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## **Number 9**

Title: The Structure of Prices in the neo-Sumerian Economy (III);  
Cults and Prices at the Collapse of the Ur III State

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### *Introduction*

Current historiography of the late third millennium in the Ancient Near East holds that by the seventh year of Ibbi-Suen's reign, the territory successfully hegemonized by the Ur III dynasty had contracted to include only the capital Ur, the cultic centre of Nippur, and their limited environs. In the previous year, according to the date formulae of Ibbi-Suen's reign, the defensive walls of these two cities had been fortified against continuing nomadic and foreign incursions while contemporaneously the major core provinces of the Ur III state were for the most part seceding or otherwise departing from its control. Perhaps the first indications of an internal political crisis, lay in the sometimes precipitous disappearance of the practice by the city states of the use of the standard Ur III dating system. The practice had disappeared in Išān Mizyad as early as Ibbi-Suen's second regnal year and in Ešnunna and Susa in his third (Sallaberger 1999: 174). Administrative texts from the principal core provinces of the Ur III state and dated with this system completely disappeared from Puzriš-Dagan in IS 4, from Umma in Ibbi-Suen's fifth year, from Girsu in his sixth, and Nippur in his eighth regnal year (Lafont 1995:3-4). The successive interruptions and disappearance of the integrating archival practises of the Ur III state during the early part of Ibbi-Suen's reign may have represented an end to the functioning of the provincial administrations. These administrative disruptions may have occurred in the major institutions of the core provinces prior to the final disappearance of all texts. Lafont notes that in the last few Girsu texts from IS 5-6 only the *ensi*<sub>2</sub> is frequently mentioned. The great temple demesnes of the provinces may have already ceased to function by IS 4 (Lafont 1995:6).

By IS 7, provincial governors had also ceased to provide offerings for Nanna, the tutelary god of Ur (Jacobsen 1953: 38), while earlier in Ibbi-Suen's reign some provinces may have stopped contributions to the upkeep of the State via the *bala* system and before his seventh year the *bala* system had disappeared. The dated texts from Puzriš-Dagan have a final reference to the *bala* in IS 3 ([PPAC 4, 124](#)(P332045), while [BIN 03, 602](#)(P106409)<sup>1</sup> from month 12 of IS 2 is an account (*niĝ<sub>2</sub>-ka<sub>9</sub>*) of Ayallamu<sup>2</sup>. The account "debits" resources of sheep and goats received from various individuals and places (Karkar and Nippur), from which (*ša<sub>3</sub>-bi-ta* "therefrom"), besides expenditures (*zi-ga-am<sub>3</sub>*) of lambs and goats to individuals from Adab and Nippur, offerings (*sa<sub>2</sub>-du<sub>11</sub>*) of sheep for 3 successive days which are *zi-ga bala-a* "expenditure of the *bala*" and 8 slaughtered sheep recorded as *zi-ga lugal* "expenditure for the king" are also withdrawn. [BIN 03, 602](#) may be the last known of the Puzriš-Dagan accounts to suggest the role of the settlement as the state government's cattle centre and stockyards from which the system of redistribution to and from the core provinces was conducted.

While there is no evidence for the *bala* in Puzriš-Dagan texts after IS 2/3, the requirement for the cult offerings element of the *bala* to be made by provincial governors was manifestly transferred to Ur (Hallo 1960:96). Indeed, it is probable that there was already a special branch of the Drehem central livestock function at Ur to provide for the needs of the cult of Nanna (Tsouparopoulou 2013:9). Evidence of the cult offerings at Ur in the early Ibbi-Suen period primarily relates to the system of regular offerings in respect of the lunar cult in the temple of Nanna. The lunar offerings were *eš<sub>3</sub>-eš<sub>3</sub>* or *siskur<sub>2</sub>* and were provided by the king, the former offering specific evidence of the *bala* in Ur of the early IS years. They were *zi-ga eš<sub>3</sub>-eš<sub>3</sub> lugal*, (*ša<sub>3</sub> e<sub>2</sub><sup>d</sup> nanna-ka*) "expenditure for the *eš<sub>3</sub>-eš<sub>3</sub>*

<sup>1</sup> The number in brackets following the siglum of each text is the number of the text in the CDLI database.

<sup>2</sup> Although Ayallamu is not explicitly attested as such, he was most probably a *kurušda* "animal fattener" since he was a member of a family of fatteners. He is to be identified with *a-al-la-mu*, *dumu la-na*, *kurušda* in [AUCT 3, 300](#) (P104513), a text dated Šu-Suen 7 and with his brother *ur-mes*, *dumu la-na*, *kurušda* in [AAICAB 1/3, pl. 199, Bod A 90](#) (P249018) from ŠS 2. See also Tsouparopoulou (2013:10) who in her reconstruction of the Central Livestock Agency in Puzriš-Dagan, includes the Lana family, of whom A'alaĝu (Ayallamu) son of Lana is a member, as officials within the office of the chief official. Tsouparopoulou suggests that only people with titles of *sipa*, *kurušda*, and *unu<sub>3</sub>* comprise these officials, that they are organised in families with vacant posts passing from father to son, and may be solely responsible for generating *niĝ<sub>2</sub>-ka<sub>9</sub>*.

festival by the king in the temple of Nanna". In addition to the temple of Nanna, offerings were also provided for the god Haia, for the Du'ur, at the gate and at the place of the throne ([UET 3, 0232](#) (P136539)). These offerings were provided either directly from the palace (e<sub>2</sub>-gal-ta) or indirectly via the bala system (ki ensi<sub>2</sub> bala-a-ta "from the ensi currently responsible for the bala"). The evidence from the Ur data for zi-ga eš<sub>3</sub>-eš<sub>3</sub> from the ensi of the bala is from only a dozen texts dated to IS 5 (one is from IS 6) and all other texts related to zi-ga eš<sub>3</sub>-eš<sub>3</sub>, a further ten, are dated to IS 7.

The extent to which animals and other produce for the eš-eš offerings were provided from Ur before Ibbi-Suen remains unknown, as in earlier studies (Sigrist 1977:381). Offerings for the lunar festival were apparently made in nearby Ga'eš from Ur in IS 7<sup>3</sup> while eš-eš offerings in Ga'eš were earlier provisioned from Puzriš-Dagan (in Amar-Suen's fourth year, see [BPOA 7, 2856](#) (P303644)). Although this details fattened oxen sheep and goats and suckling lambs and kids supplied from an animal fattener's household, and fattened sheep from the official Nalu, as zi-ga eš<sub>3</sub>-eš<sub>3</sub> lugal ša<sub>3</sub> ga-eš<sup>ki</sup>, most of the offerings are delivered to cultic locations in Ur (du<sub>6</sub>-ur<sub>2</sub>-še<sub>3</sub>, e<sub>2</sub> <sup>d</sup>nanna-še<sub>3</sub>, dub-la<sub>2</sub>-mah "gate tower", <sup>giš</sup>gu-za bara<sub>2</sub> <sup>d</sup>nanna "throne of the Nanna shrine", e<sub>2</sub> ġešba<sup>ba</sup> liru<sub>3</sub>-ma "household of the wrestlers". Royal offerings (siskur<sub>2</sub>) made in both Ga'eš and Ur were also summarised together in a text dated IS 7 (Sallaberger 1993:192 and fn. 915) and relate to the rituals involved in the Nanna cult linking the two places (Sallaberger 1993:170-2).

In addition to the lunar offerings eš<sub>3</sub>-eš<sub>3</sub> and siskur<sub>2</sub> made each month on nights determined by phases of the moon, other festivals at Ur for which a supply of sacrificial animals was needed, were also observed. There were three major annual cultic festivals during the Ur III period, two Akiti festivals, the first in month one (a<sub>2</sub>-ki-ti še-sag<sub>11</sub>-ku<sub>5</sub>) and the second in month seven (a<sub>2</sub>-ki-ti šu-numun-na). The third was the ezem-mah "Great Festival" in the tenth month of the year. Smaller annual festivals were attested for months two ("Gazelle Feast"), month three (šeš-da-gu<sub>7</sub> "Piglet Feast"), month four ("Ubi-bird Feast"), month six (Festival of Ninazu), and month eight ("Festival of Šulgi") Sallaberger (1993:159-198). Though no ezem ki-siki-<sup>d</sup>nin-a-zu is documented in month five, the cult of Ninazu was also celebrated then (iti ki-siki-<sup>d</sup>nin-a-zu "month Wool Place of Ninazu"). A festival in month nine homonymous with šu-eš<sub>5</sub>-ša was an Old Babylonian institution. However, there was probably a festival in month nine. The tradition of a festival in month nine could probably be traced back to the Early Dynastic month name iti šu-eš-<sup>d</sup>nanna-ka (Sallaberger 1993:197, [UET 2, supp 13](#) (P250338)). Cult festivals associated with Annunitum were also celebrated in Ur and probably in each month (Sallaberger 1993:198-205) and were an enduring occurrence in Ibbi-Suen's reign as is evidenced by the IS 6 text [UET 3, 0151](#) (P136468). Both large and small bovids were needed as sacrifices for most of these festivals.

The demise of the central stockyards at Puzriš-Dagan around IS 2-3, and hence the loss of the crown's control of their management, seriously diminished the ability of Ibbi-Suen to secure a supply of sacrificial animals from the core provinces via the bala obligation. Although the ensis continued to supply some of the sacrifices for the offerings to Nanna at Ur via the bala system through IS 6, their contributions only ever amounted to two or three lambs. Hallo suggests that by this time these ensis had for the most part lost their cities and retained only their titles and thus could access few resources with which to provision the bala obligation (Hallo 1960:96).

Despite these straitened political and economic circumstances, the gods of Ur would necessitate propitiation. The cultic festivals of Ur continued to demand a steady supply of sacrificial animals, mainly sheep and goats. Although Jacobsen's emphasis on the privations of the Ur III state might be thought to indicate an inability to meet this need (Jacobsen 1953:41), the king could seemingly call on resources enough to replace what was lost from the bala with purchases from merchants and others.

In IS 7 in Ur, sheep and goats were purchased for the delivery of regular offerings to the god Nanna. The surviving reverse of the month 4 text [UET 3, 0180](#) (P136497) states that 13 mixed sheep and goats, udu niġ<sub>2</sub>-sa<sub>10</sub>-ma-ka "small bovids of purchases", mu-ku<sub>x</sub>(DU) "delivery", ki lu<sub>2</sub> didli-ne-ta "from various people", sa<sub>2</sub>-du<sub>11</sub> <sup>d</sup>nanna-še<sub>3</sub> "regular offerings for Nanna", <sup>d</sup>nanna-dalla i<sub>3</sub>-dab<sub>5</sub> "Nanna-dalla requisitioned". Also germane is [UET 3, 0221](#) (P136538) from iti ezem-an-na (month 11). Here 12 mixed sheep and goats, udu niġ<sub>2</sub>-sa<sub>10</sub>-ma-ka, ki šeš-kal-la dam-

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<sup>3</sup> In [UET 3, 0229](#) (P136546), 9 baskets of a fruit (dates?) each containing two litres were offered for the eš<sub>3</sub>-eš<sub>3</sub> lugal in Ga'eš via a cupbearer (sagi).

gar<sub>3</sub>-ta "from Šeškala merchant", mu-ku<sub>x</sub>(DU), sa<sub>2</sub>-du<sub>11</sub> <sup>d</sup>nanna-še<sub>3</sub>, <sup>d</sup>nanna-dalla i<sub>3</sub>-dab<sub>5</sub>. Here animals are purchased from a merchant in delivery of regular cultic offerings.

The territorial contraction of the Ur III state to the capital of Ur and the religious centre of Nippur was exacerbated in IS 8 when the independent Isin dynasty, headed by his former general, Išbi-Erra, was founded and took control over Nippur (van de Mieroop 2004:77). The combination of the foundation of Isin, foreign incursions and invasion forced the empire to shrink back to a city-state, which fully collapsed at the end of Ibbi-Suen's reign some 17 years later (Liverani 2014:173-4).

The political crisis confronting Ibbi-Suen was compounded by dire economic difficulties affecting Ur and much of the remainder of southern Babylonia. In the first two years of Ibbi-Suen's kingship, bovids could no longer be fed with grain and there were extensive deliveries of fresh reeds as animal feed to Puzriš-Dagan which contributed to the ending of the state management of cattle there. The grain shortage persisted despite intensive cultivation of the land in Umma and Girsu. A once-only crop failure does not account for the persistence of the cereal shortage, nor does population increase, since it would have taken a large scale migratory movement into Sumer at the beginning of the Ibbi-Suen reign, of which we have no evidence, to produce the degree of scarcity deducible from some of the administrative texts of the period. There may, however, have been harvest failures due to irrigation problems on the alluvium caused by ineffective flooding of the Euphrates and Tigris rivers brought about by changes in their channels (Sallberger 1999:176-7, Liverani (2014:173).

In consequence, Ibbi-Suen was faced with a steep increase in the prices of staple commodities, principally foodstuffs and notably barley, in the sixth through eighth years of his reign. Though there is scant direct evidence, in any texts, of the equivalent silver price of barley beyond Šu-Suen 9 and certainly Ibbi-Suen 1, Tohru Gomi calculated such equivalent values from the relative exchange ratios between different pairs of foods found in texts from UET 3 and UET 9 from the early Ibbi-Suen years.<sup>4</sup> These were primarily between barley, dates and oil where the price of oil in sila<sub>3</sub> per gin<sub>2</sub> was given (Gomi 1984:232). The application of these exchange ratios between oil and barley and between barley and dates enabled his extrapolation of the silver values of barley and dates. Gomi suggested that prices of all three of these basic foodstuffs were relatively stable from the first until the fifth year of Ibbi-Suen's reign, were beginning to increase at the end of the fifth year, but from the sixth through the eighth year jumped inordinately, so that by the end of IS 7 there had been a fifteen-fold increase in the price of barley in twelve months (Gomi 1984:240).

It is also apparent from the texts from Ur in this period, that other staples of sesame oil and dates may have been substituted for barley in the rations of slaves and others, in part, but then completely by year 8. Coincident with the excessive rise in prices of basic foodstuffs and disrupted ration systems in the Ur III state, there was incredibly low productivity in dairy farming due to an acute shortage of animal feed (Gomi 1981: 35-36, 1984:212).

In addition to this extreme increase in IS 7 in prices of the basic foodstuffs of oil, dates and barley, it is also evident that the prices of sheep, goats and large cattle, at least some of which were probably purchased for cult sacrifices, were also grossly inflated when compared with those from more stable earlier periods.

#### *Prices of sacrificial and other animals in the Ibbi-Suen early years*

[UET 9, 882 \(CDLI No. P139012\)](#), dated IS 7, demonstrates the purchase via merchants of sheep and goats for cultic offerings and provides prices of these animals in addition to those of oil and dates. A transliteration and interpretation of Darlene Loding's 1976 autograph is provided below<sup>5</sup>. Her catalogue records the tablet as a fragment with four columns on the obverse and with only one preserved on the reverse.

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<sup>4</sup> Gomi's data for the prices of barley in the years IS 1 through 5 are almost in their entirety computed from the loan texts (requiring assumptions to be made about the level of interest rates) from Nippur and to a lesser extent from Umma (Gomi 1984: 234-236). I have argued and hopefully demonstrated elsewhere that these loan texts may not reflect prices and are best discarded from the body of data used to estimate the barley:silver ratio or price (Cripps 2017:36 and prev.).

<sup>5</sup> Since 2015 there has been a transliteration by Palmiro Notizia on the BDTNS. However, his transcriptions of the price formulae particularly at the beginning of the text are in error. There is also now a transliteration by Richard Firth from July 2017 on the CDLI site. However, this replicates the errors in the BDTNS version. Furthermore, obv. (ii) 8 should in my view read differently than in Loding's copy. Thus, interpretation of the text and analysis of its structure is much aided with direct reference to a revised transliteration.

Figure 1a is my transliteration of Loding's copy and Figure 1b is the translation of it. Although there were clearly four columns of text on the obverse of the tablet much of which is preserved, it is highly probable that substantial parts of a further four were inscribed on the reverse, and it is certain that the only surviving column on the reverse is where the fourth column would be. Despite the extensive damage to the tablet sufficient survives to enable some restorations and interpretation of essential elements. Very little of my transliteration from the copy would appear too speculative, but would in a few places benefit from collation of the original tablet. However, at the time of writing I have not, with certainty, located and accessed the tablet.<sup>6</sup>

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<sup>6</sup> Personal communications from Robert Englund at the CDLI and Philip Jones in the Babylonian Section of Penn Museum confirm that the pieces copied by Darlene Loding in UET 9, 882 were returned to the Iraq Museum in Baghdad, and were not photographed prior to their return.

Obverse

- (i)
1. 1 (diš) ma-na ku<sub>3</sub>-babbar
  2. 2(u) 5(aš) 4(barig) 4(ban<sub>2</sub>) 6(diš) sila<sub>3</sub> i<sub>3</sub>-giš gur
  3. 1(diš) gin<sub>2</sub>-a 2<sup>1/2</sup> (diš) sila<sub>3</sub>-ta
  4. 2(aš) zu<sub>2</sub>-lum gur
  5. 1(diš) gin<sub>2</sub>-a 2(ban<sub>2</sub>)-ta
  6. 2<sup>1</sup>(aš) 4(barig) zu<sub>2</sub>-lum gur<sup>1</sup>
  7. [1(diš)] gin<sub>2</sub><sup>1</sup>-a [1(ban<sub>2</sub>) 5(diš) sila<sub>3</sub>]-ta
  8. ku<sub>3</sub>-bi 5(u) 3<sup>1/3</sup>(diš) ma-na igi-3-gal<sub>2</sub> 1(u) 2(diš) še
  9. šu-niĝin<sub>2</sub> 5(u) 4<sup>1/3</sup>(diš) ma-na igi-3-gal<sub>2</sub> 1(u) 2(diš) še ku<sub>3</sub>-babbar
  10. ša<sub>3</sub>-bi-<sup>1</sup>ta<sup>1</sup>
  11. 5(diš) udu 5(diš) maš<sub>2</sub>
  12. 1(u) 4(diš) gin<sub>2</sub>-ta
  13. iti maš-ku<sub>3</sub>-gu<sub>7</sub>
  14. 1(u) 5(diš) udu 4 (diš) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub>-ta
  15. iti u<sub>5</sub>-bi<sub>2</sub><sup>mušen-gu<sub>7</sub></sup>
  16. 8(diš) udu 6(diš) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub>-ta
  17. iti ki-siki-<sup>d</sup>nin-a-zu
  18. 1(u) udu 1(u) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub><sup>1</sup>-<sup>1</sup>ta<sup>1</sup>
  19. iti ezem <sup>d</sup>nin-a-zu
  20. 3(u) la<sub>2</sub> 1(diš) udu 2(diš) sila<sub>4</sub> 5(diš) maš<sub>2</sub>
  21. 1(u) 7(diš) gin<sub>2</sub>-ta
  22. iti a<sub>2</sub>-ki-ti
  23. 2(u) 2(diš) udu 1(u) la<sub>2</sub> 1(diš) maš<sub>2</sub> 1/3(diš) ma-na-ta
  24. iti ezem <sup>d</sup>šul-gi
  25. 1(u) 7(diš) udu 1(u) 2(diš) maš<sub>2</sub> 1/3(diš) ma-na 5(diš) gin<sub>2</sub><sup>1</sup>-<sup>1</sup>ta<sup>1</sup>

- (ii)
1. iti šu-eš<sub>5</sub>-[ša]
  2. 3(u) 5(diš) udu 8(diš) maš<sub>2</sub> 1/2(diš) ma<sup>1</sup>-<sup>1</sup>na<sup>1</sup>-ta
  3. iti ezem-mah
  4. šu-niĝin<sub>2</sub> 3(ĝeš<sub>2</sub>) 2(u) 2(diš) udu maš<sub>2</sub> hi-a
  5. šu-niĝin<sub>2</sub> ku<sub>3</sub>-bi 1(aš) gu<sub>2</sub> 8 2/3(diš) ma-na 9(diš) gin<sub>2</sub>
  6. 1(diš) ma-na ku<sub>3</sub>-babbar har kiri<sub>3</sub> gu<sub>4</sub><sup>1</sup>
  7. ezem a<sub>2</sub>-ki-ti šu-<sup>1</sup>numun-na<sup>1</sup>-še<sub>3</sub>
  8. diri! 1(u) 4<sup>1/3</sup>(diš) ma-na 8 gin<sub>2</sub> sa<sub>x</sub>[NINDA<sub>2</sub>×ŠE.2 (gin<sub>2</sub>?)<sup>1</sup> 12 še ku<sub>3</sub>
  9. ur-<sup>1</sup>ba<sup>1</sup>-gara<sub>2</sub>
  10. [1(diš)] ma<sup>1</sup>-<sup>1</sup>na<sup>1</sup> [ku<sub>3</sub>]-<sup>1</sup>babbar<sup>1</sup>
  11. 1(u) 1(aš) 3(barig) 4(ban<sub>2</sub>) 9 (diš) sila<sub>3</sub> i<sub>3</sub>-giš
  12. 2(aš) zu<sub>2</sub>-lum gur 2(ban<sub>2</sub>)-ta
  13. 1(aš) 4(barig) zu<sub>2</sub>-lum gur 1(ban<sub>2</sub>) 5(diš) sila<sub>3</sub>-ta
  14. ku<sub>3</sub>-bi 2(u) 4<sup>1/2</sup>(diš) ma-<sup>1</sup>na<sup>1</sup> 7<sup>1/2</sup>(diš) gin<sub>2</sub> 1(u) 8(diš) [še]
  15. šu-niĝin<sub>2</sub> 2(u) 5<sup>1/2</sup>(diš) ma-na 7<sup>1/2</sup>(diš) gin<sub>2</sub> 1(u) 8(diš) še
  16. ša<sub>3</sub>-bi-ta
  17. 7(diš) udu<sup>1</sup> 2(diš) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub>-ta
  18. iti maš-ku<sub>3</sub>-gu<sub>7</sub>
  19. 1(u) 5(diš) udu 4(diš) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub>-ta
  20. iti u<sub>5</sub>-bi<sub>2</sub><sup>mušen-gu<sub>7</sub></sup>
  21. 2(diš) udu 3(diš) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub>-ta
  22. iti ki-siki-<sup>d</sup>nin-a-zu
  23. 6 (diš) udu 5(diš) maš<sub>2</sub> 1(u) 4(diš) gin<sub>2</sub>-ta
  24. <sup>d</sup>nanna-dalla i<sub>3</sub>-dab<sub>5</sub>
  25. 1 sila<sub>4</sub> 1(u) 4(diš) gin<sub>2</sub>
  26. e<sub>2</sub>-gal-<sup>1</sup>la<sup>1</sup> ku<sub>4</sub><sup>1</sup>-[ra]

- (iii)
1. 1 giri<sub>3</sub><sup>1</sup>nu-<sup>1</sup>ur<sup>1</sup>-[x]
  2. [x]+1(diš) udu 1(u) 4(diš) gin<sub>2</sub><sup>1</sup>-<sup>1</sup>ta<sup>1</sup>
  3. kišib<sub>3</sub> šu-e<sub>2</sub>-a sukkal-mah
  4. iti ezem <sup>d</sup>nin-a-zu
  5. 2(diš) udu 8(diš) maš<sub>2</sub> 17 gin<sub>2</sub>-ta
  6. iti a<sub>2</sub>-ki-ti
  7. 1(u) 1(diš) udu 1(diš) maš<sub>2</sub> 1/3(diš) ma-na-ta
  8. iti ezem <sup>d</sup>šul-gi
  9. 1(u) 2 (diš)+[x(diš) udu x(diš) maš<sub>2</sub> 1/3(diš) ma-na] 5(diš) gin<sub>2</sub><sup>1</sup>-<sup>1</sup>ta<sup>1</sup>
  10. 1iti <sup>1</sup>š<sub>3</sub>-eš<sub>5</sub>-ša
  11. [x(diš)] udu 1(diš) sila<sub>4</sub> 2(diš) maš<sub>2</sub> 1/2(diš) ma-na-ta
  12. iti ezem-<sup>1</sup>mah<sup>1</sup>
  13. šu-niĝin<sub>2</sub> 2(ĝeš<sub>2</sub>) 3(u) 2(diš) udu maš<sub>2</sub><sup>1</sup> [hi-a]
  14. šu-niĝin<sub>2</sub> ku<sub>3</sub>-bi 2(u) 8(diš)<sup>1</sup> + [x...]
  15. 1(diš) ma-na ku<sub>3</sub>-[babbar har kiri<sub>3</sub> gu<sub>4</sub>]
  16. [la<sub>2</sub>-ia<sub>3</sub>] 3<sup>1/2</sup>(diš) ma-[na x(diš) gin<sub>2</sub>]
  17. ma<sub>2</sub>-an-[na-še<sub>3</sub>]
  18. [1(diš)] ma-na [ku<sub>3</sub>-babbar]
  19. 1(u) 1(aš) 3(barig) 4(ban<sub>2</sub>) 9(diš) sila<sub>3</sub> i<sub>3</sub>-[giš gur]
  20. 2(aš) zu<sub>2</sub>-lum gur 2(ban<sub>2</sub>)-[ta]
  21. 1(aš) 4(barig) zu<sub>2</sub>-lum gur 1(ban<sub>2</sub>) [5(diš) sila<sub>3</sub>-ta]
  22. ku<sub>3</sub>-bi 2(u) 4<sup>1/2</sup>(diš) ma<sup>1</sup>-[na] 7<sup>1/2</sup>(diš) gin<sub>2</sub> 1(u) 8(diš)<sup>1</sup> še
  23. šu-niĝin<sub>2</sub> 2(u) 5<sup>1/2</sup>(diš) ma-<sup>1</sup>na<sup>1</sup> [7<sup>1/2</sup>(diš) gin<sub>2</sub> 1(u) 8(diš) še]
  24. ša<sub>3</sub>-bi-[ta]
  25. 5(diš) [x]

Remainder of column destroyed (possibly one line)

(iv)

3 lines destroyed

- 1'. iti ki-siki-<sup>d</sup>nin-a-zu
- 2'. 1(u) 4(diš) udu 2+[x...(diš) x... 1(u) 4(diš) gin<sub>2</sub>-ta]
- 3'. iti ezem [<sup>d</sup>nin-a-zu]
- 4'. 1(u) 1(diš) udu [x maš 1(u) 7(diš) gin<sub>2</sub>-ta]
- 5'. iti a<sub>2</sub>-[ki-ti]
- 6'. [x]+2(diš) udu [x maš 1/3(diš) ma-na-ta.]
- 7'. 1iti<sup>1</sup> 1ezem<sup>1</sup> [<sup>d</sup>šul-gi]
- 8'. 8(diš) udu 3+[x (diš) maš 1/3(diš) ma-na 5(diš) gin<sub>2</sub>-ta]
- 9'. iti šu-[eš<sub>5</sub>-ša]
- 10'. 6 (diš) udu 4(diš) [maš 1/2(diš) ma-na-ta]

Remainder of column lost.

Reverse.

Col. 1 mostly lost, remainder destroyed.

Cols. 2-3 destroyed.

(iv)

1. mu-[ku<sub>x</sub>(DU)]
  2. [diri/la<sub>2</sub>-ia<sub>3</sub>] [x] + 3(u) 3<sup>1/2</sup>(diš) ma-[na...] [x(diš) gin<sub>2</sub>] igi-6-gal<sub>2</sub> [x(diš) še].
- Space
3. niĝ<sub>2</sub>-ka<sub>9</sub>-<sup>1</sup>ak<sup>1</sup>
  4. <sup>1</sup>dam<sup>1</sup>-gar<sub>3</sub>-<sup>1</sup>ne<sup>1</sup>
  5. [iti] maš-<sup>1</sup>ku<sub>3</sub><sup>1</sup>-gu<sub>7</sub>-[ta]
  6. [iti] 1ezem<sup>1</sup>-<sup>1</sup>mah<sup>1</sup>-[še<sub>3</sub>] iti-bi 1iti<sup>1</sup> 1(u) la<sub>2</sub> 1(diš) am<sub>3</sub>
  7. mu us<sub>2</sub>-<sup>1</sup>sa<sup>1</sup> <sup>d</sup>i-bi<sub>2</sub>-<sup>1</sup>dsuen<sup>1</sup>lugal uri<sub>5</sub><sup>ki</sup>-[ma]-ke<sub>4</sub>
  8. nibru
  9. uri<sub>5</sub><sup>ki</sup>-<sup>1</sup>ma<sup>1</sup> bad<sub>3</sub> gal-bi mu-du

Figure 1b. Translation

Obverse

- (i)
1. 1 mina of silver,
  2. 7786 litres of sesame oil
  3. @ 2<sup>1</sup>/<sub>2</sub> litres per shekel of silver,
  4. 600 litres of dates
  5. @ 20 litres per shekel of silver,
  6. 840<sup>7</sup> litres of dates
  7. @ [15 litres per shekel of silver],
  8. its silver 53<sup>1</sup>/<sub>3</sub> minas <sup>1</sup>/<sub>3</sub> (shekel) 12 barleycorns,
  9. The total, 54<sup>1</sup>/<sub>3</sub> minas <sup>1</sup>/<sub>3</sub> (shekel) 12 barleycorns silver.
  10. therefrom
  11. 5 sheep and 5 goats
  12. @14 shekels each
  13. month of "Gazelle Feast" (month 2),
  14. 15 sheep and 4 goats @14 shekels of silver each
  15. month of "Ubi bird feast" (month 4),
  16. 8 sheep and 6 goats @ 14 shekels each
  17. month "Wool place of <sup>d</sup>Ninazu" (month 5),
  18. 10 sheep and 10 goats @ 14 shekels each<sup>7</sup>
  19. month of "Festival of <sup>d</sup>Ninazu" (month 6),
  20. 29 sheep, 2 lambs and 5 goats
  21. @17 shekels each
  22. Akiti month (month 7),
  23. 22 sheep and 9 goats @ 20 shekels each
  24. month of "Festival of <sup>d</sup>Šulgi (month 8),
  25. 17 sheep and 12 goats @ 25 shekels each
- (ii)
1. month Šu'ešša (month 9),
  2. 35 sheep and 8 goats @ 30 shekels<sup>7</sup> each
  3. month of "Great Festival" (month 10),
  4. total: 202 mixed sheep and goats.
  5. total: their silver 1 talent 8 <sup>2</sup>/<sub>3</sub> minas 9 shekels.
  6. 1 mina of silver nose rings for oxen
  7. for the Akiti-Šunumun Festival,
  8. surplus of credits! 14<sup>1</sup>/<sub>3</sub> minas 8 shekels <sup>2</sup>/<sub>3</sub> shekel<sup>7</sup> 12 barleycorns silver,
  9. Ur-<sup>r</sup>Ba<sup>7</sup>gara
  10. [1] <sup>r</sup>mina of silver<sup>7</sup>
  11. 3529 litres of sesame oil,
  12. 600 litres of dates @20 litres per shekel,
  13. 540 litres of dates @ 15 litres per shekel,
  14. their silver 24<sup>1</sup>/<sub>2</sub> minas 7<sup>1</sup>/<sub>2</sub> shekels and 18 barleycorns,
  15. total: 25<sup>1</sup>/<sub>2</sub> minas 7<sup>1</sup>/<sub>2</sub> shekels and 18 barleycorns.
  16. therefrom
  17. 7 sheep and 2 goats @ 14 shekels each
  18. month of "Gazelle Feast" (month 2),
  19. 15 sheep and 4 goats @ 14 shekels each
  20. month of "Ubi bird feast" (month 4),
  21. 2 sheep and 3 goats @ 14<sup>7</sup> shekels each
  22. month of "Wool place of <sup>d</sup>Ninazu" (month 5),
  23. 6 sheep and 5 goats @ 14 shekels each
  24. Nanna-dalla requisitioned
  25. 1 lamb @ 14 shekels
  26. delivered to the palace,

- (iii)
1. <sup>r</sup>via Nu-ur-[x]
  2. [x]+1 sheep @14 <sup>r</sup>shekels each<sup>7</sup>
  3. received under seal by Šu'ea chief minister
  4. month of "Festival of <sup>d</sup>Ninazu" (month 6),
  5. 2 sheep and 8 goats @ 17 shekels each
  6. Akiti month (month 7),
  7. 11 sheep and 1 goat @ 20 shekels each
  8. month of "Festival of Šulgi",
  9. 12+[x sheep and x goats] @ [2]<sup>r</sup>5 shekels each<sup>7</sup>
  10. <sup>r</sup>month<sup>7</sup> Šu'ešša (month 9),
  11. [x] sheep 1 lamb and 2 goats @ 30 shekels each
  12. month of "Great Festival" (month 10),
  13. total: 152 mixed sheep and goats.
  14. In total their silver 2<sup>r</sup>8<sup>7</sup> [...].
  15. 1 mina of silver [nose rings for oxen]
  16. [deficit] 3<sup>1</sup>/<sub>2</sub> minas [x shekels]
  17. [to] the "Boat of <sup>r</sup>Heaven<sup>7</sup> (Processional barge)".
  18. [1] mina of [silver]
  19. 3529 litres of sesame oil
  20. 600 litres of dates @ 20 litres per shekel of silver
  21. 540 litres of dates @ 1[5 litres per shekel of silver]
  22. their silver 24<sup>1</sup>/<sub>2</sub> <sup>r</sup>min<sup>7</sup>[as] 7<sup>1</sup>/<sub>2</sub> shekels and <sup>r</sup>18<sup>7</sup> barleycorns
  23. total: 25<sup>1</sup>/<sub>2</sub> minas [7<sup>1</sup>/<sub>2</sub> shekels 18 barleycorns].
  24. therefrom
  25. 5 [.....]
- Perhaps 1 line destroyed
- (iv)
- 3 lines destroyed
- 1'. Month of "[Wool] place [of <sup>d</sup>Ninazu]" (month 5),
  - 2'. 14 sheep 2 + [x... @14 shekels each]
  - 3'. Month of "Festival [of <sup>d</sup>Ninazu]" (month 6),
  - 4'. 11 sheep [x goats @ 17 shekels each]
  - 5'. A[kiti] month (month 7),
  - 6'. [10] + 2 sheep [x goats @ 20 shekels each]
  - 7'. <sup>r</sup>month of "Festival<sup>7</sup> [of Šulgi] (month 8),
  - 8'. 8 sheep 3 + [x goats @ 25 shekels each]
  - 9'. month Šu'[ešša] (month 9),
  - 10'. 6 sheep 4 [goats @ 30 shekels each]
- Remainder of column lost
- Reverse.
- Most of col.1 lost, remainder destroyed
- Cols 2-3 destroyed.
- (iv)
1. deli[very]
  2. [surplus/deficit?] [x] + 33<sup>1</sup>/<sub>2</sub> min[as x 1/6 shekels x barleycorns].
- Space.
3. Account made
  4. relating to the merchants
  5. [From month] of "Gazelle feast" (month 2)
  6. [to month] of "<sup>r</sup>Great Festival<sup>7</sup>" (month 10), being 9 <sup>r</sup>months<sup>7</sup>.
  7. Year after Ibbi-Suen King of Ur,
  8. for Nippur
  9. and Ur, built their great walls. (IS 7).

## Notes

**Obv. (i) 7** is restored from obv. (ii) 13. The text surviving on the obverse is clearly divided into four groups of largely comparable entries. The sequence of debits or available assets used to purchase sheep and goats - silver, sesame oil, dates - is identical in each section as is the sequence of purchases of animals and their prices as well as the months in which they are delivered. Thus, the restorations at (i) 6 and (i) 7 are straight forward and arithmetically support the totals at obv. (i) 8-9. Noteworthy is the lack of barley among the available assets. Sesame oil and dates provide the surplus staples to exchange for the sacrificial animals.

**Obv. (i) 10, (ii) 16, (iii) 24 ša<sub>3</sub>-bi-ta.** The usual translation for this phrase is "therefrom". In the context of the merchant accounts, Dahl (2010:278) has proposed that the syntax of the Ur III accounts describes the physical structure of an account and that ša<sub>3</sub>-bi-ta means "from its middle", although the most common assumption implies that the credited expenditures, which follow it are deducted (zi-ga-am<sub>3</sub>) from the debits or available assets totalled at the head of the account. ša<sub>3</sub>-bi-ta is often preceded in the accounts by the phrase saĝ-niĝ-gur<sub>11</sub>-ra-kam which however, is amissible. Loding catalogues the text as a balanced account of dates, sheep and goats pertaining to a 9-month period, namely months 2 to 10 of IS 7. Owen (1979) thought that the text was clearly a "silver balanced account of merchants" and had communicated this view to Daniel Snell some years earlier, who included it in his study of ledgers and prices. Although Snell incorporated some prices from this text in his 1982 publication in the tables on dates (p. 137) and oils (p. 152), they were classified as "Other Prices", that is not from "silver balanced accounts". UET 9, 882 is excluded from his table 1 (pp. 15-17), which is Snell's list of "Silver Balanced Accounts", presumably because it clearly does not have the same structure as the genre defined by most scholars who have studied the merchant accounts. However, the text is an account related to the activities of merchants (niĝ<sub>2</sub>-ka<sub>9</sub>-<sup>Γ</sup>ka<sup>Γ</sup>, <sup>Γ</sup>dam<sup>Γ</sup>-gar<sub>3</sub>-<sup>Γ</sup>ne<sup>Γ</sup>), although it will be apparent from what follows that the text does not conform precisely to the usual syntax of balanced merchant accounts familiar from Umma and to some extent from Girsu.

**Obv. (ii) 8.** Loding's autograph divides this line into two. There is probably sufficient damage in this part of the tablet to create considerable difficulties in reading it. Collation of the tablet would be beneficial. My emendations propose one line, akin to either obv. (i) 8 or 9. There are two possible alternative readings, the choice of which depends on how we reconstruct the overall structure of the account. A reconstruction is dealt with in detail following these notes. The more probable is that obv. (ii) 8 is not a "total" (šu-niĝin<sub>2</sub>) but a "surplus" (diri). This would mean that the signs which have been copied as šu-niĝin<sub>2</sub> 2(geš<sub>2</sub>) should have been read as SIA (diri). Loding's numbers of 14<sup>1</sup>/<sub>3</sub>(diš) ma-na 8 (diš) gin<sub>2</sub> <sup>Γ</sup>x-x<sup>Γ</sup> 1(u) 2(diš) še are then the correct result if the total silver value of the sheep and goats at obv. (ii) 5 is deducted from (ša<sub>3</sub>-bi-ta) the total debits at obv (i) 9.

If on the other hand, it is assumed that the signs in question do read as šu-niĝin<sub>2</sub>, a less likely emendation is required to make sense of the total. In this event, the lower part of the line, like each of obv. (i) 8 and 9, would need to read <sup>1</sup>/<sub>3</sub>(diš) gin<sub>2</sub> 1(u) 2(diš) še, while in the upper part, the winkelhaken would not actually exist but may be surface damage on the tablet and should be omitted from before the 4(diš) as perhaps should also the šušana (one-third) after it, though with less justification. Obv. (ii) 8 then appears to be the total of obv. (i) 9, obv. (ii) 5 and obv. (ii) 6, and should therefore equal the sum: 5(u) 4<sup>1</sup>/<sub>3</sub>(diš) ma-na igi-3-gal<sub>2</sub> 1(u) 2(diš) še + 1(aš) gu<sub>2</sub> 8<sup>2</sup>/<sub>3</sub>(diš) ma-na 9(diš) gin<sub>2</sub> + 1(diš) ma-na ku<sub>3</sub>-babbar har kiri<sub>3</sub> gu<sub>4</sub> = 2(geš<sub>2</sub>) 4(diš) ma-na 9(diš) gin<sub>2</sub> igi-3-gal<sub>2</sub> 1(u) 2(diš) še ku<sub>3</sub>. It is feasible that igi-3-gal<sub>2</sub> 1(u) 2(diš) še carries through to the total from obv. (i) 9. The corrected total value of the listed commodities of this section then translates to 124 minas 9<sup>1</sup>/<sub>3</sub> shekels and 12 barleycorns of silver compared with the 134<sup>1</sup>/<sub>3</sub> minas 8<sup>1</sup>/<sub>3</sub> shekels and 12 barleycorns given by Loding's copy.

**Obv. (ii) 9.** Ur-<sup>Γ</sup>ba<sup>Γ</sup>-gara<sub>2</sub> may possibly be identified with Ur-ba-gara<sub>2</sub> unu<sub>3</sub> who, in two texts from Ur dated IS 7, ([UET 9, 0886](#) (P139016) and [UET 9, 1071](#) (P139201)), is attested among the cowherds responsible for the production and supply of dairy products (Gomi 1980:4ff.). unu<sub>3</sub> "herdsmen" may have also had a role alongside sipa and kurušda in the receipt and disbursal of animals in an office to provide for the needs of the cult in Ur (Tsouparopoulou 2013:9-10). This would perhaps explain how a supposed cowherd was involved with sheep.



**Obv. (ii) 10.** The copy of a much-damaged area of the tablet appears to assume that the surviving graphs are on the same line as Ur-<sup>1</sup>ba<sup>1</sup>-gara<sup>2</sup>. However, the traces copied in the lower half of the line allow a restoration of [1(diš)] <sup>1</sup>ma<sup>1</sup>-<sup>1</sup>na<sup>1</sup> [ku<sub>3</sub>]-<sup>1</sup>babbar<sup>1</sup> and suggest a separate line preceding the entries of oil and dates in a second group.

**Obv. (ii) 24.** <sup>d</sup>nanna-dalla was one of two or three scribes of the same name in Ur texts dated to the years Ibbi-Suen 6-8. One had the patronymic dumu ni<sup>2</sup>-u<sub>3</sub>-rum ([UET 3, 0964](#) (P137289)), a second dumu ur-<sup>d</sup>[...] ([UET 3, 0160](#) (P136477)) and a third dumu ur-pu<sub>2</sub>-mun-na ([UET 3, 0988](#) (P137313)). Since the latter two are both concerned with the management and disbursal of sheep, it is possible that they are one and the same person. Indeed, the PN ur-pu<sub>2</sub>-mun-na is probably an elliptical version of ur-<sup>d</sup>nin-pu<sub>2</sub>-mun-na. Whichever, it is the <sup>d</sup>nanna-dalla, dub-sar, dumu ur<sup>d</sup>[...] who may be identified with the <sup>d</sup>nanna-dalla under consideration. Significantly for the interpretation of UET 9, 882, in [UET 3, 0160](#) dated the eleventh month of IS 6, thirty-five sheep and goats were a votive gift; sa<sub>2</sub>-du<sub>11</sub> <sup>d</sup>nanna-še<sub>3</sub>, <sup>d</sup>nanna-dalla i<sub>3</sub>-dab<sub>5</sub> "the regular offering for the god Nanna, Nanna-dalla requisitioned".<sup>7</sup> Nanna-dalla is identified in the seal as a scribe. His role during IS 6-7 tends to substantiate the suggestion made by Tsouparopoulou that there was a special branch of the Puzriš-Dagan organisation in Ur (not Nippur) to provide for the needs of the cult in the capital. Deliveries of animals, in this context, those of sheep and goats, were recorded at this "office" and disbursed for cultic expenditure or for the provision of the royal family and high functionaries of the state, etc.

In [UET 3, 0181](#) (P136498) from month 4 of IS 7, the mu-ku<sub>x</sub>(DU) "delivery" from a na-gada of 18 sheep and goats to an overseer (ugula) livestock manager (šuš<sub>3</sub>) is also sa<sub>2</sub>-du<sub>11</sub> <sup>d</sup>nanna-še<sub>3</sub>, <sup>d</sup>nanna-dalla i<sub>3</sub>-dab<sub>5</sub>. While the previous text explicitly describes the sa<sub>2</sub>-du<sub>11</sub> <sup>d</sup>nanna-še<sub>3</sub> as a-ru-a PN-a(k), the latter is more obviously, the kind of delivery disbursed as a cultic offering.

**Rev. (iv) 1-2.** mu-[ku<sub>x</sub>(DU)] "deliveries". Where [UET 3, 0221](#) represents a single transaction involving the delivery from a merchant of animals purchased as an offering to Nanna, rev. (iv) 1 suggests that this account summarises numerous such deliveries from several merchants. Rev. (iv) 2 is difficult to restore. The number here probably represents either a la<sub>2</sub>-ia<sub>3</sub> "deficit" or diri "surplus" accruing from all the transactions recorded in the account.

**Rev (iv) 3-6.** The account is made by the state in respect of the deliveries of a merchant organisation over a nine-month period from month two to month ten in Ibbi-Suen's 7<sup>th</sup> year. Notably, no delivery occurred in month three. The text is probably a summary (*Sammelurkunde*) of several smaller accounts of transactions with individual merchants. A fragment of a tablet, possibly another ša<sub>3</sub>-bi-ta...mu-ku<sub>x</sub>(DU) text from Ur dated IS 7, recording transactions with Šeškala is [UET 3, 1165](#) (P137490) is just such an individual account.<sup>8</sup>

<sup>7</sup> Tsouparopoulou's (2013:7-8) translation of i<sub>3</sub>-dab<sub>5</sub> in the Puzriš-Dagan texts is "took into administration". My "requisitioned" clearly has the same meaning and conforms with her notion of a congruity between the associated terms mu-ku<sub>x</sub>(DU) "delivery", i<sub>3</sub>-dab<sub>5</sub> and giri<sub>3</sub> "conveyor" or "via" in UET 9, 882 performing a similar function to those in her reconstruction of the Puzriš-Dagan Central Livestock Agency.

<sup>8</sup> The broken text [UET 3, 1165](#) reads:

Obverse	1. 2(aš) i <sub>3</sub> -giš gur	2 gur sesame oil
	2. 1(diš) gin <sub>2</sub> -a 2 <sup>1</sup> / <sub>2</sub> (diš) sila <sub>3</sub> -ta	@ 2 <sup>1</sup> / <sub>2</sub> litres per shekel
	3. ku <sub>3</sub> -bi 4 ma-na	its silver 4 minas
	4. ša <sub>3</sub> -bi-ta	therefrom
	5. 3(diš) u <sub>8</sub> 2(diš) udu-nita <sub>2</sub> [x x]	3 ewes 2 rams and [x x]
	6. <sup>1</sup> / <sub>3</sub> (diš) ma-na[-ta]	20 shekels [each]
	Remainder lost	Remainder lost
Reverse	Beginning lost	Beginning lost
	1'. <sup>1</sup> ni <sup>2</sup> - <sup>1</sup> ka <sup>9</sup> -[ak]	Account
	2'. šeš-kal- <sup>1</sup> la <sup>1</sup>	Šeškala
	3'. iti ezem an- <sup>1</sup> na <sup>1</sup>	Month "Festival of Heaven" (Month 11)
	4'. mu uš <sub>2</sub> -sa bad <sub>3</sub> <sup>1</sup> gal <sup>1</sup> <sup>1</sup> ba <sup>1</sup> -du <sub>3</sub>	Year after the great wall was built. (IS 7)

*A possible structure of the account UET 9, 882*

The familiar Ur III "balanced merchant account" is structured somewhat differently from UET 9, 882. Each of the commodities listed in the first part of the typical "balanced" account is converted to an equivalent silver value. The total of the silver values is the (saĝ-niĝ<sub>2</sub>-gur<sub>11</sub>-ra-(ak)), the "debits" or "assets/goods on hand" made available by the governing institution in exchange for other commodities from the merchant, each of which is also converted to a silver value. These are the "credits" or "expenditures" listed in a middle section of the account defined by the syntax ša<sub>3</sub>-bi-ta "therefrom"...zi-ga-(am<sub>3</sub>) "deducted/withdrawn /booked out". The sum of the silver equivalents of the "credits" are totalled and compared with the totalled silver equivalents of the "debits". If the silver value of the "debits" is greater than that of the "credits", a remaining "deficit" la<sub>2</sub>-ia<sub>3</sub> is carried forward into the "debits" of the next accounting period as the si-i<sub>3</sub>-tum.<sup>9</sup> If the value of the "credits" is greater than the value of the "debits", a diri "surplus" ensues, which is often not carried forward. In the so-called balanced merchant accounts, the quantity of each commodity listed in both the debits and credits of the account is converted into silver via the formula  $n A ku_3-bi m$  where  $n$  is the quantity of product  $A$  and  $m$  is its value in silver. The subscript to the account usually refers to an account (ak(a) "done/made") in respect of the transactions concerning an individual merchant, thus niĝ<sub>2</sub>-ka<sub>9</sub>-ak PN dam-gar<sub>3</sub>, but may also refer to merchants as a group or organisation - niĝ<sub>2</sub>-ka-ak dam-gar<sub>3</sub>-ne.

Although it is subscribed niĝ<sub>2</sub>-ka-ak dam-gar<sub>3</sub>-ne, the structure, syntax and purpose of this present text appears different from the familiar merchant accounts. Even though the term saĝ-niĝ<sub>2</sub>-gur<sub>11</sub>-ra-kam is amissible in the balanced accounts, so that ša<sub>3</sub>-bi-ta follows directly the totalled silver value of the "debits", in UET 9, 882 there is no evidence in the surviving text for the syntax ša<sub>3</sub>-bi-ta...zi-ga-(am<sub>3</sub>). On the other hand, rev. (iv) 1 should probably be restored as mu-[ku<sub>x</sub>(DU)] "deliveries". Plainly, the four columns of the obverse contained three groups of commodities delivered over the same nine-month period. Each group is headed by a quantity of silver, oil and dates pertaining to the whole of the period, which presumably fund the deliveries of sheep and goats made successively in varying quantities in each month - except month 3 - from month 2 to month 10. It is likely that the first part of a fourth group was begun in column (iv) of the obverse and was continued in the first column of the reverse. What else was written on the reverse except for that in the putative fourth column is not readily conjectured. There may not have been a great deal other than the continuation of a fourth section from the obverse and considerable empty space. The surviving fourth column on the reverse is, for the most part, the colophon.

A possible indication of the full structure of this text may be available from comparison with [UET 9, 1065](#) (P139195), the colophon of which is niĝ<sub>2</sub>-ka<sub>9</sub>-ak, gu<sub>4</sub> niĝ-sa<sub>10</sub>-ma-ka, giri<sub>3</sub> šuš<sub>3</sub> gu<sub>4</sub>-ke<sub>4</sub>-ne, iti še-sag<sub>11</sub>-ku<sub>5</sub>-ta, iti ezem-mah-še<sub>3</sub>, iti-bi iti 1(u)-am<sub>3</sub>, ʾmuʾ ʾuš<sub>2</sub>ʾ-sa bad<sub>3</sub> gal ba-du<sub>3</sub> "Account made of oxen of purchases (purchased oxen), via the administrator of the oxen, from month of "Harvest" (month 1) to month of "Great Festival" (month 10), being 10 months. The year after the great wall was built (IS 7)". Like UET 9, 882, this tablet had four columns on the obverse and four on the reverse and like UET 9, 882 has suffered a great deal of destruction. The pattern of damage on UET 9, 1065 is the converse of that on UET 9, 882. The obverse rather than the reverse of the tablet exhibits the greater destruction. Column (i) on the obverse is largely intact and all but a few lines are comprehensible. Column (ii) is much damaged allowing only very limited restoration of the text. The remainder of the obverse is lost. Column (i) of the reverse is also considerably damaged, which restricts its interpretation. Columns (iii)-(iv) of the reverse on the other hand provide much more information.<sup>10</sup>

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It is impossible to be certain that this text is of precisely the same form as the *Sammelurkunde* UET 9, 882. Contrary to the case in that text, the silver value of the oil is obviously more than sufficient to buy the sheep we can see. All depends on what is missing from the fragment. Interestingly, the price of a sheep here is the same as in month 8 in UET 9, 882 and the price of a ewe is the same as that of a ram.

<sup>9</sup> Note, however, that in the Ur III "silver" merchant accounts, a syntax saĝ-niĝ<sub>2</sub>-gur<sub>11</sub>-ra-kam, ša<sub>3</sub>-bi-ta, šu-niĝin<sub>2</sub> n gin<sub>2</sub> ku<sub>3</sub>-babbar, mu-ku<sub>x</sub>(DU) "deliveries", la<sub>2</sub>-ia<sub>3</sub> is also attested, see [CT 05, pl. 38-39, BM 017752](#) (P108485).

<sup>10</sup> There is a useable transliteration of UET 9, 1065 (CDLI no. P139195) by Palmiro Notizia in the BDTNS. The transliteration has also been replicated by Richard Firth on the CDLI site.

The surviving text on the obverse and on the first two columns of the reverse appears to list the expenditure of "available assets" of silver and the silver equivalents of sesame oil and dates on monthly purchases of a single draught oxen (gu<sub>4</sub>-ĝi<sub>š</sub>) and/or a single adult cow (ab<sub>2</sub>-mah<sub>2</sub>). There are also some purchases of younger heifers (ab<sub>2</sub> mu-2 and ab<sub>2</sub> mu-3). The first six columns of the text appear to have comprised several similar sections of monthly deliveries as did UET 9, 882. However, unlike the sections in UET 9, 882, those in this text, on the face of it, are each framed with the typical accounting syntax of "total silver value of debits", ša<sub>3</sub>-bi-ta...zi-ga-am<sub>3</sub>. Columns (iii)-(iv) of the reverse look like a summary of some of the monthly purchases credited in these earlier sections of the account and of the "debits" at the head of each of the sections. Reverse columns (iii) 2-10 total the silver and silver equivalents of the sesame oil and dates which summarise the "assets available" at the head of each section. The text defines this total as the saĝ-niĝ<sub>2</sub>-gur<sub>11</sub>-ra-kam, that is the debits of the whole account, ša<sub>3</sub>-bi-ta "therefrom", the totals of cattle purchased at various prices are deducted (zi-ga-am<sub>3</sub>). The total silver equivalent of the purchases expended follows. The considerable damage to the tablet prohibits proper reconciliation of the totals and subtotals. The total silver value of the purchases is followed by the phrase mu-ku<sub>x</sub>(DU) "deliveries" and then by totals of the silver values of both the surpluses (diri) and deficits (la<sub>2</sub>-ia<sub>3</sub>) which accrued from the various transactions.

If UET 9,882 had a similar structure and syntax to UET 9, 1065, the sections discernible from its obverse would extend to the reverse and as with the summaries of cattle expenditure on the reverse of the latter, there would be summarised numbers of sheep and goats at different prices, the silver equivalent of which would be deducted from a total credit (saĝ-niĝ<sub>2</sub>-gur<sub>11</sub>-ra-kam) comprised of silver, sesame oil and dates. The mu-ku<sub>x</sub>(DU) would be followed by either a diri or a la<sub>2</sub>-ia<sub>3</sub> or both. Since mu[-ku<sub>x</sub>(DU)] is entered at rev. (iv) 1 it is impossible to know what precedes it in column (iii), though it is clearly followed by a single number in rev. (i) 2 which could be either a surplus or a deficit.

However, there are differences in the structures of the two accounts. None of the extant sections on the obverse of UET 9, 882 appear to be formulated with a syntax comparable to ša<sub>3</sub>-bi-ta...zi-ga-am<sub>3</sub>, la<sub>2</sub>-ia<sub>3</sub>/diri, except with ellipsis if we read obv. (ii) 8 as diri (SIA) 14<sup>1</sup>/<sub>3</sub>(diš) ma-na 8(diš) gin<sub>2</sub> ʾx-xʾ 1(u) 2(diš) še ku<sub>3</sub> proposed above as the first alternative transliteration of this line of text. While this suggests a conventional translation of ša<sub>3</sub>-bi-ta as "therefrom", implying that the total value of the silver, oil and dates, which precede the term are "debits" (saĝ-niĝ<sub>2</sub>-gur<sub>11</sub>-ra-kam) there is no zi-ga-am<sub>3</sub> following the monthly "credits" of sheep and goats. But as discussed earlier, in Loding's copy obv. (ii) 8 begins šu-niĝ<sub>2</sub> 2(geš<sub>2</sub>) not SIA, though the value of the signs copied leaves us uncertain as to what this line is a total of. Table 1 is a detailed analysis of the numbers arising from the first alternative structure and of how a diri at obv. (ii) 8 is arrived at.

Table 1. Computations of silver totals by section in UET 9, 882

First section				Value in silver		
	sil <sub>3</sub>	sil <sub>3</sub> per gin <sub>2</sub>	gin <sub>2</sub> še	ma-na	gin <sub>2</sub>	še
i <sub>3</sub> -ĝi <sub>š</sub>	7786	2 <sup>1</sup> / <sub>2</sub>	= 3114 72	= 51 <sup>2</sup> / <sub>3</sub>	14 igi-3-ĝal <sub>2</sub>	12
zu <sub>2</sub> -lum	600	20	= 30	= 1 <sup>1</sup> / <sub>2</sub>		
zu <sub>2</sub> -lum	840	15	= 56	= 2 <sup>2</sup> / <sub>3</sub>	16	
obv. (i) 8. ku <sub>3</sub> -bi				53 <sup>1</sup> / <sub>3</sub>	igi-3-ĝal <sub>2</sub>	12
add obv. (i) 1. ku <sub>3</sub> -babbar				1		
obv. (i) 9. šu-niĝ <sub>2</sub>				54 <sup>1</sup> / <sub>3</sub>	igi-3-ĝal <sub>2</sub>	12
month	udu maš <sub>2</sub> hi-a	gin <sub>2</sub> -ta	gin <sub>2</sub>	ma-na	gin <sub>2</sub>	
iti maš-ku <sub>3</sub> -gu <sub>7</sub>	10	14	= 140	= 2 <sup>1</sup> / <sub>3</sub>		
iti u <sub>5</sub> -bi <sub>2</sub> <sup>mušen</sup> -gu <sub>7</sub>	19	14	= 266	= 4 <sup>1</sup> / <sub>3</sub>	6	
iti ki-siki- <sup>d</sup> nin-a-zu	14	14	= 196	= 3	16	
iti ezem <sup>d</sup> nin-a-zu	20	14	= 280	= 4 <sup>2</sup> / <sub>3</sub>		
iti a <sub>2</sub> -ki-ti	36	17	= 612	= 10	12	
iti ezem <sup>d</sup> šul-gi	31	20	= 620	= 10 <sup>1</sup> / <sub>3</sub>		
iti šu-eš <sub>5</sub> -[ša]	29	25	= 725	= 12	5	

iti ezem-mah	43	30	=	1290	=	21 <sup>1</sup> / <sub>2</sub>		
obv. (ii) 4. šu-niĝin <sub>2</sub>	202							
obv. (ii) 5. šu-niĝin <sub>2</sub>						68 <sup>2</sup> / <sub>3</sub>	9	
deduct obv. (i) 9. šu-niĝin <sub>2</sub>						54 <sup>1</sup> / <sub>3</sub>		1 <sup>1</sup> / <sub>3</sub> 12
obv. (ii) 8. diri!						14 <sup>1</sup> / <sub>3</sub>	8	2 <sup>2</sup> / <sub>3</sub> 12 <sup>2</sup>

Second section

	sila <sub>3</sub>	sila <sub>3</sub> per gin <sub>2</sub>	=	gin <sub>2</sub> še	=	Value in silver ma-na	gin <sub>2</sub>	še
i <sub>3</sub> -ĝiš	3529	(2 <sup>1</sup> / <sub>2</sub> )	=	1411 108	=	23 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	18
zu <sub>2</sub> -lum	600	20	=	30	=	1 <sup>1</sup> / <sub>2</sub>		
zu <sub>2</sub> -lum	540	15	=	36	=	1 <sup>1</sup> / <sub>2</sub>	6	
obv. (ii) 14. ku <sub>3</sub> -bi						24 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	18
add obv. (ii) 10. ku <sub>3</sub> -babbar						1		
obv. (ii) 15. šu-niĝin <sub>2</sub>						25 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	18
month	udu maš <sub>2</sub> hi-a	gin <sub>2</sub> -ta		gin <sub>2</sub>		ma-na	gin <sub>2</sub>	
iti maš-ku <sub>3</sub> -gu <sub>7</sub>	9	14	=	126	=	2	6	
iti u <sub>5</sub> -bi <sub>2</sub> <sup>mušen</sup> -gu <sub>7</sub>	19	14	=	266	=	4 <sup>1</sup> / <sub>3</sub>	6	
iti ki-siki- <sup>d</sup> nin-a-zu	5	14	=	70	=	1		igi-6-gal <sub>3</sub>
<sup>d</sup> nanna-dalla i <sub>3</sub> -dab <sub>5</sub>	11	14	=	154	=	2 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	18
e <sub>2</sub> -gal-Γla <sup>Γ</sup> ku <sub>4</sub> <sup>Γ</sup> -[ra]	1	14	=	14	=		14	
iti ezem <sup>d</sup> nin-a-zu	<i>n</i>	14	=	<i>n</i>	=	<i>n</i>		
iti a <sub>2</sub> -ki-ti	10	17	=	170	=	2 <sup>5</sup> / <sub>6</sub>		
iti ezem <sup>d</sup> šul-gi	12	20	=	240	=	4		
iti šu-eš <sub>5</sub> -[ša]	<i>n</i>	25	=	<i>n</i>	=	<i>n</i>		
iti ezem-mah	<i>n</i>	30	=	<i>n</i>	=	<i>n</i>		
obv. (iii) 13. šu-niĝin <sub>2</sub>	152							
obv. (iii) 14. šu-niĝin <sub>2</sub> ku <sub>3</sub> -bi						[2Γ8 <sup>Γ</sup> +]		]
deduct obv. (ii) 15. šu-niĝin <sub>2</sub>						25 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	18
obv. (iii) 16. [la <sub>2</sub> -ia <sub>3</sub> ]						3 <sup>1</sup> / <sub>2</sub>		

Third section

	sila <sub>3</sub>	sila <sub>3</sub> per gin <sub>2</sub>	=	gin <sub>2</sub> še	=	Value in silver ma-na	gin <sub>2</sub>	še
i <sub>3</sub> -ĝiš	3529	(2 <sup>1</sup> / <sub>2</sub> )	=	1411 108	=	23 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	18
zu <sub>2</sub> -lum	600	20	=	30	=	1 <sup>1</sup> / <sub>2</sub>		
zu <sub>2</sub> -lum	540	15	=	36	=	1 <sup>1</sup> / <sub>2</sub>	6	
obv. (iii) 22. ku <sub>3</sub> -bi						24 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	18
add obv. (iii) 18. [ku <sub>3</sub> -babbar]						[1]		
obv. (iii) 23. šu-niĝin <sub>2</sub>						25 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	18

Remainder too destroyed.

UET 9, 882 also differs from UET 9, 1065 in the way the prices of the livestock are structured. In the former text, the prices of sheep and goats vary according to the month in which they are delivered and not with the kind of animal. The price per sheep or goat of all ages is stable from month two to month six but then increases in each month to month 10. In the latter text for the most part, the prices of oxen tend to vary with age and sex and not to increase with the progression of the months through the year.

### *Cultic requirement for the deliveries*

Deliveries of the relatively small numbers of sheep and goats listed in UET 9, 882 suggest they are made in respect of the festivals in each of the months from 2-10 but excepting the feast in month 3. It is possible that neither large or small bovinds were required for the offerings in *iti šeš-da-gu*<sup>7</sup>. It fell between a month for feasting on "gazelles", more precisely various bovinds, and the month "Ubi-bird Feast", for which cattle and sheep were again offered (UET 3, 0182 (P136499)). Therefore, a more characteristic offering as a meal for the god in the interval was perhaps of barley and malt (Sallaberger 1993:195). The lack of deliveries to the first Akiti festival possibly suggests that, at the end of IS 6 and beginning of IS 7, animals were available for the offerings from sources other than the merchants.

Affirmation that the monthly deliveries of sheep and goats were to meet the needs of the cults celebrated in Ur may be indicated by UET 9, 882 obv. (ii) 6-7, 1(*diš*) *ma-na ku<sub>3</sub>-babbar har kiri<sub>3</sub> ḡ<sub>4</sub>ḡ<sup>7</sup>, ezem a<sub>2</sub>-ki-ti šu-ḡ<sup>7</sup>numun-na<sup>7</sup>-še<sub>3</sub>* "1 mina of silver nose rings for oxen for the Akitu Sunumun Festival". Silver nose rings for oxen were specifically a feature of the offerings to the gods at the Akiti Festival in month seven (Sallaberger 1993: 165). It is also possible that the restorations made in obv. (ii) 15 and 17 further demonstrate the cultic nature of these deliveries suggesting that silver nose rings for oxen as well as animal and other offerings of the second section were *ma<sub>2</sub>-an-na-še<sub>3</sub>*, to be transported via the processional boat on the canal from Ur to Ga'eš to honour Nanna in the Karzida (Sallaberger 1993:170-172, Zimansky-Stone 2014:57-58).

### *Prices*

In the many Ur III accounts, whether merchant accounts or otherwise, the unit of account is in silver. The value of a commodity is frequently specified by its equivalence in silver, although barley equivalences of silver and other commodities are also common. Value is expressed as *n A ku<sub>3</sub>-bi m* where *n* is the quantity of product *A* and *m* is its equivalent value in silver. The price of a commodity is not commonly expressed directly. To arrive at a "price", if it can be so described, for a commodity it is necessary to calculate either *nA/m*, which results in a "price ratio" of the quantity of a commodity per unit of silver, such as *n sila<sub>3</sub>* per shekel or *n minas* per shekel, or its inverse, *m/nA*, which results in the silver price of a unit of a commodity, such as shekels or barleycorns per gur, *sila<sub>3</sub>* or mina of whatever commodity and so on. In UET 9, 882, prices and price ratios are, in most instances, expressed directly, thus not requiring computation. The price ratio of *i<sub>3</sub>-ḡiš* "sesame oil" in the first section of the account at obv. (i) 2-3 is explicitly *gin<sub>2</sub>-a 2<sup>1</sup>/<sub>2</sub> sila<sub>3</sub>-ta* "in a shekel 2<sup>1</sup>/<sub>2</sub> litres each", thus "2<sup>1</sup>/<sub>2</sub> litres sesame oil per shekel of silver", but must be derived algebraically in later sections. There are two price ratios for dates; *gin<sub>2</sub>-a 2(ban<sub>2</sub>)-ta* "20 litres of dates per shekel" and *gin<sub>2</sub>-a 1(ban<sub>2</sub>) 5(diš) sila<sub>3</sub>-ta* "15 litres of dates per shekel" in obv. (i) 5 and 7 and written as *n zu<sub>2</sub>-lum gur 2(ban<sub>2</sub>)-ta* "*n* gur of dates 20 litres each (shekel)" and *n zu<sub>2</sub>-lum gur 1(ban<sub>2</sub>) 5(diš) sila<sub>3</sub>-ta* "*n* gur of dates 15 litres each (shekel)" in subsequent sections of the text. The prices of sheep and goats are given as *n udu n maš<sub>2</sub> m gin<sub>2</sub>-ta* "*n* sheep and goats *m* shekels each". The unit prices of sheep, lambs or goats are here all identical.

Nevertheless, these so-called prices or price ratios in UET 9,882, are used only to convert commodities, staples or bovinds, into a total silver equivalency for accounting purposes. In the first section, for example, the total equivalent silver value of the oil and dates is given at obv. (i) 8 and the total equivalent silver value of the sheep and goats is given at obv. (ii) 5. The price ratios do not imply that commodities were exchanged for silver, when clearly in this account the goods which were exchanged for sheep and goats were primarily oil and dates. Only relative small amounts of silver contribute to the "debits" or available assets with which the animals were exchanged.

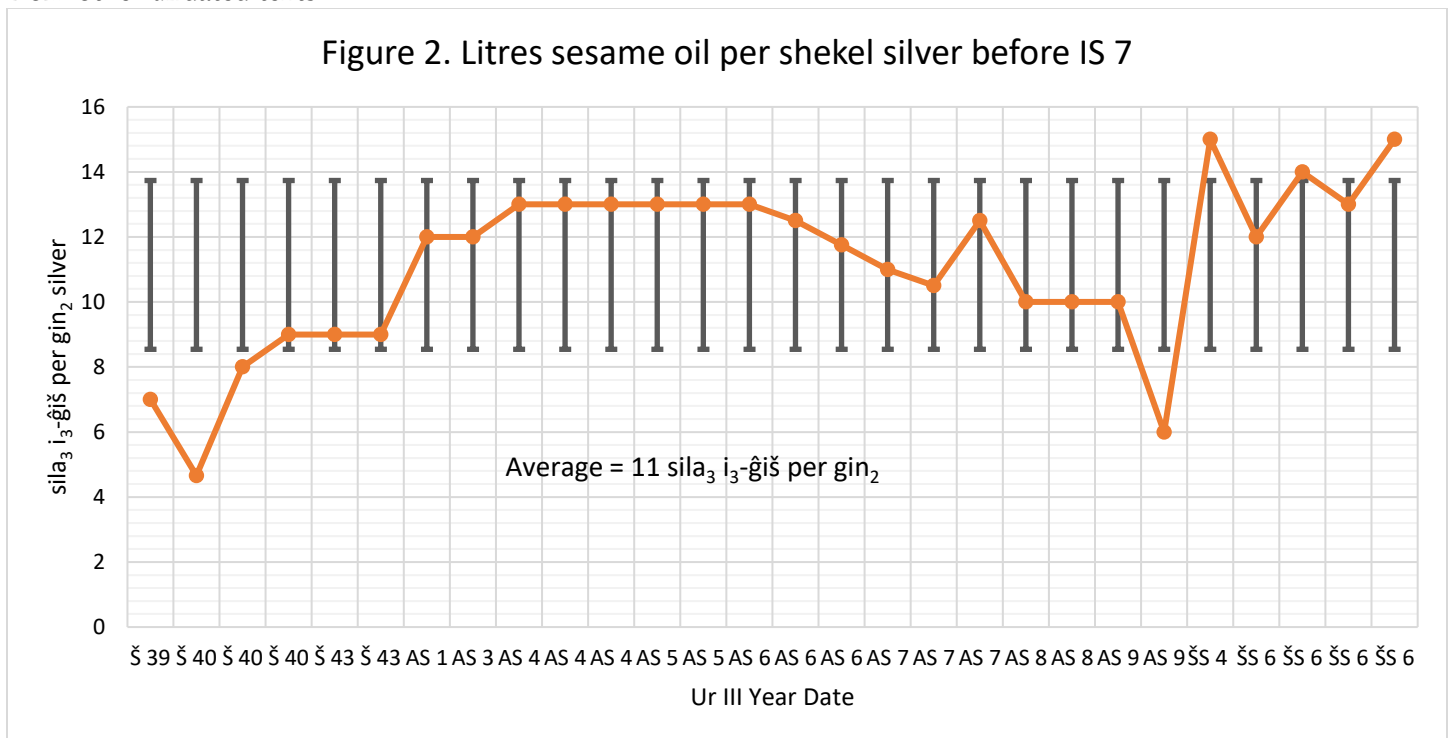
In UET 9, 1065, the prices of the commodities are recorded in the same manner and indeed the price ratio of sesame oil is again 2<sup>1</sup>/<sub>2</sub> litres per shekel of silver and that of dates is 20 litres per shekel. The monthly purchases of large cattle are mostly of single animals, although frequently these will be of a male and female recorded separately, thus "1 draught bull <sup>5</sup>/<sub>6</sub> mina" or "1 mature cow <sup>3</sup>/<sub>6</sub> mina". In the summary of the purchases on the reverse, prices are formulated as "*n* cattle *n* mina each".

The level of prices for each of the commodities delivered and recorded in these documents and therefore in IS 7 is much higher than that recorded for the same commodities in earlier periods. Figure 2 charts the distribution of the *sila<sub>3</sub> i<sub>3</sub>-ḡiš* per *gin<sub>2</sub>* for the years between Š 39 and ŠŠ 6 from those texts prior to IS 7 in which appropriate information

is available. In this diagram, the greater the quantity of sesame oil per shekel of silver, the lower is the unit price of a litre of sesame oil and *vice versa*.

Thus, in ŠS 6, the amount of sesame oil per shekel reaches 15 sila<sub>3</sub> so that the price per sila<sub>3</sub> is the inverse of this and equals 180 še/15 sila<sub>3</sub> or 12 še per sila<sub>3</sub>. The highest price in Figure 2 occurs in Š 40 which records a price ratio of 4<sup>2</sup>/3 sila<sub>3</sub> per gin<sub>2</sub> and thus a price of approximately 39 še per sila<sub>3</sub>. These, with a relatively few other observations, are outliers of the main distribution. The relative price of a litre of oil in the period prior to IS 7 is 11±2<sup>2</sup>/3 sila<sub>3</sub> per gin<sub>2</sub> or on average 16<sup>1</sup>/3 še per sila<sub>3</sub>.

The texts from which these observations are extracted are listed in Table 2.<sup>11</sup> It can be seen from the list that in addition to the occurrences illustrated in Figure 2, in UET 9, 882 and in other evidence ([UET 3, 1165](#), [UET 9, 1065](#) – 3 instances) of the price of sesame oil in Ibbi-Suen's 7<sup>th</sup> year, prices had the same value of 2<sup>1</sup>/2 sila<sub>3</sub> per gin<sub>2</sub> or 72 še per sila<sub>3</sub>, nearly four and a half times the average for the period from Š 39 to ŠS 6, a price inflation of 341%. The observations charted in Figure 2 are augmented in Table 2 with the occurrences in Ibbi-Suen year 7 texts and by data from other undated texts.



In like manner, the price of dates in IS 7 is much higher than that in earlier Ur III periods. Figure 3 shows the distribution of zu<sub>2</sub>-lum per gin<sub>2</sub> of silver for those observations available from texts prior to IS 7. They are from much the same period of years as those for sesame oil, in this instance from Šulgi 37 to Šu-Suen 6. The average ratio of dates to silver over those years was 1<sup>1</sup>/3 gur per shekel or 402 sila<sub>3</sub> per gin<sub>2</sub>, compared with 20 sila<sub>3</sub> per gin<sub>2</sub> which was the price ratio in the texts from IS 7. The silver price of dates in IS 7 was thus 9 še per sila<sub>3</sub> compared with the average of 0.45 še per sila<sub>3</sub> from earlier times, that is 20 times the long-term average, an apparent inflation in the price of about 1,900%. In UET 9, 882 a second price of 15 sila<sub>3</sub> per gin<sub>2</sub> or 12 še per sila<sub>3</sub> was also recorded for dates, an inflation of over 2,500%. Table 3 lists all the texts from which the prices of dates were extracted and adds those from IS 7 for comparison.

During the nine-month calendrical cycle depicted in UET 9, 882, the price of a sheep or a goat varies between 14 shekels of silver and 30 shekels or 1/2 mina of silver. These prices are stable at 14 shekels for each animal for months

<sup>11</sup> See the Appendix for Tables 2 to 5.

2 through 6, but then increase with each month in months 7 to 10. In the Akiti Month (7) the sheep and goats are recorded as having a price of 17 shekels each, in month 8 for the Festival of Šulgi of 20 shekels per animal, in month 9, iti šu-eš-ša, small bovids are 25 shekels each and for the ezem-mah they are 30 shekels each. I have suggested that the animals delivered monthly as recorded by this account are purchased from the merchants to provide offerings at the Ur festivals. Prices appear to increase systematically in line with the increasing significance of the festivals from month 7 onwards. Either that or there was a rapid, monthly increase in the rate of inflation in the second half of IS 7 due to the catastrophic decline in the availability of barley. Animals are supplied in relatively modest numbers. Only 202 in total are provided over the whole of the nine-month period. Such numbers fit well with the notion that they are cult offerings.

It is evident from comparison with the relatively few prices of sheep and goats that we can glean from texts from earlier years and with other provenances, that even in the first three months of the cultic cycle, the price of a sheep or goat in IS 7 is high at 14 shekels each. The main indication from Table 4 is that the price of a sheep or goat was probably relatively stable throughout Sumer at around  $\frac{1}{2}$  shekel each for the whole of the period from at least the latter part of Šulgi's reign to the end of Šu-Suen's, although two undated texts from Nippur suggest the price of small bovids may have reached  $1\frac{1}{4}$  shekels each. Even in Ibbi-Suen's first year for which we have an indication of  $\frac{3}{4}$  shekel each, albeit in Girsu, the price appears to be within this range.

However, in texts from Ur dated to IS 6 the price per animal is already much higher, and varies between 5 and 10 shekels each. The differing prices in the range 5-8 shekels for each animal are clearly a function of whether the animals are or have suckling lambs or kids, or is an older female sheep or goat, or a ram. Even so, no distinction is usually made in any period between prices of adult sheep and goats or even between adults and lambs and kids which are not suckling. The IS 6 price of 10 shekels each is for sheep which have been fattened for an offering to a temple. As we have seen, the prices per small bovid in UET 9, 882 vary according to the month in the calendar and not at all with respect to the age or condition of the animal. Sheep, goats and lambs are all priced the same at the same time in the year. The prices in UET 9, 882 are thus some 28 to 60 times the long-term average of  $\frac{1}{2}$  shekel per animal and it is perhaps evident that the prices of sheep and goats began to increase in IS 6 from a level which had been roughly constant until the beginning of Ibbi-Suen's reign.

Table 5 presents a similar story regarding the trends in the prices of large cattle throughout the Ur III period. Most of the observations of cattle prices that we have are from the reign of Amar-Suen with a few between Šulgi 35 and 48 and two dated to ŠS 4 and ŠS 9. In the reign of Ibbi-Suen we have one from IS 2, again from Girsu. The remainder are from Ur in IS 7. Between Šulgi 35 and Ibbi-Suen 2 the price of either a draught ox or cow of any age varied between 3 and 10 shekels. The example available for IS 2 is 7 shekels for a draught bull. In the IS 7 text UET 9, 1065, however, the prices vary from 30 shekels for a 2-year-old cow to 90 shekels for a draught bull, which is up to 9 times the maximum price from earlier periods. The average price of a gu<sub>4</sub>-giš before IS 7 was 6 shekels compared with 51 shekels in IS 7 a price inflation of 750%.

In the context of the commodity prices studied here, namely those of oil, dates, large and small bovids, it is helpful to examine in some detail [UET 3, 1207](#) (CDLI no. P137532). This is a list of purchases of cattle and sheep, exchanged with barley, oil or dates. The equivalent commodity values of the animals are also converted into a price expressed as a quantity per shekel of silver. Though the text is undated (the date is perhaps lost), the prices fit best with the situation in Ibbi-Suen's seventh and eighth years (Gomi 1984:240).

Figure 3. Litres of dates per shekel of silver

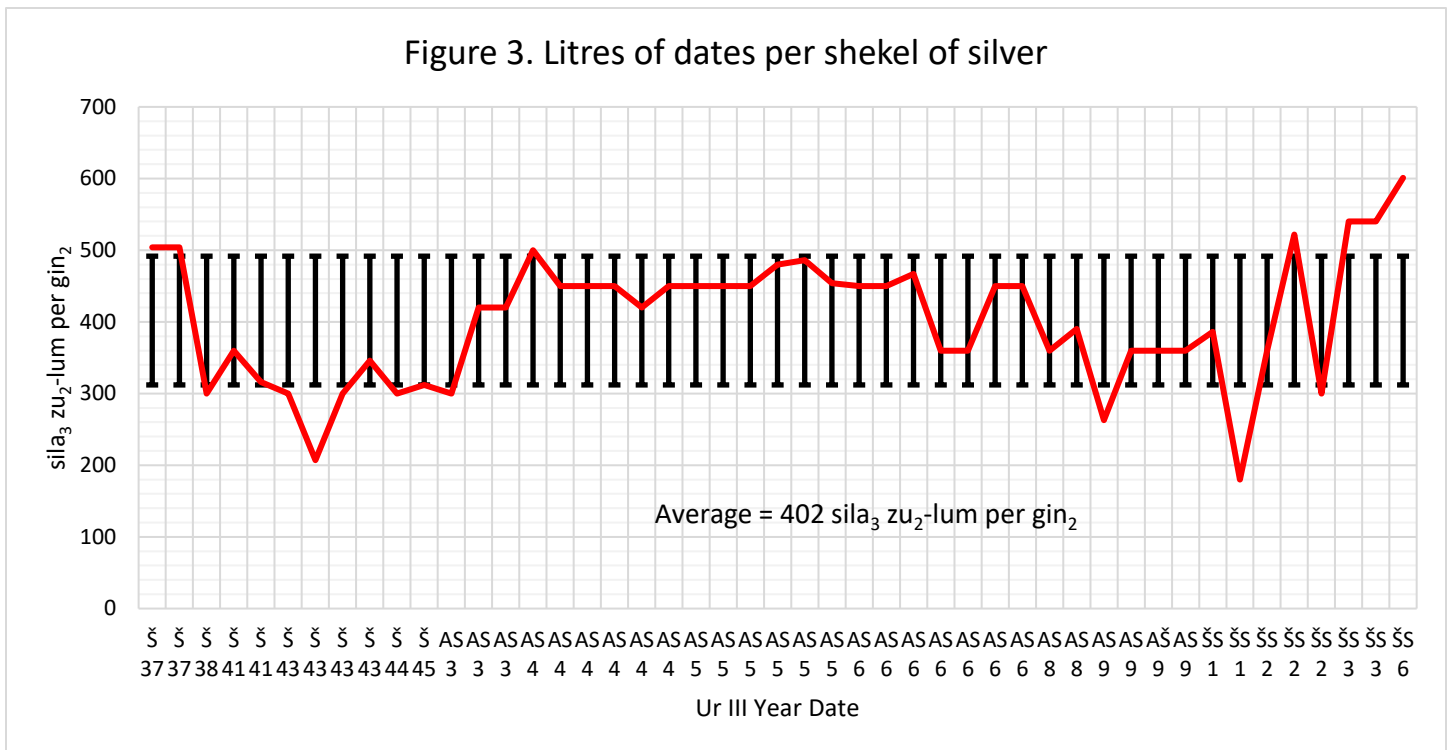


Figure 4. [UET 3, 1207](#) (CDLI no. P137532)

Obverse.

- |  |   |
|--|---|
| 1. 1(ĝeš <sub>2</sub> ) 2(diš) gu <sub>4</sub>   | 1. 62 oxen  |
| 2. ku <sub>3</sub> -babbar-bi 1(aš) gu <sub>2</sub> 1(u) 5(diš) ma-na 7(diš) gin <sub>2</sub>                              | 2. their silver 4507 shekels                          |
| 3. 1(diš) gu <sub>4</sub> -a 1(diš) ma-na 1(u) 5(diš) gin <sub>2</sub> -ta   | 3. @ 75 shekels silver per ox                         |
| 4. 6(diš) gu <sub>4</sub> še-bi 1(u) 2(aš) gur   | 4. 6 oxen their barley 3600 litres                    |
| 5. 1(diš) gu <sub>4</sub> -a 2(aš) gur-ta  | 5. @ 600 litres barley per ox                         |
| 6. 1(diš) gin <sub>2</sub> ku <sub>3</sub> -babbar-a 1(ban <sub>2</sub> ) še-ta  | 6. (there are) 10 litres barley per shekel of silver  |
| 7. 7(diš) gu <sub>4</sub> zu <sub>2</sub> -lum-bi 2(u) 7(diš) 1(barig) <sup>1</sup> 3(ban <sub>2</sub> ) gur               | 7. 7 oxen their dates 8190 litres                     |
| 8. 1(diš) gu <sub>4</sub> -a 3(aš) 4(barig) 3(ban <sub>2</sub> ) gur-ta  | 8. @ 1170 litres dates per ox                         |
| 9. 1(diš) gin <sub>2</sub> ku <sub>3</sub> -babbar-a 2(ban <sub>2</sub> ) zu <sub>2</sub> -lum-ta                          | 9. (there are) 20 litres dates per shekel of silver   |
| 10. 5(u) gu <sub>4</sub> i <sub>3</sub> -bi 2(u) 3(aš) 4(barig) 2(ban <sub>2</sub> ) 8(diš) 1/2(diš) sila <sub>3</sub> gur | 10. 50 oxen their oil 7168 1/2 litres                 |
| 11. 1(diš) gu <sub>4</sub> -a 2! (barig) 2(ban <sub>2</sub> ) 3(diš) 1/3(diš) sila <sub>3</sub> -ta <sup>12</sup>          | 11. @ 143 1/3 litres per ox                           |
| 12. 1(diš) gin <sub>2</sub> ku <sub>3</sub> -babbar-a 2(diš) 1/2(diš) sila <sub>3</sub> i <sub>3</sub> -ta                 | 12. (there are) 2 1/2 litres oil per shekel of silver |
| 13. 2(diš) udu še-bi 1(aš) 2(barig) 3(ban <sub>2</sub> ) gur   | 13. 2 sheep their barley 450 litres                   |
| 14. 1(diš) udu-a 3(barig) 4(ban <sub>2</sub> ) 5 sila <sub>3</sub> -ta   | 14. @ 225 litres per sheep <sup>13</sup>              |
| 15. 1(diš) gin <sub>2</sub> ku <sub>3</sub> -babbar-a 1(ban <sub>2</sub> ) še-ta   | 15. (there are) 10 litres barley per shekel of silver |
| 16. 1(u) 4(diš) udu zu <sub>2</sub> -lum-bi 2(u) 6(aš) 1(barig) 5(ban <sub>2</sub> ) gur                                   | 16. 14 sheep their dates 7865 litres                  |

Reverse.

- |   |   |
|---|---|
| 1. 1(diš) udu-a 1(aš) 4(barig) 2(ban <sub>2</sub> ) 5 sila <sub>3</sub> gur-ta                    | 1. @ 565 litres dates per sheep                     |
| 2. 1(diš) gin <sub>2</sub> ku <sub>3</sub> -babbar-a 2(ban <sub>2</sub> ) zu <sub>2</sub> -lum-ta | 2. (there are) 20 litres dates per shekel of silver |

<sup>12</sup> Legrain's copy has 1(barig) where 2(barig) is required to give the correct arithmetic.

<sup>13</sup> In [UET 9, 0890](#) (P139020) dated to month 1 of IS 8, an account of purchases of small bovids, the price of a sheep is 200 litres of barley per sheep so that silver equivalent may have been 20 shekels per sheep. Month 1 is the month of the first Akiti festival of the year, one of three annual festivals. The price of a sheep is the same as that in for the Šulgi festival of month 8 in UET 9, 882. The price of a nanny goat is 65 litres of barley or 6 1/2 shekels per goat.



- |  |  |
|--|--|
| 3. 3(ĝeš'u) 7(ĝeš <sub>2</sub> ) 1(u) 2(diš) udu i <sub>3</sub> -bi  | 3. 2232 sheep their oil  |
| 4. 4(ĝeš <sub>2</sub> ) 4(u) 3(aš) 4 (barig) 5(ban <sub>2</sub> ) 7(diš) <sup>1</sup> / <sub>3</sub> (diš) sila <sub>3</sub> gur | 4. 85,197 <sup>1</sup> / <sub>3</sub> litres                                 |
| 5. 1 udu-a 3(ban <sub>2</sub> ) 8(diš) sila <sub>3</sub> 1(u) gin <sub>2</sub> i <sub>3</sub> -ta                                | 5. @ 38 <sup>1</sup> / <sub>6</sub> litres oil per sheep                     |
| 6. 1 gin <sub>2</sub> ku <sub>3</sub> -babbar-a 2 <sup>1</sup> / <sub>2</sub> sila <sub>3</sub> i <sub>3</sub> -ta               | 6. (there are) 2 <sup>1</sup> / <sub>2</sub> litres oil per shekel of silver |
| 7. 𒌷lu <sub>2</sub> 𒌷[x]-ši-ti?  | 7. Lu(x)šiti?  |
| 8. niĝ <sub>2</sub> -sa <sub>10</sub> -ma-ka   | 8. of the purchases.   |

Significantly, this text, probably from IS 7, records purchases of some large numbers of cattle and sheep compared with the smaller purchases of the two other texts discussed in some detail earlier, but notably records purchases of both classes of bovinds with their unit prices specified in quantities of barley, dates and oil, at the same time transcribing prices into silver equivalents.

In the first of the purchases of oxen, the exchange is directly with an amount of silver. The price of the oxen in this instance is 75 shekels of silver each. When exchanged for barley each ox is priced at 2 gur or 600 litres of barley. A shekel of silver is noted as equivalent to a mere 1(ban<sub>2</sub>) or 10 litres of barley compared with the long-term average of 1 gur or 300 litres per shekel as evidenced primarily in texts from Girsu and to some extent from Umma from the years Šulgi 31 to Ibbi-Suen 4 (Cripps 2017:39). Thus, the silver equivalent price of an ox purchased with barley is 60 shekels. When exchanged with dates, an ox is priced at 1170 litres of dates and since dates are valued at 20 litres per shekel of silver its equivalent silver price is 58<sup>1</sup>/<sub>2</sub> shekels. When exchanged for oil, oxen are priced at 143<sup>1</sup>/<sub>3</sub> litres of oil each, equivalent to 57<sup>1</sup>/<sub>3</sub> shekels of silver since there are 2<sup>1</sup>/<sub>2</sub> litres of oil per shekel of silver.

The three commodities of barley, dates and oil are also exchanged with sheep with the same equivalent values in silver. These exchanges are at silver prices per sheep of 22<sup>1</sup>/<sub>2</sub>, 28<sup>1</sup>/<sub>4</sub> and 15 shekels, respectively. The unit price ranges for both cattle and sheep are clearly representative of those in UET 9, 882 and UET 9, 1065 from IS 7.

The new and key piece of information is the silver price of barley at a mere 10 litres per shekel, some 30 times higher than the earlier. This an increase in the silver price per sila<sub>3</sub> of barley from 0.6 to 18 shekels or an inflation of 2900%, which supports the notion that there was an acute shortage of barley in IS 7.

### Conclusion

UET 9, 882 and UET 9, 1065 augment our understanding of the instability prevailing in the economy and polity of the Ur III state during the early years of Ibbi-Suen's reign and particularly in IS 7. The Crown's earlier loss of the facilities at Puzriš-Dagan and the dwindling of cult offerings from the bala of the provincial governors necessitated the substitution of an alternative source of sacrificial animals. Despite the contraction of the Ur III state to the city of Ur and its environs, Nanna, its tutelary god, did not depart from his temple there or from the nearby Karzida in Ga'eš. Neither he nor his lady, Ningal, departed until the much later Elamite destruction of the city. Propitiation of the gods in Ur remained inescapable. The near disappearance of tribute from the core provinces was augmented, then replaced, with purchases of sacrificial oxen, sheep and goats for regular monthly offerings and for festivals.<sup>14</sup>

Although purchases of animals were obtained from others (ki lu<sub>2</sub> didli-ne-ta), the most frequent delivery agents were most likely to be merchants as in UET 9, 882 and UET 3, 0180. If like Garfinkle (2010:192), we consider that merchants were members of their own household organisations with the capacity and experience of operating independently of the state, they would have remained able to continue their commercial activities even when the central administration collapsed as in the reign of Ibbi-Suen (Liverani 2014:196). Conceivably, the relative control exercised by the state with respect to the activities of the merchants was also applied to other institutions. The Ur III

<sup>14</sup> [SAT 3, 2024\(P145224\)](#) shows that in IS 8 even the royal mašdaria-offering was purchased rather than delivered as a tribute as in earlier years. 1(diš) <<gu<sub>4</sub>>> gu<sub>4</sub> niga, niĝ<sub>2</sub>-sa<sub>10</sub>-ma-ta, maš<sub>2</sub>-da-re-a lugal, ezem a<sub>2</sub>-ki-ti še-sag<sub>11</sub>-ku<sub>5</sub>, zi-ga, ki-nu-ur<sub>2</sub>-i<sub>3</sub>-li<sub>2</sub>-ta, iti še-sag<sub>11</sub>-ku<sub>5</sub>, mu us<sub>2</sub>-sa bad<sub>3</sub>-gal ba-du<sub>3</sub>-a mu-us<sub>2</sub>-sa-bi. "1 ox from purchases of fattened oxen, the royal mašdaria for the Akiti festival of the harvest, withdrawn from Nur-ili, month of the harvest (month 1), the year following the year the great wall was built (IS 8)". Nur-ili is clearly the same person as the kurušda in [UET 3, 0258](#) (P136575), also from IS 8.

state was, perhaps, "a supra-structure on existing political, social and economic organisations", which, even when the crown exercised its greatest influence, enjoyed considerable autonomy (Sallaberger 2014:105). The temple management of the provincial flocks may thus have survived the disruption of the overlying structure of the state despite the loss of power by provincial governors, so enabling merchants to continue to acquire animals from elsewhere than Ur.<sup>15</sup> If as Lafont suggested was possible, the temple demesnes had ceased to function, resource could still be had to shepherds. Merchants frequently acted on behalf of the Ur III state in respect of the bala (Garfinkle *ibid*) and the disappearance of the bala along with the role of the central livestock facility at Puzriš-Dagan would have necessitated the substitution of trading links and activities for a tax or tribute collection agency.

Integral to the commodity money system in the Ur III economy was the bi-monetary standard of 1 gur (300 litres) of barley to 1 shekel of silver (Hudson 2004:112, Englund 2112:443-444). Barley and silver were the two commodities most commonly used as money, though other commodities such as wool, dates and oil were also used on occasion, as is evident from the texts studied here. The value or price of a commodity in such an economy is expressed as a ratio between its quantity and the quantity of another commodity, its relative price, as in the barley:silver price ratio. All other price ratios could be related to the standardised barley:silver price ratio and computed from it for accounting, planning and control purposes. The nature of the price ratio in the Ur III economy is fundamental to the explanation of the apparently general price inflation in the early years of Ibbi-Suen's reign.

There is circumstantial agreement among scholars that there was a catastrophic collapse in the supply of barley to Ur in this period, which may have failed altogether by IS 8. Sallaberger's view that as it was of some years duration, its severity was unlikely to be caused by the failure of a single harvest, is probably well founded. The extent to which it was due to adverse changes in the river and irrigation systems and/or disruption from invading Amorites is speculative. Nonetheless, there appears to have been a general hike in prices in IS 6 and IS 7 and barley may have been substituted with reeds or dates in animal feed and rations in IS 8. The barley shortage produced a drastic fall in the barley:silver price ratio from its long term average of 300 litres barley per shekel silver to about 10 litres per shekel, a thirty-fold decrease in the barley:silver price ratio and conversely a thirty-fold increase in the silver price of barley. Given that other price ratios are relative to this barley:silver ratio, the fall resulted in a general price inflation. If as in Table 4, the average price of a sheep or goat before Ibbi-Suen was  $\frac{1}{2}$  a shekel of silver, it would follow that by IS 7 we might expect the price of a small bovid to be 15 shekels each. The price of a sheep or goat in months 2-7 of IS 7 in UET 9, 882 was 14 shekels; a close enough price change. The month by month increase in the prices of sheep and goats in the second half of IS 7 as illustrated in UET 9, 882 may even suggest that the barley shortage worsened towards IS 8, leading to further falls in the barley:silver price ratio and resulting in a hyperinflation. The prices of sheep and goats increased by 21.5%, 17.6%, 25% and 20% in each of the last four months from *iti ezem* <sup>d</sup>*nin-a-zu* to *iti ezem-mah* from a level which started at 28 times greater than the long-term average price of sheep and goats to a level 60 times greater. These rapid increases in the second half of IS7, were on top of an inflation of about 2700%.

It remains unclear as to when this hyperinflationary period ended. If we are to judge from the purported copies of the correspondence between Ibbi-Suen and Išbi-Erra regarding the latter's mission to purchase grain in Isin and Kazallu, then barley was available there at the normal price ratio of 1 gur of barley per shekel of silver, probably in IS 8. However, Ibbi-Suen was clearly much exercised about the lack of barley in Ur. Barley was clearly available in Ur between IS 11 and IS 15 even for fattening cattle (see, [UET 3, 1010](#) P137335) and it is worth noting that in Isin by Išbi-Erra 30, one gur of barley was again equivalent to a shekel of silver or thereabouts ([BIN 09, 181](#) P236191). How soon this value was restored in Ur is unknown.

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<sup>15</sup> Ešnuna, Girsu and perhaps other provinces supplied wool to the royal textile administration in IS 1 and IS 2 (Sallaberger 2014:107).

Table 2. Texts with litres of sesame oil (*i<sub>3</sub>-ġiš*) per shekel of silver

Text ID	Unit of account	litres	Account Type
	/price	per shekel	
Š 39 (Umma) <a href="#">AUCT 2, 163</a>	ku <sub>3</sub> -bi	7	<i>receipt</i>
Š 40 (Umma) <a href="#">AUCT 2, 173</a>	ku <sub>3</sub> -bi	4 <sup>2</sup> / <sub>3</sub>	<i>sesame oil withdrawn from merchant</i>
Š 40 (Umma) <a href="#">AUCT 2, 173</a>	ku <sub>3</sub> -bi	8	<i>sesame oil withdrawn from merchant</i>
Š 40 (Girsu) <a href="#">TUT 122</a>	ku <sub>3</sub> -bi	9	<i>expenditures via merchants</i>
Š 43 (Girsu) <a href="#">CT 05, pl. 38-39, BM 017752</a>	ku <sub>3</sub> -bi	9	<i>merchant accounts</i>
Š 43 (Girsu) <a href="#">CT 05, pl. 38-39, BM 017752</a>	ku <sub>3</sub> -bi	9	<i>merchant accounts</i>
AS 1 (Girsu) <a href="#">HSS 04, 003</a>	i <sub>3</sub> -ġiš-bi	12	<i>accounts of oils</i>
AS 3 (Umma) <a href="#">YNER 08, 02</a>	ku <sub>3</sub> -bi	12	<i>merchant accounts</i>
AS 4 (Umma?) <a href="#">YNER 08, 18</a>	ku <sub>3</sub> -bi	13	<i>purchases of oils and fats</i>
AS 4 (Umma?) <a href="#">YNER 08, 18</a>	ku <sub>3</sub> -bi	13	<i>purchases of oils and fats</i>
AS 4 (Umma) <a href="#">TCL 05, 6046</a>	ku <sub>3</sub> -bi	13	<i>merchant accounts</i>
AS 5 (Umma) <a href="#">TCL 05, 6052</a>	ku <sub>3</sub> -bi	13	<i>merchant accounts</i>
AS 5 (Umma) <a href="#">YNER 08, 06</a>	ku <sub>3</sub> -bi	13	<i>merchant accounts</i>
AS 6 (Umma) <a href="#">YNER 08, 08</a>	ku <sub>3</sub> -bi	13	<i>merchant accounts</i>
AS 6 (Umma) <a href="#">YNER 08, 09</a>	ku <sub>3</sub> -bi	12 <sup>1</sup> / <sub>2</sub>	<i>merchant accounts</i>
AS 6 (Umma) <a href="#">JRAS 1939, 32</a>	ku <sub>3</sub> -bi	11 <sup>3</sup> / <sub>4</sub>	<i>merchant accounts</i>
AS 7 (Umma) <a href="#">YNER 08, 10</a>	ku <sub>3</sub> -bi	11	<i>merchant accounts</i>
AS 7 (Umma) <a href="#">YNER 08, 10</a>	ku <sub>3</sub> -bi	10 <sup>1</sup> / <sub>2</sub>	<i>merchant accounts</i>
AS 7 (Umma) <a href="#">YNER 08, 11</a>	ku <sub>3</sub> -bi	12 <sup>1</sup> / <sub>2</sub>	<i>merchant accounts</i>
AS 8 (Umma) <a href="#">MVN 01, 240</a>	ku <sub>3</sub> -bi	10	<i>merchant accounts</i>
AS 8 (Umma) <a href="#">TCL 05, 6045</a>	ku <sub>3</sub> -bi	10	<i>balanced account of silver</i>
AS 9 (Umma) <a href="#">YOS 18, 123</a>	ku <sub>3</sub> -bi	10	<i>balanced account of purchases</i>
AS 9 (Nippur) <a href="#">BBVO 11, 257, 4N-T197</a>	ku <sub>3</sub> -bi	6	<i>balanced account of the Inanna temple</i>
ŠS 4 (Umma) <a href="#">YNER 08, 21</a>	ku <sub>3</sub> -bi	15	<i>balanced accounts</i>
ŠS 6 (Umma) <a href="#">SNAT 504</a>	ku <sub>3</sub> -bi	12	<i>merchant accounts</i>
ŠS 6 (Umma) <a href="#">TCL 05, 6037</a>	ku <sub>3</sub> -bi	14	<i>merchant accounts</i>
ŠS 6 (Umma) <a href="#">TCL 05, 6037</a>	ku <sub>3</sub> -bi	13	<i>merchant accounts</i>
ŠS 6 (Umma) <a href="#">TCL 05, 6037</a>	ku <sub>3</sub> -bi	15	<i>merchant accounts</i>
IS 7 (Ur) <a href="#">UET 3, 1165</a>	gin <sub>2</sub> -a n-ta	2 <sup>1</sup> / <sub>2</sub>	<i>merchant accounts</i>
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gin <sub>2</sub> -a n-ta	2 <sup>1</sup> / <sub>2</sub>	<i>purchases of oxen account</i>
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gin <sub>2</sub> -a n-ta	2 <sup>1</sup> / <sub>2</sub>	<i>purchases of oxen account</i>
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gin <sub>2</sub> -a n-ta	2 <sup>1</sup> / <sub>2</sub>	<i>purchases of oxen account</i>
IS 7 (Ur) <a href="#">UET 9, 0882</a>	gin <sub>2</sub> -a n-ta	2 <sup>1</sup> / <sub>2</sub>	<i>expenditure via merchants</i>
IS 7? (Ur) <a href="#">UET 3, 1207</a>	gin <sub>2</sub> -a n-ta	2 <sup>1</sup> / <sub>2</sub>	<i>purchases of large and small cattle</i>
Undated (uncertain) <a href="#">MVN 03, 343</a>	ku <sub>3</sub> -bi	13	<i>list</i>
Undated (Nippur) <a href="#">MVN 15, 157</a>	ku <sub>3</sub> -bi	8 <sup>1</sup> / <sub>2</sub>	<i>receipt</i>
Undated (Umma) <a href="#">Nisaba 15, 1120</a>	ku <sub>3</sub> -bi	5	<i>sesame oil withdrawn from merchant</i>
Undated (Umma) <a href="#">Nisaba 15, 1120</a>	ku <sub>3</sub> -bi	9	<i>sesame oil withdrawn from merchant</i>
Undated (Umma) <a href="#">Nisaba 15, 1120</a>	ku <sub>3</sub> -bi	5	<i>sesame oil withdrawn from merchant</i>
Undated (Umma) <a href="#">Nisaba 15, 1120</a>	ku <sub>3</sub> -bi	8	<i>sesame oil withdrawn from merchant</i>
Undated (Umma) <a href="#">SAT 3, 2102</a>	ku <sub>3</sub> -bi	7 <sup>1</sup> / <sub>2</sub>	<i>sesame oil withdrawn/taken out</i>
Undated (Puzriš-Dagan) <a href="#">UDT 179</a>	ku <sub>3</sub> -bi	11 <sup>3</sup> / <sub>4</sub>	<i>receipt</i>
Undated (Nippur) <a href="#">BE 03/1, 099</a>	ku <sub>3</sub> -bi	8	<i>uncertain fragment</i>

Table 3. Texts with litres of dates (*zu<sub>2</sub>-lum*) per shekel of silver

Text ID	Unit of account	litres per	Account Type
	/price	shekel	
Š 37 ( <i>Umma</i> ) <a href="#">OrSP 47-49, 196</a>	zu <sub>2</sub> -lum-bi	504	<i>Receipt/payment</i>
Š 37 ( <i>Umma</i> ) <a href="#">NMSA 3485</a>	zu <sub>2</sub> -lum-bi	504	<i>Receipt/payment</i>
Š 38 ( <i>Girsu</i> ) <a href="#">Nisaba 07, 36</a>	ku <sub>3</sub> -bi	300	<i>balanced account of PN</i>
Š 41 ( <i>Umma</i> ) <a href="#">BPOA 1, 0635</a>	ku <sub>3</sub> -bi	360	<i>receipt by Umma official</i>
Š 41 ( <i>Umma</i> ) <a href="#">USC 6517</a>	ku <sub>3</sub> -bi	316	<i>receipt</i>
Š 43 ( <i>Ur</i> ) <a href="#">UET 3, 1083</a>	ku <sub>3</sub> -bi	300	<i>receipt</i>
Š 43 ( <i>Ur</i> ) <a href="#">UET 3, 1084</a>	ku <sub>3</sub> -bi	207	<i>receipt</i>
Š 43 ( <i>Girsu</i> ) <a href="#">CT 05, pl. 38-39, BM 017752</a>	ku <sub>3</sub> -bi	300	<i>merchant accounts</i>
Š 43 ( <i>Girsu</i> ) <a href="#">CT 05, pl. 38-39, BM 017752</a>	ku <sub>3</sub> -bi	346	<i>merchant accounts</i>
Š 44 ( <i>Girsu</i> ) <a href="#">MVN 11, 101</a>	ku <sub>3</sub> -bi	300	<i>merchant accounts</i>
Š 45 ( <i>Umma</i> ) <a href="#">BPOA 7, 2029</a>	ku <sub>3</sub> -bi	312	<i>receipt</i>
AS 3 ( <i>Umma</i> ) <a href="#">YNER 8, 02</a>	ku <sub>3</sub> -bi	300	<i>merchant accounts</i>
AS 3 ( <i>Umma</i> ) <a href="#">YNER 8, 02</a>	ku <sub>3</sub> -bi	420	<i>merchant accounts</i>
AS 3 ( <i>Umma</i> ) <a href="#">YNER 8, 03</a>	ku <sub>3</sub> -bi	420	<i>merchant accounts</i>
AS 4 ( <i>Umma</i> ) <a href="#">VDI 1976/3, 110-111</a>	ku <sub>3</sub> -bi	500	<i>expenditures of bala</i>
AS 4 ( <i>Umma</i> ) <a href="#">TCL 05, 6046</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 4 ( <i>Umma</i> ) <a href="#">TCL 05, 6052</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 4 ( <i>Umma</i> ) <a href="#">TCL 05, 6056</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 4 ( <i>Umma</i> ) <a href="#">YNER 8, 03</a>	ku <sub>3</sub> -bi	420	<i>merchant accounts</i>
AS 4 ( <i>Umma</i> ) <a href="#">YNER 8, 04</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 5 ( <i>Umma</i> ) <a href="#">TCL 05, 6052</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 5 ( <i>Umma</i> ) <a href="#">TCL 05, 6056</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 5 ( <i>Umma</i> ) <a href="#">YNER 8, 04</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 5 ( <i>Umma</i> ) <a href="#">YNER 8, 09</a>	ku <sub>3</sub> -bi	480	<i>merchant accounts</i>
AS 5 ( <i>Umma</i> ) <a href="#">YNER 8, 09</a>	ku <sub>3</sub> -bi	486	<i>merchant accounts</i>
AS 5 ( <i>Umma</i> ) <a href="#">STA 23</a>	ku <sub>3</sub> -bi	454	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">STA 23</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">STA 23</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">YNER 08, 08</a>	ku <sub>3</sub> -bi	467	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">YNER 8, 10</a>	ku <sub>3</sub> -bi	360	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">YNER 8, 11</a>	ku <sub>3</sub> -bi	360	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">IRAS 1939, 32</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 6 ( <i>Umma</i> ) <a href="#">SNAT 365</a>	ku <sub>3</sub> -bi	450	<i>merchant accounts</i>
AS 8 ( <i>Umma</i> ) <a href="#">MVN 01, 240</a>	ku <sub>3</sub> -bi	360	<i>merchant accounts</i>
AS 8 ( <i>Umma</i> ) <a href="#">STA 01</a>	ku <sub>3</sub> -bi	390	<i>merchant accounts</i>
AS 9 <i>Nippur</i> <a href="#">BBVO 11, 257, 4N-T197</a>	ku <sub>3</sub> -bi	263	<i>account of the temple of Inanna</i>
AS 9 ( <i>Umma</i> ) <a href="#">MVN 16, 0910</a>	ku <sub>3</sub> -bi	360	<i>merchant accounts</i>
AŠ 9 ( <i>Umma</i> ) <a href="#">UMM 2275</a>	ku <sub>3</sub> -bi	360	<i>merchant accounts</i>
AS 9 ( <i>Umma</i> ) <a href="#">AUCT 1, 938</a>	ku <sub>3</sub> -bi	360	<i>issue of dates from storehouse</i>
ŠS 1 ( <i>Umma</i> ) <a href="#">UTI 5, 3187</a>	ku <sub>3</sub> -bi	386	<i>merchant accounts</i>
ŠS 1 ( <i>Umma</i> ) <a href="#">AUCT 1, 763</a>	ku <sub>3</sub> -bi	180	<i>issue of dates from storehouse</i>
ŠS 2 ( <i>Umma</i> ) <a href="#">AUCT 1, 222</a>	ku <sub>3</sub> -bi	360	<i>withdrawal of dates</i>
ŠS 2 ( <i>Umma</i> ) <a href="#">AUCT 1, 222</a>	ku <sub>3</sub> -bi	522	<i>withdrawal of dates</i>
ŠS 2 ( <i>Umma</i> ) <a href="#">AUCT 3, 378</a>	ku <sub>3</sub> -bi	300	<i>receipt</i>
ŠS 3 ( <i>Umma</i> ) <a href="#">SAT 3, 1367</a>	zu <sub>2</sub> -lum-bi	540	<i>silver payment</i>
ŠS 3 ( <i>Umma</i> ) <a href="#">SAT 3, 1367</a>	zu <sub>2</sub> -lum-bi	540	<i>silver payment</i>
ŠS 6 ( <i>Umma</i> ) <a href="#">TCL 05, 6037</a>	ku <sub>3</sub> -bi	601	<i>merchant accounts</i>
IS 7 ( <i>Ur</i> ) <a href="#">UET 9, 1065</a>	gin <sub>2</sub> -a n-ta	20	<i>purchases of oxen account</i>

IS 7 (Ur) <a href="#">UET 9, 1065</a>	gin <sub>2</sub> -a n-ta	20	<i>purchases of oxen account</i>
IS 7 (Ur) <a href="#">UET 9, 882</a>	gin <sub>2</sub> -a n-ta	20	<i>expenditure via merchants</i>
IS 7 (Ur) <a href="#">UET 9, 882</a>	gin <sub>2</sub> -a n-ta	15	<i>expenditure via merchants</i>
IS 7 (Ur) <a href="#">UET 9, 882</a>	n-ta	20	<i>expenditure via merchants</i>
IS 7 (Ur) <a href="#">UET 9, 882</a>	n-ta	15	<i>expenditure via merchants</i>
IS 7 (Ur) <a href="#">UET 9, 882</a>	n-ta	20	<i>expenditure via merchants</i>
IS 7 (Ur) <a href="#">UET 9, 882</a>	n-ta	15	<i>expenditure via merchants</i>
IS 7? (Ur) <a href="#">UET 3, 1207</a>	gin <sub>2</sub> -a n-ta	20	<i>purchases of large and small cattle</i>
Undated (Nippur) <a href="#">BPOA 6, 0025</a>	ku <sub>3</sub> -bi	410	<i>receipt</i>
Undated (Nippur) <a href="#">NATN 789</a>	zu <sub>2</sub> -lum-bi	750	<i>receipt</i>
Undated (Ur) <a href="#">UET 3, 1108</a>	zu <sub>2</sub> -lum-bi	300	<i>unknown broken</i>

Table 4. Texts other than UET 9, 882 with a "price" for small bovids (sheep, lambs and goats).

Text ID	Unit of account	shekels	Account Type
	/price	per animal	
Š 35 ( <i>Umma</i> ) <a href="#">OrSP 06, 60 Wengler 50</a>	ku <sub>3</sub> ...še	1/2	<i>offerings?</i>
Š 45 ( <i>Girsu</i> ) <a href="#">HSS 04, 001</a>	gin <sub>2</sub> -ta	1/2	<i>silver account</i>
Š 45 ( <i>Girsu</i> ) <a href="#">HSS 04, 001</a>	igi-3-gal <sub>2</sub> -ta	1/3	<i>silver account</i> <sup>16</sup>
Š 47 ( <i>Girsu</i> ) <a href="#">STA 17</a>	udu-bi	1/2	<i>account of animals to be replaced</i>
Š 47 ( <i>Girsu</i> ) <a href="#">STA 17</a>	udu-bi	1/2	<i>account of animals to be replaced</i>
AS 1 ( <i>Nippur</i> ) <a href="#">MVN 03, 219</a>	nig <sub>2</sub> -sa <sub>10</sub> -bi	1/2	<i>witnessed sales on credit</i>
AS 4 ( <i>Umma</i> ) <a href="#">SET 130</a>	ku <sub>3</sub> -babbar udu	1/2	<i>account of sheep oil and wool</i> <sup>17</sup>
AS 4 ( <i>Girsu</i> ) <a href="#">ITT 2, 00941</a>	gin <sub>2</sub> -ta	1/2	<i>arrears account of field</i>
ŠS 5 ( <i>Puzriš-Dagan</i> ) <a href="#">JCS 54, 005, 33</a>	nig <sub>2</sub> -sa <sub>10</sub> -ma-bi	1/2	<i>receipt</i>
ŠS 6 ( <i>Umma</i> ) <a href="#">TCL 05, 6037</a>	ku <sub>3</sub> -bi	1/2	<i>merchant accounts</i> <sup>18</sup>
ŠS 6 ( <i>Umma</i> ) <a href="#">TCL 05, 6037</a>	ku <sub>3</sub> -bi	1/2	<i>merchant accounts</i> <sup>19</sup>
IS 1 ( <i>Girsu</i> ) <a href="#">ITT 5, 07000</a>	ku <sub>3</sub> -bi	3/4	<i>reply to a letter of command</i>
IS 6 ( <i>Ur</i> ) <a href="#">UET 9, 1052</a>	gin <sub>2</sub> -ta	10	<i>fragment including sheep as sa<sub>2</sub>-du<sub>11</sub></i> <sup>20</sup>
IS 6 ( <i>Ur</i> ) <a href="#">UET 9, 1056</a>	gin <sub>2</sub> sa <sub>10</sub> -ta	6	<i>fragment purchases of small bovids</i> <sup>21</sup>
IS 6 ( <i>Ur</i> ) <a href="#">UET 9, 1056</a>	gin <sub>2</sub> -ta	5 <sup>1</sup> /4	<i>fragment purchases of small bovids</i> <sup>22</sup>
IS 6 ( <i>Ur</i> ) <a href="#">UET 9, 1056</a>	gin <sub>2</sub> -ta	8	<i>fragment purchases of small bovids</i> <sup>23</sup>
IS 6 ( <i>Ur</i> ) <a href="#">UET 9, 1056</a>	gin <sub>2</sub> sa <sub>10</sub> -ta	6 <sup>2</sup> /3	<i>fragment purchases of small bovids</i> <sup>24</sup>
IS 7? ( <i>Ur</i> ) <a href="#">UET 9, 1084</a>	gin <sub>2</sub> -ta	17	<i>small fragment like UET 9, 882</i> <sup>25</sup>
IS 7 ( <i>Ur</i> ) <a href="#">UET 3, 1165</a>	ma-na-[ta]	20	<i>merchant accounts</i>
IS 7? ( <i>Ur</i> ) <a href="#">UET 3, 1207</a>	udu-a še-ta	22 <sup>1</sup> /2	<i>purchases of large and small cattle</i>
IS 7? ( <i>Ur</i> ) <a href="#">UET 3, 1207</a>	udu-a zu <sub>2</sub> -lum-ta	28 <sup>1</sup> /4	<i>purchases of large and small cattle</i>
IS 7? ( <i>Ur</i> ) <a href="#">UET 3, 1207</a>	udu-a i <sub>3</sub> -ta	15	<i>purchases of large and small cattle</i>
Undated ( <i>Ur</i> ) <a href="#">UET 9, 1131</a>	gin <sub>2</sub> -ta	15	<i>fragment pricing small bovids</i>
Undated ( <i>Ur</i> ) <a href="#">UET 9, 1131</a>	gin <sub>2</sub> -ta	5	<i>fragment pricing small bovids</i> <sup>26</sup>
Undated ( <i>Ur</i> ) <a href="#">UET 9, 1131</a>	[ku <sub>3</sub> -]r <sup>1</sup> bi <sup>1</sup>	12 <sup>1</sup> /2	<i>total mixed bovids from fragment</i>
AS Undated ( <i>Umma</i> ) <a href="#">MVN 11, 170</a>	ku <sub>3</sub> -bi	1/2	<i>witnessed receipt</i>
Undated ( <i>Nippur</i> ) <a href="#">TMH NF 1-2, 059</a>	ku <sub>3</sub> -bi...ku <sub>3</sub> šum <sub>2</sub>	1 <sup>1</sup> /4	<i>i<sub>3</sub>-bi<sub>2</sub>-za e<sub>2</sub>-gal-kam</i>
Undated ( <i>Nippur</i> ) <a href="#">NATN 710</a>	ku <sub>3</sub> -bi	1 <sup>1</sup> /4	<i>receipt</i>

<sup>16</sup> This is a price of a male lamb.

<sup>17</sup> Obv. (ii) 17 reads 5(diš) gin<sub>2</sub> ku<sub>3</sub>-babbar udu bar-ġal<sub>2</sub>-bi 1(u)-am<sub>3</sub> "5 shekels of silver are (equivalent of) 10 unshorn sheep".

<sup>18</sup> 31 unshorn ewes + 6 unshorn rams + 4 unshorn lambs + 7 nanny goats + 1 billy goat = 23 shekels or 1/2 shekel each.

<sup>19</sup> 42 unshorn rams = 21 shekels or 1/2 shekel each.

<sup>20</sup> Obv. (i) 2'-3' reads 2(u) la<sub>2</sub> 1(diš) udu niga sag<sub>10</sub> 1(u) gin<sub>2</sub>-ta, 2(u) la<sub>2</sub> 1(diš) udu niga sag<sub>10</sub> sa<sub>2</sub>-du<sub>11</sub>. "19 fine quality fattened sheep 10 shekels each", 19 fine quality fattened sheep offering".

<sup>21</sup> Obv. (i) 7'-8' reads 2(u) la<sub>2</sub> 1(diš) uš 3(diš) ud<sub>5</sub>, 6(diš) gin<sub>2</sub> sa<sub>10</sub>-ta "19 ewes and 3 nanny goats, 6 shekels price each".

<sup>22</sup> Obv. (i) 9'-10' reads 2(diš) r<sup>1</sup>u<sub>8</sub> 2(diš) sila<sub>4</sub>-ga, 5 gin<sub>2</sub> igi-4-gal<sub>2</sub>-ta "2 ewes 2 suckling lambs, 5<sup>1</sup>/4 shekels each".

<sup>23</sup> Obv. (i) 13' reads 2(diš) udu nita<sub>2</sub> 8(diš) gin<sub>2</sub>-ta "2 rams 8 shekels each".

<sup>24</sup> Obv (i) 14'-15' reads 7(diš) uš 4(diš) r<sup>1</sup>ud<sub>5</sub>, 6 gin<sub>2</sub> 2/3-[ta] " 7 ewes and 4 nanny goats, 6 2/3 shekels each".

<sup>25</sup> This price for a male lamb suggests IS 7 rather than earlier, although the fragment cannot be dated. The small fragment lists sheep and goats and their prices, as well as dates, which are in each of the surviving parts of the two columns, followed by the month 1, iti še-sag<sub>11</sub>-ku<sub>5</sub>, the month of the first Akiti Festival of the year at Ur, which is the same price as the month 7 Akiti price in UET 9, 882.

<sup>26</sup> Obv. (i) 3'-4' reads 1(diš) sila<sub>4</sub>-ga 2(diš) maš<sub>2</sub>-ga, 5 gin<sub>2</sub>-ta "1 suckling lamb and 2 suckling goats, 5 shekels each".

Table 5. Texts with cattle ( $gu_4$  and  $ab_2$ ) per shekel

Text ID	$gu_4$	unit	shekels per beast	$ab_2$	unit	shekels per beast
Š 35 (Umma) <a href="#">BPOA 6, 0954</a>	$gu_4$	ku <sub>3</sub> -bi	10			
Š 40 (Umma) <a href="#">MS 1716/2</a>	$gu_4$	ku <sub>3</sub> -bi	6 <sup>1/2</sup>			
Š 48 (Girsu) <a href="#">SAT 1, 182</a>	$gu_4$	ku <sub>3</sub> -bi	6			
Š 48 (Girsu) <a href="#">SET 310</a>	$gu_4$	ku <sub>3</sub> -bi	8			
Š 48 (Girsu) <a href="#">SET 310</a>	$gu_4$	ku <sub>3</sub> -bi	8			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a>	$gu_4$	ku <sub>3</sub> -bi	5 <sup>1/4</sup>			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a>	$gu_4$	ku <sub>3</sub> -bi	5 <sup>1/2</sup>			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a>	$gu_4$	ku <sub>3</sub> -bi	5 <sup>1/3</sup>			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a>	$gu_4$	ku <sub>3</sub> -bi	5			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a>	$gu_4$	ku <sub>3</sub> -bi	5			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a> <sup>27</sup>	$gu_4$	ku <sub>3</sub> -bi	3			
AS 1 (Girsu) <a href="#">ASJ 18, 090 25</a>	$gu_4$	ku <sub>3</sub> -bi	5 <sup>1/3</sup>			
AS 1 (Girsu) <a href="#">SAT 1, 195</a> <sup>28</sup>	$gu_4$	ku <sub>3</sub> -bi	5			
AS 3 (Girsu) <a href="#">MVN 20, 121</a>	$gu_4$ -ġiš	(gin <sub>2</sub> -ta)	6	$ab_2$	gin <sub>2</sub> -ta	7
AS 3 (Girsu) <a href="#">MVN 20, 121</a>	$gu_4$ -ġiš		5	$ab_2$		6 <sup>1/2</sup>
AS 3 (Girsu) <a href="#">MVN 20, 121</a> <sup>29</sup>	$gu_4$ -ġiš		5	$ab_2$		7
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	8
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	6
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	8
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	8
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	7
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	6
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	8
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	5
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	6
AS 3 (Girsu) <a href="#">Fs Foster 192-194</a>				$ab_2$	ku <sub>3</sub>	5
AS 4 (Girsu) <a href="#">ITT 2, 00941</a>	$gu_4$	gin <sub>2</sub> -ta		$ab_2$	gin <sub>2</sub> -ta	6
AS 4 (Girsu) <a href="#">MVN 09, 070</a>	$gu_4$	ku <sub>3</sub> -bi	6			
AS 5 (Umma) <a href="#">OrSP 47-49, 343</a>	$gu_4$ -ġiš	ku <sub>3</sub> -bi	8	$ab_2$ ...	ku <sub>3</sub> -bi	11 <sup>1/2</sup>
ŠS 4 (Girsu) <a href="#">SNAT 136</a>	$gu_4$ -ġiš	ku <sub>3</sub> -bi	7	$ab_2$ -mah <sub>2</sub>	ku <sub>3</sub> -bi	7
ŠS 9 (Girsu) <a href="#">ITT 5, 06935</a>	$gu_4$ -ġiš	ku <sub>3</sub> -bi	5 <sup>1/2</sup>	$ab_2$ -ġiš	ku <sub>3</sub> -bi	5 <sup>1/2</sup>
IS 2 (Girsu) <a href="#">PPAC 5, 0775</a>	$gu_4$ -ġiš	ku <sub>3</sub> -bi	7			
IS 7 (Ur) <a href="#">UET 9, 1065</a>	$gu_4$ -ġiš		45	$ab_2$ -mah <sub>2</sub>		50
IS 7 (Ur) <a href="#">UET 9, 1065</a>	$gu_4$ -ġiš		50	$ab_2$ -mah <sub>2</sub>		47
IS 7 (Ur) <a href="#">UET 9, 1065</a>	$gu_4$ -ġiš		45	$ab_2$ -mah <sub>2</sub>		47
IS 7 (Ur) <a href="#">UET 9, 1065</a>				$ab_2$ -mah <sub>2</sub>		50
IS 7 (Ur) <a href="#">UET 9, 1065</a>				$ab_2$ mu-3		50

<sup>27</sup> In this text, the  $gu_4$  are described as  $gu_4$  sa<sub>10</sub>-a "oxen purchased".

<sup>28</sup> Text reads 5  $gu_4$ , ku<sub>3</sub>-bi 1/3 <sup>ša</sup> 5 gin<sub>2</sub>, si-i<sub>3</sub>-tum,  $gu_4$  še-ta sa<sub>10</sub>, ur-nigar<sup>gar</sup>-ke<sub>4</sub> su-su-dam, mu amar-<sup>d</sup>suen lugal "5 oxen their silver 25 shekels, a remaining balance of oxen to exchange with barley, it will be replaced by Ur-Nigar, AS 1.

<sup>29</sup> Subscription to text is  $gu_4$  ku<sub>3</sub>-ta sa<sub>10</sub>-a, šabra sanga-ne, ša<sub>3</sub> gir<sub>2</sub>-su<sup>ki</sup> "oxen with silver exchanged by the major domo and chief administrator in Girsu".

<sup>30</sup> This is  $ab_2$ -SAL-mah<sub>2</sub> amar "mature cow and calf". Jointly they have a silver equivalent of 11<sup>1/2</sup>. The price of a bull in this text suggests that the cow has a value of 8 shekels and the calf is worth 3<sup>1/2</sup> shekels.

IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	55
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	140 <sup>31</sup>
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	80 <sup>32</sup>	ab <sub>2</sub> -mu-3	60 <sup>33</sup>
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	90	ab <sub>2</sub> -mah <sub>2</sub>	50
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	90	ab <sub>2</sub> -mah <sub>2</sub>	60
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	75	ab <sub>2</sub> -mah <sub>2</sub>	65
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	60
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	60
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	70	ab <sub>2</sub> -mah <sub>2</sub>	70
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> mu-3	70
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	65
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	60
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	60	ab <sub>2</sub> mu-2	60
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> -mah <sub>2</sub>	58
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	50	ab <sub>2</sub> -mah <sub>2</sub>	50
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	58	ab <sub>2</sub> -mah <sub>2</sub>	58
IS 7 (Ur) <a href="#">UET 9, 1065</a>	gu <sub>4</sub> -ġiš	40	ab <sub>2</sub> -mah <sub>2</sub>	38
IS 7 (Ur) <a href="#">UET 9, 1065</a>			ab <sub>2</sub> mu-3	30
IS 7? (Ur) <a href="#">UET 3, 1207</a>	gu <sub>4</sub> gu <sub>4</sub> -a gin <sub>2</sub> -ta	75		
IS 7? (Ur) <a href="#">UET 3, 1207</a>	gu <sub>4</sub> gu <sub>4</sub> -a še-ta	60		
IS 7? (Ur) <a href="#">UET 3, 1207</a>	gu <sub>4</sub> gu <sub>4</sub> -a gur-ta <sup>34</sup>	58 <sup>1/2</sup>		
IS 7? (Ur) <a href="#">UET 3, 1207</a>	gu <sub>4</sub> gu <sub>4</sub> -a sila <sub>3</sub> -ta <sup>35</sup>	57 <sup>1/3</sup>		
Undated ( <i>Girsu</i> ) <a href="#">MVN 06, 313</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	4 <sup>2/3</sup>	ab <sub>2</sub> ku <sub>3</sub> -bi	2
Undated ( <i>Girsu</i> ) <a href="#">MVN 06, 313</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	5	ab <sub>2</sub> ku <sub>3</sub> -bi	2
Undated ( <i>Girsu</i> ) <a href="#">MVN 06, 313</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	5	ab <sub>2</sub> ku <sub>3</sub> -bi	2
Undated ( <i>Girsu</i> ) <a href="#">MVN 06, 313</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	6		
Undated ( <i>Girsu</i> ) <a href="#">MVN 06, 313</a> <sup>36</sup>	gu <sub>4</sub> ku <sub>3</sub> -bi	5		
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>	gu <sub>4</sub> -ġiš ku <sub>3</sub> -bi	8	ab <sub>2</sub> -mah <sub>2</sub> ku <sub>3</sub> -bi	8
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>			ab <sub>2</sub> mu 1 ku <sub>3</sub> -bi	3
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>			ab <sub>2</sub> -mah <sub>2</sub> ku <sub>3</sub> -bi	8
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>			ab <sub>2</sub> mu-3 ku <sub>3</sub> -bi	6
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>			ab <sub>2</sub> -mah <sub>2</sub> ku <sub>3</sub> -bi	7
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>	gu <sub>4</sub> -ġiš ku <sub>3</sub> -bi	8	ab <sub>2</sub> -mah <sub>2</sub> ku <sub>3</sub> -bi	8
Undated ( <i>Umma</i> ) <a href="#">MVN 16, 0714</a>			ab <sub>2</sub> mu-2 ku <sub>3</sub> -bi	8
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	6		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	5		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	6		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	6		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	5		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	5 <sup>1/2</sup>		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub> ku <sub>3</sub> -bi	7		

<sup>31</sup> Obv. (i) 27. iti a<sub>2</sub>-ki-ti, 2(diš) ab<sub>2</sub>-mah<sub>2</sub> 2(diš) <sup>1/3</sup>(diš) ma-na-ta, 1 ab<sub>2</sub> mu-2 1 ma-na, iti ezem -mah.

<sup>32</sup> iti ezem <sup>d</sup>me-ki-gal<sub>2</sub>

<sup>33</sup> iti ezem-mah

<sup>34</sup> Purchase with dates.

<sup>35</sup> Purchase with oil.

<sup>36</sup> This text is also subscribed gu<sub>4</sub> sa<sub>10</sub>-a.



Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub>	ku <sub>3</sub> -bi	7		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>				ab <sub>2</sub>	ku <sub>3</sub> -bi 7
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>	gu <sub>4</sub>	ku <sub>3</sub> -bi	5		
Undated ( <i>Girsu</i> ) <a href="#">TCTI 2, 03544</a>				ab <sub>2</sub>	ku <sub>3</sub> -bi 6

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