

Agyrrhios' Grain-Tax Law: Micro-Finance in 4th-Century Athens

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Abstract: *Within his Grain-Tax Law, Agyrrhios regulates bidders and bidding for the grain-tax assessed annually upon Lemnos, Imbros, and Skyros. Agyrrhios manages the distinctive risks posed by mandating an in-kind collection. The regulations also create incentives to attract a larger pool of competent bidders. The methods Agyrrhios employs are highly innovative and highly effective. Agyrrhios' law embeds opportunities for significant, low-risk profits for tax-farmers. The regulations effectively address the adverse selection, moral hazard, and monitoring problems endemic to tax-farming and exacerbated by shifting to an in-kind collection. Agyrrhios structures the regulations much like the provisions governing "joint liability lending" contracts employed by contemporary micro-finance institutions in developing economies. Like group subscribers to micro-finance loans, Agyrrhios provides powerful incentives for concessionaires to form highly efficient syndicates (συμμορία) that are best equipped to collect the grain-tax and so provide "grain for the people" (ὅπως ἂν τῷ δήμῳ σῖ[το]ς ᾗ [5-6]).*

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In 374/3BCE, the prominent democratic leader, Agyrrhios, proposed modifying the 1/12th or 8.33% grain-tax exacted from the islands of Lemnos, Imbros, and Skyros.¹ Previously, this tax was

¹ All references to the text of the grain-tax follow the text published in Stroud, *Grain-Tax Law*, 4-10 and will be referred to in text by line number exclusively. In text translations of the Grain-Tax Law triangulate Stroud's and Rhodes and Osborne, *Greek Historical Inscriptions*, 118-123 (RO 26). All other translations are my own unless otherwise indicated. The text and Rhodes'

farmed in the traditional manner: private contractors purchased the right to collect the tax and paid the contract price in coin² either in one full payment or installments.³ Agyrrhios' "Grain-Tax Law" stipulated that this particular tax be paid in-kind, in full, in Athens before the beginning of Maimakterion or mid-November (πρὸ τοῦ Μαιμακτηριῶνος μηνός [48]). The collected grain would be transported to and stored in a facility provided by Athens, the Aiakeion (12-15), which was probably located within the Agora.⁴ The Assembly appointed ten agents to oversee the collection and storage of the grain. These agents were also charged with selling the grain at a price fixed by the Assembly on the Athenian market no earlier than the month of Anthesterion, or mid-January (37-44).

Background

Lemnos, Imbros, and Skyros had long been closely affiliated with Athens. Herodotos reports that Miltiades expelled the indigenous Pelasgians from Lemnos in 496. Athenian cleruchs soon followed (Hdt. 6.140). Thukydides reports that Kimon subjugated Skyros, which contained a Dolopian population, sometime in the 470s (Thuc. 1.98). How and when Athens assumed control over Imbros

and Osborne's translation is appended below and available here: [Grain-Tax Text Online](#)

² Hansen, "A Note on Agyrrhios' Grain-Tax Law of 374/3," 148-149 argues that the tax, which was only imposed after the islands were repopulated with Athenian cleruchs in 387/6, was always collected in-kind. There is a general consensus that prior to Agyrrhios' law, the tax was paid in coin, and a generally unstated corollary presumption is that the islanders paid tax-farmers in coin. Actual practice may have been less straightforward. There is little doubt that prior to the Grain-Tax Law "final settlement" in Athens was made in cash. How tax-farmers came up with that cash could have well involved numerous intermediate steps. There would be powerful financial incentives for concessionaires to undertake liquidating an in-kind payment (or even their entire harvest from which they deducted the tax liability) on a secondary market to increase their margins in the course of fulfilling their cash obligation to the *polis*.

³ Osborne presumes that previous to Agyrrhios' law, the tax was not only paid in cash but in ten installments rather than a lump sum or quarterly payments (Rhodes and Osborne, *Greek Historical Inscriptions*, 127).

⁴ Stroud, *Grain-Tax Law* 94-102.

is less clear, but, as with this law, the three islands are considered as a collective Athenian administrative unit, each populated with Athenian cleruchs.⁵

Cleruchs, either as absentee rentiers or residential proprietors of agricultural estates, produced a substantial surplus of grain for export.⁶ Athens taxed that produce as if the islands were an extension of Attica itself. Although Sparta seized control of the islands after Aigospotami in 405, it is unclear if the Spartans upset land tenure arrangements beyond substituting themselves as principals/proprietors in the place of the Athenian cleruchs. These cleruchs may or may not have been expelled along with other Athenians living abroad whom Lysander had ordered back to Athens.⁷

However that may be, Spartan control of Lemnos was short-lived. Konon drove the Spartans from the island in 393.⁸ The resettlement of the three islands after the so-called “King’s Peace” of 387 restored Athens’ unrivaled control of the islands and their resources.⁹ By the time of the Grain-Tax Law, the islands once again formed a distinct tax district within Athens’ administrative ambit.¹⁰

⁵ Graham, *Colony and Mother City*, 174-188 provides a useful summary and analysis of literary and material *testimonia* that illustrate the general tendency to lump the three islands together which were each settled by Athenian cleruchs. See also, Keen, “Grain for Athens’,” 67-68.

⁶ Moreno, “Athenian Bread-Baskets,” 97-98; Cargill, *Athenian Settlements*, xxv, 12-15, 98-99; Keen, “Grain for Athens’,” 67-68.

⁷ Cargill, *Athenian Settlements*, 12-15 offers a useful overview of the uncertainty of Spartan settlement policies and the brevity of Spartan hegemony over the islands.

⁸ Stroud, “Inscriptions from the North Slope,” 171.

⁹ For the restoration and/or resettlement of the islands by Athenian cleruchs in 387/86 BCE see *IG II²* 30 frag. b, l.34 and Stroud, “Inscriptions from the North Slope,” 172-173; Cargill, *Athenian Settlements*, 99. Like Stroud, Cargill doubts that Athenian cleruchs, at least on Lemnos, were forcibly expelled. Cf. Hansen, “A Note on Agyrrhios’ Grain Tax Law of 374/3,” 148 who, following Faraguna, “Legge ateniese sulla tassazione del grano,” 75-76, hypothesizes that “new cleruchs were sent to the islands” in 387/6 and Moreno, “Athenian Bread-Baskets,” 97 n. 2 who presumes “resettlement” but does not elaborate.

¹⁰ Sorg, “Agyrrhios Beyond Attica,” 67-72 argues that the tax and especially Agyrrhios’ law was as much about Athens reigniting imperial ambitions via

Agyrrhios' law presupposes that the islands were specifically and distinctively taxed in a traditional manner, whose general practice entailed the typical risks and rewards for Athens and its appointed tax agents.

Tax-farming Generic: Cost Controls and Risk Management

As with virtually every regular and irregular impost and excise tax, Athens did not collect taxes directly but sold the concessions to collect specific taxes to private citizens at an annual auction. The *pōlētai* or "sellers" were a board of ten officials selected annually by lot from each tribe to oversee both the auctions and subsequent collections ([Arist.] *AthPol* 47.2). Bidders often organized themselves into syndicates headed by an *arkhōnēs* (ἀρχώνης), who might be considered the lead arranger of financing for the group's bid. Agyrrhios himself served as *arkhōnēs* of a group that purchased the harbor tax of which Andokides speaks critically in his defense speech, *On the Mysteries* (Andoc. 1.133-34).

Tax-farmers were typically required to provide external guarantors (ἐγγύηται) who were liable for repayment if the concessionaire(s) defaulted.¹¹ Repayment varied with the tax. Some concessionaires were required to pay in ten installments due at every *prytany*, others in three installments, or a lump sum in the ninth *prytany* of the administrative year ([Arist.] *AthPol* 47; Andoc. 1.73).

By outsourcing tax collection, Athens did not need to maintain a large administrative infrastructure to assess liability, to collect taxes, and/or to monitor a larger and more disparate group of individual

economic means as it was for securing the grain supply.

¹¹ Agora XIX P26.467-482 (Lalonde *et al.*, "Inscriptions: *Horoi*, *Poletai* Records, Leases," 114-115) furnishes an excellent example of a defaulting guarantor. Meixidemos stood surety for Philistides, who farmed the metic tax in 343/2. Philistides defaulted and Meixidemos missed multiple installments of those arrears. Andokides also lists defaulting tax-farmers and their guarantors as a distinct group when he summarizes the varieties of disenfranchised of Athenians whose rights were restored in 405 (Andoc. 1.73): ὧν ἀς πριάμενοι ἐκ τοῦ δημοσίου μὴ κατέβαλον τὰ χρήματα, ἢ ἐγγύας ἡγγυήσαντο πρὸς τὸν δῆμον ("those who purchased a tax concession and did not pay or those who who pledged security for the public contract"). Enough citizens fell into this group to warrant distinct enumeration.

taxpayers for compliance. By auctioning the right to the annual collection of a specific tax, Athens oversaw a smaller, clearly identified group liable for a precisely defined obligation. Streamlined monitoring and clearly established liability reduced costs and created a specific and transparent outstanding balance for the “account receivable,” which would facilitate Athens’ financial planning.

Tax-farming ensured that Athens received a guaranteed revenue stream at regular intervals without creating and maintaining the administrative infrastructure and bearing the operational costs that a government-administered collection would require. Most important, auctioning tax concessions assigned the risks associated with the enterprise to a third party. Variations in the taxable economic activity, non-compliance, tax-avoidance, corrupt tax agents, in short, all the risks associated with the enterprise were assigned to a third party whose reward for assuming the risk was the amount they could collect in excess of the contract price. The “profit” that tax-farmers realized was, in effect, the “risk premium” Athens paid to a third party to ensure a reliable and predicable revenue stream.

The Hazards of Outsourcing Tax Collection

However, this “public-private” partnership was not without significant defects. First and foremost, Athens’ financial interests and the interests of the delegated private collection agents diverged. Athens sought to secure the highest possible price for the tax contract and to receive the highest proportion of the assessed tax. Quite the reverse prevailed for tax-farmers: the lowest winning bid and the highest margins motivated the agents. In the case of large-scale collections where there are few citizens capable of financing the operation or performing the tasks, Athens ran a significant risk that adverse selection would prevail at auction: the small number of qualified prospective concessionaires would possess or would cultivate private information about the anticipated revenue from the collection. This information asymmetry would permit prospective concessionaires to better price the contract to Athens’ disadvantage. Athens would be left with only “low quality” bids from which to se-

lect.¹² Additionally, there was a moral hazard problem: the relatively small pool of prospective tax-farmers created opportunities and incentives for this small coterie of market participants to collude to rig the bid, and to secure the concession at terms overwhelmingly favorable to such an informal, private consortium to the detriment of the public good.¹³

Andokides outlined precisely this scenario in his defense speech, *de Mysteriis*. According to Andokides, Agyrrhios, serving as an *archōnēs* of a *telōneia*,¹⁴ secured the *pentakostē* collection “two years

¹² The fundamental demonstration of the corrosive impact of private information upon markets remains Akerlof, “Market for Lemons.” His groundbreaking work has inspired an entire sub-field of economics devoted to information asymmetries, market distortions, and outright market failure most notably the work of Stiglitz and his associates. See for example, Stiglitz and Weiss, “Credit Rationing”; Greenwald *et al.*, “Informational Imperfections”; Stiglitz and Weiss, “Asymmetric Information in Credit Markets.”

¹³ Moreno, “Athenian Bread-Baskets,” 100 n. 25. Cf. Xenophon, in the course of advocating for a state pool of slave labor available for private leasing, notes that such a scheme would be more easily monitored than tax-farming concessions:

ἀλλὰ μὴν καὶ ἀδικησαί γε ῥᾶον τῷ τέλει προαμένῳ ἢ τῷ ἀνδράποδα μισθουμένῳ. ἀργύριον μὲν γὰρ πῶς καὶ φωράσειεν ἂν τις τὸ δημόσιον ἐξαγόμενον, ὁμοίου τοῦ ἰδίου ὄντος αὐτῷ; ἀνδράποδα δὲ σεσημασμένα τῷ δημοσίῳ . . .

But it is easier for a tax-farmer to defraud the state than for a lessee of slaves. How could someone detect embezzled public money, since private money looks the same? In contrast, slaves would have been marked with a public seal. . .

(Xen. *Vect.* 4.20-1)

This is a risk hardly exclusive to the Athenian tax-farming regime, but endemic to such a “public-private partnership.” For example, Ottoman Turkey, the last nation state to abandon tax-farming for a government tax collection agency, tried to reform and subsequently reform the reforms in the 19th century to address corruption that plagued its tax-farming regime throughout its history, with little effect (Fleet, “Tax-Farming in the Early Ottoman State,” 250-251). For a general overview of principal-agent inefficiencies endemic to tax-farming, see Kiser, “Early Modern Tax Systems” and Kiser and Kane, “The Perils of Privatization,” 200-204.

¹⁴ Whether an *ἀρχώνης* was an officially recognized role with a distinct legal and administrative identity and obligations (i.e., the only legally liable agent) or is simply the designated leader of a formally constituted group, each of

ago” (ἀρχώνης ἐγένετο τῆς πεντηκοστῆς τρίτον ἔτος [Andoc. 1.133]) for 30 talents. His experience provided Agyrrhios with information regarding the anticipated future take from the tax. He then set about recruiting the small coterie of financiers accustomed to congregate “under the white poplar” (ὕπὸ τὴν λεύκην [Andoc. 1.133]) who had acquired a tranche of prior collections to collaborate with him to not contest the auction in return for a stake in the upcoming collection. Andokides alleges that Agyrrhios paid his potential rivals to not compete, but they also received a share of the underbid contract from which they could realize a much more robust return:

οἱ δὲ διὰ τοῦτο ἔμοιγε δοκοῦσι συλλεγῆναι ἐκεῖσε, ἵν’ αὐτοῖς ἀμφοτέρα ᾗ, καὶ μὴ ὑπερβάλλουσι λαβεῖν ἀργύριον καὶ ὀλίγου πραθείσης μετασχεῖν.

For this reason, they thought it a good idea for me to join them there for two reasons: to take money to not outbid them and also have a share of the contract purchased below market (Andoc. 1.133).

Andokides did not join this cartel. Rather, he aggressively competed with Agyrrhios’ group and bid up the price of the tax collection from the previous 30 talents to 36, apparently beyond the three talent profit that Agyrrhios’ prior experience had led him to anticipate on a 30 talent buy price. Andokides thereby prevented private pilfering from public coffers: τούτους δ’ ἐποίησα τῶν ὑμετέρων μὴ διανεῖμασθαι ἕξ τάλαντα ἀγυρίου (“I prevented them from divvying up among themselves six talents of your money” [Andoc. 1.134]).

Andokides’ anecdote speaks to the very real structural problem with tax auctions in Athens: only a small group of citizens possessed the capital and resources to perform the tasks and they shared an

whom are in some way liable for repayment, is not clear; however, in the 4th century Athens did formally create such a role for groups liable for specific taxes. The προεισφέροντες, most likely created in 378/77, advanced *eisphora* revenues to the treasury and then recouped their outlay from citizens who were deemed liable for the tax. The Law of Periandros (358/57) created symmories of sixteen citizens who were assigned to a specific trierarch to assist him in defraying the costs of the *liturgy*. For an excellent overview and discussion of the former, see Wallace, “Athenian *Proeispherontes*,” for the latter, Gabrielsen, *Financing the Athenian Fleet*, 182-198.

interest in minimizing the cost of contract.¹⁵ The powerful incentives and ready opportunities for collusion and bid-rigging created an environment in which contracts could be sold at a much larger discount than a more tightly regulated and carefully structured public sale, such as a blind auction with substantial reserve requirements, would permit.¹⁶

Risks such as these are intrinsic to private tax-farming.¹⁷ Mandating that concessionaires complete an in-kind collection from a distant source would only elevate the risk of depressed or intentionally suppressed bidding for the contract. The concession as stipulated in the law requires a robust set of skills, endowments, and granular knowledge of local agrarian conditions. Fielding numerous competitive bids from a large cadre of interested and able parties seems a low order of probability: there are simply not very many prospective concessionaires with the endowments and expertise necessary to collect and deliver the tax who are also capable of securing a profit sufficient to justify the risk.¹⁸ Agyrhios, however, anticipates and addresses these challenges within the regulatory framework of his law.

Agyrrhios carefully regulates bidders, forms of security and differing bid increments to reduce Athens' exposure to the potential

¹⁵ Plutarch presents a similar scenario in his *Life of Alcibiades* 5. Alcibiades encouraged an acquaintance to bid competitively for a tax concession. When the "corrupt" competing bidders demanded the new-comer present his guarantors, Alcibiades stepped forward to secure the bid which motivated the tax-farmers to buy off Alcibiades' strawman for one talent so that they could secure the contract (Plut, *Alc.* 5).

¹⁶ There is no evidence that *pōlētai* used reserve auctions or in any way formally mandated a minimum bid. However, participants in public auctions seem to have formulated price expectations that effectively set a floor for credible bids, see especially Andoc. 1.133-134 and the comments of MacDowell, *Andokides: On the Mysteries*, 109 (on ὀνάς) and 157-160 on sections 133-134.

¹⁷ In addition to these principal-agent problems, tax-farming also generates the more familiar problem of private agents collecting (i.e., extorting) more from taxpayers than the assessed liability.

¹⁸ Stroud, *Grain-Tax Law*, 112 and Stroud, "Future Research," 233 is unsure how the tax could be farmed profitably. Cf. Figueira, "Athenian Grain-Tax Law," 242.

risks of adverse selection, moral hazard, and limited monitoring for compliance that are endemic to tax-farming generically and exacerbated by mandating an in-kind collection at a distance.¹⁹ Within these regulations, Agyrrhios also creates robust incentives and exemptions designed to create opportunities for substantial profits at reduced risk for both individual and syndicated farmers of the tax. The “carrots and sticks” Agyrrhios embeds within the law aim to enlarge the pool of prospective concessionaires while excluding agents incapable of competently completing the tasks.

Incentives

In addition to providing rent-free storage of the grain and assuming responsibility for the grain’s final disposition, the law embeds three obvious inducements to prospective contractors, reduced liquidity requirements, favorable grain ratios, and, for symmorists,²⁰ joint liability.

First, the law waives the customary deposit (προκαταβολή) that tax-farmers usually provided. Successful bidders are only required to pay a flat twenty drachma per *meris* fee, which seems designed to cover administrative costs rather than serve as a meaningful form of security. Since the stipulation does not distinguish between *merides*, both individuals and symmorists presumably pay the same amount. This is particularly generous for symmorists, whose much larger *meris* significantly reduces the effective rate of the fee by over 80% compared to individual bidders.²¹

¹⁹ For the impediments created by tax-farming at a distance in Rome, see Kiser and Kane, “The Perils of Privatization,” 194, 204, 206.

²⁰ I understand symmorists to be farmers of the tax rather than tax-payers. See *infra* n. 33.

²¹ The law clearly distinguishes what constitutes a *meris* for individuals and symmories but draws no distinction between the two types of *merides* for the purposes of paying the *epōnia* and herald’s fee. The clear implication is that the law reduces the upfront liquidity requirements for symmorists (Engels, “Das athenische Getreidesteuer-Gesetz des Agyrrhios,” 108). Reducing the effective fees for symmorists conforms well with with prescribing joint liability rather than external guarantors for symmorists as that prescription even more significantly reduces the liquidity requirements for symmorists relative to individual bidders.

Additionally, the law prescribes that contracts deliver their grain in a ratio of 4 measures of barley to 1 measure of wheat:

ἡ δὲ μερίς ἐκ[ά]-
 στη ἔσται πεντακόσιοι μέδιμνοι, πυ[ρῶ]-
 ν μὲν ἑκατόν, κριθῶν δὲ τετρακόσιοι·
 a *meris* will be 500 *medimnoi*,
 100 of wheat, 400 of barley
 (8-10)

The islands, to varying degrees, produce a higher ratio of wheat relative to barley. The mandated grain ratios create the opportunity for concessionaires to enhance their profits (or mitigate their losses) by adjusting the grain ratios prior to final settlement in Athens. Osborne has computed that the ratio of wheat to barley produced on the three islands is 1 unit of wheat to 2.74 of barley.²² A ho-

²² This ratio presumes a homogenized collection from all three islands. The islands individually, from what little data we have, produced varying ratios of wheat to barley. From the totals extrapolated from *IG II²* 1672, Lemnos produced roughly 56,750 *medimnoi* of wheat and 248,525 of barley, while from Imbros 44,200 *medimnoi* wheat and 26,000 of barley were harvested. Skyros produced 9,600 *medimnoi* of wheat and 28,800 of barley. Imbros would be the most attractive contract as it actually produced **more** wheat than barley at approximately 5:3 wheat to barley. Assuming the 2:1 “fair market value” ratio of wheat to barley, contractors would be able to sell 4 *medimnoi* of wheat **and** 4 *medimnoi* of the barley, the net surplus that would result from the initial sale of the surplus and subsequent purchase of the requisite barley. The Imbros contract would therefore be particularly attractive. Lemnos’ ratio is neutral while Skyros would offer a modest wheat surplus. Stroud, *Grain-Tax Law*, 41-43, Moreno, *Feeding the Democracy*, 13-14 and 110-114 has argued that Garnsey, *Famine and Food Supply*, 99-101, and Osborne, *Classical Landscape with Figures*, 46 generally underestimate Athenian grain production. They also do not capture accurately the productive capacity of the islands which may have produced as much as 25% more grain than they estimate (Moreno, *Feeding the Democracy*, 112-113). If Moreno is correct, the increased scale of operations would make Agyrrihios’ bidding regulations even more prescient. A larger collection would demand a larger pool of competent agents. Reducing the liquidity and collateral requirements for bidders who self-select into manageable groups would virtually guarantee an increased pool of eligible bidders. Assuming that the grain ratios in Moreno’s calculations are similar to Osborne’s estimates, even more potential profit would be garnered from adjusting the grain ratios.

mogenous, three-island collection thus results in a surplus of wheat and a shortage of barley. For an individual, every *meris* collected would generate a 33-*medimnoi* surplus of wheat relative to barley while a symmory with contracts for all three islands would collect a 200-*medimnoi* surplus of wheat and realize the correlative 200-*medimnoi* deficiency in barley.

Since wheat sells for approximately twice the price of barley, tax collectors can sell the more valuable wheat and buy the cheaper barley. Their net profit would be value of approximately half of their liquidated wheat surplus. In addition to hedging against losses and/or increasing profits, the favorable grain ratio also encourages tax-farmers to make those adjustments on the Athenian market. Farmers of the grain-tax would be very reticent to assume additional risk, to incur additional costs, and to exert greater effort to transport their surplus collection to an alternative destination merely for the uncertain prospect of securing a slightly higher price at a different market. Concessionaires have powerful incentives to adjust their ratios and sell their surplus in Athens.²³ The incentives created by the favorable grain ratio virtually ensure that the tax-farmers will maximize profits in Athens while simultaneously increasing the supply of preferred wheat on the Athenian market.

The measure of wheat is adjusted so that five-sixths of a measure (*medimnos*) equals a full talent of wheat, while barley remains fixed at a 1:1 talent to *medimnos* ratio. Wheat generically weighs more than barley. Adjusting the volume measure reflects a standard practice,²⁴ but specific reduction of volume for wheat may also reflect Agyrrhios' close familiarity with variations in weights relative to volume due to the source, condition or type of grain produced on the is-

²³ This would explain, in part, the thirty days to move the grain from the Peiraios to the *astu*. The tax-farmers are afforded time to sell their surplus and adjust their ratios at the Agora (or Emporion in the Peiraios) before final delivery to the Aiakeion which would free them from the prospect of transporting the surplus up to the city and after final settlement at the doors of the Aiakeion transporting the surplus back down to Agora.

²⁴ As the summary *καθάπερ οἱ ἄλλοι ἔμ[πο]ρ[ο]-ι* (just as the other *emporoi*), which rounds out the section enumerating the weight, volume, and condition of the delivered grain, suggests. For grain metrology in Athens, see: Stroud, *Grain-Tax Law*, 54-55 and Foxhall and Forbes, "Σιτομετρεία," 42-50.

lands. Whether this “final settlement” stipulation applies to the collection on the islands is not clear. However, if tax-farmers collect by volume on the islands without regard for weight, the reduced volume requirement for wheat would effectively build an even larger margin into the already favorable 1:4 wheat to barley ratio.²⁵

Additionally, the highly unusual stipulations surrounding the organization of distinctive types of bidders on the contract offers additional incentives and specific advantages to individual contractors and to organized syndicates (συμμορίαί). These incentives and advantages are tailored to mitigate the potential drawbacks to collecting on a specific island whose idiosyncratic agricultural conditions create distinct challenges and opportunities for in-kind collectors.

Bidders and Bidding

Among the law's many stipulations, Agyrrhios required prospective tax-farmers to bid either as individuals or as a symmory comprised of precisely six members.²⁶ In addition to outlining two distinctive classes eligible to purchase a tranche of the concession,²⁷ Agyrrhios stipulates differing forms of securitization and distinctive bid increments for the respective classes of concessionaires. Individuals bid in increments²⁸ of 500 *medimnoi* of grain and must provide two external guarantors approved by the Council. Symmories are allocated increments of 3000 *medimnoi* but are exempted from providing external guarantors. Rather, symmorists are held jointly liable for

²⁵ Rhodes and Osborne, *Greek Historical Inscriptions*, 125.

²⁶ Restricting membership to precisely six members implies that members are formally identified/registered with Athenian officials and that members formally accepted joint liability for full compliance with the conditions of the tax-farming concession.

²⁷ Like Osborne (Rhodes and Osborne, *Greek Historical Inscriptions*, 124), I assume that contracts were let on a per island basis, though nothing prohibits an individual or symmory from accruing some or all of the three contracts. Clinton's suggestion (Stroud, *Grain-Tax Law*, 112) that the islands were subdivided into collection districts is impracticable.

²⁸ For the measures doubling as bid increments, see Rhodes and Osborne, *Greek Historical Inscriptions*, 124; Figueira, “Athenian Grain-Tax Law,” 242. Faraguna, “Il sistema degli appalti pubblici,” 142 argues that the *merides* are a geographic measure of the physical size of the tax concession.

delivering their contracted amount.²⁹

Individual Bidders

Agryrhios imposes three distinct regulations upon the individual bidder. The individual assumes complete responsibility for provid-

²⁹ Stroud, *Grain-Tax Law*, 65 presumes that symmories must **both** agree to joint liability **and** provide external guarantors. This is not plausible as it would be highly disadvantageous for a prospective concessionaire to form or join a symmory. First combining joint liability with external guaranty creates the same liquidity requirements for each symmorist as individual bidders. The hybrid securitization would also leave a symmorist with the prospect of sharing profits but assuming all of the liability if his partners default either sequentially or *en masse* rather than simply assigning the risk to external guarantors. With the larger bid increments and the need to secure at least two guarantors who can cover a much larger bid, symmorists would face higher hurdles than bidding as an individual and hiring sub-contractors. Given how much more advantageous it would be to bid as an individual, it is unlikely the prospective tax-farmers would form a symmory. Additionally, from the state's perspective requiring both joint liability and external guarantors would reduce the number of credible concessionaires whereas waiving external guarantee would make illiquid but capable collectors viable and so increase the pool of viable bidders for the tax. Micro-finance demonstrates that joint liability alone raises repayment rates whereas a combination of the two incentivizes strategic default resulting in a higher rate of non-performance. Guinnane, "Cooperatives as Information Machines," 370-72 and Bhole and Ogden, "Strategic Default," 348-349 show that group borrowers will be more likely to collude to default if the group liability exceeds external penalties and sanctions. Requiring external guarantors for a symmory would immediately reduce the external cost of default relative to group liability and so incentivize both individual and strategic default by the entire group. Finally, Athenian law possessed only the bare rudiments of the concept of "creditor priority" or assigning sequential liability to multiple parties with competing claims. A hybrid liability structure as posited by Stroud would introduce virtually insuperable barriers and legal conflicts for which the Athenian legal system would struggle to provide remedy. This may explain why there are no other instances of such a liability arrangement for an enterprise financed by a syndicate. Finley concedes that there is no legislative or legal framework for establishing creditor priority, but that normative practices were developed over the course of time (Finley, *Studies in Land and Credit*, 113), whereas Harris suggests that relations between multiple creditors and their shared debtor remained ambiguous, which hampered efforts to recover losses in an orderly fashion (Harris, "When Is a Sale Not a Sale?," 374-376).

ing the grain. Individuals are required to supply the tax in units of 500 *medimnoi*. To secure the bid, he must provide two, solvent guarantors whom the Council has approved:

ἐγγυητ(ά)ς καταστήσ[ε]-
ι ὁ πριάμενος δύο κατὰ μερίδα ἀξι[ό]-
χρεως, οὓς ἂν ἡ βουλὴ δοκιμάσῃ·

The buyer will provide, per *meris*,
two credible guarantors
whom the Council has vetted
(29-31)

Explicitly listing the unit of payment and two guarantors who have been vetted by the Council are conditions that readily find analogs in other tax concessions at Athens.³⁰ However, the demand for in-kind payment undoubtedly requires the guarantors to be “solvent” in grain. If an individual falls short of his bid or defaults *in toto*, the guarantors would make good in-kind not coin, otherwise the entire point of the law’s demand for payment in grain would be undermined and might even incentivize tax-farmers to strategically default based upon market conditions and their liquidity.

Requiring not one but two guarantors who can cover an in-kind shortfall or total default creates a significant liquidity hurdle for an individual bidder and his guarantors. They would need to be well-enough resourced outside of the tax collection itself to convince the *Boule* to approve the bid. Whether they were required to make a showing of grain in hand or simply demonstrate the ability to secure the necessary grain on the open market either due to past performance or current familiarity with members of the Council is not clear. However the Council vets prospective guarantors, Athens will not accept individual bids without sufficiently credentialed and endowed guarantors.³¹

This stipulation places a much greater capital requirement upon an individual concessionaire and offers an index of Athens’ very strong interest in ensuring an individual fulfills the contract. Exter-

³⁰ Langdon, “Public Auctions,” 260; Frazer, “History of Athenian Taxation,” 295-298.

³¹ Both Andoc. 1.134 and *Alc.* 5 illustrate how bids must be formally and credibly securitized to pass muster with the Council.

nal guarantors are generically essential for monitoring a single tax agent for compliance. The need to monitor is even more acute in the case of the grain-tax. An individual working with sub-contractors at a distance is less easily monitored for compliance than a local agent. Athens must enlist well-known and fully bonded guarantors to fill the monitoring void as the risk of strategic default or other forms of non-compliance based upon individual's pursuing alternative interests such as effectively re-selling the concession to a third party who may present a much greater moral hazard problem to Athens.

Given the more arduous security requirements and fees, there would seem to be little incentive to bid as an individual rather than as a member of a less encumbered symmory, but the much smaller *meris* size offers an individual bidder a discernible advantage to refine his bid to more closely match the actual grain produced, assessed and collected. The smaller bid increment creates a significant comparative advantage for the individual for bidding for the Skyros contract but is less consequential for Lemnos and Imbros.

As Osborne has calculated based upon the first fruit offerings from these three islands to Eleusis in 329/8, increasing a bid 500 *medimnoi* (or 1 *meris* for an individual) presumes that 2% more grain would be produced on Lemnos, 8% on Imbros, and a whopping 15% on Skyros considered individually.³² This virtually excludes symmories from bidding on the Skyros collection. Their bid increments are simply too blunt an instrument to permit a symmory to bid for the Skyros contract: the risk of loss by over-bidding is simply too great. Since the total amount of grain to be collected on the island is relatively small compared to the bid increments, the island is *de facto* left to individual collectors.

Self-Insuring Symmories

Agyrrhios prescribes distinct rules for formally constituted syndicates to bid on the tax.³³ Agyrrhios specifically restricts the size of an or-

³² Rhodes and Osborne, *Greek Historical Inscriptions*, 124-125. Moreno's alternative production figures (Moreno, *Feeding the Democracy*, 111-13) would slightly mitigate the individual's bidding advantage on Skyros to 11.25%, which still furnishes an individual bidder with an overwhelming advantage.

³³ A. Moreno, *Feeding the Democracy*, 108-110 has argued that the symmories

ganized group to six members. The prescription implies that the six members would be formally registered with the Council. Agyrrhios did not require symmorists to provide guarantors external to the six-person symmory rather he stipulated joint (and several) liability:

ἡ πόλις πράξει τὴν συμμορ[ία]-
 ν τὸν σίτον καὶ παρ' ἐνὸς καὶ παρ' ἀπάν[τω]-
 ν τῶν ἐν τῇ συμμορίᾳ ὄντων, ἕως ἄν τ[ὰ α]-
 ὑτῆς ἀπολάβῃ·

prescribed within the law are not tax-farming syndicates, but groups organized on the islands into symmories to collect the grain and to pay the tax. His provocative suggestion addresses the nettlesome problem of the mechanics of collecting the grain on the islands; however, Agyrrhios' regulations of the symmories, particularly the joint liability prescription, strongly suggests that the symmorists are tax-farmers, not taxpayers. The joint liability prescription and size limits ensure that the state has a relatively small group who are explicitly assigned liability. Symmorists assume the joint liability provision voluntarily and to pursue shared positive economic goals, in this case collecting more from the liable islanders than the amount of grain they have bid. A joint liability provision for compulsory group membership for negative economic reasons, in this case, discharging a tax liability, would be counter-productive as it introduces a free-riding problem. Individual group members have a strong incentive to minimize both their effort and their contribution of grain, leaving it to the other members to pick up the slack and make up the shortfall. This problem would be exacerbated if there were significant wealth and resource disparities between symmorists. The poorer, less-resourced members would have a greater incentive to minimize their effort and contribution. The time and administrative costs of either discouraging this behavior or sanctioning it subsequently would be prohibitive as an in-kind collection of grain is highly time sensitive. It may well be that Agyrrhios' own experiences as an *arkhōnēs* of a *telōneia* led him to conceive of explicitly prescribing joint liability for a self-selecting group that assigns specific roles. A formal prescription eliminates the ambiguities and uncertainties of informal agreements among syndicate members who may or may not have a formal obligation to the state. If the "silent partners" fail to discharge their informally agreed-upon obligation (see *supra* n. 14 and n. 29), they leave the other syndicate members with little recourse. Both Plutarch's Alkibiades anecdote (Plut. *Alc.* 5) and Andokides' account of his competing *pentakostē* bid (Andoc. 1.133-134) speak to how highly problematic *sub rosa* agreements of prospective tax-farming syndicate members can be. For discussions and analysis of the potential for a free-riding problem in contemporary micro-finance groups, see Besley and Coate, "Group Lending," 7, 12; Armendáriz de Aghion, "Peer Monitoring," 81, 84 nn. 13, 94-96; Pasupuleti, "Default Rate," 21-22.

With regard to the symmory, the City will make its grain from one and all who are in the symmory until it receives its due.³⁴

(33-36)

Agyrrhios' prescriptions offer significant advantages to symmories. In addition to discounting the herald's fee and tax upon the transaction, Agyrrhios provides enormous relief from the liquidity burdens by prescribing joint liability. In contrast to individual bidders who must provide two guarantors who have been fully vetted by the Council to ensure compliance in the event that the tax-farmer fails to fulfill his quota in whole or part, the symmorists are left to themselves to make good any shortfalls. By relieving tax syndicates from providing solvent guarantors external to the group, Agyrrhios significantly reduces the liquidity requirements for group bidders. Not only does this increase the prospective pool of potential concessionaires, but it also raises the prospects that the successful group bidders will be highly efficient tax collectors.

By mandating joint liability rather than external guarantors, Agyrrhios alters the dynamics of group formation and its operations. Jointly liable "borrowing groups" or, in this case, lessees to a tax concession excel at self-selecting optimal members. Such self-selecting syndicates employ "positive assortative matching" to enlist members who possess the optimal cross-section skills, knowledge, endowments, and resources for performing the task efficiently. Self-formed syndicates also strictly self-monitor for compliance with the contract terms particularly if group member seek "contingent renewal" of the concession in following years.³⁵

³⁴ Cf. [Dem.] 56.45: τὴν πρᾶξιν εἶναι καὶ ἐξ ἑνὸς καὶ ἐξ ἀμφοῖν ("the repayment is from one and both") and the discussion in Harris, "Liability of Business Partners," 341-342. Harris demonstrates that business partners tend to remain severally, but not jointly, liable for debts.

³⁵ Ghatak, "Local Information and Peer Selection," 27, 34, 45 illustrates how self-selecting groups excel at "positive assortative matching." Stiglitz, "Peer Monitoring and Credit Markets," 359-363 demonstrates how peer monitoring is much more efficient within borrowing groups. Chowdhury, "Contingent Renewal," 495-499 shows that tying future contracts to prior performance improves repayment rates. Frazer, "History of Athenian Taxation," 296, n. 192 well observes: "Athens would probably not accept tax-

Additionally, the Grain-Tax Law limits the symmory size to six. The small group size ensures that each member is assigned a substantial tranche of liability.³⁶ If one were to default on their obligations, the other members would suffer serious financial consequences. Each member, therefore, has powerful incentives to vet carefully prospective members of the group. Subsequently, members will also be strongly inclined to monitor each other for compliance. In these respects, Agyrrhios' tax symmories strikingly resemble the borrowing associations familiar from contemporary micro-credit finance institutions such as Grameen Bank in Bangladesh.

Grameen as Analog

Grameen Bank is a rural, community bank centered in Bangladesh that pioneered micro-finance in the second half of the 20th century.³⁷ Residents of impoverished rural communities such as in Bangladesh were/are "credit constrained:" individuals or groups who were unable to obtain the credit sufficient to smooth consumption, to buffer against exogenous shocks, and/or to finance small scale and often low margin commercial ventures that could improve their economic condition. Traditional banks did not provide loans for several reasons. The overwhelming majority of potential borrowers had no credit history. Banks could not assess the default risk of any potential borrower. Additionally, prospective borrowers lacked tangible assets to serve as collateral. Most had highly variable income and expenses that made servicing a traditional fixed installment loan extremely challenging. These factors required traditional banks to severely ration credit, if extend any at all, in an environ-

farmers who had already defaulted on their contract to purchase a new one."

³⁶ Ahlin, "Group Size," 149-151; Ghatak, "Local Information and Peer Selection," 32-34, 46-47. Both demonstrate that limiting group size correlates positively with repayment rates as borrowers tend to be more familiar with each other and have a stronger incentive to monitor each other as a single defaulter redistributes a larger tranche of the loan to a smaller group of partners.

³⁷ Grameen Bank and its lending practices have been extensively studied as means for those without access to traditional credit to be able to borrow without assets. See Counts, *Small Loans, Big Dreams*; Chowdhury, "Understanding the Grameen Miracle"; Yunus, *Banker to the Poor*.

ment that by traditional banking measures and practices was so thoroughly characterized by high information, enforcement, and transaction costs.³⁸

Grameen's solution was to leverage established social networks to overcome information, moral hazard, adverse selection, and compliance problems. Kinship networks and the village communities possess powerful tools for information gathering about potential credit partners and mechanisms for enforcing behavioral norms. Rather than lending to individuals, Grameen organized borrowers into syndicates comprised of five members. Each member would be assigned a tranche of the loan which she serviced frequently, customarily in small weekly installments.

Crucially, each borrower is jointly liable for repayment. If one member defaults, her tranche is redistributed to all of the remaining members of the syndicate. First and foremost, established community relationships become the basis for vetting applicants for membership in a group (which is set at 5).³⁹ The villagers have a much better idea of who is reliable than an external administrator. Loans are dispersed publicly and group members also make weekly small-sum payments openly for the sake of transparency and for the power of a "shame culture" to incentivize timely and consistent repayment.⁴⁰ In essence, endogenous group formation and peer monitoring are much more effective at determining credit risk and monitoring for borrowers for compliance.⁴¹ The success of Grameen, though hardly unmitigated, is indisputable: credit constrained rural poor were able to access credit to fund economically productive enterprises which would otherwise never have received

³⁸ For an excellent overview and summary of these barriers to financial investment generically, see Levine, "Finance and Growth."

³⁹ Chowdhury, "Understanding the Grameen Miracle," 68.

⁴⁰ Chowdhury, "Group-Lending," 416-417; Chowdhury, "Contingent Renewal," 497-499.

⁴¹ "Contingent renewal" requires a borrowing syndicate to have an acceptable repayment record for earlier loans before securing subsequent financing (Besley, "Nonmarket Institutions," 117). Like a micro-finance borrowing group, a tax-farming symmory would undoubtedly need to demonstrate consistent contract fulfillment if it hoped to succeed in acquiring the concession repeatedly. Cf. *supra* n. 35.

financing.⁴² Agyrrhios' law regulates his symmories in ways that are analogous, with the same positive results.

Agyrrhios and Grameen Compared

Joint liability not only eliminates the need for collateral; it also strongly encourages individuals to self-select syndicate members who are most apt to fulfill the contract efficiently. Endogenously formed groups place a strong emphasis upon including members who possess a cross-section of skills and abilities critical to realizing the syndicate's productive goals. "Positive assortative matching" is again optimally performed by experienced participants who recognize the requisite skills and the individuals who best possess them.⁴³ In fact, Agyrrhios' detailed list of stipulations for fulfilling the grain-tax "contract" facilitates an optimal selection process by providing potential symmories with an extensive checklist of the requisite skills and abilities.

The clear guidance given within the law for disposing of the grain subsequent to island collection permits prospective groups to identify individuals who possess specific knowledge, endowments, and abilities essential to fulfilling their contract. For example, the terms of the tax concession would help the concessionaire prioritize securing symmorists who possess detailed knowledge and social and economic connections as well as the resources that create synergies and optimize performance within these particular locales. Agyrrhios' regulations would encourage symmorists to secure a

⁴² Grameen loan money was often used to start home-based finance profitable but low margin enterprises. Borrowers used the funds for everything from bamboo weaving businesses, repair radios, buy weaver's looms, pay for seeds and fertilizer, process mustard oil, buy dairy cows, cultivate jackfruits, sell cookware door to door, trade brass, sell popsicles, build silkworm sheds, husk rice, starting sewing businesses, sell cosmetics from village to village, sell milk from cows, and sell medicines to neighbors and friends husking rice to making ice cream sticks (Yunus, *Banker to the Poor*, 299-301).

⁴³ In addition to Ghatak specifically (*supra* nn. 35, 36), Gan *et al.*, "Group Lending with Peer Selection and Moral Hazard."; Ghatak and Guinnane, "The Economics of Lending with Joint Liability" both demonstrate, more generally, the efficiency of self-selecting, jointly liable groups to select members for an optimal cross-section of skills, endowments, and expertise.

ship's captain with crew adept at navigating between these islands and Athens, teamsters who can meet the demands of transporting bulk commodities at scale from the Peiraios to the Aiakeion, local agents who can marshal the physical and human assets necessary to perform the tasks on the islands and in Athens, and facilitators who have developed the social and economic networks necessary to ensure ready collection on the islands as well as providing and/or securing financing, if needed, to undertake the enterprise before the symmory liquidates its surplus collection.

Once selected and organized, jointly liable symmorists will exert much greater effort to monitor fellow symmorists for compliance than external guarantors. In contrast to individuals whose sureties must be vetted by the Council, Agyrrhios' symmories frees Athens of this responsibility and, as the experience of Grameen shows, self-selected financial syndicates are superior both in terms of initial selection and subsequent monitoring for compliance. Andokides demonstrates that Athens' ability to select reliable tax-farmers and guarantors is not without defect. Joint liability and restricted group size along with the attendant behaviors it motivates creates a tax syndicate that much more efficiently completes the collection and delivery of the grain-tax.

Armed with profile requirements from Agyrrhios' law, symmorists have the opportunity to select carefully optimal participants in the enterprise and strong incentives to make sure they do their assigned task. Finally, eliminating external guarantors for symmorists reduces the liquidity requirement for participants and so encourages a larger pool of competent agents to bid for the tax. Experienced grain traders lacking the capital or access to capital necessary to hedge a bid securitized in the more traditional way would not find the liquidity requirements a barrier to bidding on the contract.

The scale of the symmory is crucial here, as default by a single member has a profound impact upon the remaining symmorists, which gives each and every member a strong incentive to fulfill their obligation. Finally, the prospect of future contracts (i.e., contingent renewal) offers another powerful incentive for members to remain in good standing not only with the *polis* but especially with their partners as the relatively small pool of participants will not likely welcome a previous defaulter back into their ranks. Joint liability

and group size restrictions establish the contours for an efficient operation while enlarging the pool of prospective tax-farmers by reducing the liquidity requirements to participate.

In sum, Agyrrhios, among the many provisions of his Grain-Tax Law, formally constituted symmories of a limited size and prescribed joint liability for the members. Like their modern micro-credit analogs, these groups were much more likely to carefully vet members for competence and commitment. The law's detailed prescriptions produced a ready-made guide for symmorists to identify and select optimal partners. The resulting positive assortative matching created a consortium much more capable of completing the tasks in a timely and efficient manner. The joint liability prescription and small symmory size also guaranteed that members would self-monitor as well as scrutinize each other to ensure full compliance.

Conclusions

The Grain-Tax Law's combination of highly defined performance requirements, a prescribed scale of operations, and joint liability create a context in which prospective symmorists would excel at **a)** endogenous group formation and **b)** assortative matching of specialized skills among group members while incentivizing **c)** strict self-monitoring for compliance. Agyrrhios' symmories are constituted to collect much more efficiently and reliably the grain-tax while opening the bidding to highly competent but under-capitalized and/or illiquid participants. Creating regulations and incentives to attract a larger pool of qualified agents reduces the risk that a pool of prospective concessionaires would be restricted to only a few well capitalized and endowed agents who would reduce competition for securing the concession and even run a greater risk that a much smaller pool of eligible concessionaires could more readily collude to rig the bidding to secure a much more favorable contract at the expense of Athens' grain supply.

The striking resemblance to Agyrrhios' regulations of "grain-tax symmories" and Grameen's formula for furnishing micro-credit to the rural poor suggests that the Athenian democrat designed his regulations to solve similar problems: under-capitalized and/or il-

liquid (tax) agents who cannot be readily vetted for competence or monitored for compliance. By offering incentives to form a small-scale, jointly liable consortium of tax-farmers, Agyrrhios increases the number of prospective concessionaires while assigning risk and incentivizing strict self-selection and self-monitoring among group members *via* the joint liability provision. The positive assortative matching that results from this regulatory framework significantly reduces Athens' exposure to under-bidding, under-performance, and especially cataclysmic default. Agyrrhios' Grain-Tax Law thereby better ensures that its tax-farmers will reliably and consistently complete a robust grain collection from Lemnos, Imbros, and Skyros: ὅπως ἂν τῶι δήμῳ σί[το]-ς ᾗ ἐν τῶι κοινῶι.

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⟨θ⟩εοί.

ἐπὶ Σωκρατίδῳ ἄρχοντος (374/3)

νόμος περὶ τῆς δωδεκάτης τοῦ σίτου ^{VV}
τῶν νήσων. Vacat

5 Ἀγύρριος εἶπεν· ὅπως ἂν τῷ δήμῳ σί[το]-
ς ἦ ἐν τῷ κοινῷ, τὴν δωδεκάτην πωλ[εῖ]-
ν τὴν ἐν Λήμνῳ καὶ Ἰμβρῳ καὶ Σκύρῳ[ι κ]-
αὶ τὴν πεντηκοστὴν σίτο· ἡ δὲ μερὶς ἐκ[ά]-
στη ἔσται πεντακόσιοι μέδιμνοι, πυ[ρῶ]-
10 ν μὲν ἑκατόν, κριθῶν δὲ τετρακόσιοι· [κο]-
μειῖ τὸν σίτον κινδύνῳ τῷ ἑαυτῷ ὁ π[ρ]-
ιάμενος εἰς τὸν Πειραιᾶ καὶ ἀνακομι[ε]-
ῖ εἰς τὸ ἄστυ τὸν σίτον τέλεσιν τοῖς α[ύ]-
τῳ καὶ κατανήσει τὸν σίτον εἰς τὸ Αἰᾶ[κ]-
15 εῖον· στέγον δὲ καὶ τεθυρωμένον παρέ[ξ]-
ει τὸ Αἰάκειον ἡ πόλις καὶ ἀποστήσει[τ]-
ὸν σίτον τῇ πόλιν τριάκοντα ἡμερῶν [ό]
πριάμενος, ἐπειδὴν ἀνακομίσει εἰς [ἄσ]-
τυ, τέλεσι τοῖς αὐτῷ· ἐπειδὴν δὲ ἀνακ[ομ]-
20 ῖσει εἰς τὸ ἄστυ, ἐνοίκιον οὐ πράξει [ἡ π]-
όλις τοὺς πριαμένους· τοὺς πυροὺς ἀ[πο]-
στήσει ὁ πριάμενος ἔλκοντας πέντε ἐ[κ]-
τέ[α]ς τὸ τάλαντον, τὰς δὲ κρι[θ]ῶν ἐλκο[ύ]ς-
[α]ς τὸν μέδιμνον τάλαντον ξηρὰς ἀποστ[ε]-
25 ῖσει καθαρὰς αἰρῶν, τὸ σ[κ]ή[κ]ωμά ἐπὶ τῇ[ι ζ]-
ών[η]ι σηκώσας, καθάπερ οἱ ἄλλοι ἔμ[π]ορ[ο]-
ι· προκαταβολὴν οὐ θήσει ὁ πριάμε[ν]ος ἀ-
λλ' ἐπώνια καὶ κηρύκεια κατὰ τὴν [μ]ερ[ί]δ[ι]-
α εἴκοσι δραχμ[ά]ς· ἐγγυητ[ά]ς καταστήσ[ε]-
30 ι ὁ πριάμενος δύο κατὰ τὴν μερίδα ἀξι[ό]-
χρεως, οὓς ἂν ἡ βουλὴ δοκιμάσῃ· συμ[μορ]-
ία ἔσται ἡ μερὶς τρισχίλιοι μέδιμ[νοι],
ἕξ ἄνδρες· ἡ πόλις πράξει τὴν συμμορ[ί]α-
ν τὸν σίτον κ[α]ὶ παρ' ἐνὸς καὶ παρ' ἀπάν[τω]-
35 ν τῶν ἐν τῇ συμμορίᾳ ὄντων, ἕως ἂν τ[ὰ α]-
ὕτης ἀπολάβῃ· αἰρείσθω δὲ ὁ δῆμος δ[έ]κ[α]-
[α]ς ⟨ἄ⟩νδρας ἕξ Ἀθηναίων ἀπάντων ἐν τῇ [έκ]-

κλησίαι, ὅταν περ τοὺς στρατηγοὺς α[ίρ]-
 ῶνται, οἵτινες ἐπιμελήσονται τοῦ σί[τ]-
 40 οὔτοι δὲ ἀποστησάμενοι τὸν σῆτον κ[α]-
 τὰ τὰ γεγραμμένα πωλόντων ἐν τῇ ἀγ[ορ]-
 ᾷ, ὅταν τῷ δήμῳ δοκῇ· πωλὲν δὲ μὴ ἐ[ξε]-
 ῖναι ἐπιψηφίσαι πρότερον τοῦ Ἀνθ[εσ]τ[ε]-
 ριωῦ μηνός· ὁ δὲ δῆμος ταξάτω τὴν τ[ι]-
 45 μὴν τῶν πυρῶν καὶ τῶν κριθῶν ὀπόσου χ[ρ]-
 ῆ πωλὲν τοὺς αἰρεθέντας· τὸν δὲ σ[ι]τον [ο]-
 ἰπριάμενοι τὴν δωδεκάτην κομίσαντω-
 ν πρὸ τοῦ Μαυμακτηριῶνος μηνός· οἱ δὲ αἰ-
 ἰρεθέντες ὑπὸ τοῦ δήμου ἐπιμελούσθω-
 50 ν ὅπως ἂν κομίζεται ὁ σῆτος ἐν τῷ χρόνῳ
 τῷ εἰρημένῳ· ἐπειδὴν δὲ ἀποδῶντα-
 ἰ οἱ αἰρεθέντες τὸν σῆτον, λογισάσθω[ν]
 ἐν τῷ δήμῳ καὶ τὰ χρήματα ἡκόντων φ[έ]-
 ροντες εἰς τὸν δῆμον καὶ ἔστω στρατι[ω]-
 55 τικ[ᾶ] τὰ ἐκ τοῦ σίτου γενόμενα· τὴν δὲ προ[κ]-
 αταβολὴν τὴν ἐκ τῶν νήσων μερίσαι το[ῦ]-
 ς ἀποδέκτας καὶ τῆς πεντηκοστῆς, ὅσο[ν]-
 περ πέρυσιν ἡ ὕρην ἐκ τοῖν δυοῖν δεκάτ[ε]-
 ἰν, τὸ μὲν νῦν εἶναι εἰς τὴν διοίκησι[ν κ]-
 60 αὶ τὸ λοιπὸν μὴ ἀφαιρεῖν τὸ δύο δεκάτ[ε]-
 ἐκ τῶν κατ[α]βαλλομένων χρημάτων· VVVV

Gods.

In the archonship of Sokratides (374/3). Law about the one twelfth of the grain of the islands.

5 Agyrrhios proposed: so that the People may have grain available in common, to sell the one-twelfth in Lemnos and Imbros and Skyros and the one-fiftieth, in grain. Each portion shall be five hundred *medimnoi*, one hundred

10 of wheat and four hundred of barley. The buyer shall convey the grain at his own risk to the Piraeus and shall convey the grain up to the city at his own expense and shall heap up the grain in the Aiakeion.

15 The city shall make available the Aiakeion roofed and doored, and the buyer shall weigh out the grain for the city within thirty days from when he has conveyed it up to the city, at his own expense. When he conveys it

20 up to the city, the city shall not exact rent from the buyers. The buyer shall weigh out the wheat at a weight of five-sixths (of a *medimnos*) to the talent, and the barley at a weight of a *medimnos* to the talent, dry and

25 free from darnel, setting the weight on the balance (?) as the other merchants do. The buyer shall not make an advance payment, but shall pay sales taxes and auction fees of twenty drachmas for each portion. The buyer shall appoint

30 two credit-worthy guarantors for each portion, whom the Council shall approve. A partnership of six men shall have a portion of three thousand *medimnoi*; the *polis* shall exact the grain for a partnership from each and all

35 of those in the partnership, until it has received its entitlement. Let the People choose ten men from all Athenians, in the Assembly, when it chooses the generals, to manage the grain.

40 Let these have the grain weighed in accordance with what has been written, and sell it in the Agora, whenever the People decides; but it shall not be permitted to put to the vote a proposal to sell it before the month Anthesterion. Let the People set the

45 price of the wheat and the barley at which those who are chosen are to sell it. Let the buyers of the one-twelfth convey the grain before the month Maimakterion. Let those chosen by the People

manage

50 that the grain is conveyed at the time stated. When those who have been chosen sell the grain, let them render accounts before the People, and let them come before the People bringing the money, and let the proceeds

55 from the grain be stratiotic. The advance payment from the islands the receivers shall apportion, and of the one-fiftieth as much as was obtained last year from the two-tenths; and for now this shall be for the general administration;

60 and in future the two-tenths shall not be deducted from the monies deposited.

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