Tyrol and Hungary, coupled with the process manufacturing, to which the very lucrative activities of *currency minting and money transactions* were added which yielding significant gains, both in the work of usury and from the speculation of rate differences between different currencies circulating at that time. This is the reason why The Fuggers were recognized as prominent bankers of their time. The peak reached in the time of Jacob Fugger, as it was considered to be “a glory of all Germans”, will attract more overt interference in the political life, specifically in the Habsburg dynasty, namely Emperor Charles V by supporting his election in 1516, through unfair skillful backstage arrangements, to accede to the throne of the German Empire. We may say that the existence of the *Fuggers House* is a sort of synopsis for the development of Europe in the sixteenth century.

Furthermore, as an intermediary conclusion for the Mercantilism era, is the following assumption: “Bookkeeping is neither a discovery nor a science (...), but the outcome of the continued efforts to meet the necessities of trade as they gradually developed”<sup>6</sup>. During the sixteenth century, Italy, which had branches in many European countries (Germany, France, Netherlands, etc.) contributes greatly to the spread of the Venetian system of accounting. On the other hand, the officials of

<sup>5</sup> Trifu, Al. (2009)- *op.cit.*, pg. 24.  
<sup>6</sup> Nobes, Chris W. (editor) (2014)-*The Development of Double-Entry (RLE Accounting): Selected Essays*, Routledge, London and New York [the essay chapter B. S. Yamey, *The Functional Development of Double-Entry Bookkeeping* (initially published in *The Accountant*, Nov. 2, 1940, PG. 333-342)].

the branches of different foreign commercial or banking houses located in Italian cities preach the new system to their countries. Some of them even become the authors of accounting works of art.

Thus, Matthäus Schwarz, who was bookkeeper for the Venice branch of the trade and banking company “Jacob Fugger”, learns the new Italian accounting technique. In 1518, after becoming chief accountant of the Fuggers’ company (we’ve already presented the status and the importance of the Fugger House in Europe), he draws up an accounting manual - *Musterbuchhaltung*, in which he articulates the German factorial accounting system with elements that are specific for the Italian double entry approach.

After its establishment as a system, double entry accountancy becomes a subject in schools and copies of some textbooks circulate in manuscript and turn into occult sources of inspiration for various authors.

In Italy, in the sixteenth century, Giovanni Antonio Tagliente publishes two papers in which he presents the mechanisms of single entry and double entry, using as his illustrious predecessor, the mathematic apparatus.. In 1539, appears the work „*Practica Arithmetica*” (Simon Stevin mentioned about it in his final works, 1608). The paper is written in Latin, which was considered to be the scientific language of the era. We consider that also Simon Stevin has known bookkeeping, because he was a clerk in Antwerp and, another step forward was that Stevin proposed the use of impersonal accounts in the national household<sup>7</sup>. The one who uses the “balance of entry” (opening balance sheet) account is the Benedictine monk Angelo Pietra. His merit also consists in the fact that he adapts the commercial accounting techniques to the 7 *apud Chatfield, M., Vangermeesch, R. (ed.) (1996)-In History of Accounting: An International Encyclopedia, Frans Volmer “Simon Stevin”, Garland Publishing, New York, pg. 565-566.*

specific of non-profit institutions.

In Belgium, trade expansion led to the development of accounting techniques. The great authors of double-entry accounting works are localized in the Flemish city of Antwerp. In the sixteenth century, several textbooks in mathematics and accounting were published in Antwerp, which simplified the expansion of traditional Italian methods of commercial crediting and bill operations<sup>8</sup>.

At the end of the sixteenth century, 1594, exactly a century since the first double-entry accounting book was published, the work of Paschier Goessens (von Brussel), influenced by the Italian system and by some earlier Dutch writings, in which the accounts “Capital” and “Profit and loss” had identical functions with those of today, sees the light of the print<sup>9</sup>.

### **The seventeenth century**

*Starting with the seventeenth century, the modern accounting era begins.* The well-known Italian authors for their accounting papers published during the seventeenth century are: Ludovico Flori, Giovanni Domenico Peri and Bastiano Venturi. The name of Giovanni Domenico Peri is linked to the first use of the term “azienda”. The forms of the journal and the accounting ledger are different from the Venetian ones, being closer to the Tuscan models. Asculțați

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<sup>8</sup> Moshenskyi, S. (2008)–*History of the Wechsel, Xlibris Corporation, USA*, pg. 142-144.

<sup>9</sup> Geijsbeek, John B. (1914)–*Ancient Double-Entry Bookkeeping, Denver, Colorado*, pg. 11.



Citiți foneti Bastiano Venturi offers the accounting study a new direction. Through accountancy, the Italian author intended to facilitate the achievement of maximum efficiency for each of the parties of the patrimony of *azienda*, by their administration with minimal expense. He adopts the personalistic theory of accounts, laying the bases of the administrative doctrine two centuries before Henry Fayol. *The particular aspects of his work made him the leader of a school of accounting thought, the "Florentine school"*.

In the seventeenth century, Germany, which was also facing economic downturn, had a much poorer accounting literature quantitatively and qualitatively compared to the previous century. During the seventeenth century, economic activity is increasingly moving towards North-East. Netherlands becomes the strongest financial power of Europe. Representative for his writings in the field of accounting is Abraham de Graaf, who publishes, in 1688, in Amsterdam, the work "Instructie van het Italiaans Boeckhouden". To establish correspondent accounts, Abraham de Graaf, for example, uses two pairs of questions: "who receives" and "who gives" in the case of third-party accounts and "what do I receive" and "what do I give" in the case of value accounts. It is the division of accounts in three classes<sup>10</sup>.  
Ascultați Citiți fonetic

A representative of the French school of accounting, in this century, is Claude Irson, who publishes in 1678 a paper which recommends the use of three journals: Cash Journal, Journal of purchases and Journal of sales. To end the period, he envisages the formulation of an article <sup>11</sup>through which to activate the account "closing balance

<sup>10</sup> See Lemarchand, Yannick, Parker, R. H. (ed.) (2014)-*Accounting in France/Comptabilité en France*, Routledge, pg 65-70, [P. Jouanique "Un classique de la comptabilité au siècle des lumières, la Science des négociants de Mathieu de la Porte" pg. 339-345].

<sup>11</sup> Mouck, Tom (1995)-*Irving Fischer and the Mechanistic character of the*

sheet” (Voina, D., 1947). He was also the first to use the term “*balance sheet*” instead of “closing balance”, a small, but beneficial “revolution” in accounting pattern.

We have to highlight one of basis for the Accounting emerging recognition in the twentieth century: *the Newtonian mechanics*<sup>12</sup>. The motion law is something alike *understanding accounting*. “Understanding”, even in this case, is focusing on principles the actions, phenomena in discussion, dealing with the ability to change something, more than a prediction. Everything is moving, purposive actions are taken place and Accounting accompanies these movements, activities and records them.

Moreover, in our days, some authors<sup>13</sup> speaking about *epistemology* and *rationality* (i.e. the sense of science) regarding social actions held accountable, present 4 (*four*) *accountability conditions* in order to define *pure rationality*:

- a. discernment
- b. transcendence
- c. responsibility
- d. review (the capacity of)

Starting with the works of Sir Isaac Newton (classical mechanics), in the specific literature dedicated to the *Science Accounting* are specified two exemplary science accounts in this respect: Max Planck and Ernst Mach, supporters of epistemological science of Accounting (but these two great physicians in quantum mechanics).

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*twentieth century accounting theory, in Accounting Historians Journal, vol. 22, no., 2, pg. 43-83.*

*12 Subder, Shyam, Yamaji, Hidetoshi (1999)-The Japanese Style of Business Accounting, Quorum Books, Westport, Connecticut• London, pg 186-189.*

*13 Fuller, Steve (1996)-Toward a philosophy of science accounting: a critical rendering of instrumental rationality, in Michael Power (ed)-Accounting and Science: Natural Inquiry and Commercial Reason, Cambridge University Press, pg. 247-259.*

### **The eighteenth century as an extension of the economic science revitalization**

The accounting literature of the eighteenth century undoubtedly puts France on the first position, both in terms of the volume of writings as well as the consistency of ideas presented, as a continuous combustion engine, which pushed accountancy from one decade to another. The merits of these authors refer to the proposal to use several helping books, the advice on evaluating goods at their cost through inventory (Samuel Ricard) and the proposal to introduce *double entry in the work of public finances*.

The name of Giuseppe Forni, as representative of the Italian accounting movement in the eighteenth century, is linked to the use of mathematical methods for explaining the relationship between accounts (using algebraic formulas). And, because we are talking about Italian school of accounting, it can't be avoid so-called school of "Austrian Lombardy", which begins the scientific study of keeping public finance accounts. For example, in 1762, Puechenberg, chief accountant of the Imperial Accounting Chamber, publishes the work "Einleitung zu einem verbesserten *Kameral-Rechnungsfusse*" (exactly on the spirit of Kameralism).

Although during the eighteenth century more accounting papers were published in Great Britain than in other countries with more ancient traditions, they were mediocre. During this century, Samuel Friedrick Helwigs and I.M. Stricker publish accounting papers written in German. If we see, the importance of accounting theoretic authors is less important than the British Classics of Economics: Adam Smith (considered "father" of the modern economic science), David Ricardo and even Thomas Malthus.

Regarding the ideas and opinions of Adam Smith in this respect, we may say that this one understands the costs of “the maintaining of fixed capital” include its renewal. In fact, the part of the Smith’s theory close to the Accounting thinking is *the theory of costs*. Adam Smith gives also an example of what the mean of “wear and tear”<sup>14</sup> of fixed capital as part of the price of the product. And, in the accountants’ language, the depreciation of the fixed capital (by its using in production and circulation) appears to be expenditures on repairs<sup>15</sup>.

### Conclusions

Significant for what we are already presented in this paper is the fact that *Accounting* developed in Mercantilism accompanies and supports the market (mercato = market). The reason of the market and entities functioning, in accounting terms, is the following one: *the payment received and the performed one are considered the two basic operations of the trade*.

We saw that the first free ports, “porto franco”, were those ones of Italy, Livorno (1696) being the most representative. This kind of structural organizations encouraged the international trade, due to the facilities introduced, as trade liberalization, the abolition of customs duties and any kind of quantitative restrictions. But, it remains the vigilant Accounting system, in order to record the operations of input-output, import-export, in these zones. The logic of the system consisted in starting from the left, with the receiving of goods, money, services (exactly like the writing in Latin) and then, in the right side, the

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*14 Wear and tear means the damage which naturally and inevitably occurs in the period of functioning of fixed assets. In other words, represents a form of depreciation, followed by accountants when the item, device, asset, is used carefully, competently and in proper maintenance.*

*15 See Bryer, R. (2013)-Americanism and financial accounting theory-Part 3: Adam Smith, the rise and fall of socialism and Irving Fisher’s theory of accounting, in Critical Perspectives on Accounting 24, pg. 572-615.*

payments, the putting in consumption and circulation and so on.

Appealing to the history of accountancy and thus of the accounting profession is necessary for explaining the contemporary structure of accountancy and accounting requirements. Acquiring knowledge in the field of accountancy in various geographical areas has always been the concern of business partners, mainly for practical needs. Practice is thus the engine that grounded the development of the accounting processes and techniques; still, the merit of accounting theoreticians must not be neglected.

Classical economic theories are based on mercantilism and laissez-faire roots, i.e. free and open markets and a little proportion of Government interventions. Individuals and entities have decided in their self interests, according to the market laws: demand and supply. Therefore, for an increased international trade, for the development of manufactures and for societies as a whole, it was compulsory the existence of instruments and mechanisms to measure and quantify the entries, exits, of goods and services-in a sum, the movements of goods and services- in the economy. And, these tools were provided by *the Accounting science*, emerged and enlarged starting with the seventeenth century.

The combination between practical needs and the theoretical work of accounting authors eventually led to the development of the accounting science. Recording all economic operations has always been a goal, especially under the current conditions, when the effects of globalization are more and more obvious. Accounting professionals are increasingly invited to respond to the challenges of practical life by implementing the accounting techniques and procedures in a regulated framework.

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