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ACCOUNTING SYSTEMS AND RECORDING PROCEDURES IN THE EARLY ISLAMIC STATE

Abstract: Despite advances in historical knowledge the precise origins of accounting systems and recording procedures remain uncertain. Recently discovered writings suggest that accounting has played a very important role in various sections of Muslim society since 624 A.D. This paper argues that the accounting systems and recording procedures practiced in Muslim society commenced before the invention of the Arabic numerals in response to religious requirements, especially zakat, a mandatory religious levy imposed on Muslims in the year 2 H.

INTRODUCTION

In an influential contribution Parker [2000] wrote that "the writing of accounting history is increasingly dominated by writers in English discussing private-sector accounting in English-speaking countries of the 19th and 20th centuries . . . the scope of accounting history is much wider than this" [p. 66]. This paper seeks to further advance our increasing knowledge of the history of accounting outside English-speaking countries in periods earlier than the modern era. It also contests de Ste. Croix's claim [1981, p. 114] that "there seems to have been no really efficient method of accounting, by double or even single entry, before the thirteenth century". Analysis of medieval bookkeeping systems in Muslim society throws doubt on this assertion.

The paper seeks to explore the work of early Muslim scholars on accounting in the context of zakat (religious levy) and the

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expansion in the revenues and expenditures of the Islamic state, the structure of business in the Islamic state and the religion that shaped the economic and social life of Muslims. This remains a subject which "has not been explored in depth" [Hamid *et al.*, 1993, p. 132]. It will be shown that the accounting systems developed and practiced in parts of the Muslim world, especially the Middle and Near East, were advanced. In focusing explicitly on accounting systems and recording procedures the paper goes beyond Zaid [2000a] which was specifically concerned with the accounting books developed in the Islamic state. It departs from Zaid [2001] and Nobes [2001] where the question of the origins and terminologies of double entry bookkeeping were at issue.

While there are exceptions [Lall Nigam, 1986; Hamid et al, 1993; Scorgie, 1990; Solas and Otar, 1994; and Zaid, 2000a and 2000b], few western and contemporary Muslim accountants have sought to document and explore early Muslim accounting. Lal Nigam [1986] has highlighted the role played by Indian accountants in the development of accounting prior to Pacioli's *Summa* of 1494. The author claims that the development of "a system of bookkeeping which predates and was far ahead in sophistication of its European counterpart. This system recorded the two aspects of each event, and took care of businesses of varying sizes and dimensions. Called *Bahi-Khata, Mahajanor Deshi-Name* as its indigenous to the soil, it is still practiced in most parts of the country" [1986, p. 149]. Scorgie [1990] examined "the evidence that supports a contention that the Indians imitated and adopted the bookkeeping systems conveyed by the Moguls who conquered India in the mid-sixteenth century" [p. 63]. Scorgie concludes that "[T]he similarity of words in Arabic and main languages of India suggests that the system used by Indian traders and families was derived from their Arab conquerors. That is, that the Indians were imitators rather than inventors and that the transport of double-entry accounting was from the West to the East rather than vice versa as asserted by Lall Nigam" [p. 69]. Scorgie's [1990] suggestion that accounting development "was derived from their Arab conquerors" [p. 69] is further strengthened by Solas and Otar [1994] whose focus was on "the governmental accounting practice in the Near East during the II Khan Dynasty period (1120-1350 A.D.)" [p. 117]. Their study concerned the Ottoman Empire, a Muslim empire. Solas and Otar [1994] conclude "that the rudiments of double-entry accounting were practiced in the Near East and were developed independently from the accounting practices used in the West" [p. 117].

Another study that refers to the contribution of Muslim scholars in the development of accounting was made by Hamid et al [1993]. Hamid et al [1993] suggest that "Islam has the potential for influencing the structure, underlying concepts and the mechanisms of accounting in the Islamic world" [p. 131]. The authors conclude that "the potential influence of Islam on accounting policies and practices could inject analyses of national accounting difference with a cultural dimension more profound than that emanating from the impact of indigenous secular law, general custom and commercial habit" [p. 147]. This conclusion was based on earlier developments evidenced by Zaid [2000a, 2000b].

The accounting historian Sieveking considered "that bookkeeping arose as a direct result of the establishment of partnerships on a large scale" [Littleton, 1933, p. 9]. This viewpoint may reflect the situation in Europe around the 14th century but does not necessarily represent the motives for developments in earlier civilizations such as Babylonia, Egypt, China and the Islamic state that included the Middle East, most parts of Asia and Africa and parts of Europe. Although the role of partnerships cannot be underestimated, the needs of the state and individual entrepreneurs also merit attention. This is because "the need to keep records of financial and other business transactions is an ancient one" [Littleton, 1956, p. v]. Accordingly, it can be said that the exact location of the developments of accounting cannot be entirely associated with one civilization or nation because these developments took place over a period of time and possibly in different civilizations.

Lieber [1968, p. 230] suggests that Italian traders obtained their knowledge of sophisticated business methods from their Muslim counterparts. Furthermore, Heaps [1895] stated that "the first European who translated algebra from the writings of the Arabians is also supposed to have written the first treatise on bookkeeping ... bookkeeping would first be practiced by the first considerable merchants, and as these were the Arabians, he ascribes to them the invention" [p. 21]. Writers such as Heaps [1895] and Have [1976] assumed the contribution of Muslims as being synonymous with that of Arabs. In reality Arabs and non-Arabs contributed to developments in the Muslim world. Generally speaking, it appears that these authors were referring to Muslims as Arabs, perhaps due to the language spoken or the origin of early Muslims from Arabia. Examples of Arab Muslim scholars include Al-Kalkashandy, Jabir ibn Hayyan, Ar-Razy, Al-Bucasis and Al-Kindy. Examples of non-Arab Muslim scholars consist of Al-Khawarizmy, Abicenne, Abu-Bacer and Al-Mazendarany. According to Islam, all these scholars are identified as Muslims regardless of their country of origin, race, language, colour or ethnic background. Accordingly, it is problematic to associate the development of accounting in the Muslim world with Arabs only and to ignore the contribution of non-Arab Muslim scholars. Al-Khawarizmy's work, in particular, was well known in Europe. Although Roman numbers were in use in the Italian republics during the 15th century, a feature of Pacioli's *Summa* was the use of Arabic numbers. Furthermore, it has been suggested that the introduction of Arabic numerals in the West was associated with the work of Al-Khawarizmy in the early 9th century [Macve, 1994, p. 12].

The development of accounting and other sciences in Muslim society was initiated by the teachings of Islam. Accordingly, this requires a brief explanation of the religion of Islam and its impact on the economic and social infrastructure that contributed to the development of several sciences including accounting.

ISLAM AND ACCOUNTING

The religion of Islam was founded in *Makkah*[1] in the year 610 A.D. [Abu Addahab, 2002, p. 649] with the revelation of the Quran to the Prophet Mohammad, peace be upon him.[2] At that time Arabs in the Arabian peninsula generally, and in Makkah especially, pursued a tribal life characterized by periods of war between the various tribes. Tribes were not subject to any conventional or written rule except the rules of the head of the tribe. Significant change occurred with the establishment of the Islamic state in 622 A.D. in Al-Madienah Al-Munaw'warah[3] when the principle of brotherhood was introduced. This required that all Muslims act as brothers with no regard to country of origin, race, language, colour, ethnic group or any other factor dividing human beings. This principle was the foundation for social harmonization among those who embraced Islam. Muslims denounced revenge, supported each other financially and socially

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[1] Commonly spelt Mecca but Makkah is the appropriate pronunciation and corresponding spelling.

[2] This is the mandatory Islamic expression used whenever the name of a prophet like Noah, Abraham, Ismail, Isaac, Moses, Joseph, or Mohammad is mentioned.

[3] To the north of Makkah and was originally called "Yathreb" but the name was changed to Al-Madienah Al-Munaw'warah.

regardless of their historical differences. They understood Islam as being a comprehensive code for spiritual and material life. They commenced the study, interpretation and application of what was revealed in the Quran. A new state ruled by the Quran emerged to replace the tribal nations and the various tribal rules. The Quran offered guidance on social and commercial teachings. Examples of the social teachings are the rules of marriage and inheritance. Examples of commercial teachings are the rules of contract, finance, business, *zakat*[4] and ethical rules for conducting business and writing contracts.[5]

Commerce extended beyond the Arabian peninsula to parts of Europe, Africa and the Far East. According to Ekelund et al [1990, p. 26] "[F]or five centuries, from 700 to 1200 Islam led the world in power, organization, and extent of government; in social refinements and standards of living; in literature, scholarship, science, medicine, and philosophy. . . . It was Muslim science that preserved and developed Greek mathematics, physics, chemistry, astronomy, and medicine during this half millennium, while the West was sinking into what historians commonly call the Dark Ages".

The expansion in trade promoted the development of a mechanism for ensuring adequate accountability for cash, goods received and disbursed. The introduction and organization of zakat in 624 A.D. encouraged accounting for the purpose of zakat calculation and payment. This development was enhanced with the formal introduction of accounting books, concepts and procedures during the time of the second Caliph, Omar bin Al-Kattab, who ruled between 13 and 23 *Hijri'iah*[6] [H] (634-644 A.D.) [Zaid, 2000a, pp. 75-76]. The role of zakat was equally important for both the state and individuals, especially those engaged in business. Individual Muslims generally, and entrepreneurs specifically, were concerned with the development and implementation of accounting books, systems and recording procedures. This interest was inspired by the need to comply

[4] Zakat was a mandatory religious levy imposed on Muslims in the year 2 H (624 A.D.). It requires every Muslim to pay the levy on amounts exceeding certain limits. The rate of zakat is dependent on the nature of the item subject to zakat. The term zakat is an Arabic word meaning purification of earnings/ wealth.

[5] See for example the Quran, Chapter *Al-Baqarah*, 2: 282-283.

[6] *Hijri'iah* refers to the Islamic calendar, which began with the establishment of the Islamic state in 622 in Al-Madienah Al-Munaw'warah (a city in present Saudi Arabia). The Gregorian year , is 11 days longer than the Hijri'iah year.

with the requirements of *Shari'ah Islami'iah*.[7] An example of these requirements is the need for proper calculation and payment of zakat as the consequence of conducting business and making profits. This is provided in 30 *Aiah* [verses] of 18 *Surah* [chapters] of the Quran.[8] Furthermore, the Quran requires the writing and recording of debts and business transactions in accordance with *Aiah* 282 and 283 of the second *Surah* of *Al-Baqarah*.[9] The *Aiah* 282 is known as the debts *Aiah*. It is the longest *Aiah* in the Quran and specifies all the requirements for writing debts and business transactions.

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[7] *Shari'ah Islami'iah* is a very broad concept comprising the divine law governing the life of individual Muslims in their relationships with Allah, individual human beings as well as all other beings. It is based on the *Quran*, *Sunnah*, *Ijma'* and *Qiyas*. The *Quran* is the Godly book of Muslims, while the *Sunnah* reflects what Prophet Mohammad [pbuh] said, did, and agreed to as preserved by his companions. The *Quran* and the *Sunnah* are the basic two sources of *Shari'ah Islami'iah*. The third source is ij*ma'* and applied only in the absence of an explicit answer to the issue in question. *Ijma'* represents the consensus of Muslim scholars about issues that are not explicitly mentioned in the *Quran* or the *Sunnah*. The final source is *Qiyas* which is represented in the analogical deductions from the *Quran*, the *Sunnah*, and the *Ijma'* for contemporary issues that are not directly mentioned in the *Quran*, the *Sunnah*, or the *Ijma'* but have similar characteristics as those existed in the past. Once a decision is made by either *Ijma'* or *Qiyas*, it becomes mandatory and cannot be overruled by future generations [Zaid, 1997, pp. 190-197].

[8] Surah Al-Baqarah 2:43, 83, 110, 177 and 277; Surah An'Nisa' 4:77 and 162; Surah Al-Ma'idah 5:12 and 55; Surah Al-A'raf 7: 156; Surah At-Taubah 9:5, 11, 18 and 71; Surah Maryam 19: 31 and 55; Surah Al-Anbiya' 21: 73; Surah Al-Hajj 22: 41 and 78; Surah Al-Mu'minun 23: 4; Surah An-Nur 24: 37 and 56; Surah An-Naml 27: 3; Surah Ar-Rum 30: 39; Surah Luqman 31: 4; Surah Al-Ahzab 33: 33; Surah Fussilat 41: 7; Surah Al-Mujadilah 58: 13; Surah Al-Muzzammil 73: 20; Surah Al-Bayyinah 98: 5.

[9] "O ye who believe! When you contract a debt for a fixed period, write it down. Let a scribe write it down in justice between you. Let no scribe refuse to write as Allah has taught him, so let him write. Let him (the debtor) who incurs the liability dictate, and he must fear Allah, his Lord, and diminish not anything of what he owes. But if the debtor is of poor understanding, or weak, or is unable to dictate for himself, then let his guardian dictate in justice. And get two witnesses out of your own men. And if there are not two men (available), then a man and two women, such as you agree for witness, so that if one of them (two women) errs, the other can remind her. And the witnesses should not refuse when they are called (for evidence). You should not become weary to write it (your contract), whether it be small or big, for its fixed term, that is more just with Allah; more solid evidence, and more convenient to prevent doubts among yourselves, save when it is a present trade which you carry out on the spot among yourselves, then there is no sin on you if you do not write it down. But take witnesses whenever you make a commercial contract. Let neither scribe nor witness suffer any harm, but if you do (such harm), it would be wickedness in

The development and practice of accounting in Muslim society thus reflected Islam as a comprehensive code of spiritual and material life. These developments and practices were documented by a number of early Muslim scholars from 150 H [768 A.D.] in numerous printed and handwritten books. Early Muslim scholars[10] approached the practice of accounting in the Islamic state from a variety of perspectives. However, it should be mentioned that "the terms accounting and accountant were not used in the early and middle stages of the Islamic state. The exact date these terms came into use is not known but probably could be traced to the influence of colonization and the introduction of Western culture in the 19th century. The terms *Al-Amel, Mubasher, Al-Kateb, or Kateb Al-Mal* were the common titles for accountant/bookkeeper and accounts clerk. These titles were used interchangeably in different parts of the Islamic state. The title *Al-Kateb* became the dominant title and was used to include any person assigned the responsibility of writing and recording information whether of financial or non-financial nature" [Zaid, 2000b, p. 330]. These terms equate to "accountant" and as early as 365 H (976 A.D.) Al-Khawarismy [1984] used the term *"Muhasabah"* for the function of accounting which indicates that the person responsible for this function is *"Muhaseb"* (Accountant).

Al-Mazenderany [1363] was one of the early Muslim scholars who documented the practice of accounting in Muslim society. While Al-Mazendarany's writings have been referred to by Solas and Otar [1994] in their study of governmental accounting practice in the Near East during the II Khan Dynasty (1120-1350) and by Zaid [2000a, 2000b, 2001] the wider implications of his contribution to the history of accounting deserve exploration. Al-Mazenderany's book, written in 765H (1363A.D.) can be

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you. So be afraid of Allah; and Allah teaches you. And Allah is the All-Knower of each and everything [282]. And if you are on a journey and cannot find a scribe, then let there be a pledge taken (mortgaging); then if one of you entrust the other, let the one who is entrusted discharge his trust (faithfully), and let him be afraid of Allah, his Lord. And conceal not the evidence for he, who hides it, surely his heart is sinful. And Allah is All-Knower of what you do" [283].

[10] These early Muslim scholars include Imam Ash-Shafi, 150-204 H (767-820 A.D.); Abu Obaid 156-224 H (773-839 A.D.); Kudamah bin Ja-far, whose book was written in 306 H (919 A.D.); Al-Khawarizimi, the author of *Mafatieh Al-Uloom* (Keys of Sciences) 365 H (976 A.D.); Ibn Rushd Al-Hafied 520-595 H (1126-1199 A.D.); Al-Mazendarany, who wrote his unpublished book in 765 H (1363 AD); Ibn Khaldoon, the author of the renowned book *Mokaddamat Ibn Khaldoon* (Introduction of Ibn Khaldoon) in 779 H (1378 A.D.); and many other scholars such as An-Nuwairi and Al-Kalkashandy.

consulted in the Sulaimani'yah Library, Istanbul. It appears that the book was neither printed nor commercially published in its original Ottoman language and no evidence has been found to indicate that it was translated into other languages[11] According to the Arabic pronunciation, the book title reads *Risalah Falakiyyah Kitabus Siyakat*. This is the source used by Solas and Otar [1994] and identified by them as "Risale-I Felekiyya", which is the Turkish pronunciation of the same title.

Al-Mazendarany asserted that other books on accounting had been written before his own. He stated that these books explained accounting practices in Muslim society and in the Middle East in particular. It is likely that these works were written long before 1363 A.D. Al-Mazendarany further acknowledged the benefits he gained from earlier works when writing his book. Although the earlier works mentioned by Al-Mazendarany would prove valuable to students of the history of accounting the search for them may be frustrated by the fact that the "states of medieval Middle East, with the exception of the Ottoman Empire, were destroyed, and their archives, ceasing to serve any practical purpose, were neglected, scattered and lost" [Lewis, 1970, p. 81].

One work which predated Al-Mazendarany was *Mafatieh Al-Uloom* (Keys of Sciences). This appeared in 365 H (976 A.D.) and was authored by Al-Khawarizmy [1984]. Al-Khawarizmy discussed the types of records maintained in the Dewans and the book used to record accounts.[12] In one chapter dedicated to "Secretaryship", Al-Khawarizmy described the technical terms

[11] The book uses the Arabic alphabet and is written in the Ottoman language. The author suggests that Al-Mazendarany was Persian because Mazendran is a city in Iran and some Persian words were used in the text. The use of Arabic words by non-Arabs was a common practice at the time as Arabic was the language of knowledge as well as of the Quran. Given that it was common for Muslim scholars to identify themselves by the city or country of their birth when they moved to other parts of the Islamic state, it is likely that Al-Mazendarany was born in Mazendran and moved to Turkey, the centre of the Islamic state; or that he was born in Turkey of a Persian family.

[12] The term *Dewan* was initially used in Muslim society during the time of the second Caliph Omar bin Al-Khattab. *Dewan* was renamed *Jaridah*. Some authorities claim that the term *Dewan* is an Arabized Persian word [Lasheen, 1973, p. 26], while Al-Kalkashandy argues that it is an Arabic word. According to Al-Kalkashandy [1913, Vol. 1, p. 89], who wrote his book in 767 H (1366), the term *Dewan* is the noun from the Arabic verb "*Dawwana*" (writing). This argument is valid and was supported in the earlier writings of An-Nahhas, the Arabic grammarian Sybaw'weh and the Muslim scholar Ibn Abbas. It was first used to mean the book of revenues as well as the office of recording and maintaining

that were common in Muslim society regarding the duties of the secretary and also described the accounting systems that were implemented during the 4th century *Hijri'iah* (10th century A.D.). It has also been suggested that Al-Khawarizmy's book was considered the most influential work of its time [Macve, 1996, p. 12]. Al-Mazendarany described the accounting systems used in the Islamic state in greater detail than Al-Khawarizmy. Accordingly, the current paper is based to a great extent on Al-Mazendarany's *Risalah Falakiyyah Kitabus Siyakat*. This book is the only work discovered by the author to date which details accounting systems and practices in early Muslim society.

ACCOUNTING SYSTEMS DEVELOPED IN MUSLIM SOCIETY

The development of accounting in the Islamic state was religiously motivated and associated with the imposition of zakat in the year 2 H (624 A.D.). Accounting appears to have commenced with the establishment of the Dewans for the recording of *Baitul Mal* (public treasury) revenues and expenses. The exact date of the first application of accounting systems in the Islamic state is unknown, but it appears that these systems were first documented by Al-Khawarizmy in 365 H (976 A.D.). The accounting systems were structured to reflect the type of projects undertaken by the Islamic state in compliance with its religious obligations. These projects included industrial, agricultural, financial, housing and service projects. The accounting systems comprised a set of books and recording procedures. Some of these procedures were of a general nature and applied to all accounting systems while others were prescribed specifically for a particular accounting system. As mentioned above, the person maintaining the books under these various systems was called *Al-Kateb*[13] (bookkeeper/accountant).

The objective of accounting systems was to ensure accountability, facilitate decision making generally, permit the evaluation of completed projects. Although the systems were initiated for government purposes, it is likely that some were imple-

accounting books. At a later stage the term was restricted to mean 'office' only. At present *Dewan* is used in Yemen and some English-speaking countries to mean 'lounge'.

[13] Other titles like *Al-Amel, Mubasher, Kateb Al-Mal* were also used but *Al-Kateb* became the dominant title and referred to any person assigned responsibility for writing and recording information, whether of a financial or non-financial nature [Zaid, 2000b, p. 330].

mented by private entrepreneurs in order to measure profit in conformity with the mandatory religious requirement of zakat. It is also likely that the successful application of accounting systems by government authorities promoted the adoption of similar procedures among private entrepreneurs especially for the purpose of zakat.

Accounting systems discussed and analyzed here were briefly mentioned by Al-Khawarizmy and were detailed by Al-Mazendarany. These accounting systems were income-statement orientated and designed to serve the immediate needs of the Islamic state. Some accounting systems incorporated monetary and non-monetary transactions while others were solely based on monetary measurement. The reason for the simultaneous use of monetary and non-monetary measurements was to ensure the proper collection, disbursement, recording and control of certain state revenues and expenses.

Seven specific accounting systems were developed and practiced in the Islamic state as documented by Al-Khawarizmy and Al-Mazendarany. Each of these is now explored.

Stable Accounting (*Accounting for Livestock*): This system was under the supervision of a stable manager and required that relevant transactions and events be recorded as they occurred. Transactions under this system included, for example, food for camels, horses and mules; caretaker wages; animals purchased, sold, donated, slaughtered or died. The design of a special system of stable accounting reflects the importance of livestock assets to individuals and the state. As well as being a source of food animals were the only means of transport for commercial, military and civil purposes. Livestock were used for carrying goods and persons across the Muslim world and beyond, and were especially important to communities that had no access to sea ports.

Although stable accounting was designed for the state's use, its application in the private sector was likely because a significant proportion of the population were engaged in the business of livestock, either for consumption or transportation and the need for a system of recording and measuring annual profits for the purpose of calculating payment of zakat. This is similar to current-day practices where "major incentives to the preparation of accounts showing the overall 'profit' or 'loss' of a modern farm are the requirements of the Inland Revenue, as well as lending bankers, and (in the case of farms organized as, or owned by, limited companies) of the Companies Acts for the preparation of accounts for the absentee owners – the shareholders" [Macve, 1994, p. 75].

Construction Accounting: This system was used to account for construction projects undertaken by government. The construction accounting system required the maintenance of a separate journal for each construction site and required the recording of all relevant transactions and events from the commencement of the project to its completion. The construction accounting system required that the specifications of individual projects be listed at the front of the journal, followed by the terms of construction. Then followed the record of transactions and events. Transactions were recorded under the supervision of the person-in-charge of the project, namely, the architect. A similar supervision requirement was required in stable accounting and suggests the imposition of a form of internal control and accountability. Items recorded in the journals included materials received and wages paid to carpenters, bricklayers and other construction workers. The construction accounting system required that a surplus or deficit at the completion of the project would be accounted for and disclosed, and that any discrepancies be explained. This requirement suggests that a form of budgeting was used.

Rice Farm Accounting (*Agricultural Accounting*): This appears to have been a non-monetary system because it required the recording of quantities of rice received and disbursed and the specification of the fields that produced the rice. The system explained by Al-Mazendarany and Al-Khawarizmy did not indicate a segregation of duties between recording and managing the inventory. It seems that the bookkeeper had sole responsibility for both recording and keeping custody of the inventory. This was unusual - the other accounting systems incorporated specific internal and general control procedures. It appears that this form of agricultural accounting was designed for state-owned rice farms or for the purpose of accounting for the rice received and distributed as zakat in kind rather than in monetary form. The requirement to identify the field from which the rice was harvested and the venues of the zakat disbursement[14] are also

[14] The disbursement of zakat either in cash or in kind is governed by the Quran, which requires zakat to be disbursed to "the Fukara' (poor), Al-Masakin (the poor), and those employed to collect the zakat, and to attract the hearts of those who have been inclined (towards Islam), and to free the captives, and for

suggestive of this. The non-monetary rice farm accounting system was similar to the grain accounts of Zenon's or Appianus Egyptian estates, mentioned by Macve [1994, p. 59]. This also required the recording of receipts and issues of grain in physical terms and without reference to money measurement.

Warehouse Accounting: Warehouse Accounting appears to have been designed to account for the state's purchase of supplies. The system was placed under the direct supervision of a person known to be trustworthy. This system required the detailed recording of the type of goods received and the source of delivery in books prepared for the purpose. The immediate and adequate recording of the disbursement of goods in specified books was required. It appears that at least two classified books were used in this system. It is not stated whether the recording of goods received and issued was in monetary terms only, or in physical and monetary terms, though the latter appears most likely in practice. It was also a requirement that a stock count be conducted at the end of the financial year and its results compared with stocks recorded in the books. It was mandatory to investigate the causes of differences and to question the store man about them. The store man was personally liable for any shortfall between the book and actual inventory. It appears that the warehouse accounting system differed from that of "the ancient world, where the inventories of items were maintained solely in quantitative, physical terms" [Macve, 1996, p. 6]. This confirms that a system of internal control was in existence because the store man was not the bookkeeper. The scale of inventory referred to in warehouse accounting suggests that it was less likely to have been used by private entrepreneurs.

Mint Accounting (*Currency Accounting*): The mint accounting system was designed and implemented in the Islamic state before the 14th century A.D. It required the immediate conversion of gold and silver received by the mint authority into bullion or coins. It further required the immediate delivery of bullion and coins to the person in charge. This suggests that the system did

those in debt, and for Allah's cause (i.e. for Mujahidun - those fighting in a holy battle), and for the wayfarer (a traveller who is cut off from everything)" [At-Taubah, 9: 60]. Zakat use to be collected and paid either in cash or kind or both, but now it is mostly in cash. In the absence of the Islamic state, zakat is given directly by the individual zakat payers to those stated in the pervious verse of the Quran. Some charitable organisations and government agencies are also involved in the collection of zakat and its distribution as mentioned in the Quran.

not allow either raw material (gold and silver) or finished products (bullion and coins) to be held on premises for any length of time. The requirement of immediate conversion, minting and delivery would have been initiated for security reasons to prevent theft. Bullion and coins would have been delivered to the equivalent of a contemporary public treasury. The mint accounting system required the use of three specialized journals. The first was used for recording inventory, the second for recording revenues, and the third for recording expenses. Purchases and wages were examples of costs incurred by the mint authority. It was also mandatory to record the terms and conditions of the services provided by the mint authority in the expenses journal. The revenue of the mint authority was calculated at either 5% of the cost of gold or silver, or in accordance with a predetermined amount. The criteria for the application of either calculation was not mentioned by Al-Mazendarany or Al-Khawarizmy.

Sheep Grazing Accounting: This form of farm accounting was initiated and implemented by government authorities in the Islamic state and its use by private entrepreneurs to measure the 'profit' or 'losses' for the purpose of zakat is likely. Sheep grazing accounting was different to Greek and Roman farm accounting "where the accounts did not purport to show any more than movements of cash and kind, any dependence or fixation on the accounting figures in forming ideas about profitability seems much less likely" [Macve, 1994, p. 78]. Under this system all animals given to the grazier or shepherd were recorded in a book designed for the purpose. Revenue received either in cash or kind was also to be recorded. Revenue in kind received by the grazier included animals and sheep products. It appears that this system used a number of specialized books because of the requirement to record 'animals given' - assets - in a different book from that used to record expenses. It is not clear whether animals received were recorded as revenues or were capitalized and recorded in the assets book. Neither Al-Mazendarany or Al-Khawarizmy elaborated on this issue. Proper classification and adequate disclosure was also a feature of farm accounting as it required the separate classification of male sheep, female sheep, goats and their offspring. It was also required to properly record and classify sheep slaughtered and meat products distributed. Once again, the relevant book or books were not specified by either Al-Mazendarany or Al-Khawarizmy. Losses were also recorded in the books, including those due to natural disasters such as drought.

Treasury Accounting: This was used by government and required the daily recording of all treasury receipts and payments. It appears that monetary and non-monetary measurements were used as recording treasury receipts and disbursements were in cash and kind. This system would have included inventory needed by the government and/or Sultan such as gold, silver, medicines etc. Although there was a general requirement to record transactions immediately applicable to all accounting systems, (see procedure number 1, below), unlike other systems, this was specifically mentioned as a requirement in Treasury accounting.

The Treasury accounting system required the provision of separate columns for cash transactions. Non-cash transactions were to be classified according to their nature, color and other specifications and then recorded in detail. The system was also distinguished from others in that it encompassed two methods of recording. These were the *Arabian method* and the *Persian method*. The *Arabian method* required the recording of inflows of cash and goods on the right side of the journal and outflows on the left side of the journal. This suggests that the journal functioned as both a journal and a ledger, and this may explain the absence of a separate ledger in this system. A separate page was also allocated for each item (account). The fact that the majority of bookkeepers were Arabs encouraged the use of the *Arabian method*. The *Persian method* required two separate books, one for the inflow of cash and goods and the other for the outflow of cash and goods. The *Persian method* did not require the itemizations of inflows and outflows of cash and goods as under the *Arabian method*, and this explains why the *Arabian method* was considered superior.

The need for standardized information appears to have been a priority in the design and implementation of the accounting systems. The same system was to be applied regardless of who was in charge or of the place of its application. Information standardization was also apparent in the mandatory accounting reports prepared at different times. Examples of these reports are *Al-Khitmah* (Monthly Report) and *Al-Khitmah Al-Jame'ah* (Comprehensive Final Report), prepared annually [Al-Khawarizmy, 1984, pp. 52, 81]. Compliance with the accounting systems and the need for the generation of reliable, standardized reports were further encouraged by the specification of supporting documents and mandatory general recording procedures. The latter are the subject of the next section.

RECORDING PROCEDURES IN MUSLIM SOCIETY

The development and implementation of accounting systems in the Islamic state was supported by mandatory recording procedures. Some of these procedures were of a general nature and applied to all accounting systems while others were of a specific nature and related to a particular system. The imposition of zakat and hence the diverse and large amounts of revenues, expenses and related activities of the Islamic state necessitated the establishment of control procedures. These control procedures enabled officials to adequately monitor activities and discover any deficit or surplus in the state treasury arising through imbalanced books. Two cases reflecting the effectiveness of these internal controls are worth noting here. The first was the discovery of a deficit of one *Derham* in the *Baitul Mal* (Public Treasury). This was the discovery of the *Sahaby* (Prophet's Companion) *Amer Bin Al-Jarrah* who wrote to the second Caliph, *Omar bin Al-Khattab*[15], informing him about the deficit[16] [Lasheen, 1973, p. 13]. Al-Mazenderany [765 H, 1363 A.D.] also outlined the importance of internal controls implemented in all Dewans. The second case was the discovery of an unrecorded expense that resulted in a deficit. This deficit caused the accountant to pay 1,300 Dinars for not recording the transaction. This omitted expense was subsequently uncovered when the book balance was compared with corresponding schedules and other balances in the main Dewan at the end of the financial year [Lasheen, 1973, p. 13]. This also indicates that a form of auditing was practiced after the establishment of the Islamic state in 622 A.D.

Lasheen [1973, pp. 163-165] noted some of the common recording procedures implemented after the 2nd century H (8th century A.D.). Examples of recording procedures developed and applied by government authorities and individual entrepreneurs in the Islamic state are as follows:

1. Transactions were to be recorded immediately when they occurred.
2. Transactions were to be classified according to their nature. This required similar and homogeneous transactions to be classified under one account and recorded as such.

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[15] He ruled during the period 13-23 H (634-644 A.D.).

[16] It appears that this was the result of an audit.

3. Receipts were to be recorded on the right hand side of the page and sources of receipts were to be identified and disclosed.[17]
4. Payments were to be recorded and sufficiently explained on the left hand side of the page.
5. Recorded transactions were to be carefully explained.
6. No space was to be left between transactions. If a space was left for any reason, a line had to be drawn across the space. This line was called *Attarkeen*.
7. Corrections to recorded transactions by overwriting or deletion were prohibited. If *Al-Kateb* (the accountant/bookkeeper) had mistakenly overstated the amount, he was obliged to pay the difference to the Dewan. If an expense was omitted, *Al-Kateb* was required to pay the shortfall in cash even if it could subsequently be proven that the expense did occur.
8. When the account was closed, a specific sign was to be placed in the books to reflect the closure of the account.
9. All similar transactions recorded in the preliminary book were to be posted to the specialized books maintained for that type transaction.
10. The posting of similar transactions was to be performed by persons independent from those who recorded the transactions in the daily and other books.
11. The balance, called *Al-Hasel* (the difference between two amounts), had to be extracted.
12. A monthly and/or yearly report was to be prepared. This report had to be detailed and provide sufficient information to determine, for example, incoming crops, where they came from and how they were distributed.
13. At the end of each financial year, a report was to be prepared by *Al-Kateb* detailing all goods and funds under his custody and management.
14. Annual reports prepared by *Al-Kateb* were to be reviewed (audited) and compared with prior year reports and with records maintained in the main Dewan.

[17] This indicates that procedures 3 and 4 were not only applicable to the treasury accounting system but were of a general nature and applied to all accounting systems employed in the Muslim society. Furthermore, this was in compliance with the Arabic method as explained earlier in the "treasury accounting system".

Procedures 1 and 2, relating to the timing of recording and the importance of classification, could have been initiated for the purpose of zakat. In accordance with *Shari'ah Islami'iah*[18] certain types of income are subject to zakat upon realization, while assets (other than those for personal use) are subject to zakat only if they are held for 12 months from the date of acquisition. This 12 month period is known as *Al-Hawl* (zakatable period). Thus a concept of 'periodicity' has featured in Islamic accounting since the year 624 A.D. Immediate recording and classification were of prime importance for the purpose of zakat computation on income and assets held. Assets were required to be classified by types such as equipment, debtors, cash etc. For the purpose of zakat, certain assets were required to be further classified. This was the case with debtors. Debtors were sub-classified into three categories known as *Ar-Ra'ej Men Al- Mal* (collectable debts), *Al-Munkaser Men Al-Mal* (uncollectable debts) and *Al-Mutha'adhdher Wal Mutahayyer Wal Muta'akked Men Al- Mal* (difficult, doubtful and complicated debts) [Al-Khawarizimy, 1984, p. 82]. This sub-classification was important because only collectable debts were subject to zakat (zakatable income).

Procedure 3 relates to credit entries while procedure four describes debit entries. Although Heaps [1985] states that "the ancients entered the receipts and payments of money on opposite pages in the way of Dr. and Cr." [pp. 19-20] he does not identify these "ancients" though they may include the Islamic state. Procedures 3 and 4 imply conformity with the "*Arabian method*" under the treasury accounting system which required the recording of inflows, "debits" on the right hand side and outflows, "credits" on the left hand side of the page. It is possible that two pages were used, in which debit entries were recorded on the right page and credit entries were recorded on the left page. Alternatively, the page was divided into two columns for recording debits and credits. This format in the Islamic state was different from Greek and Roman practice where the books were kept "mainly in terms of receipts and expenditure rather than debit and credit . . . they never got as far as the habitual separation of what we should call debit and credit entries by inserting them into separate columns, let alone an opposite pages of an account" [de Ste Croix, 1956, p. 14]. There is no evidence to suggest that this form of recording, as required by procedures three and four, represents a form of double-entry

[18] See footnote No. 7.

bookkeeping, but this could have been a precursor to the development of double entry bookkeeping systems.

Procedure 5 required the careful explanation of transactions recorded. This is likely to have been associated with the audit requirement. Auditing was mandatory and focused on the books of account. Al-Kalkashandy[19] [1913, Vol. 1, pp. 130-139] explained the role of the reviewer (auditor) by saying:

> . . . it is common for a person not to see his mistakes but can see others' errors. It is necessary for the head of the Dewan to appoint a person to review the books. This person must possess a high standard of the language, be hafidh [a memoriser] of the Quran, intelligent, wise, trustworthy and neither prejudiced nor inimical. When the reviewer is satisfied with the contents of the book being reviewed, he should sign in the book as an indication of his satisfaction with the contents.

Procedure 6 required that no space be left between transactions and if a space was left for any reason, a line was required to be drawn across the space. This reflected the risk of misrepresentation and manipulation if blank lines or pages are left in the accounting books. This procedure complemented procedure 1 and was designed to avoid the intentional inclusion of transactions on dates other than their actual occurrence. It further indicates the significance of internal controls in the Islamic state.

Another form of internal control which complemented procedures 1 and 6 was specified in procedure 7. This prohibited overwriting and deletion in accounting books as a means of correcting recorded transactions. It can be interpreted as a warning to those who did not perform their duties with care as a penalty was imposed of the difference between the actual and recorded (overstated) amounts of revenue as well as the shortfall in cash for unrecorded expenses. The payment of the shortfall in cash by *Al-Kateb*, though harsh, appears to have worked in practice.

Procedure 8 was intended to prevent *Al-Kateb* from entering transactions after the closing date. This procedure required 'a specific sign in the book'. The nature of the 'specific sign' was not explained but refer to a unique mark such as the signature of the person in charge of the *Dewan* (accounting department). The requirement of this procedure further confirms the application of cut-off and periodicity.

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[19] His handwritten book was dated 821 H (1418 A.D.).

Procedure 9 required the posting of similar transactions from the preliminary book to the specialized books. The posting requirement could have been initiated for the purpose of the preparation of financial statements such as *Al-Khitmah* and *Al-Khitmah Al-Jame'ah*. Although it was not stated whether these specialized books were specialized journals or ledgers, it is most likely that they were ledgers. The use of specialized ledgers dates back to the fifth Caliph, Omar bin Abdul Aziz (Omayyed Caliphate), who lived between 61 and 101 H (681-720 A.D.) and ruled between 99 and 101 H (718-101 A.D) [Ibn Saad, 1957, Vol. 1, p. 400]. This recording procedure could have served as an internal control procedure for the collection and disbursement of zakat as it appears that the zakat collection and distribution were first recorded in the general journal and then posted to the relevant specialized journals representing the type of zakat collected or disbursed. This suggestion is supported by procedure 10 which explicitly required posting to be performed by a person independent from the one who recorded transactions in the preliminary book.

Recording in the general journal, and hence in the specialized ledgers, was subject to the preparation of *Ash-Shahed* (journal voucher) [Lasheen, 1973, pp. 131-132]. The existence of primary and secondary books and the classification of transactions according to their nature suggest that financial statements, at least in the form of an income statement, were used for decision making and for accountability with regard to projects undertaken by the state. *Al-Khitmah Al-Jame'ah* (comprehensive final report) was the form of accounting report used in the Islamic state [Bin Jafar, 1981, p. 35]. This was similar to a contemporary funds statement [Zaid, 2000a, p. 88]. The existence of *Al-Khitmah* and *Al-Khitmah Al-Jame'ah* indicates the possible existence of other financial reports and affirms the need for further research to investigate the development of other financial statements in the Islamic state.

Procedure 11 required the extract of *Al-Hasel* (the balance). The calculation of *Al-Hasel* as the balance between two amounts, in conjunction with the requirements of procedures 3, 4, 8 and 9, indicates further that concepts of debit and credit were known and practiced by Muslim accountants in their classification and posting of 'homogeneous transactions'. As stated earlier, no evidence of the actual practice of double-entry system was sighted in the research for this study although Solas and Otar [1994, p. 134] argue that "double-entry accounting was practiced in the Near East during the 1220-1350 period by the Il

Khan state". This claim requires further research in the context of the Islamic state.

Procedures 12 and 13 required *Al-Kateb* to prepare monthly and annual reports. These reports represented the essence of the stewardship function. Procedure 13 required *Al-Kateb* to report on "goods and funds under his custody and management". Existing evidence indicates that these reports were mixed format - a form of income statement which also disclosed assets [Zaid, 2000a, p. 86].

Procedure 14 reflected the importance of the audit function described by *Al-Kalkashandy*[20] [1913] as "the review of the books ... to check what was written in the books" [p. 130]. This procedure indicates that auditing was used for a number of purposes, including comparison of results with budgets and assurances about the propriety of the books.

CONCLUSION

This paper reveals that various accounting systems were developed and implemented in Muslim society to suit the needs of the Islamic state in compliance with *Shari'ah Islami'iah*. Zakat was the major factor contributing to the development of accounting systems, books, recording procedures and reports. These accounting systems necessitated the establishment and specification of sophisticated recording and control procedures. Proper classification of transactions and disclosure were integral to the various accounting systems. Monthly and yearly financial statements were prepared on the basis of a concept of periodicity. Budgeting also featured in the accounting systems and was used as an internal control procedure as well as being a tool for analyzing and interpreting the monthly and yearly financial statements. Auditing was practiced in the Islamic state and was mandatory.

Although these systems were designed and implemented by government authorities, it is likely that Muslim entrepreneurs also adopted them for the purpose of zakat. It is apparent that some of the recording procedures developed and practiced in Muslim society were similar to those which were later applied in medieval Europe. Indeed, Ball [1960] stated "we can hardly suppose that the Italian merchants were ignorant of the methods of keeping accounts used by their best customers" [pp. 208-209]

[20] Al-Kalkashandy's book was actually written in 821 H (1418 A.D.).

and significant among these were Muslim entrepreneurs. The relationship between the accounting systems developed in the Islamic state and subsequent developments beyond it remain a subject for historical research.

REFERENCES

Abu-Addahab, Ashraf Taha (2002), *Islamic Dictionary* (Cairo: Dar Ash-Hhorook).

Al-Khawarizmy, Mohammad bin Ahmad bin Yousuf (1984), *Mafatieh Al-Uloom*, (Beirut: The House of the Arabic Book).

Al-Mazenderany, Abdullah bin Mohammed bin Kiya, 765 H (1363), *Risalah Falakiyyah Kitabus Siyakat*, Sulaimani'yah Library, Instanbul, Manuscript No. 2756.

Ball W. W. R. (1960), *A Short Account of the History of Mathematics*, (New York: Dover Publications).

Bin Jafar Kudamah (1981), *Al-Kharaj Wa Sina'at Al-Kitabah*, Commentary by Dr. Mohammad Hussain Al - Zibet (Baghdad: Dar Ar - Rasheed Publishing).

de Ste Croix, G. (1956), "Greek and Roman Accounting", in Littleton A. C., and Yamey B. S. (eds.), *Studies in the History of Accounting* (London: Sweet & Maxwell Limited), 14-74.

de Ste Croix G. (1981), *The Class Struggle in the Ancient Greek World From the Archaic Age to the Arab Conquests*, (Gerald Duckworth & Co. Ltd, London).

Ekelund J.R., Robert B. and Hebert R. F. (1990), *A History of Economic Theory and Method*, (USA, McGraw Hill, Inc).

Hamid S., Craig, R., and Clarke F. (1993), "Religion: A Confounding Cultural Element in the International Harmonisation of Accounting," *Abacus*, Vol. 29, No. 2: 131 - 148.

Have, O. ten (1976), *The History of Accounting* (California: Bay Books).

Heaps, J. W. (1895), *The Antiquity of Bookkeeping: An Historical Sketch* (London: Gee and Co.).

Ibn Saad, Mohammad bin Saad bin Manee Al - Mashoor be Kateb Al - Wakidy, 1377 H (1957), *At-Tabakat Al-Kubra* (Beirut: Beirut House for Printing and Publishing).

Lall Nigam B. M. (1986), "Bahi-Khata: The Pre-Pacioli Indian Double-Entry System of Bookkeeping," *Abacus*, Vol. 22, No. 2: 148-161.

Lasheen Mahmood Al-Mursy (1973), *At-Tandheem Al-Muhasaby Lil-Amwal Al-Ammah Fil-Islam*, M.A. Thesis (Faculty of Commerce, Al-Azhar University).

Lewis B. (1970), "Sources for the Economic History of the Middle East," *Studies in Economic History of the Middle East from the Rise of Islam to the Present Day*, in Cook, M.A. (ed.), (Oxford University Press): 78-92.

Lieber A.E. (1968), "Eastern Business Practices and Medieval European Commerce," *Economic History Review*, Vol. 21, No. 2: 230-243.

Littleton A. C. (1933), *Accounting Evolution to 1900*, (New York: American Institute Publishing Co. Inc.).

Littleton A. C. (1956), *Evolution of the Journal Entry*, (Illinois-USA, Richard Irwin Inc.).

Macve R. H. (1994), "Some Glosses On Greek and Roman Accounting", in Yamey B. S. and Parker R. H. (eds.) *Accounting History: Some British Contributions* (Oxford: University Press): 57-87.

Macve R. H. (1996), "Pacioli's Legacy," in Lee T. A., Bishop A., and Parker R. H. (eds.), *Accounting History From the Renaissance to the Present* (New York: Garland Publishing Inc): 3-30.

Nobes C. W. (2001), "Were Islamic Records Precursors to Accounting Books Based on the Italian Method? A Comment," *Accounting Historians Journal*, Vol. 28, No. 2: 207-214.

Parker, R. H. (2000), "The Scope of Accounting History: A Note", in Edwards, J. R. (ed.), *The History of Accounting. Critical Perspectives on Business and Management*, Volume 1 (London: Routledge): 66-70.

Quran, English translation of the meanings and comments, 1410 H – 1989 A.D., Kingdom of Saudi Arabia, King Fahd Holy Quran Printing Complex.

Scorgie M. E. (1990), "Indian Imitation or Invention of Cash-Book and Algebraic Double-Entry," *Abacus*, Vol. 26, No. 1: 63-70.

Solas, C. and Otar, I. (1994), "The Accounting System Practiced in The Near East During the Period 1220-1350 based on the Book Risale- I Felekiyye," *Accounting Historians Journal*, Vol. 21, No. 1: 117-135.

Zaid O. A. (1997), *"The Historical and Theoretical Framework of Financial Accounting in the Muslim Society"*, (Amman - Jordan, Darul- Bashier for Publishing and Distribution), Second Edition. [Arabic].

Zaid O. A. (2000a), "Were Islamic Records Precursors to Accounting Books Based on the Italian Method?," *Accounting Historians Journal*, Vol. 27, No. 1: 73 - 90.

Zaid O.A. (2000b), "The Appointment Qualification of Muslim Accountants in the Middle Ages," *Accounting Education*, Vol. 9, No. 4: 329-342.

Zaid O. A. (2001), "Were Islamic Records Precursors to Accounting Books Based on the Italian Method? A Response," *Accounting Historians Journal*, Vol. 28, No. 2: 215-218.