

Luca Pacioli on Business Profits

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ABSTRACT. Double-entry accounting, with its method for the objective calculation of profits and system of capital accounting, is often seen as closely linked with our modern-day system of capitalism. Questions regarding the role of profits are at the center of many debates on "business ethics." Luca Pacioli, a 15th century Franciscan friar, is recognized as the "father of accounting" because he published the first description of the double-entry system. However, Pacioli's "ethical" views have not been as broadly recognized. The main purpose of this paper is to present and discuss Pacioli's views on the conduct of business enterprise and the pursuit of business profits.

Two years after Columbus first arrived in the Americas, and almost 50 years before Copernicus' theory that the earth revolves around the sun was first published, a Franciscan friar by the name of Luca Pacioli published his *Summa de Arithmetica, Geometrica, Proportioni et Proportionalita*. While Pacioli's *Summa* was primarily a treatise on mathematics, it also included a section describing the "Venetian" – or, what is now commonly known as the "double-entry" – method of bookkeeping. The double-entry system, the description of which was first published by Pacioli, continues to this day to serve as the foundation of modern accounting systems.

Based on his articulation of the double-entry method of bookkeeping in his *Summa*, Pacioli is

sometimes described as "the father of accounting" (Hatfield, 1924; Taylor, 1942; Langer, 1958; Nakanishi, 1979; Stevelinck, 1986, 1994; McMickle and Vangermersch, 1987; Weis and Tinius, 1991a, b) and "the father of the balance sheet" (*Journal of Accountancy*, 1977). However, some accounting theorists argue that Pacioli's most important contribution to the world of modern business, through his published description of the double-entry system, lies in documenting the method for rendering the "profits" of a business enterprise to be objectively calculable. Thus, perhaps, Pacioli could be called "the father of profitability."

While issues of causation remain open to debate, there is little question among business and economic historians that the concepts of objectively-determined business profits and capital accounting are central to the very definition of modern capitalism (see, e.g., Barnes, 1935; Yamey, 1949, 1964; Winjum, 1970; Most, 1972; Hoskin and Macve, 1994). In fact, no less an economic historian than Max Weber defines capitalistic enterprise as follows:

... a rational capitalistic establishment is one with capital accounting, that is, an establishment which determines its income yielding power by calculation according to the methods of modern bookkeeping and the striking of a balance. (1927, p. 275; emphasis added)

There is also little question that issues regarding the role of business profits lie at the very center of debates about the ethics of modern business enterprise, with some (perhaps most notably Friedman, 1962, 1970) arguing that the sole goal of a business should be to maximize its profits and others questioning the propriety of

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the profit motive. The Catholic church has been prominent among the groups associated with the view that responsibility of those engaged in business should extend beyond the role typically characteristic of laissez-faire or "pure" capitalism (see, e.g., Schall, 1982).

It perhaps, then, seems ironic that the method for the objective calculation of business profits – so central to our system of modern capitalism and debates of business ethics – was first broadly communicated by not only a Catholic clergyman, but by a follower of St. Francis of Assisi, who is so often linked with the ideal of "poverty" (see, e.g., de la Bedoyere, 1962). While much has been written about the life of Pacioli, including his connection with the double-entry system of accounting, his views on the conduct of business, including the role of business profits, remain largely unexplored (regarding Pacioli and his connection with the double-entry system, see, e.g., Geijsbeek, 1914; Hatfield, 1924; Green, 1930, 1968; Morrison, 1933; Taylor, 1935, 1942, 1944, 1956; Pergallo, 1938; Barnes, 1942; Boursy, 1943; de Roover, 1944, 1955; Yamey, 1949, 1964; Langer, 1958; Brown and Johnston, 1963; Winjum, 1970; Most, 1972; *Journal of Accountancy*, 1977; Nakanishi, 1979; Braudel, 1982; Aho, 1985; Stevelinck, 1986, 1994; McMickle and Vangermeersch, 1987; Thompson, 1991, 1994; Weis and Tinus, 1991 a, b; Hernandez-Esteve, 1994; Hoskin and Macve, 1994; Cripps, 1994).

This paper has two primary purposes: first, to articulate the connection between Pacioli's *Summa*, and the double-entry system of accounting first published therein, and the objective calculation of business profits that is central to modern capitalism; and, second, and more importantly, to document Pacioli's apparent views on the role of business conduct and the generation of profits.

The remainder of this paper is presented in four sections. The first section, in order to provide a context for understanding his contributions and perspectives, presents a background of the life and work of Luca Pacioli. The second section then provides a discussion of the system of double-entry bookkeeping, as first published in Pacioli's *Summa de Arithmetica, Geometria,*

Proportioni et Proportionalita. Next, the third section, drawing on available English translations of Pacioli's writings, specifically discusses Pacioli's views on the role of business profits and the conduct of business enterprise. Finally, the fourth section presents a concluding discussion.

The life and work of Luca Pacioli¹

Luca Pacioli was born in 1445 in Borgo San Sepolchro in the Tuscany region of Italy. Relatively little has been written about Pacioli's early years or about his family. However, it is known that he received his early education from the Franciscan friars in his hometown. After completing his formal, early education, Pacioli was apprenticed to Folco de Bolfolci, a local merchant. At this time, Pacioli likely received his first introduction to the world of commerce.

Living across the street from the Franciscan monastery in San Sepolchro during Pacioli's youth was Renaissance painter Pierro della Francesca. While Francesca is best known as an artist, he has also been described as "perhaps the most accomplished mathematician of the 15th century" (Weis and Tinus, 1991b, p. 96). Francesca befriended the young Pacioli and introduced him to the world of mathematics. Pacioli also traveled extensively with Francesca; and, through Francesca, Pacioli was introduced to "some of the most prominent artists and architects [of the time], such as Brunelleschi, Donatello, Uccello, and Alberti; religious leaders of the Vatican; and political leaders, including Federigo, Duke of Urbino" (Weis and Tinus, 1991a, p. 55). With Francesca, Pacioli frequently traveled to the palace of the Duke of Urbino to utilize his library, which is believed to have housed the most extensive collection of books in the world at that time (Taylor, 1935, pp. 168–169). Perhaps Francesca's most enduring contribution to Pacioli was introducing him to Leon Battista Alberti. Alberti was a leading architect and scholar, who is believed to have fueled Pacioli's interest in the academic life. Through Alberti's influence, Pacioli left San Sepolchro at the age of 20 to be exposed to greater scholarship in Venice. There, Pacioli lived in the

home of the wealthy merchant Ser Antonio de Rompiasi, serving as tutor to the three Rompiasi sons. At the time, Venice was perhaps the leading trading city in the world (Taylor, 1956, p. 176). Therefore, it is not surprising that, according to Taylor, Pacioli's main duty as tutor was to "train the Rompiasi boys to be good business men, and no business man's education was complete unless he was well versed in the art and science of bookkeeping" (1942, p. 61). This may well have been Pacioli's introduction to the systematic study of bookkeeping, which it is believed he furthered through examination of the practices of leading Venetian merchants and traders.

During his stay with the Rompiasi family, Pacioli also continued his own education at the University of Padua and wrote his first book, a treatise on algebra that was dedicated to the Rompiasi brothers. However, Pacioli's attentions during this period were apparently not devoted solely to academic pursuits. Rather, Pacioli indicated in his own writings that he also made ventures during this period in support of Rompiasi's endeavors as a merchant (Taylor, 1956, p. 176), so it appears that he had at least some practical experience in the business world. Additionally, it has been noted that during this time "Pacioli led the life of the gay young blade in Venice" (Brown and Johnston, 1963, p. 13).

Upon Rompiasi's death in 1470, Pacioli returned to Alberti, under whose patronage he studied mathematics until Alberti's death in 1472. Alberti is believed to have had a profound influence on Pacioli. Weis and Tinus have explained that:

Central to Alberti's work was an abiding belief in the God-given validity of mathematically determined proportions. All mathematics, architecture, and art, he believed, were divinely inspired, their form determined by divine or cosmic significance. Pacioli absorbed this belief, which became central to his own creations. (1991a, p. 55)

Indications are that Pacioli joined the Franciscan order in 1472, after Alberti's death, and professed his final vows prior to becoming a mathematics lecturer at the University of Perugia in 1475. While not questioning Pacioli's devotion to God, it is also possible that his becoming a

Franciscan was in part pragmatically motivated by his desire to be an academic. Nakanishi (1979, p. 57) notes that at the time Pacioli began his life as a formal academic, mathematics was a fairly newly-accepted field, and was actually considered to be a branch of theology under the direction of the Pope; thus, its teachers had to be members of the Catholic clergy. Chatfield has expressed a similar opinion, indicating that "like many men seeking preferment as teachers [Pacioli] became a Franciscan friar" (1974, p. 44).

Pacioli taught at the University of Padua from 1475 to 1478, at which time he became a lecturer in mathematics in the city of Perugia. From there, Pacioli traveled as an academic to Zara (in Yugoslavia), and then returned to Perugia. In 1482, Pacioli was a mathematics lecturer in Rome. By 1486, Pacioli had been awarded the 15th century equivalent of a doctorate in mathematics (Weis and Tinus, 1991a, p. 55). While details on Pacioli's travels throughout this period are generally sketchy, it is believed that he remained in Rome until 1490, at which time he was transferred to Naples, continuing to serve there as a lecturer in mathematics. From Naples, Pacioli then moved on to Padua in 1493, after which he moved to Assisi, all the while continuing to develop his acclaim as a mathematician.

By 1494, Pacioli had returned to Urbino, where the son of Federigo, Guidobaldo, was now the Duke (Taylor, 1942, p. 173). While in the Court of Urbino, Pacioli completed his *Summa de Arithmetica, Geometrica, Proportioni et Proportionalita* – which translates to "Everything about Arithmetic, Geometry and Proportion" (Green, 1968, p. 40) – on which it is believed he had been working for the prior 30 years (Taylor, 1956, p. 179). Pacioli witnessed the publication of the first edition of his *Summa* in Venice on November 10, 1494 (Green, 1968, p. 40), one of the earliest volumes to be produced in that city by the newly-developed Guttenberg process.

Pacioli's *Summa* was dedicated to Guidobaldo, whom it is believed Pacioli had tutored on his earlier visits to the Duke's palace with his mentor Francesca. While the *Summa* is principally a work on mathematics, attempting to provide encyclo-

pedic coverage of what was known of that broad field at the time, it also included a section devoted to bookkeeping. The section on bookkeeping, labeled “Particularis de Computis et Scripturis” – meaning “Details of Accounting and Recording” (Brown and Johnston, 1963, p. 9) – may have seemed out of place in Pacioli’s treatise on mathematics. However, Pacioli explained its inclusion in the following preface:

In order that the subjects of the most gracious Duke of Urbino may have complete instructions in the conduct of business, I have determined to go outside the scope of this work and add this most necessary treatise. (Green, 1968, p. 40)

Pacioli’s concern with the practical application of his scholarship extended beyond the inclusion of the section on bookkeeping, encompassing the very selection of the language in which his *Summa* was written. Remembering the advice of Alberti, Pacioli wrote the *Summa* in the “vulgar” tongue of Italian – rather than the Latin generally favored by scholars of the time – in order that his writings would be accessible to those who would be able to apply the knowledge (Brown and Johnston, 1963, p. 4).

While Pacioli’s *Summa* is primarily known in the business field for its section on bookkeeping, its impact as a treatise on mathematics was even greater, at least initially. For example, Weis and Tinus indicate that at its time, the *Summa* was “hailed as a masterpiece,” and was said to have been “the most exhaustive and widely read mathematical work in the whole of Italy” (1991a, p. 55). Likewise, Taylor indicates that “since [the *Summa*] was one of the earliest printed books on mathematics, it lifted the subject out of obscurity, gave it new life, and laid the background for most of the mathematics that was to be developed in the following century” (1942, p. 187). Thus, Pacioli’s *Summa* was truly a landmark work.

Among those whose attention was captivated by the *Summa* was Leonardo da Vinci, who was at the time an artist in the court of the Duke Lodovico Sforza at Milan. At da Vinci’s urging, the Duke invited Pacioli to also join his court, and Pacioli did so beginning in 1496. During the

next seven years, Pacioli occupied the first professor’s chair at the Court of Milan and served as da Vinci’s tutor in mathematical perspective. The partnership between Pacioli and da Vinci was apparently productive for both. Among their accomplishments during this period were at least one “masterpiece” produced by each: Pacioli’s second renowned book, *De Divana Proportione* – a treatise on the spiritual significance of mathematics, geometry and proportion, illustrated by da Vinci (Weis and Tinus, 1991a, p. 56) – and da Vinci’s painting known as “The Last Supper,” which it is believed was deeply influenced by Pacioli’s views on proportion and perspective (Weis and Tinus, 1991b, p. 98). While da Vinci is no doubt the generally better known of the pair today, apparently his relationship with Pacioli opened many doors for Leonardo, for as Brown and Johnston have noted:

Although da Vinci was well known during his lifetime, he did not achieve real fame until years after his death. On the other hand, Pacioli won fame early in his career and, because of his education and reputation, could go anywhere and meet anyone. (1963, p. 15)

In all, it is believed that Pacioli published a total of 11 books during his lifetime (Brown and Johnston, 1963, pp. 5–7), although the *Summa* and *De Divana Proportione* were, by far, his crowning accomplishments. After leaving the Court of Milan, Pacioli continued to travel as a scholar and teacher. His travels took him to the University of Pisa, and then to Rome. By 1508, he had returned to Venice, where he completed his translation of the work of Euclid into Latin. In 1510, Pacioli was named guardian of the Franciscan monastery in San Sepulcro, the town of his birth, where it is believed he may have expected to spend the remainder of his days (Taylor, 1942, p. 367). However, he was summoned from there in approximately 1513 by Pope Leo X to teach mathematics at the University of Rome “where the Pope intended to create a faculty second to none” (Weis and Tinus, 1991a, p. 56; Taylor, 1942, pp. 388–391). Among the other luminaries working in Rome at that time were Pacioli’s old friend Leonardo da Vinci, who was also on the faculty at the

University of Rome, Michelangelo, who was then working on the Sistine Chapel, and Raphael (Taylor, 1942, pp. 395–397). Records indicate that Pacioli remained on the faculty of the University of Rome at least through 1514 (Taylor, 1942, pp. 392–393), however details of the remainder of his life are sketchy. It is generally believed that Pacioli passed away somewhere in Italy about the year 1517 (Nakanishi, 1979, p. 53).

Pacioli and the double-entry system

Pacioli claimed no credit for inventing the double-entry system of bookkeeping described in his *Summa* (Geijsbeek, 1914; Taylor, 1935, 1942). Rather, he readily acknowledged that what he was documenting was the practice prevalent in Venice at the time. Accounting historians indicate that what we now call the “double-entry” system most probably was, more or less simultaneously, developed through the practice of merchants and traders in the three Italian city-states of Venice, Genoa and Florence, beginning in the early 13th century (Taylor, 1935; Pergallo, 1938; de Roover, 1955, 1956; Mills, 1994). Thus, the method was well established in practice by the time Pacioli’s *Summa* was published in 1494. Nevertheless, the *Summa* is generally considered to contain the first printed (as opposed to handwritten) description of double-entry bookkeeping and is credited with the broad dissemination of the method.

According to Littleton, the essence of the “double-entry” system is the duality of entries and the equilibrium of debits and credits (1933, p. 27). Chatfield also wrote of the duality inherent in double-entry, indicating that there are, in fact, three forms of duality evident: “of books, between the journal and ledger; of account form, with debit and credit pages opposite; and in the double posting of each transaction” (1974, p. 34). Chatfield further explained that “since trade rests on an exchange of goods and services, this dual aspect is not just a formality but corresponds to a basic reciprocity between buyer and seller, giver and receiver, debtor and creditor” (1974, pp. 34–35). In fact

these elements of exchange and reciprocity are reflected in the very names used to label the recorded entries: “debit” (*debitore* in Italian) indicating the debtor, or “they owe us;” and “credit” (from the Italian, *creditore*) denoting the creditor, or “we received from” (Geijsbeek, 1914, p. 14; Taylor, 1956, p. 180; de Roover, 1956, p. 132).

Yamey cites two main advantages over alternative accounting systems that he believes led to the rise of double-entry: “first, the records are more comprehensive and orderly; second, the duality of entries provides a convenient check on the accuracy and completeness of the ledger” (1956, p. 7). However, other accounting historians believe that the contributions of double-entry are much deeper; as Littleton explained:

The primary advantage [of double-entry] was not that of securing equality of debit and credit in journal entry or in the trial balance. It lay in the integration of real and nominal accounts. It is this “invention” that makes it more rational than convenient to record the same transaction fact in two categories. It is integration between the two major groups of accounts that causes the capital statement and the income statement to tie into each other. The larger significance of this tight interrelationship is clear when we note that here, for the first time, was a method for systematically and continuously recording the interaction of capital on income and of income on capital. (1968c, p. 291)

It is in the “nominal accounts” that elements of revenue and expense – the building blocks of profit and loss – are recorded, and it is in the periodic closing of these nominal accounts to the “real accounts” – specifically the “capital,” or owners’ equity, accounts – that “capital accounting” is formed (see also, Littleton, 1968a, b).

Others have echoed the sentiment that the real contribution of the double-entry system is in its creation of the nominal – profit and loss – accounts and their integration with the real – capital – accounts. For example, Littleton and Zimmerman have expressed their belief that:

the significance of the integration of real and nominal accounts far surpasses every other aspect

of accounting development. The high significance of this integration lies in the fact that it provides a framework for dealing understandably with an important aspect of economic life – the close integration of income and capital. (1962, p. 47).

Similarly, Chatfield indicates that “it is this articulation of accounts and the resulting profit and equity remainders which make double entry a superior analytical tool. Every transaction is drawn into the accounts and can be judged by its effect on total profit and loss” (1974, p. 35).

The importance of the profit and loss accounts, and their closing to the capital accounts, was apparently not lost on Pacioli, for at least five of the chapters in the bookkeeping portion of his *Summa* deal with aspects of these topics (Brown and Johnston, 1963). Further, Pacioli clearly explains the importance of these accounts, for example as follows:

You shall also have an account for profit and loss, or as you may say, increase and decrease, profit and damage, or gain and loss. These accounts are necessary to every business so that the businessman will always know what his capital is, and at the end of the period, how it is progressing. (Brown and Johnston, 1963, p. 71)

While Pacioli is often referred to as “the father of accounting,” he should also be recognized, more specifically, for his role as the father of profitability and capital accounting.

Pacioli on business profits

Pacioli’s *Summa* – specifically the section entitled “Particularis de Computis et Scripturis” – contained 37 chapters (Brown and Johnston, 1963) detailing the application of the “Venetian” or “double-entry” system of bookkeeping. Throughout his text, Pacioli interjected many of his own perspectives. While often noted by other writers on Pacioli, these views have most often been apparently seen as relatively tangential to the main focus on the mechanics of the double-entry system (for an exception, see Aho, 1985). However, it is these maxims – specifically those dealing with the role of business profits and the

conduct of business enterprise – that are highlighted here. Specifically, this section draws on the English translations of Pacioli’s “Particularis de Computis et Scripturis” provided by Geijsbeek (1914), Brown and Johnston (1963), and Cripps (1995).

As indicated earlier, it may seem an interesting irony that the first published work detailing the methods of capital accounting, including the systematic calculation of business profits, should have been written by a Catholic clergyman and follower of St. Francis of Assisi. However, it appears clear from Pacioli’s writings that he was not opposed to the profit motive. In fact, Pacioli opened his treatise on bookkeeping in the *Summa* with the following:

Begin with the assumption that a businessman has a goal when he goes into business. That goal he pursues enthusiastically. That goal, the goal of every businessman who intends to be successful, is to make a lawful and reasonable profit. (Cripps, 1995, p. 4; Geijsbeek, 1914, pp. 33–34; Brown and Johnston, 1963, p. 27²)

Indeed then, rather than being opposed to the notion of business profits, Pacioli’s statement seems to indicate his belief that the existence of the profit motive should, in fact, be considered axiomatic in successful business practice – an ingredient necessary for the businessman to “enthusiastically,” and thus successfully, pursue his enterprise. This view is reinforced by Pacioli’s discussion in his section on the closing of nominal (profit and loss) accounts to the capital accounts, in which he states:

The Profit and Loss account should be closed in this way: If the loss exceeds the profit (*May God protect each of us who is really a good Christian from such a state of affairs*), then . . . (Geijsbeek, 1914, p. 73; Brown and Johnston, 1963, pp. 96–97; Cripps, 1995, p. 71; emphasis added)

Based on this latter statement, there appears little doubt that Pacioli considered the pursuit of profits to be honorable and just, including for Christians; in fact, this passage could perhaps even be interpreted to suggest that Pacioli believed that Christians³ should enjoy a privileged place in the pursuit of business profits.

Should any bounds be placed on the pursuit of profits? Pacioli seems to indicate that there should be at least two. First, profits should be “lawful.” Throughout his treatise, Pacioli reminds businessmen to be mindful of the law, for “I know of many who, in the past, were punished [for failing to comply with the law in their business practices]” (Cripps, 1995, p. 32; Geijsbeek, 1914, p. 53; Brown and Johnston, 1963, p. 58). Pacioli also extols honesty and truthfulness elsewhere, such as the following in his description of the preparation of inventory records:

Carefully and truthfully describe each item in its turn. Let truth always be your guide. (Brown and Johnston, 1963, p. 30; Geijsbeek, 1914, p. 35)

Another example is found in Pacioli’s condemnation of what was apparently a common business practice at the time, keeping “two sets of books” with the intent to deceive (de Roover, 1955, p. 413), about which Pacioli wrote:

Unfortunately, there are many who keep their books in duplicate, showing one to the buyer and the other to the seller. What is worse, they swear and perjure themselves upon them. How wrongly they act! (Brown and Johnston, 1963, p. 38; Geijsbeek, 1914, p. 41; Cripps, 1995, p. 14)

However, Pacioli also appears to believe that the constraints on business conduct and the generation of profits should extend beyond simply honest compliance with the law.

In Pacioli’s view, besides just being “honest,” profits should also be “reasonable.” Pacioli does not provide much direct guidance in his writings regarding what he considers to be a “reasonable” business profit. For example, he does not provide any formula or methodology – analogous to his descriptions of the mechanics of recording business transactions and calculating the resultant business profits – for determining the constitution of “reasonable” profits. However, it is noteworthy that the passage quoted above – “the goal of every businessman who intends to be successful, is to make a lawful and reasonable profit” – was followed directly by Pacioli with the following:

Therefore, businessmen should begin their business records with the date AD, marking every transaction so that they will always remember to be ethical and, at work always mindful of His Holy name. (Cripps, 1995, 4¹; Brown and Johnston, 1963, p. 27; Geijsbeek, 1914, pp. 33–34)

In fact, throughout his treatise, Pacioli provides similar advice, including suggesting that the principal accounting records – the “memorandum book” (Geijsbeek, 1914, p. 39; Brown and Johnston, 1963, p. 37; Cripps, 1995, p. 12), “journal” (Geijsbeek, 1914, p. 43; Brown and Johnston, 1963, p. 45; Cripps, 1995, p. 21), and “ledger” (Geijsbeek, 1914, p. 47; Brown and Johnston, 1963, p. 48; Cripps, 1995, p. 24) – should all be opened in God’s name. With respect to the memorandum book, Pacioli provided the following colorful insight:

Among the Christians it is the good custom to initially mark their books with that glorious sign from which all enemies of the spiritual flee, and from which all the infernal pack justly tremble: The Sign of the Holy Cross.⁵ (Brown and Johnston, 1963, p. 37; Geijsbeek, 1914, p. 39; Cripps, 1995, p. 12)

Pacioli also provided the following guidance in a section of his treatise entitled “Warnings and Helpful Advice to the Successful Businessman:”

I have added these reminders for your own good, so that you will give your affairs daily attention. Record everything that you require day by day, in the manner stated in the following chapters. But above all keep God before your eyes, never forgetting to attend to religious meditation every morning, as the following holy verse says: “Time is not wasted by religious meditation any more than wealth is lost by charity.” And to this our Savior exhorts us in St. Matthew, when he says: “. . . seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you.” (Brown and Johnston, 1963, p. 34; Geijsbeek, 1914, pp. 37–38; Cripps, 1995, p. 9)

This passage appears typical of Pacioli, by whom businessmen are encouraged to see the spiritual and the secular aspects of their lives as intertwined, with the spiritual being ever at the

fore: “But above all keep God before your eyes . . .” and “. . . seek ye first the kingdom of God.” This interrelation of the spiritual and secular can also be seen in the following: “Time is not wasted by religious meditation any more than wealth is lost by charity.” Here, too, Pacioli seems to indicate his belief that those who benefit from their business successes should not seek to keep all of that wealth for themselves, but rather to share through charity with those less fortunate.

Pacioli began his entire “*Particularis de Computis et Scripturis*” with a description of the three elements of successful business practice, the greatest of which he considered to be access to sufficient “capital” (Geijsbeek, 1914, p. 33; Brown and Johnston, 1963, p. 25; Cripps, 1995, p. 1). While this advice has been often repeated by students of Pacioli, and appears to be at least as applicable today as it was at the time it was first written, the following related discussion by Pacioli is much less often cited:

It has happened that many without capital of their own, whose credit was good, carried on big transactions and by means of their credit, which they faithfully kept, became very wealthy. We became acquainted with many of these throughout Italy. In the great republics nothing was considered superior to the word of the good merchant, and oaths were taken on the word of a good merchant. On this confidence rested the faith they had in the trustworthiness of an upright merchant. And this is not strange, because according to the Christian religion, we are pleased by faith, and without it it is impossible to please God. (Geijsbeek, 1914, p. 33; Brown and Johnston, 1963, p. 25; Cripps, 1995, p. 1)

In other words, businessmen will be successful (in this case, in obtaining credit) if they follow the same guidance in conducting their business affairs as they should follow in conducting their lives as Christians. Pacioli’s advice that the image of God should be kept at the fore during the conduct of business appears also in the following description of the preparation of business correspondence:

It is customary for businessmen to place their names at the end of the letter in the right hand

corner, with the year, day and locality at the top. But first, like a good Christian, remember to write down the glorious name of our Savior, the sweet name of Jesus (or in place of it, the Sign of the Holy Cross), *in whose name all business should be transacted*. (Geijsbeek, 1914, p. 75; Brown and Johnston, 1963, p. 100; Cripps, 1995, p. 74; emphasis added)

It could perhaps be argued – although no known historical record exists to substantiate this assertion – that Pacioli deliberately did not attempt to provide any sort of algorithmic approach for determining what constitutes a “reasonable” level of profits to be enjoyed as the fruits of business enterprise. As indicated earlier, Pacioli did not intend for his *Summa* – and *particularly* the section on bookkeeping – to be a work for scholars, but rather a guide for practitioners. It appears quite clear that Pacioli’s advice is for businessmen to judge for themselves, through reference to their relationship with God and an eye to eternal salvation, what are appropriate business conduct and reasonable profit levels.

Conclusions

So what would Luca Pacioli tell us about the role of profits and the conduct of commercial enterprise if he were able to do so today? Based on the analysis of Pacioli’s writings presented in the preceding section, it appears almost certain that he would *not* tell us that there was anything fundamentally wrong or undesirable about engaging in business activities nor the pursuit of profits. In fact, Pacioli indicated his belief that the profit motive is a critical element of the successful business. However, it appears just as clear that Pacioli would strongly advise us to conduct our business both honestly and, perhaps more importantly, with a constant eye toward what God would consider to be appropriate. It is interesting to note that Pacioli did not write about the appropriate conduct of “businesses” – dispassionate and depersonalized institutions with no apparent consciences of their own. Rather, Pacioli’s writings are framed in terms of the

appropriate conduct of business *people* – individuals. Further, Pacioli clearly did *not* suggest that businesspersons should somehow separate their business from their personal lives. Quite the contrary, he indicated that successful businesspersons should see the secular and spiritual aspects of their lives as inextricably intertwined, and further that in the conduct of their business affairs they should “above all keep God before [their] eyes” (Geijsbeek, 1914, pp. 37–38; Brown and Johnston, 1963, p. 34; Cripps, 1995, p. 9).

In the introduction to his translation of Pacioli’s work, Cripps indicates that:

For hundreds of years, Pacioli’s work – often plagiarized – stood alone as a text for young accountants. Pacioli has identified key information and key internal accounting controls needed to manage the economic activity of a single entity. As accounting technology advanced, as new financial centers evolved and as English emerged as the language of commerce, other writers incorporated Pacioli’s work into new texts. Seldom is Pacioli acknowledged, or are the authors even aware of his contribution. Indeed, Pacioli’s ideas are so pervasive and deeply rooted that today we consider them “generally accepted accounting principles.” Sad to say, even in our universities, we forget to identify the man so rightfully honored as the “Father of Accounting.” (1995, p. ix)

Cripps is indeed correct that, while the mechanics of double-entry bookkeeping first published in Pacioli’s *Summa* remain in virtually-unchanged use today – and, indeed, form a cornerstone of our modern capitalistic economic system – Pacioli’s role is often overlooked. However, Pacioli’s legacy does, in fact, live on in our current accounting systems. Such is not the case, however, for Pacioli’s views on the conduct of business enterprise that he evidently felt to be an important part of his *Summa*. Rather, the system for capital accounting is generally presented today in a rather sterile and objective fashion, devoid of any “subjective” or “ethical” perspectives.

How is it that the system of double-entry accounting has carried forward for over 500 years in a form that appears so nearly verbatim from Pacioli’s first writings, while Pacioli’s views on

the conduct of business have been so clearly lost? There appear to be at least two, probably non-mutually exclusive, explanations.

Cripps, as quoted above, indicates that, in part, the use of Pacioli’s system of double-entry spread “. . . as English emerged as the language of business . . .” (Cripps, 1995, p. ix). However, it appears that the process of translating Pacioli’s *Summa* to English may at least partially explain the loss of some of its most important meaning. A number of translations of Pacioli’s work were performed, beginning in the 16th century. While all of these translators appear to have been faithful to Pacioli’s descriptions of techniques of the accounting process itself, greater liberties apparently were taken regarding his other views.

Given the significant role of English as the modern “language of business,” it is especially important to understand the evolution from Pacioli’s original Italian treatise to the seminal English translations. According to Geijsbeek, Richard Dafforne’s *The Merchant’s Mirrour*, the first edition of which was published in English in 1636, was perhaps the most significant forerunner of modern English language accounting thought (1914, p. 13). While there were a number of translations of the bookkeeping portion of Pacioli’s *Summa* in existence at the time of Dafforne’s writing, Geijsbeek notes that Dafforne’s treatment was by far the most influenced by the work of his friend, the Dutch writer Simon Stevin, who first published his treatise on double-entry bookkeeping in 1604.

Stevin’s technical treatment of double-entry largely followed the writings of Pacioli; however, in comparing the two authors’ works, Geijsbeek wrote that:

It will be noted that all religious terms at the tops of pages or at the beginning of books, customarily used in the Italian method, have been omitted. The slightest reference to the Deity is absent in these books, due to the fight for religious freedom which then waged in Holland. Stevin was a great supporter of the Protestant party, so much so that Brown relates that when in 1645 a proposal was made to erect a statue at Bruges in his memory, a Catholic agitation was aroused in the House of Representatives to defeat the project. Even a clerical editor expunged his name from a Dutch

dictionary of biography, where it had appeared in earlier editions. (1914, p. 114)

Geijsbeek went on to note that:

Stevin's omission of the use of religious terms was followed in England, whereas Europe to this day follows Ympyn⁶ and others, which is collaborating evidence that Stevin through Dafforne has influenced English and American bookkeeping more than Mellis,⁷ who followed Pacioli in the use of religious terms.⁸ (1914, p. 114)

Thus, the historical evolution and translation of accounting thought from Pacioli's original Italian treatise to the modern-day English appears to have contributed to the loss of Pacioli's ethical views in the English-speaking business world. However, this appears to be, at best, a partial explanation. To further understand the apparent "de-valuing" of Pacioli's original writings requires an appreciation of the nature and definition of capitalism and its relationship to accounting.

Drawing on earlier work by Sombart, Most described the "special features" of the capitalistic enterprise to be:

. . . the complete independence of the business, raising an independent economic organization above the individual economic men involved in it; the combination of all concurrent and successive business operations into a conceptual entity which then appears as the performer of the individual economic actions, and leads a life of its own extending beyond the lives of the persons concerned. (1972, p. 723)

Most continued to explain that:

The new concept of "the business" [created with the rise of capitalism] effectively separated the economic relations from the persons; property rights were depersonalized, permitting "it" to pursue profit without regard to any other goals. (1972, p. 723)

The double-entry method, with its system of capital accounting and nominal accounts for the determination of profits and loss, was, in many respects ideally suited to the service of capitalism.

However, the one "problem" with the system initially published by Pacioli was that, as described earlier, it was highly "personal;" it sought to provide direction to "businessmen," not to "businesses." What remained to be done, it appears, was to "depersonalize" the system; a process that, we have seen, began not long after Pacioli's death in the early 16th century. Thus, the system of double-entry, first described by Pacioli, was transformed to serve as a vehicle for creating what Thompson refers to as the "governable entity – the firm, as distinct from its owners, proprietors, managers, or workers" (1994, p. 63; 1991; see also, Miller and O'Leary, 1987, 1990). Double-entry bookkeeping became much more than a technique for maintaining accurate business records; rather, during the rise of capitalism, it "led directly to the concept of economic rationality" and provided the basis for "the separation of the business from its owners" (Most, 1972, p. 724).

It is this detached view of the "business," socially constructed (Berger and Luckmann, 1966) during the rise of capitalism, that forms the foundation for Milton Friedman's influential article "The Social Responsibility Of Business Is To Increase Its Profits," in which he wrote:

What does it mean to say that "business" has responsibilities? Only people can have responsibilities. A corporation is an artificial person and in this sense may have artificial responsibilities, but "business" as a whole cannot be said to have responsibilities, even in this vague sense. (1970, p. 32)

Based on this view of "business," Friedman wrote in his *Capitalism and Freedom* that:

. . . there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game . . . (1962, p. 133)

In recent years, there has been a growing recognition that the ultimate power of accounting rests in its ability to be used as a taken-for-granted basis for objectifying the actions of self-interested individuals (see, e.g., Burchell, et al., 1980; Hopwood, 1983; Miller,

1994). That power can be seen poignantly in the use of double-entry accounting to separate the "business" from its owners, and to legitimate the "bottom-line" orientation characteristic of laissez-faire capitalism. However, it is important to note that this orientation that may now be generally ascribed to double-entry accounting is not inherent in that system. The fact that double-entry accounting was not innately designed to serve the interests of capitalism can perhaps best be seen by tracing the development of the double-entry system since the time of its initial chronicler, Luca Pacioli, and by examining his original writings as has been done in this paper.

In modern-day debates of business ethics, issues regarding the pursuit of profits are sometimes argued in terms of polar positions, with proponents of unbridled profit maximization at one end of the spectrum. However, it is very instructive to note the balanced approach that Pacioli took to his writings on the role of business profits. Pacioli recognized that the profit motive is a critical element for a business enterprise to be successful, and he not only did not see anything wrong with engaging in business, but rather sought to better enable the successful pursuit of business through the guidance provided in his *Summa*. What Pacioli did also believe, however, was that profits should not be pursued blindly, and that those successful in business should seek to share the fruits of their labors with those less fortunate.

The Catholic Church, in which Pacioli was a cleric, is an influential institution that has long grappled with the propriety and morality of the profit making business. Only recently, in its *Centesimus Annus* published in 1991, did the Catholic Church espouse the sort of middle ground view that Pacioli communicated in 1494. As Oliver Williams explained, in *Centesimus Annus*, the Church now:

... explicitly endorses the value of a market economy, although with one important caveat, that is, that the market should not become an idol. (1993, p. 923)

Rather, in this view, the value of the market economy is not seen to be the creation of wealth

as an end in itself, but rather as a means to improving the quality of life of *all* people. Williams further explained that:

In discussing the role of profit, Catholic social teaching, in principle, views it with approval. Yet if the quest for profit destroys the personal character traits that are essential for *the human community called business*, then the cost is too high . . . there are limits to what one should do for profit. (1993, p. 928; emphases added)

With respect to the point of reference for determining appropriate business behavior, Williams explained the Catholic Church's view that:

... wealth creation [should] always be carried out in the context of the end of life on this earth, *the formation of virtuous persons*. Economic activity is only a means and it must be guided by reference to the moral ends. (1993, p. 926; emphasis in original)

While the Church did not acknowledge Pacioli in this recent decree, its current views are quite similar to Pacioli's beliefs, expressed in 1494, that business should be the province of businesspersons who "above all keep God before [their] eyes," and who share their wealth through charity with those less fortunate.

Since he is so widely acknowledged to be the "father of accounting," it may be tempting to believe that Pacioli was also the originator of the view that the sole goal of "business" should be to seek maximum profits, and there is little in recently published descriptions of Pacioli's work to dispel this notion. The purpose of this paper, however, has been to shed important historical light on the development of modern day accounting practices, and particularly the transformation of the double-entry system to serve as the basis for the social construction of the depersonalized, capitalistic "business" enterprise. While, as has been long acknowledged, double-entry bookkeeping played an important role in the creation and rise of capitalism, it should be clear from this paper that the meaning of accounting was itself significantly transformed from the conceptions of its initial chronicler, Luca Pacioli. Although the bottom-line orienta-

tion of modern capitalistic business enterprise may today seem unquestionably synonymous with the principles and practices of double-entry accounting – as would indeed be expected with a highly institutionalized, socially constructed reality (Berger and Luckmann, 1966; Weick, 1979) – it can be seen here that this orientation is a relatively recent construction that has come to be “generally accepted” only in relatively modern times. The historical context provided in this paper adds important perspective to modern-day debates of the role of business profits and the conduct of commercial enterprise, and may perhaps even lead to the recognition of Luca Pacioli as an important forefather of what is now known as the communitarian (see, e.g., Williams, 1993) view of business ethics.

Notes

¹ This section on the life of Pacioli draws on the general backgrounds provided in the following: Hatfield, 1924; Morrison, 1933; Taylor, 1935, 1942, 1956; Langer, 1958; Brown and Johnston, 1963; Green, 1968; Chatfield, 1974; *Journal of Accountancy*, 1977; Nakanishi, 1979; Weis and Tinius, 1991a, 1991b. Other, specific references are provided as appropriate.

² While both Brown and Johnston (1963) and Geijsbeek (1914) provide the translation “reasonable profit” in this passage, Cripps (1995) uses the phrase “satisfactory profit.” Otherwise, the three translations are essentially identical.

³ It is also worth noting that, at the time this was written by Pacioli, to be “Christian” in Italy essentially meant to be “Catholic” (Taylor, 1942, p. 50).

⁴ Cripps also provided the following in a footnote to his translation of the phrase “marking every transaction so that they will always remember to be ethical,” that Pacioli’s actual expression here was “‘*El suo sancto nome hauera mete*’; literally, to have the knowledge of His Holiness on their minds. Business ethics were clearly a feature of early accounting records. Maybe the use of AD as an *aide-memoire* would remind all accountants and users of financial statements to act ethically” (1995, p. 4).

⁵ It is also noteworthy that here Pacioli clearly appears to be describing accepted practice at the time, rather than his normative views on how accounting records should be maintained.

⁶ Jan Ympyn was a Dutch merchant who spent some twelve years in Venice and northern Italy. Upon his return to Holland, Ympyn wrote a book on book-keeping which was published in both Dutch and French in 1543. Ympyn’s book is believed to have been very closely based on Pacioli’s writings (Geijsbeek, 1914, p. 11).

⁷ Mellis published an English translation of Pacioli’s work on bookkeeping in 1588 (Geijsbeek, 1914, p. 13).

⁸ Geijsbeek was an accounting practitioner in Holland before immigrating to the United States and becoming an accounting professor. Thus, it is interesting to note Geijsbeek’s observation that “the writer, having been born in Holland and there having kept numerous sets of books, can vouch that twenty years ago the majority of books which came under his supervision were opened and closed in the name of the Deity” (1914, p. 114). While beyond the scope of the present paper, it is interesting to speculate as to whether differences in accounting practices, and perhaps attitudes toward business ethics, that are attributable to the translation of Pacioli’s original treatise on double-entry bookkeeping, still persist internationally.

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