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More on Public and Private Roman Accounting History

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Abstract

Accessing scattered references in essential Roman literary sources by Cicero, Livy and others, supplemented by legal sources and contributions from eminent Roman historians such as Badian and Mommsen, this narrative aims to provide an overview of public and private accounting covering a relatively unstudied period from the Republic to the early Principate. The narrative for public accounting covers the organization and role that *scribae quaestori* of the *aerarium* played in state accounting during the Republic. Specific attention is also given to state fiscal administration reforms of Augustus that created a departmentalized civil service overseeing the imperial fiscus. The narrative for private accounting examines selected opinions on private law from Gaius *Institutes* and *Digesta* of Justinian to demonstrate the sophistication of Roman accounting practices, focusing on obligation by book entry. The narrative concludes with a detailed examination of the modern debate over the analysis that Columella provides for viticulture profitability.

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Among other items, the will of the testator for the freedman states: 'if he has done any business for me in his lifetime, I do not demand an accounting from him for this.' The question is whether the papers on which the accounts are recorded, as well as any sums remaining according to receipts and expenses, should be returned to the heirs.¹

(*Digesta* 34.3.31.1)

Introduction

Scholarly study of ancient accounting history faces numerous challenges. Perhaps the most daunting are critiques akin to Stevelinck (1985:1) that 'there is little of interest to the present-day accountant in the study of primitive and obsolete accounting practices.' Another challenge is the limited and 'often so one-sided' primary sources. For Roman history, reference to 'primary sources' is typically a misnomer as almost all 'original' Roman sources have not survived, leaving faded inscriptions, text fragments and not completely legible, often corrupted, copies of copies of some original text. The impressive work of 19th century philologists restoring the original Latin texts was often challenging due to the Roman and medieval habit of 'correcting'

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3 an older source or copy creating differences between available archetypes. In turn, the vast
4 literature of German, English, French and Italian 'secondary sources' is rife with disagreements
5 between Latinists, philologists and Roman historians over context, interpretation and translation
6 of texts that typically focus on Roman military and political events providing relatively limited
7 detail on activities relevant to accounting historians.² Against this backdrop, this paper aims to
8 provide insight into public and private Roman accounting from the beginnings of the Republic to
9 the early Principate, a period of ancient accounting history that has received little scholarly
10 examination.
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13 It is commonplace in accounting history to focus on financial records, accounting statements,
14 journals, ledgers and the like to recreate and analyze accounting methods and practices
15 associated with a previous era, event or specific accounting firm or accountant. Consequently,
16 the limited supply of such evidence from the Romans, especially during the Kingdom and
17 Republican periods, has resulted in a relative absence of attention by accounting historians to
18 Roman accounting practices compared to Egyptian and Mesopotamian civilizations where
19 primary sources are less limited, e.g., Volmers (2009); Ezzamel (2009); Carmona and Ezzamel
20 (2007); Mouck (2004); Ezzamel (2002a,b); Mattessich (1998); Nissen et al. (1993); Schmandt-
21 Besserat (1992); Snell (1982); Keister (1963); Grier (1932). Despite the lack of conventional
22 sources of historical evidence, inferences about the social status and organization of accountants
23 as well as accounting method and practice can be gleaned from alternative sources. The little
24 that is known about the period from the early to middle Republic – based largely on literary
25 contributions by Livy (59 BCE-17 CE), Dionysius of Halicarnassus (c.60–7? BCE) and Polybius
26 (200?–117? BCE) – provide useful context for exploring the more accessible accounting history
27 of the middle to late Republic available in various offerings from the Cicero (106-43 BCE)
28 corpus, supplemented by detail from Plutarch (c.45-120 CE) about Cato the Younger, and
29 evidence about the organization of accountants (*scribae*) surveyed in Badian (1989).
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32 The period from the late Republic to the Principate is characterized by increasing availability
33 of sources relevant to accounting method and practice sufficient to support a secondary, albeit
34 modest, literature on Roman accounting during the Empire. With one significant exception, this
35 literature has focussed on state accounting practices related to taxation and administrative
36 control. In contrast, the following narrative also considers aspects of the essential legal texts –
37 *Institutiones* [Institutes] of Gaius and *Digesta* [Digest] of Justinian – to demonstrate
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sophistication in the method and practice of private Roman accounting. Specific attention is dedicated to accounting practice associated with *Litterarum Obligatio* (Obligation by Book-Entry). This narrative posits private Roman accounting methods were sophisticated, seemingly at variance with various claims in the secondary literature that ‘the form and content’ of ‘primitive’ Roman private accounting led to ‘economically irrational decisions.’ Many such claims arise from dissecting the analysis in Columella *De Res Rustica* [On Agriculture; 3.3.7-15] demonstrating the profitability of viticulture. Closer inspection of this source reveals the importance of social critique to Columella, rather than demonstrating the rationality of decisions based on Roman private accounting for agricultural estates.

Reflections on Roman accounting history

Why study history, especially ancient history, if the ‘present day’ context is so different? The ‘irrelevance of ancient accounting’ critique of Stevelinck, ten Have (1976) and others can be addressed in various ways. One approach is an appeal to the general perspective of Hobsbawm where ‘the purpose of history is to provide knowledge about patterns and mechanisms inherent in past societal changes and from which contemporary plans and actions can be contemplated’ (Lee 2013:142). Unfortunately, this is too general to have specific relevance to ancient accounting history. More helpful is Macve (2002) where the role of accounting history is identified with ‘reflecting and shaping not only business and management practice, but also economic and social organization more generally’. For example, accounting method and practice is relevant to the primitivist versus modernist debate over whether there was ‘a market economy’ in ancient times. Ancient history also provides insight into the role of accounting in the planning and control of commercial and state activities, as illustrated by Macve (1985) where tax accounting methods in the largely agrarian, pre-industrial Roman economy are explored.

A central concern in the evolution of ancient accounting is public finance: determining methods for assessing taxes; keeping track of state receipts and disbursements; and providing information needed to exercise administrative control. Significantly, Baker (2013) argues accounting practices used in administration of the Byzantine Empire during the fourth to sixth centuries CE ‘were sufficiently well developed to serve the administrative needs of a vast empire extending over a territory throughout the Mediterranean world and most of southern Europe’. This begs the question: how did state accounting practice during the later Empire differ from the Republic and early Principate? That there was substantive evolution of state accounting practice

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3 from the Republic to the early Principate is well known. Due to the inability of the early first
4 century CE imperial Roman state to raise sufficient funds, the personal accounts of Augustus
5 gradually became co-mingled with state funds leading to the emergence of the '*fiscus*', i.e., the
6 imperial treasury (*patrimonium*), and a transition in the institutional role and importance of the
7 personal accountant of the emperor -- the *a rationabus* -- responsible for the emperor's finances.
8 This marked an essential turning point from the Republican period where state funds were
9 associated with the *aerarium* and '*fiscus*' was an impersonal term referring to 'a basket where
10 money was kept' (Brunt 1966).
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13 Oldroyd (1995) considers the role of accounting in financial planning for Roman public
14 expenditure and the associated implications for the imperial monetary system during the first
15 century CE finding, similar to Baker (2013), sufficient grounds to infer 'the scope of the
16 accounting information at the emperor's disposal ... suggests that its purpose encompassed
17 planning and decision-making' (Oldroyd 1995:124) with the *a rationabus* in 'control of the fiscal
18 administration throughout the whole empire' (Berger 1953:338). This positive perception of
19 Roman public accounting during the early Principate seemingly stands in contrast to de Ste.
20 Croix (1956; 1981:114) and others that argue the absence of a Roman income tax was due to
21 inadequacy of archaic Roman accounting to develop a method for determining income.³
22 Imposing an 'income' tax requires some method of determining 'income' to inform legislation
23 empowering the state to levy such a tax. As in modern tax accounting where the treatment of
24 depreciation, cost basis, realization of capital gains and the like are determined by the legalities
25 of the tax code, to what extent was Roman public and private accounting an artifact of the legal
26 environment? Giving due attention to political and economic considerations, does closer
27 inspection of essential Roman legal context lead to an interpretation of Roman accounting as
28 both complex and sophisticated, albeit designed for a decidedly different set of social
29 circumstances?
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32 In comparison to contributions concerned with Roman accounting in the realm of state
33 financial administration, the bulk of contributions related to accounting for private interests have
34 been concerned with assessing whether the rudimentary character of Roman accounting
35 impinged on the ability to make rational financial and commercial decisions (Mickwitz 1937;
36 Carindini 1983; Maeve 1985). For example, Abatino et al. (2011:385) accept the perception that
37 Roman private accounting was 'primitive' but maintain the de facto partition between personal
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3 and business assets in slave-run businesses endowed *in potestate* with *peculium* could function
4 effectively ‘even without modern accounting techniques.’ Such perceptions appear incongruent
5 with substantive legal and literary evidence that accounting played a significant role in private
6 affairs throughout Roman history. However, the task of assembling evidence from available
7 sources for the Republic and early Principate to demonstrate the sophistication of Roman
8 accounting practice and methods employed in private affairs has not been undertaken. The
9 following narrative aims to provide some evidence on the complex and sophisticated accounting
10 practices arising in private Roman activities during the Republic and early Principate.
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17 **Absence of accounting records**

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19 The 1915 discovery in Egypt of a tomb containing over sixty thousand *papyri* dating from the
20 mid-third century BCE documenting the accounts of Zenon, a Carian Greek, manager
21 (*oeconome*) for the estate of Apollonius, the financial minister of Ptolemy II Philadelphus, in the
22 ancient city of Philadelphia (Grier 1932), seems incongruent with the almost complete absence
23 of any such accounting records from the Roman Republic. As numerous Roman literary, legal,
24 archaeological and epigraphic sources indicate accounts were kept for family estates, the duties
25 of public officials, banking activities and like, failure of such accounts to have survived requires
26 explanation. In addition to idiosyncrasies associated with Roman archiving practice, including
27 responsibility for retaining records, the physical media for recording accounts combined with the
28 level of literacy and importance of oral communication contributed to a situation detrimental to
29 survivability of records relevant to accounting history. In addition, where state records were
30 concerned, great fires in 83 BCE and 69 CE on the Capitoline Hill destroyed many state
31 documents, including epigraphs and other important documents such as the property lists
32 prepared by the *censors* at the *census*, leaving only Greek translations stored in Greek archives as
33 the source of many surviving records of treaties (Culham 1991:122-3). In *Vespasian* [Lives:8]
34 Suetonius estimated three thousand documents engraved in bronze were lost in the fire of 69 CE
35 alone.
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48 Perhaps the easiest explanation for failure of Roman accounting documents from the Republic
49 to survive is the widespread use of wax writing tablets, effectively thick wooden tablets
50 hollowed to admit wax on which writing was recorded using a metal stylus or, in some cases,
51 ink. Such tablets could be bound together into a *codex*. In provinces where wood was plentiful,
52 thinner wooden leaf tablets using ink writing were also commonly used, e.g., Bowman and
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Thomas (1983). Though examples of such items have been obtained at archaeological digs, except in unusual cases the wax has long since disintegrated leaving only the wooden frame. Occasionally, writing where the stylus penetrated the wax to leave a faint impression in the wood has survived.⁴ The Sumerian, Assyrian and Babylonian practice using a stylus on clay tablets and the Egyptian practice of using papyrus with ink resulted in more durable documents. Though papyrus, parchment such as velum and ostraca were available to the Romans during the Republic, these media were substantially more expensive for most purposes of recording 'the accounts', e.g., Harris (1989:193-6). Following the Roman conquest of Egypt (30 BCE), the widespread use of papyrus in that region has provided details of state financial administration in Roman Egypt, e.g., Bowman (1976); Macmullen (1962); Rathbone (1993). Whatever the media, the practice of repurposing previous documents was both possible and common further contributing to the lack of survivability.

Perhaps more significant than the media used to record the accounts was Roman attitude toward archiving. Though modern scholars often refer to the *aerarium* as an archive for state documents (*tabulae publicae*) and other records such as the accounts *consuls* and other important personages were required to submit upon completion of duties:

There are no instances in which Romans of the Republic or early Empire used *archium* or some related, Greek-based term to refer to any site in Rome, but the modern habit of referring to these structures as archives has led us to assume that modern archival practices such as deposition, retrieval, and consultation of documents were routine (Culham 1989, p.101).

The physical dimensions of the *aerarium* appear to have been those of 'a small, boxy temple', incompatible with large scale document storage as was the case, say, for important Greek temple archives. If the *aerarium* did not function as the state archive in the modern sense, this implies that responsibility for retaining records relevant to accounting history lay elsewhere.⁵ In a society characterized by oral communication where literacy was largely the preserve of the elite, the keeping of records typically fell largely upon those responsible for preparation. As reflected in *Digesta* [34.3.31.1] and in other legal sources, this responsibility typically fell on the slave or freedman (*dispensator, ratiocinator*) tasked with running family estates, the *scribae* or *tabularius* at the *aerarium*, the *actores* of the rich noble moneylenders (Andreau 2008) and the like.⁶ Hence, responsibility for preservation of accounts was often connected to those of lower social status with limited incentive or ability to ensure preservation for future generations.⁷

The *census* and Republican social order

Understanding the evolution of social order over the three conventionally identified periods of Roman history -- the Kingdom (c.753-c.509 BCE); the Republic (c.509-27 BCE) and the Empire – has some usefulness for accounting history. Available sources for the Kingdom – especially, Polybius *Histories*, Dionysius of Halicarnassus *Antiquitates Romanae* [Roman Antiquities], and Livy *Ab Urbe Condita* [From the Founding of the City] – were authored by individuals that lived centuries after the Kingdom making it difficult to separate myth from reality. With this in mind, the sources inferentially reveal the rudimentary character of state accounting based on an extension of household management by the monarch derived from the clan (*gente*) social structure and the central role of the *pater familias*.⁸ Until the commencement of minting *denarius* silver coinage c.278/9 BCE Roman ‘money’ was a mixture of bronze weight, copper and, to a lesser extent, some mostly Greek foreign issues, indicating that accounting during the Kingdom and early Republic lacked substantive monetization (Howgego 1992; Poitras 2021a). This background is essential for interpreting an important, albeit neglected, event in Roman accounting history, the introduction of the *census* presumably during the reign (c.578-535) of the sixth Roman king, Servius Tullius.

The *census* was an essential component of reforms that shifted political control from the legislative assembly -- *Comitia Curiata* -- held by the aristocratic *patricians* to the *Comitia Centuriata* based on a military structure that admitted voting by *patricians* and *plebians*. The initial *census* apparently featured Servius, the executive magistrate, as the *censor*, responsible for sorting male Roman citizens into classes based on status, age and wealth. Frank (1930) doubts *census* records from the regal period were accurately preserved and Gauthier (2019:287-8) observes it is ‘likely that Livy and Dionysus actually projected a system existing at some time in the middle/late republic back to the early days of Rome’.⁹ In any event, the sources claim the *census* commenced in 508 BCE, the year following the end of the monarchy when the king was supplanted by two *consuls*, elected by the *Comitia Centuriata*. The *consuls* served the role of *censor* until the censorship was created, possibly as early as 443 or as late as 430 BCE (Cram 1940).¹⁰ ‘According to Dionysius of Halicarnassus every Roman had to take an oath once in five years before the Censors that his bookkeeping was honest and accurate’ (Poste 1904:362). Consistent with the limited extent of literacy and numeracy during the Kingdom and early Republic, such oaths were based on verbal statements not physical bookkeeping records (Harris

1989:150). Due to complications arising from the extension of Roman citizenship to other parts of Italy and the civil conflicts of the late Republic, the *census* requirement had largely ‘broken down’ by the end of the Republic (Buckland 1921:74; Astin 1990; Rathbone 1993:94). Though for different purposes, the *census* was revived and extended to the provinces under Augustus (Wiseman 1969).¹¹

The following *census* classifications applicable during the Republic are provided by Dionysius and Livy (Frank 1930:317):

18 centuries of knights (*equites*) (1800 men)
80 centuries, 1st class (8000), property, 100,000 *asses* (= 40,000 *sestertii*)
20 centuries, 2nd class (2000), property, 75,000 *asses* (= 30,000 *sestertii*)
20 centuries, 3rd class (2000), property, 50,000 *asses* (= 20,000 *sestertii*)
20 centuries, 4th class (2000), property, 25,000 *asses* (= 10,000 *sestertii*)
30 centuries, 5th class (3000), property, 12,500 *asses* (= 5,000 *sestertii*)
5 centuries of *fabri*, musicians, and supernumeraries

Polybius affirms the *census* classifications for the first and fifth classes but is silent on the others. The monetary values are appropriate for the 3rd century BCE (c.268): *sestertius* (pl. *sestertii*) refers to a one-quarter of a *denarius* coin; the *aes grave* (pl. *asses*) was a heavy bronze cast coin from the same era; two and one-half *asses* equal one *sestertius*. Initially important for raising both the army and state revenues, the property requirement in the *census* classification played a key role in revising membership of the Senate (*lectio senatus*), eligibility for magistery positions and, especially, allocation to the voting centuries where citizens of the ‘first class had more centuries than all the rest of the citizenry that formed the great majority of the population’. In addition, the property classes established a basis for the *tributum*, an extraordinary tax imposed on the *adsidui* -- those eligible for military service. Those Roman citizens with property less than the fifth class – the *proletarii* – lacked voting rights in the *Centuriate Assembly* and were only subject to military duties in special circumstances. With the elimination of the *tributum* in 167 ‘the fiscal purpose of the census disappeared and with it much of the importance attached to the old census classes’ (Gauthier 2019:287;294)

Methods used to assess the property classification played a key role in the social order and administration of the Roman state. During the early Republic, the property classification was essential to sustaining hop-lite military tactics at a time when it was the duty of the *adsidui* to individually purchase armor, weapons and shields. Consistent with the tradition of noblemen to play ‘the most prominent part in battle’ seeking to assert ‘class-sense’ and earn distinction,

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3 Nilsson (1929:6) determined 'full hoplite-armor and weapons were prescribed for the first class'.
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5 Prior to monetization: 'what sums, reckoned in copper, cattle, or land, these figures actually
6 represent' are not known, though it is likely that 'amounts of wheat will approximately represent
7 the relative property qualifications of the five classes when the army was reformed' (c.444)
8 (Frank 1930:319). This process of monetization likely commenced with the *Lex Aternia*
9 *Tarpeia*, (454), 'where a fixed relation between the value of cattle and a pound of copper was
10 established' (Latte 1936:32). However, it was not until the two-ounce bronze *aes* and the heavy
11 silver *denarius* coinages were introduced in 268/9 that monetization of *census* classifications
12 reached fulfillment.
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15 **Fiscal administration and the *quaestor***

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17 Commencement of the Republican *census* in 508 when the *consuls* served as *censors* coincides
18 with the construction of the temple of Saturn in 497 and, though the precise date is unknown,
19 with the appointment by the *consuls* of the *quaestores aerarii*, the magistrates responsible for
20 supervision of the Roman treasury and archives, the *aerarium* located at the temple of Saturn.¹²
21 Tacitus *Annales* [11.22] reveals two *quaestores* were regularly elected by the Tribal Assembly as
22 early as 447, with the number increasing to four in 421 according to Livy. During the Republic,
23 *quaestores* were responsible for overseeing a range of important state functions including
24 supervising agreements with the *societas* of contractors for public works (*opera publica*)
25 construction and with the *publicani* involved in tax-farming.¹³ *Quaestores* were responsible for
26 overseeing revenue collection and disbursement of payments to higher level magistrates,
27 especially the *consuls*. Though junior in the ranking of magistrate positions – *quaestores* did not
28 qualify for *imperium*, the authority to conduct military campaigns associated with *consuls* and
29 *praetores* -- it was conventional during the Republic for those aspiring to the highest offices to
30 serve a term as *quaestor*.

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32 It is generally accepted that four *quaestores* were in place from 421 with *plebeians* gaining
33 access through election 'to the first regular magistracy' c.409 (Pina Polo and Diaz Fernandez
34 2019:24): two were consular -- *quaestores classici* -- and two were *quaestores urbanii*, i.e.,
35 *quaestores aerarii* located in Rome. To accommodate the demands of increasing territorial
36 expansion during the middle Republic, the number of *quaestores classici* was increased starting
37 in 267, likely by four though the number and dating of the specific increase is unclear (Prag
38 2014). An important function of consular *quaestores classici* involved accompanying army
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3 commanders on military expeditions to administer the finances of military units. During the
4 middle Republic, the function of *quaestores classici* 'expanded to being stationed in Italian
5 towns to collect revenues and, possibly, performing administrative functions needed to support
6 the Roman navy and, in the case of the *quaestor* stationed at Ostia, functions necessary to
7 Rome's grain supply' (Harris 1976:92). By 197 the number of *quaestores* was raised to ten and
8 *quaestores provinciales* appear with responsibility to supervise financial administration in the
9 provinces and assist the provincial governors. Some smaller provinces had *quaestores* for
10 governors. Under Sulla, in 81 the number of *quaestores* was raised to twenty.
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13 The sources provide various examples of *quaestor* duties relevant to accounting. For example,
14 Polybius [X,17] describes Roman practice in accounting for booty and prisoners involving
15 craftsmen seized following conquest of a city in Carthaginian Iberia: 'The Roman commander
16 told the craftsmen that they were for the present prisoners of Rome ... He then bade them go get
17 their names enrolled in the office of the Quaestor.' An essential source on the role of the
18 *quaestor* is provided by Cicero, *In Verrem* II [Second Pleadings Against Verres] describing some
19 details of the state accounting process required for magistrates returning from the provinces.
20 Elected as *quaestor provincia* in 76 and seconded to Sicily, Cicero would have been familiar
21 with accounting practices related to oversight of financial administration in that province, an
22 important supplier of grain for Rome. The Sicily connection provides essential context for the
23 case that launched the career of Cicero as an orator at the law courts and produced, arguably, the
24 most significant of the Cicero orations: *In Verrem*, the prosecution in 70 of the *propraetor*
25 (governor) of Sicily (73-71), Gaius Verres, on a range of misconduct charges, including
26 pervasive extortion, bribery, witness intimidation, theft and corruption. *In Verrem* is a collection
27 starting with the oration at trial that resulted in the exile of Verres. In addition, there are also
28 five 'second pleadings' prepared for the case but not presented at trial as the first oration was
29 sufficient for Verres to accept defeat and go into voluntary exile.
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32 The first of the second pleadings (*Verrem* II.1.38-9) has material relevant to Roman state
33 accounting -- a description of auditing practice for the *quaestores provinciales*.¹⁴ Such
34 magistrates were expected to render accounts to the *aerarium* upon completion of a term for
35 comparison with other magistrates, such as the *praetores* or governors. Referring to Verres's
36 service as governor of Sicily:
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3 The accounts of his praetorship, which, according to the decree of the senate, he ought to
4 have rendered immediately on leaving office, he has not rendered to this very day. He
5 said that he was waiting for the quaestors to appear in the senate; just as if a praetor could
6 not give in his accounts without the quaestor, in the same way as the quaestor does
7 without the praetor ... But now the quaestors have arrived some time. Why have you not
8 rendered them now?
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10 Cicero also references the accounting of Verres when serving as a *quaestor* (c.80) under
11 Dolabella, governor of Cilicia. Suspected of the crimes for which Dolabella was exiled based on
12 evidence given by Verres, Cicero proceeds 'without any guide, article by article as we can' to
13 audit the accounts of the *quaestor* Verres. For example, 'the sum which Dolabella entered to
14 Verres as having been received from him, is less than the sum which Verres has entered as
15 having been paid to him by four hundred and thirty-five thousand [sestertii]'. Cicero provides
16 ample evidence where 'you, most O incorruptible man, had quite a different entry in your
17 account-books'. This seems to indicate that a form of *litterarum obligatio* was used involving
18 entry into both account books (*nomina transcriptitia*) for purposes of public accounting.
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28 Who were the public accountants? 29

30 An operative question for accounting history associated with the *quaestores aerarii* is: who
31 were the public accountants? The search for an answer to this question is severely hampered by
32 the one-sided character of Roman sources that emphasize activities of the heroic honorific elite
33 producing, as Purcell (1983:126) observes, a perception of 'Roman society ... as a senatorial and
34 equestrian upper-class, far below which comes the teeming mob of *ingenui, peregrini, liberti,*
35 and *servi*.' Though *plebians* did increasingly gain access to *magistry* positions during the
36 Republic, such elected positions were primarily the preserve of *patricians*. In this system,
37 'offices were normally held for brief and irregular terms, and most officers held few posts in the
38 course of their career'. In a classic text on the later Empire, Jones (1964:383) concluded the
39 administrative system 'cannot have been efficient'. A similar assessment likely applies to the
40 Republic and Principate following Augustus. Whether the Senate or the emperor made the
41 appointment, the post of *quaestor aerarium* was normally regarded as a *dignitas* or *honor*, and
42 only rarely *administratio*. Mommsen (1854) identifies 27 years as the minimum age for a pre-
43 Sullan *quaestor*, subject to prior mandatory military service of ten years. The minimum age was
44 raised to 30 by Sulla.¹⁵
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With due recognition to the managers (*dispensatores, vilici*) of Roman estates and household bookkeepers managing family affairs or assembling evidence for *census* classification, the history of Roman accountants begins with the public accounting of *scribae* supervised by *quaestores aerarii* responsible for overseeing a range of activities that required accounting skill. Plutarch Lives [Cato the Younger, XVI-XIX] provides a detailed description of *quaestor aerarium* duties (c.69). Based on the experience of and process for selecting a *quaestor aerarium* it is dubious to presume those elected had the detailed accounting expertise required. As such, upon inauguration the *quaestores aerarii* were expected to 'receive administrative orientation from treasury staff' (Pina Polo and Diaz Fernandez 2019: ch.5). To facilitate this task, incoming *quaestores* were assigned *scribae quaestori* and other *apparitores*.¹⁶ Though little is known about specific accounting practices at the *aerarium* during the Republic, the search for Roman public accountants leads to the *scribae*. Recognizing 'the careful division of *scribae* by magistracies' (Badian 1989:597), these *aerarium* officials, almost certainly became responsible, *de facto*, for the accounting functions of the *aerarium*. The *scribae quaestori* were organized in three *decuriae* which served in annual rotation for the *quaestor* (Millar 1964:34; Jones 1949:39). In addition to the *scribae*, based on evidence from inscriptions Millar identifies *viatores* (messengers), a *tabularius* (archivist) and a *transcribendas* as other *apparitores* of the *aerarium*. A *quaestor* would also be accompanied by a *praecone* (herald; auctioneer) and *lictores* (bodyguards).¹⁷

Consistent with the one-sided character of Roman sources, the 'scribae of the Roman Republic are not well documented and therefore, although a socially very interesting class, have been rather neglected in modern scholarship' (Badian 1989:582).¹⁸ The scribe appears in various guises in ancient history, including Sumerian scribes using *styli* to produce cuneiform tablets, Jewish scribes 'copying and recopying' Old Testament books and literate Greek slaves or freedmen performing scribal duties such as bookkeeping, copying documents and producing letters for a Roman estate. An essential subtext in the eventual emergence of the *scribae quaestori* is the class struggle for the control of knowledge and social status between the largely illiterate *plebians* – the class from which the *ordo scribarum* emerged -- and the educated and propertied senatorial and equestrian class of *patricians*. The first *scriba* to appear in the Roman sources to challenge 'the aristocratic monopoly of knowledge', i.e., not associated with religious

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3 figures, *poetae* (poets) or *librarii* (clerks), was at the end 4th century with the 'plebian hero'
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5 Annus Flavius (Purcell 2001:635-6)

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7 Flavius begins an era where *scribae* became 'paragons of the problematic' for the *patrician*
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9 elite seeking to prevent upward social mobility of the *plebians* and controlling information in the
10 face of increasing literacy. Initially *scribae* selection was down to the patronage of a magistrate,
11 with appearance of an *ordo* with *decuria* taking form circa 181. The Republican Roman *scribae*
12 admitted to the *ordo scribarum* rose to a unique elevated status (Badian 1989:01):
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15 the spirit of the old *collegium* seems to have survived after the reorganization [of these
16 *scribae*] into *decuriae* for each office. When the *ordo* is referred to, it is always as a unit.
17 Yet the power of the *ordo*, which was clearly considerable -- remarkably so, for a body of
18 small size and consisting of men of humble origin -- must have been due to the *scribae*
19 *quaestorii*. It was they who, in fruitful collaboration with the magistrates and
20 promagistrates to whom they were attached, could hope to advance to equestrian dignity --
21 and who, in the absence of such collaboration, might hold their superior's fate in their
22 hands.
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25 With entry restricted to freeborn citizens, the highest class of the *ordo* – members of the *decuriae*
26 of the *scribae quaestori* -- aimed for patronage sufficient to obtain the gold ring and entry to the
27 *ordo equester* based on service to a magistrate patron.
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30 In Lives [XVI-XIX] Plutarch provides a useful description of the relationship between the
31 *quaestor* and the *scribae quaestori*. Unlike a typical *quaestor*, Cato the Younger 'would not
32 become a candidate ... until he had read the laws relating to the quaestorship, learned all the
33 details of the office from those who had had experience in it, and formed a general idea of its
34 power and scope'. Plutarch observes the *scribae* 'received as their superior officers young men
35 whose inexperience and ignorance made it really needful that others should teach and tutor them,
36 they would not surrender any power to such superiors, but were superiors themselves'. Once
37 appointed, Cato aggravated treasury staff by moving to make a 'great change to the assistants
38 and clerks' in the *aerarium* despite the staff being 'fully conversant with the public accounts and
39 the laws relative thereto'. Though Plutarch maintains Cato uncovered corrupt dealings on the
40 part of some *scribae* and in 65 acted to remove and in one case prosecute those involved, this
41 may also have been cover for patronage to *scribae* favored by Cato. In recent scholarship
42 'scribae are portrayed as corrupt, professionally unfit owners of sinecures, who were mainly
43 interested in the furthering of their own financial and social standing' (Hartmann 2020:11). This
44 interpretation supports the perception conveyed by Plutarch that Cato was justified in seeking
45 removal. Interference with the annual *decuriae* rotation would surely have been aggravating to
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3 the *ordo*. Plutarch reveals that Cato, after his term as *quaestor*, continued to send slaves to copy
4 financial documents at the *aerarium*.
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7 The Fiscal Reforms of Augustus 8

9 Based on epigraphic and fragmentary literary sources, the transition from Republic to Empire
10 that commences with the so-called first settlement of 27 BCE benchmarks an ebbing of the role
11 of *quaestor*, in general, and the *quaestores aerarii*, specifically. Dio (XLIII, 47) reports that in
12 45 BCE Caesar appointed forty *quaestores* to be sent to the provinces but two *aediles* – the next
13 highest rank of magistrate -- were given responsibility for ‘management of the public treasuries.’
14 Various sources report that in 29 BCE Octavian transitioned to two *Praefecti* of praetorian rank
15 for the position, an arrangement maintained until 44 CE.¹⁹ The interim covers the transition of
16 the *de facto* state treasury, the *aerarium*, to include the ‘*fiscus*’ of the emperor described by
17 Frank (1933) and Oldroyd (1995) and enumerated in the *Res Gestae* [15,17] of Augustus.
18 However, while it is tempting to claim these developments resulted in the elevation of the
19 emperor’s personal accountant -- the *a rationabus* – to control ‘the fiscal administration
20 throughout the whole empire’ (Berger 1953:338), Brunt (1966) details a hybrid fiscal
21 administration under Augustus where the Senate – previously the ultimate authority for fiscal
22 administration due to oversight control of the *aerarium* – became a ‘co-ordinate authority’ with
23 the emperor.²⁰
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26 The Roman civil service responsible for state accounting underwent dramatic, almost
27 revolutionary, change under Augustus to accommodate the assumption of lucrative state assets
28 and revenue streams by the emperor (Poitras and Geriano 2016; Macmullen 1962, 1959). The
29 decentralization of authority from Rome to the provincial governors by Augustus was
30 accompanied by a gradual restructuring of the Imperial civil service to be ‘made up of those who
31 were below equestrian rank and who were almost entirely the emperor’s freedmen and slaves –
32 the *Familia Caesaris*’ (Weaver 2011:2). As Weaver observes, starting with Augustus:
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35 administrative staff ... employed in a wide variety of departments [handled] all aspects
36 of the receipt and payment of funds under the emperor’s control, as well as many
37 concerned with public services such as aqueducts, libraries, the post, roads, public works
38 and buildings, and Imperial enterprises such as mines, marble quarries, and the mint.
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41 New categories of senior administrative staff responsible for state accounting functions were
42 introduced. In the early Principate, below the *a rationabus* of the emperor were the *procuratores*
43 responsible for administering ‘the emperor’s estates, villas and other property in Italy and
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3 elsewhere throughout the empire [and serving] in the smaller departments in Rome as well as in
4 all the main administrative centres in the provinces'. A *procurator* could be a sole head or,
5 alternatively, serve with an *eques*. Promotion to *procurator* involved service as a senior
6 *tabularius*, especially *tabularius a rationabus* or *tabularius provincia*.²¹ Reliance on the slaves
7 and freemen of the *familia Caesaris* to populate the civil service provided for continuity
8 following death of the emperor.
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11 In contrast to the *aerarium* officials under the Republic, it was possible for Augustus to have
12 general accounts for the state prepared, a process not practical during the Republic. Whether the
13 preparation of aggregated state accounts intended for purposes of fiscal planning and decision-
14 making was regular practice in the departmentalized Augustan civil service, as claimed by
15 Oldroyd [1995], or not, is unknown. Partial inferences on this issue can be drawn from what
16 Dio, Tacitus and Suetonius report about 'several documents written by the emperor which were
17 read September 14 CE in the Senate after his death' – the *Res Gestae Divi Augusti* -- that
18 included a 'breviary listing imperial revenues and military disposition' (Ober 1982:306).
19 Suetonius [*Divus Augustus* 99] describes the now lost breviary as:
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22 a concise account of the state of the empire; the number of troops enrolled, what money
23 there was in the treasury, the revenue, and arrears of taxes; to which were added the
24 names of the freedmen and slaves from whom the several accounts might be taken.
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27 Tacitus [*Annales* 1.11] reports: 'All these details Augustus had written with his own hand'. This
28 vaguely suggests the procedures of departmentalized state accounting did not typically result in
29 aggregated accounts for purposes of the emperor exercising administrative control of planning
30 and budgeting for imperial activities throughout the empire.
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33 Further evidence of state accounting practice under the Empire is provided by one of the three,
34 possibly four, documents provided to the Senate upon the death of Augustus. The *Res Gestae*
35 *Divi Augusti* was an autobiographical text detailing the achievements of Augustus that was
36 required to be inscribed on two columns at the Mausoleum of Augustus in Rome. Fortunately,
37 Mommsen was able to assemble available inscription fragments sufficient to recreate the full
38 epigraph. In addition to recounting military and political achievements, there is a detailed
39 accounting of imperial expenditures, e.g., *Res Gestae* [15]: 'I gave to three hundred and twenty
40 thousand of the city plebs sixty denarii apiece. In the colonies of my soldiers, as consul for the
41 fifth time, I gave one thousand [sestertii] to each man from the spoils of war; about one hundred
42 and twenty thousand men in the colonies received this triumphal largesse.' In combination with
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literary evidence about imperial revenues detailed in the breviary, it is difficult to conclude more than an *ex post* revenue and expenditure accounting process under Augustus. Use of accounting data for *ex ante* fiscal administration control is speculative, at best. The bountiful combination of accumulated booty with revenue windfall from assumption of state assets plus other revenue streams likely facilitated magnanimous imperial expenditures. The upshot was fiscal control deficiencies of subsequent emperors during the Principate leading to currency debasement under Nero and, ultimately, to the Crisis of the Third Century.²²

Private Accounting: Legal and literary sources

Much of what is known about Roman private accounting practices originates from legal and literary sources. The two most important legal sources – *Institutiones* of Gaius (c. mid-2nd century CE) and, especially, *Digesta* of Justinian (530-33 CE) – appear well after the death of Augustus. However, this dating does not mean accounting related legal practices and opinions detailed in these sources did not apply earlier.²³ Absent transformational political revolution, change in legal practice for commercial and other private activities is invariably gradual. The influence on the *Digesta* of opinions by earlier jurists, such as Labeo (c.50 BCE-c.10 CE) is sometimes explicit, e.g., Digest [50.16.9] on contracts and [2.14.2] on agreements. Similarly, Institutes [3.133] refers to the important early Principate jurist Sabinus.²⁴ About 40% of the *Digesta* is from works by Ulpian, mostly from the early third century CE. The relevance of accounting stretches to the beginnings of Roman law. In addition to possible bookkeeping requirements associated with the *census*, the third tablet of the Twelve Tables (c.449 BCE?) – the foundation of Roman law that merged older patrician and plebian codes -- imposed potentially severe penalties for failure to repay a debt, indicating some form of accounting was conducted to establish the debt details such as principal amount, payments and the like, though the precise methods are unknown.²⁵ In addition to formal legal opinions there is also scattered reference to accounting practice in literary sources from the late Republic and early Principate, especially the Cicero corpus, Columella *De Re Rustica* [On Agriculture] and Tacitus *Annales*.

With some exceptions, Roman legal context relevant to accounting is concerned with the private law.²⁶ Though this is well known, the implications are often underdeveloped. It is an oddity that whereas earlier Roman accounting historians viewed ‘the Romans, [as] a nation of bookkeepers’ (Roby 1902:279) with ‘an elaborate system of keeping accounts’ (Murray 1930:125) possessed with ‘the genius of administration as well as of jurisprudence’ (Boyd

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3 1905:29) while more recent historians find 'Roman landowners' had 'a primitive and inadequate
4 accounting system' that inhibited 'economic rationality', e.g., de Ste. Croix (1956); Finley
5 (1999:110-1); Macve (1985:240). The fascination of accounting historians with the origins of
6 double entry, 'one of the great evolutionary advances in the history of accounting' (Williams
7 1978:29) and the accumulation of inferences that the practice was not known to the Romans,
8 reinforces the view that Roman accounting was 'archaic and rudimentary'. However, careful
9 interpretation of the relationship of private law requirements with Roman accounting practice
10 reveals a situation possibly closer to the perceptions of the earlier historians.
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13 Perception of Roman accounting practice reflects another 'so one-sided' aspect of the sources.
14 Private law legal opinions from the Digest and Institutes, the literary court pleadings in Cicero
15 'For Quintus Roscius the Actor' and 'For Marcus Fonteius' touch on situations where
16 accounting, in some form, was required but the central concerns are legal. The opaqueness of
17 Roman accounting practices is illustrated in the classic text by Buckland on Roman law
18 discussing the contract *Litterarum Obligatio* (Obligation by Book-Entry) given in Institutes
19 [3.128-130]:²⁷
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22 [T]he actual mechanism of the contract [is] obscure. What was the nature of the
23 *transscriptio*? In what account book did the entry appear? That there were two entries
24 and that one was based on the other appears from the name and the fact that a single
25 transaction consists of *nomina* in the plural. Romans kept a daybook or *adversaria*, on
26 which the day's dealings were noted, and these were, it seems, copied into the *codex*
27 *accepti et depensi* from time to time. It has been conjectured that *transscriptio* means
28 transfer from the daybook to the other, but it is clear that both entries were in the same
29 book or, at any rate, made at the same time. It has been conjectured that this book was a
30 special one kept for this purpose, and also that it was a ledger, containing a statement of
31 debts incurred and rights acquired, but both these views are without evidence. The view
32 most generally accepted is that it was the ordinary cashbook, *codex accepti et depensi* the
33 statement of moneys paid out and in. (Buckland 1921:457)

34 As a Latin legal scholar, Buckland correctly recognizes the precise accounting method for
35 recording transactions under a *nomina transcriptitia* contract cannot be fully ascertained from the
36 text provided in §128-30. Essential legal context is provided by the Institutes [3.92-3] on
37 *stipulatio* involving the process of question by the *stipulator* and answer by *promittor* required to
38 bind a verbal contract. The Roman roots of this contract likely predate the *census* and connect to
39 the ancient *ius civile Quiritium*. Instead of a verbal contract, obligation by book entry is a
40 binding contract created by an agreed entry, the *nomina transcriptitia*, literally 'recording of
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3 names.' There is some evidence this practice also connected with public reporting requirements
4 for magistrates returning from the provinces.
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6 Based on literary sources such as Cicero *Pro Roscio*, Buckland claims conventional
7 commercial accounting did use a daybook (*adverseria*) that recorded daily income and
8 expenditure items. Periodically, the items from the daybook were transferred to a permanent
9 'book' recording debits and credits (*codex accepti et depensi*) that may, or may not, have been in
10 rudimentary ledger format.²⁸ Even if the codex was a rudimentary ledger, or not, there is no
11 reference to a journal or trial balance in the accounting method. Following sections in the
12 Institutes dealing with *stipulatio*, it is natural to conclude that entry into the account books
13 agreed to by both parties is another method of creating a binding contract. There is no
14 requirement that monies have been paid, goods received or whatever only that both parties
15 (*nomina*) have agreed the transcribed entry into the account book is a binding contract.
16 Presumably, whether the entry is made into the *adverseria* or the *codex* would depend on the
17 type of transaction involved. It is possible that *nomina* refer to both parties making entries in
18 separate 'books', *accepti* for the *stipulator* and *depensi* for the *promittor* but this interpretation is
19 speculative. In practice, the use of *litterarum obligatio* contracts has decided disadvantages
20 compared to written signed contracts (*chirographa, syngraphae*).
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23 One activity with potential to reveal Roman accounting practice is identified in an early literary
24 source *Curculio* [III.1] by Plautus (254-184 BCE) where the banker Lyco states: 'I've struck my
25 balance, how much money I have, and how much I owe. I'm rich, if I don't pay those to whom
26 I'm in debt. If I do pay those to whom I'm in debt, my debts are the greatest.' In addition to
27 indicating accounting based on debits and credits, this also provides an alternative Latin for
28 'balance of account': '*subduxi ratiunculam*'. This source has added importance for indicating
29 accounting practice of bankers during the middle Republic, a period for which there is a scarcity
30 of literary sources detailing commercial activities. Further insight on accounting for Roman
31 bankers is provided by references to accounts scattered throughout the Digest, such as the
32 requirement accounts be produced, e.g., Digest [2.13.4] requires bankers to provide depositors
33 with an accounting for accounts in which they have an interest, but there is no indication about
34 the form of this accounting. Digest [2.13.6.3] goes further, quoting Labeo that an account kept
35 by a banker provides 'a statement of all mutual payments, receipts, credits and debts of the
36 parties' which seems to indicate a ledger was kept. This inference is further supported in Digest
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[2.13.6.6] that refers to the date on different pages of the account. Digest [2.13.9] indicates that others than bankers and money-brokers were also required to produce accounts, such as those involved in contracts though, being in a business of a public nature, the requirement for bankers to produce accounts is stricter (Digest [2.13.10]).²⁹

It is not surprising that bankers and those involved in commercial contracts would be required to keep accounts, possibly in ledger format. Less obvious is accounting in the wider context of a society of Roman citizens – *patricians*, *plebians* and freedmen – sustained by a slave economy. The importance of large landed agricultural estates controlled by wealthy families typically headed by a *pater familias* provided a central role for laws associated with inheritance and manumission. The will of a *pater familias* could cover both actions by providing conditions for manumitting a slave responsible for keeping the accounts. For example, Digest [40.7.40.3] is an opinion about estate accounting done by a slave when the *pater familias* responsible for signing the accounts were accurate is unable to sign due to ill health and the will provides for manumission if the estate accounts are satisfactorily rendered to the heir. Digest [35.1.82] provides specifics on what ‘renders his accounts’ to the heir requires. There is also reference to a testator – presumably the *pater familias* – being ‘certainly not accustomed’ to signing accounts. Rather, the slave responsible for the accounts would regularly present the accounts to the *pater familias* to be read, scrutinized and, where appropriate, exceptions would be noted.

Cicero: Roscio and Fonteius

The works of Cicero are both a blessing and a curse for Roman historians. The vast volume of material from a prominent Roman of the late Republic provides a wealth of useful information. However, much of the information is one-sided as it is concerned with the activities and viewpoint of a Roman elite member. For the history of Roman private accounting, Cicero provides at least two significant contributions. *Pro Q. Roscio Comodeo* [For Quintus Roscius the Actor] provides insight into the methods of recording binding contracts for private accounting purposes relevant to interpreting *Litterarum Obligatio*. *Pro Fonteio* [For Marcus Fonteius] contains a statement that 19th century philologists interpreted, seemingly incorrectly based on the limited detail, as evidence Roman accounting in the late Republic had evolved rudiments of double entry bookkeeping

Some years prior to achieving prominence in the Verres prosecution, Cicero was at the bar to plead the case for his friend, Quintus Roscius, the comic actor. The private action involves the

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3 distribution of a settlement from the killer of a slave Roscius was engaged to teach acting. Both
4 Roscius and the slave owner, Fannius Chaerea, pursued separate actions against the killer and
5 received judgements. At issue is the distribution of the settlement received by Roscius and the
6 key role of entries into 'accounts' [*Pro Q. Roscio Comodeo Oration II-III*]
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9 if [Chaerea] produces his accounts, Roscius will also produce his ... words will appear in
10 the books of the one, but not in those of the other. Why should you trust one rather than
11 the other? would he ever have written it if he had not borne this expense by his
12 authority? ... would he not have written it if he had given the authority? For just as it is
13 discreditable to put down what is not owed, so it is dishonest not to put down what you
14 do owe. For his accounts are just as much condemned who omits to make an entry of the
15 truth, as his who puts down what is false.
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18 What follows is an essential discussion about the method of preparing accounts:
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21 [Chaerea] confesses that he has not this sum entered in his book of money received and
22 expended; but he asserts that it does occur in his memoranda. Are you then, so fond of
23 your self, have you such a magnificent opinion of yourself, as to ask for money from us
24 on the strength, not of your account books, but of your memoranda? To read one's
25 account-books instead of producing witnesses, is a piece of arrogance; but is it not
26 insanity to produce mere notes of writings and scraps of paper? If memoranda have the
27 same force and authority, and are arranged with the same care as accounts, where is the
28 need of making an account-book? of making out careful lists? of keeping a regular order?
29 of making a permanent record of old writings.
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32 There is also reference to the time frame for entering memoranda into the account books: 'How
33 is it that, when every one else who makes up account-books transfers his accounts every month
34 almost into his books, you allow this sum to remain among your memoranda more than three
35 years?' Though the usual difficulties of translating from the Latin appear, e.g., 'mere notes of
36 writings and scraps of paper', as this not a literal translation, it is not possible to infer that 'paper'
37 was the media used to record memoranda. However, the forensic importance of account books
38 and the process of creating the accounts from memoranda is evident and was seemingly the
39 source used by Buckland and others to characterize Roman accounting practice during the late
40 Republic.
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43 Though it is part of the received canon of accounting history that double-entry bookkeeping
44 originated in Italy during the 14th century, possibly as early as the 13th century, reaching fruition
45 in the 1494 *Summa* of Fra Luca Pacioli, claims in the 19th century by the important philologist
46 Barthold Niebuhr, the Roman accounting historian L.C. Purser and others that 'the system of
47 bookkeeping by double-entries, so far from being an invention of the Lombards, is as old as the
48 time of the Romans' (Niebuhr 1851:602) have faded into obscurity. Possible confusion about
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whether some form of double entry was developed by the Romans appears in reference to a 'balance' of the accounts in several legal opinions. For example, Digest [40.7.6.7] observes that 'rendering an account' ('rationum autem reddendarum condicio') implies the calculation of a balance ('quod ad reliqua quidem attinet') and references payment of money ('in danda pecunia consistit'). While such a reference to 'balance' does not seem to connect with the 'trial balance' of double-entry, resolution is stifled by difficulties of Latin translation. For example, Murray (1930:130) provides a different, literal translation of 'balance' as 'ratio est par' and the idiom, 'compare debits and credits' as 'dispungere est confere accepta et data'. Latin is a subtle complex language, as any Latinist will verify. Situations involving accounting are often obscured by a modern lens making it difficult to determine accurate translation. Though the personalized commercial activities of the Roman 'economy of friends' (Verboven 2002) suggests less need for double-entry compared to more impersonal 14th century Renaissance commerce typically identified with the emergence of double-entry, can it be cautiously stated from entries in the Digest that no definitive evidence for some Roman accountants using double-entry has survived?

This is not the place to explore in detail arguments of 19th century scholars about the possibility that some Roman accounting was consistent with rudimentary double-entry bookkeeping, if only because requirements for what constitutes 'double-entry' have evolved over time. In turn, the reverence to Fra Luca is so engrained in the modern canon of accounting history that a brief discussion would be insufficient. Taking the view that 'Double entry differs from single entry chiefly in making cash, stock, goods, &c., parties, as well as persons, and in making a debtor and creditor account in every transaction' (Purser 1887), consider the following from Cicero, *Pro Fonteio* [For Marcus Fonteius] [2.3]:

the facts of the case itself, the consideration of the documents, and the composition of the account-books, have this force, that from them, when they are once given in and received, everything that is forged, or stolen, or that has disappeared, is detected. All those men made entries of sums of money having been received for the use of the Roman people; if they immediately either paid or gave to others equally large sums, so that what was received for the Roman people was paid to some one or other, at all events nothing can have been embezzled.

Unfortunately, the text is a fragment that is corrupted at the end of the quote with Niebuhr and Mommsen differing on the expected inclusion. With due allowance for difficulties of Latin translation, it cannot be ignored that, besides being an eminent philologist and Roman historian,

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3 before pursuing this path Niebuhr served as Director of the National Debt and the Mint in
4 Denmark and, consequently, with an impressive pedigree in financial matters, was sufficiently
5 experienced to speculate the fragment identified what was double-entry bookkeeping by middle
6 19th century standards.
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9 10 **Columella and estate management**

11
12 A feature lacking in Roman accounting history is attention to accounting for commercial
13 planning and control. One notable exception is studies on the calculation of viticulture
14 profitability by Columella (*De Re Rustica*, 3.3.7-15) (Mickwitz 1937; de Ste. Croix, G. 1956;
15 Duncan-Jones 1982; Carandini 1983; Maeve 1985:250-1). It is odd that Columella (c.4 CE-c.70
16 CE) has attracted modern attention for a small section comparing viticulture profitability with the
17 return on a 6% perpetual annuity [*in perpetuum usuram*]. Large scale wine production does
18 involve a non-subsistence agricultural activity providing a potentially useful subject for
19 investigation of the claims by Finley (1999; 1st ed. 1973) and others 'about the complete lack of
20 economic ratiocination among ancient agriculturalists' (Purcell 1985:2). Mickwitz, Duncan-
21 Jones and de Ste. Croix claim the numbers provided by Columella supporting profitability of
22 viticulture demonstrate ancient accounting methods, by ignoring essential costs such as
23 depreciation and various current expenses, lead to 'irrational' business decisions. In contrast,
24 Carandini maintains 'Columella's calculation, far from misleading him, does in fact express
25 properly the relevant factors that it was rational for him to consider, given the structure of the
26 ancient economy' (Maeve 1985:255).
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29 There are several reasons attention given by accounting and economic historians to the
30 calculation of viticulture profitability by Columella seem odd. What was the intention of
31 Columella in providing an example about 'whether viticulture will enrich the proprietor'? In
32 seeking to demonstrate that 'the return from vineyards is a very rich one', Columella was
33 addressing a perception advanced in important previous writings on Roman agriculture by Cato
34 the Censor and Varro about 'the perils of viticulture, the risks for which it has been well known
35 since antiquity' (Purcell 1985:3; Reitz 2013; Baldwin 1963). 'Why, then, is viticulture in
36 disrepute?' asks Columella. After admonishing poor practices of those who 'complain that their
37 vineyards do not yield them a return', Columella provides cost estimates: 8000 *sestertii* for a
38 slave vine-dresser; land of seven *iugera* (.25 hectare = 1 *iugera*) at 1000 *sestertii* per; and
39 2000 *sestertii* per *iugera* for stakes and withes to grow the vines. This total of 29,000 *sestertii*
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3 is grossed up by 6% simple interest per year for two years to allow the vines time reach
4 production resulting in an additional cost of 3480 *sestertii*. ‘The sum total of principal and
5 interest comes to 32,480 [sestertii].’ Even ‘assuming that the vineyards are of the very worst
6 sort’, Columella observes that the annual return would be 2100 *sestertii* compared to 1950
7 *sestertii* if the 32,480 was invested at 6% simple interest.
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10 This brief example aimed at illustrating the potential profitability of viticulture is a small part
11 of a detailed discussion covering two books of volume I of *De Re Rustica*, a three volume work
12 dedicated to virtually all aspects of agriculture on a large Roman estate – animal husbandry,
13 gardening, farm buildings, ploughing and soil maintenance, poultry and other fowl, bees, grain
14 cultivation, fruit trees and, especially, the proper procedures for growing vines. Perhaps
15 confusion was raised by the translation of ‘accountant’ given by Boyd in the Columella preamble
16 to the example: ‘like a careful accountant, he sees, when his calculations are made, that this kind
17 of husbandry is of the greatest advantage to his estate’; alternatively, ‘*diligens ratiocinator*
18 *calcule posito videt id*’ could be ‘a diligent bookkeeper having done the calculations’. Whether
19 accountant or bookkeeper, who that would be is not addressed. Book XI on the duties of the
20 steward (*vilicus*) of the landlord (*dominus*) is ignored by the critiques despite providing useful
21 context.³⁰ Specifically, *De Re Rustica* [XI.1.24] refers to the steward having to ‘balance
22 accounts with his master’ which is ‘impossible’ if a ‘reckoning up with money’ is required
23 because reckoning of accounts for the steward is done in goods and not money. An effective
24 steward is to be a farmer not a trader.³¹
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27 Carroll (1976:786-7) provides useful social context needed to interpret the relevance of *De Re*
28 *Rustica* for accounting history: ‘Columella saw [the] ideal and honourable way of agriculture
29 being threatened and indeed being replaced by socially and politically minded people who cared
30 not so much for the real values of agricultural life as for its economic or social advantages’.
31 Despite being from the Roman elite, Columella objected to ‘the urbanized owner who wished to
32 live only part of the year on his estate, dabbling in the intellectual and prestigious side of
33 agriculture while leaving to the *vilicus* the mundane “earthy” matters such as finance and the
34 actual implementation of the recommendations’. The urbanized *dominus* was ‘not always in the
35 agriculture business for financial gain’ but for the ‘social status’ associated with creating ‘the
36 impression of being both a wealthy landowner and a knowledgeable down-to-earth person in the
37 true tradition of the *ueteres Romani*’. As such, *De Re Rustica* was more than ‘a treatise on
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3 agricultural methods, but also as indictment of all the falsity and anomalies of the prevailing
4 agricultural system' (Carroll 1976:790; Puyou and Quattrone 2018). In this system, the *vilicus*
5 seems to be the lynchpin providing accounts, presumably prepared by another slave responsible
6 for that duty, to the *dominus* for approval.
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10 The social context provided by Carroll dovetails with the economic context provided by
11 Purcell (1985).³² As reflected in writings of Cato the Elder, Roman interest in viticulture reflects
12 a wider societal transition from subsistence production of staple crops to non-staples impacting
13 land holding, distribution systems, monetization of exchange, wealth accumulation and the like
14 that was well underway by the 3rd century BCE. Despite the focus on accounting limitations in
15 the modern debate over the musings of Columella on viticulture profitability, the review of
16 Roman wine production by Purcell reveals: 'viticulture is an extremely uncertain and risky,
17 almost marginal, agricultural activity among the various options of non-staple crops possible in
18 the Mediterranean. This is because of the highly irregular labour regime required for cultivating
19 wines, and their temperamental response to seasonal weather conditions'. Books III and IV of
20 *De Re Rustica* make it amply clear that Columella had expert knowledge of viticulture. The
21 crude revenue estimate of 2100 *sestertii* for 'vineyards of the worst sort' disguise the
22 quality/quantity trade-off in wine production that Columella would almost certainly have known.
23 Production of high-quality wine from 'vineyards of the best sort' would, over time, likely
24 produce revenue many times multiple of 2100 *sestertii* if weather and markets permitted. In
25 effect, focusing on the accounting aspects of viticulture profitability provided by Columella
26 inadequately fails to recognize the social critique: an 'indictment of all the falsity and anomalies
27 of the prevailing agricultural system'.
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30 Conclusion

31 Having considered the meagre and one-sided sources touching Roman accounting from the
32 early Republic to the reforms of Augustus, what conclusions can be drawn and what remains a
33 mystery? The search for identification, social status and organization of public accountants
34 during the Republic leads to the *scribae quaestori* in the *aerarium*. As reflected in the deference
35 paid to the *scribae* by Cicero, the free born citizens of the *ordo scribarum* had become 'a
36 powerful and respected force' in the late Republic responsible, *de facto*, for executing state
37 accounting functions (Badian 1989:600). However, while some inferences from Cicero *In*
38 *Verrem* and *Pro Fontieus* are possible regarding public accounting procedures, details are
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lacking. With the reforms of Augustus, oversight for the bulk of state revenue and expenditure accounting began shifting from the civil servants of the *aerarium* to freedmen and slaves of the *familia Caesaris* populating newly created departments connected to the *fiscus* of the emperor. This shift witnessed the emergence of a reorganized senior civil service headed by the *a rationabus* of the emperor supported by *procoratores* and *tabularii* responsible for overseeing accounting practice in the central departments and the imperial provinces. Based on inference drawn from the breviary of the *Res Gestae* delivered to the Senate following the death of Augustus, claims that detailed accounting for imperial revenue and expenditure was used for *ex ante* state fiscal planning seem speculative, at best.

As reflected in the literary and legal sources, details of accounting practice are somewhat clearer for private than public accounting. Cicero *Pro Roscio* provides details about transfer of items from a daybook to a more permanent *codex accepti et depensi* – book of debits and credits – used by Buckland to interpret aspects of the *Litterarum Obligatio* (Obligation by Book-Entry) given in Institutes [3.128-130]. Developing middle Republic literary evidence from Plautus, legal opinions from the Digest suggest that bankers and possibly others involved in commercial activities were required to maintain a ledger, though this conclusion is not definitive. Aimed at making inferences about primitive accounting for a first century CE agricultural Roman estate, the modern debate over the brief analysis of viticulture profitability presented in Columella *De Re Rustica* is found to be inadequate. Rather, the primary objective of the brief profitability analysis seems to be more concerned with providing support for a social critique of ‘the falsity and anomalies of the prevailing agricultural system’, not to provide an accurate representation of managerial accounting for a Roman agricultural estate.

On balance, the search for definitive conclusions from the faded inscriptions, text fragments and not completely legible, often corrupted, copies of copies of some original Roman text that have survived from ancient Rome needs to resist the temptation to ‘stir the musty history into fascinating activity’. This cautionary advice provided by the eminent Roman economic historian Tenny Frank over a century ago is accompanied by the insight: ‘historians often reflect the spirit of their own epoch in the interpretation of past ages ... efforts at writing the history of Rome would itself furnish a picture of the changing *Zeitgeist* in the countries of the writers’ (Frank, 1910, p. 99). This insight provides a veiled answer to the question: what can be learned about contemporary accounting from non-accounting sources touching on Roman accounting during

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3 the Republic and Early Principate? In effect, the past provides a reflection of the present,
4 benchmarking the current state-of-affairs and, hopefully, pointing to a path for future progress.
5 Evidence, however meagre, on the *scribae quaestori* reflects on the social status and
6 organization of contemporary accountants. Similarly, the brief profitability analysis of
7 viticulture by Columella benchmarks the status of contemporary managerial accounting. Such
8 are the type of contributions that scholarly study of ancient history can provide to the critiques of
9 Stevelinck, ten Have and others.
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NOTES

¹. This quote is a useful illustration of the difficulties in translation from Latin. The quote is from *Responsa* by the jurist Scaevola. Little biographical information is known about Scaevola, other than contributions appear in the latter part of the 2nd century CE. A literal translation of *responsa* is 'answers' though 'opinions' would be more appropriate from the legal context. The source Latin for the quotation is: '*Inter cetera liberto ita legavit: et si quid me vivo gessit, rationes ab eo exigi veto*'. *Quaeritur, an chartas, in quibus rationes conscriptae sunt, item reliquias secundum accepta et expensa heredibus reddere debeat.*' A relevant issue for accounting history is the translation of *chartas*. Berger (1953) references *charta* as 'the material on which a document is written' while a literal translation would be 'papers'. From the context it is also possible *chartas* could refer to 'books in which the accounts are recorded'. However, if 'book' was intended then *Codex (liber) rationum domesticarum* or *Codex accepti et expensi (depensi)* would have been more specific.

². In the following, 'Roman historians' refers to modern contributors, not to ancient historians, such as Livy and Tacitus, which will be referred to as 'sources.' Contributions by 'Roman historians' are referred to as secondary sources.

³. Abatino et al. (2011, n.100) detail secondary sources to support the claim: 'The Roman accounting system is generally regarded as primitive, burdened by the high costs of writing materials and the lack of the numeral zero. In ancient accounts, we find little evidence of attempts to identify and measure income; wealth was conceived mainly in terms of capital and real assets. Consequently, accounts had a narrative form and concerned physical assets, which were only partially converted into a common medium of valuation such as money.'

⁴. This was the case with the archive discovered during an excavation at Pompeii in 1875 for the banker Lucius Iucundus (20-62 CE) containing accounts for banking records, mostly from activities acting as a funder for winning bids at auctions. It is significant the accounts preserved by the eruption of Vesuvius in 79 CE were retained by the heirs of Iucundus. This archive is also significant in connecting to commercial activities as other surviving tablets deal with legal or military topics.

⁵. The traditional view that the *aerarium* was connected to another larger structure referred to as the 'Tabularium' that functioned as the state archive has been discredited, e.g., Coarelli (2010). The structure likely contained a temple complex that also served as a location to house metal ingots and minted coins. It is possible there was another smaller structure connected to the *aerarium* that served as a state archive, but this is based on a speculative interpretation of a now lost inscription. This does not imply there was an absence of archives in Rome. Rather, 'in Rome, unlike other towns of ancient Italy, there was not just one but a number of *tabularia*, each of which was linked to a different administrative office.'

⁶. There is an underlying issue of *de facto* versus *de jure* responsibility. For example, Dio reports that in 11 BCE 'the quaestors and aediles had to be enjoined to resume the care of their records, as this had been left entirely to their assistants, with confusion and error as a result' (Purcell 1983:132).

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5 7. Purcell (2001:634) identifies this issue for state documents: 'For the state-employed
6 *apparitores* were among the most important, and certainly the most visible, of those to whom the
7 Romans entrusted the survival of their records. In vain. These are the people who lost the
8 memory of ancient Rome ... The laws and accounts that they copied are memory forever lost'.
9

10 8. In combination with archaeological evidence, what is known about the Kingdom is pieced
11 together from sources written many years after the events of interest. Cornell (1995) provides
12 details of the vast literature that has produced conflicting views of the persons, events and dates
13 surrounding the founding events of Roman society, the Kingdom and the emergence of the
14 Republic. The 'Introduction' to Gaius *Institutiones* by Poste (1904) is still useful.
15

16 9. The frequency of the *census* was supposed to be every five years – the *lustrum* – though for
17 various reasons, such as failure to elect *censors*, there were substantial gaps longer than the
18 *lustrum*. Statistics up to the 4th C., mostly from Livy and Dionysius, are incomplete and
19 unreliable. Hence, it is from the 3rd C. that more reliable statistics, mostly from Livy, are
20 available (Frank 1930). Limitations of *census* statistics for 225-28 BCE are discussed in Frank
21 (1924). Wiseman (1969) observes that 'the criterion of arms and armour underpinning the
22 *census* gave way to one of property described in monetary terms' probably occurring near the
23 end of the 5th century.
24

25 10. The sources provide limited and fragmented information about specific *censors* and the
26 functions performed, e.g., Cram (1940). *Censors* were required to act in pairs, though this did
27 not always occur. Mommsen identifies 435 as the date where two magistrates replaced the
28 *consuls* in taking the *census*, though details on *censors* are sketchy until the middle Republic.
29 Over time, the *censors* acquired considerable extra duties. In addition to having authority for
30 removing senators for moral turpitude, failure to satisfy the property requirement and other
31 reasons, the *censors* had an important role in fiscal administration. This is reflected in the
32 naming of Roman roads over the *ager publicus*, e.g., the Appian Way (*Via Appia*), and
33 aqueducts, e.g., the *Aqua Appia*, after the *censor* credited with 'building' the infrastructure circa
34 312, presumably with Senate approval of financing required. Cicero and Suetonius identify
35 *censors* as conducting auctions at the Forum for state contracts (Rauh 1989:453). From 22, the
36 censorship was absorbed into the duties of the emperor.
37

38 11. While responsibility for the *census* and revising Senate membership (*lectio senatus*) were
39 constant duties from initial appointment of *censors* in the 5th C. until the position was eliminated
40 by Augustus in 22 BCE, other duties such as recruiting armies and raising revenues that were
41 important in the early period were not relevant by the late Republic. Until 366 the position was
42 the preserve of *patricians*. The appearance of *plebian censors* begins the 'great period in the
43 history of the censorship' ending in 133 with the start of the Gracchi reforms that ushered in a
44 period of rising *plebian* influence. Responsibility for arranging public works contracts, important
45 in the early period, changed dramatically to arranging various contracts associated with state
46 revenues obtained by the Roman conquests. The censorship struggled in the period from the
47 Sullan reforms (82 to 80) to Augustus.
48

49 12. The importance of the *aerarium* as the treasury of the Republican state is reflected in the
50 etymology: 'aes' was bronze money and '-arium' was a suffix referring to a place, e.g., solarium,
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5 leading to the literal translation: a place for money. Among the archiving functions was the use
6 of the *aerarium* as the location for laws passed by the Senate; *leges* and *senatus consulta* were
7 not valid until deposited at the *aerarium*. Among the employees of the *aerarium* the most
8 important were the *scribae quaestorii*. Millar (1964:34) identifies other less important minor
9 officials.

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11 13. Latte (1936:30) suggests that the office was likely of Greek origin where 'the use of temples
12 as public treasuries was common throughout the Greek cities.'

14
15 14. Under the Republic, *quaestors* had responsibility for auditing the accounts of officials
16 responsible for remitting to the treasury. This responsibility faded during the Empire due to
17 increased authority of the imperial bureaucrats as reflected in several legal items that refer to an
18 *arbiter*, appointed by the *praetor* or *consul*, in cases where there is concern about the accounts
19 that have been rendered, e.g., Digest [35.1.50] from Ulpian: 'The Consuls ... shall appoint an
20 *arbiter* to examine the accounts, and to decide not only what balance is due ... as well as what
21 accounts and what documents he must deliver or show to his masters'. Similarly, Digest
22 [40.5.37] from Ulpian about conditions for manumission under a trust: 'as soon as he obtains his
23 freedom, an *arbiter* should be appointed by the Praetor before whom he who transacted the
24 business must appear and render an account.'

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26 15. Before Sulla, service as a *quaestor* qualified for election to the Senate. With the
27 constitutional reforms of Sulla that expanded the Senate from 300 to 600, service as *quaestor*
28 resulted in admission to the Senate. The sources seem to indicate service as a *quaestor aerarium*
29 did not extend beyond two years with *quaestor* elections being held each year.

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31 16. *Apparitores* were subordinate officials performing auxiliary services in the offices of
32 magistrates and imperial officials. 'The *apparitores* normally served for longer periods of time
33 and thus became valuable aides to their superiors who were appointed for one year only. Their
34 influence increased considerably during the Empire. They were organized in associations
35 (*collegia, decuriae apparitorum*)' (Berger 1953:364). The description of *scriba quaestorius* in
36 Berger (1953:692) as a 'clerk in the office of a *quaestor*' is a substantial understatement. Berger
37 does recognize that 'among the magisterial clerks the *scribae quaestorii* were the most
38 important; they were the bookkeepers of the [aerarium] and, in view of the many tasks they had
39 to fulfill in connection with the financial administration, the most numerous', but this is still
40 insufficient. See also Boyd (1905) for an overview of Roman state accounting.

41
42 17. During the Republic there were four principal branches of the civil service with decurial
43 organization: *scribae, lictores, viatores* and *praetores*. The *decuriae* were further divided
44 according to the magistry that was served. Other lesser branches of the civil service had
45 collegiate organization (Badian 1989:595; Jones 1949)

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47 18. Fortunately, since Badian (1989) made this observation, some insightful and detailed studies
48 of the *scribae* have appeared in German, French, Italian with essential contributions in English
49 by Purcell (2001) and Hartmann (2020) where it is observed: 'Not a single scrap of what *scribae*
50 have written survives'. As literary sources identifying the *scribae* for the imperial period are
51 scarce, 'one could thus easily take the Roman *scriba* as a Republican phenomenon'. However,
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5 the imperial period has left epigraphic evidence to fill in some details. Purcell (2001:634)
6 observes: 'The only thing that they succeeded in passing on to us effectively is the pride that they
7 took in the creation and expression of their own status. The laws and accounts that they copied
8 are memory forever lost'.
9

10 19. Reference to Octavian follows the tradition of not referring to Augustus until the Senate
11 awarded the honorific of 'Augustus' in 27 BCE. The *aediles* were magistrates, without
12 *imperium*, situated between *quaestores* and *praetores* with an array of responsibilities: 'public
13 order and security in Rome; the traffic in the city; management of public buildings; *cura*
14 *annonae* (food supply) as well as water supply; supervision over markets and market transactions
15 (such as the sale of slaves and animals); regulating weights and measures used in the market, and
16 the like. A particularly heavy burden of the *aediles* was the *cura ludorum*, arrangement of the
17 public games' (Berger 1953:353). There were two classes of *aediles*: those associated with the
18 *plebian* tribunes, *aediles plebes*; and those associated with the *patricians*, *aediles curules*.
19 *Praefectus* was a general term used to refer to 'the chief of an office in any branch of
20 administration'.
21

22 20. A central feature of this hybrid organization is the division of the Empire into 'senatorial' and
23 'imperial' provinces. The senatorial provinces operated much as under the Republic with a
24 governor served by a *quaestor*, whereas governors of imperial provinces were appointed by the
25 emperor with control of fiscal administration shared with an imperial appointee, an equestrian
26 *procurator Augusti*. Further details on fiscal administration under the Principate are provided in
27 Rathbone (1996) and Bowman (1996).
28

29 21. The essential source on the organization of the civil service under Augustus that continues
30 during the Principate is Weaver (2001: Part III).
31

32 22. This interpretation of the *Res Gestae* differs from Oldroyd (1985:124): 'one is struck by the
33 scope of the accounting information at the emperor's disposal, which suggests that its purpose
34 encompassed planning and decision-making, particularly when one considers its closeness to the
35 executive authority.' That there was detailed *ex post* accounting for imperial revenues and
36 expenditures is evident. However, planning is an *ex ante* process. Tacitus [*Annales*, I.2]
37 observes about the decision-making process: 'Augustus won over the soldiers with gifts, the
38 populace with cheap corn, and all men with the sweets of repose, and so grew greater by degrees,
39 while he concentrated in himself the functions of the Senate, the magistrates, and the laws.'
40 With Nero, the vast Julio-Claudian imperial wealth of Augustus was dissipated to the point
41 where currency debasement was needed. As Millar (1964:40) observes 'financial policy-making
42 in the early Empire (in so far as there were any)' involved 'spending ahead of income'.
43

44 23. To disregard legal sources due to appearance after the time in question is at odds with the
45 reverence given to literary sources such as Livy, Plutarch, Pliny, Polybius and the like that also
46 are written long after the events being described.
47

48 24. Unlike biographical information for Gaius, author of the *Institutes*, about which nothing is
49 known, the importance of Masurius Sabinus, *Tres libri iuris civilis*, the foundation for the
50 Sabinian school of Roman jurists, leaves a biographical detail associated with recognition in 29
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CE by Tiberius allowing a dating for Sabinus no later than the early first century CE. No further biographical detail on Sabinus is known. Even though contributions of the Sabinian school were a major influence on the *Digesta*, no copy of *Tres libri iuris civilis* has survived and, likely, was not available to writers of the *Digest* (Stagl 2016).

25. Available sources for creation of the Twelve Tables – the origin of Roman law merging *patrician* and *plebian* codes – have mythical features. The basic narrative has the Tables emerging after ten years (462-452 BCE) of agitation led by the *plebian* tribunes, with final ratification of the Code by the *Comitia Centuriata* and publication by the *consuls* in 448 BCE. However, Harris (1989:152) provides compelling reasons ‘the date of the Tables was, for standard patriotic reasons, set too early’ and dating as late at the end of the 4th C. is possible though ‘the origins and original date of the Twelve Tables are in reality irrecoverable’.

26. Brunt (1966:n.67) provides some examples where public concerns appear in the legal sources. Poitras and Willebordse (2021b) discuss commercial aspects of Roman private law.

27. Poste (1904:361) provides the following translation from the *Institutes*: ‘§128. Literal contracts, or obligations created by writing, are made by transcriptive entries of debit or credit in a journal. Transcriptive entries are of two kinds, either from thing to person, or from person to person’. Berger (1953) provides the following: ‘*Nomina trans(s)cripticia*. Entries (*transcriptiones*) in the cash-book of a Roman citizen stating debts owed to him and payments made thereon. Usually, *transcriptiones* were made to convert a pre-existing debt into a literal contract which relieved the creditor from the burden of proving the origin of the debt. The essential elements of a *transcriptio* are the discharging of an old debt and the contracting of a new one.’

28. Yonge translates *adverseriis* as memoranda.

29. Though not a legal source, Murray (1930:127) observes bankers and professional moneylenders (*argentarii*) and some wealthy individuals kept a debt-book *kalendarium* (*calendarium*) recording names and amounts for debtors and interest due. Municipalities also used a *kalendarium*.

30. There is confusion on the translation. The Latin text in Boyd (1948) refers to *vilicis/villicum* which translates literally to ‘steward’. Secondary sources refer to *vilicis* as ‘manager’ (Reitz 2013) while Carroll (1976) refers to ‘bailiff’ which can be defined as ‘steward for a landlord’ but uses the Latin *uilicis*. Baldwin also uses bailiff. In the translation of *De Res Rustica*, Boyd (1948), uses ‘bailiff’ for *vilicis*.

31. Book XI provides other observations relevant to accounting practices: ‘food and drink may be provided by those in charge of supplies without their being defrauded’ [XI.1.19]; ‘it costs more than the price of these things if you have to call off the slaves from their work’ [XI.1.20]; the steward ‘should not frequent the town or any fairs except for the purchase of something necessary’ [XI.1.23]; ‘the master’s property has ... been impaired and cannot afterwards yield a great enough increase to make up for the loss of capital and restore the lost profit’ {XI.1.29}; ‘Therefore we will add an account of this charge’ [XI.2.98]; for ‘the expense involved ... a man

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4 needs to possess a fortune' [XI.3.2]. Also, in Book XII on the duties for the wife of a steward: 'a
5 larger profit is made from the price that green oil fetches than from a huge quantity of inferior
6 oil' [XII.52.20]; 'you will find there has not been a profit but a loss' [XII.52.20].
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9 ³². As Purcell (1985) observes: '[The economic history] of viticulture in Italy during the period
10 from the Punic Wars to the crisis of the third century A.D. will remain unacceptably
11 impoverished if it is written in isolation from the social and cultural history of the same period.'