In a fascinating paper, Patrick Marchetti has argued that the Greek word ερμοκατάλλαγη denoted not agio, a charge for converting one currency to another, but a "re-evaluation (ou r-ajustement)" of the exchange-rate between Aeginetan and Attic silver. In 335 BC, according to Marchetti, the official exchange rate of gold darics to Aeginetan silver drachmas at Delphi was changed from 1:14 to 1:15 in order to correct a supposed local monetary problem; an abundance of worn and therefore underweight Aeginetan silver coinage in circulation meant that a payment of, say, 10 physical drachmas might weigh less than 10 drachmas (before 335: 1 daric = 7 Aeginetan stater = 20 Attic drachmas; after: 1 daric = 7 Aeginetan stater = 20 Attic drachmas). In the re-edition of the relevant accounts in CID II Jean Bousquet followed Marchetti. This paper argues that the economics of Marchetti's proposal are implausible and introduces evidence that suggests that his theory must be abandoned.

The Delphic accounts provide some of the best evidence for the phenomenon of agio from the Hellenistic period. If Marchetti's theory is correct then

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2 Marchetti, Comptes et inventaires, p. 109.


much of what we think we know about disbursement of money to the (Equivalent) of this in old To the At Delphi in 335 BC 1 gold philip silver, so that, given the now typical gold: silver exchange rate of 1:

Since this document equates the sum with silver, Marchetti adduces a section from the account of 335/4 as the terminus post for his proposed revaluation. Marchetti reasons that it provides a terminus ante (CID II 62.ii.A.5–13 = FD III.5 25).

We purchased ivory at 1:4 (1), at an Attic weight of 93 minas; cost was 22 minas 74 drachmas of Attic (silver). We paid this, in Aeginetian (silver), with epikatallage, 1705 drachmas 3 obols.

The account states that 2274 Attic drachmas were equal, including epikatallage, to 1705 drachmas 3 obols Aeginetian. This ratio of Aeginetian to Attic silver is 1/7 (1705.5/2274 = .75). At 7:10 payment in Aeginetian would be 1591.8 drachmas (1591.8/2274 = .7). Marchetti took the discrepancy to indicate a revaluation of the two silver moneys, such that 75 Aeginetian drachmas = 100 Attic drachmas. The difference between 1705.5 and 1591.8 is, as Marchetti’s notes, 113.7, exactly 1/15th of the expressed sum of Aeginetian drachmas, 1705.5, equal to the difference between a daric worth 7 Aeginetian staters and one worth 7 Attic staters and one worth 7 Attic staters:

\[
\begin{align*}
1705.5 \text{ dr. Aeg.} & = 12.5 \text{ st. Aeg.} = 1 \text{ daric} \\
2274 \text{ dr. Att.} & = 10 \text{ dr. Att.} = 1 \text{ daric} \\
1591.8 \text{ dr. Aeg.} & = 7 \text{ st. Aeg.} = 1 \text{ daric} \\
2274 \text{ dr. Att.} & = 10 \text{ dr. Att.} = 1 \text{ daric}
\end{align*}
\]

The observation is true, but tautological. Marchetti postulates no change in the Attic standard against the daric. Thus, any manipulation of the value of Aeginetian silver, for whatever reason, will cause a proportional change in the ratio between Aeginetian and Attic silver. The ratio of Aeginetian to Attic drachmas implicit in the text (7/10 = 1705.5/2274) shows that Delphians were paying one additional Aeginetian drachma for a gold daric, or for 20 Attic drachmas. The text, however, does not specify the nature of the added drachma, whether agio or revaluation.

The next relevant passage comes from an account from the archonship of Kaphis (327/6; CID II 97.4–9 = FD III.5 58):

\[
\begin{align*}
\text{We purchased ivory at 1:4 (1),}\atop \text{at an Attic weight of 93 minas; cost was 22 minas}\atop \text{74 drachmas of Attic (silver). We paid this, in Aeginetian (silver),}\atop \text{with epikatallage, 1705 drachmas}\atop \text{3 obols.}
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\end{align*}
\]
Revenues were: from the *hieromnemones*, the tenth: 18 minas 20 staters; and from the darics for the crowns, what we borrowed from the Prytanes for Olympia, that is 190 darics, the *epikatallage* was 95 staters. Total revenue: 21 minas 10 staters.

The events underlying the transactions in this section of the account are obscure, but appear to have unfolded as follows. An unnamed person wished to dedicate gold crowns to Olympia,13 but possessed only silver, not the gold needed to fashion the crowns. He approached the treasurers, proposing to purchase the gold from them. They were short of gold and so arranged a temporary transfer from the Prytanes. Then they sold the gold to the dedicator, charging him an additional drachma per daric as *agio*. Finally, the treasurers logged the money earned from this sale as revenue (σπερόσει 4).

Now Bogaert deduced from this text that the 'official', instead of which I suggest 'notional', ratio of gold darics to Aeginetan drachmas was 1:14 but that the 'commercial' ratio, i.e. the notional value plus *agio*, was 1:15.14 Thus for the 190 darics the person purchasing gold with which to make the crowns paid 2660 Aeginetan drachmas (190 x 14 = 2660) plus an additional 190 Aeginetan drachmas for the *agio*, making the total cost to him 2850 Aeginetan drachmas.

On Marchetti's explanation the purchaser had to make a supplementary payment of 190 Aeginetan drachmas to make up for his worn and underweight coins.15 If this were true, then on what logic could the 190 drachmas have been accounted as revenue? If they were merely a supplementary payment, then no revenue would have accrued to the treasurers from selling the gold.16 The account squares; the 190 drachmas were revenue. Any definition of the word, therefore, must be consistent with its inclusion under the rubric 'revenue'.17 If the word indicated a supplementary payment then payment of a sum plus *epikatallage* meant nothing more than full payment; in this case the word would never have appeared under the heading 'revenue'.

A few lines later the same document sheds additional light on the meaning of *epikatallage* (CID II 87.13-15):

> 13 τοῖς ναοποιοίς, κελευσάων τῶν ἱερωμνών· τοὺς διάφορους τάλαντας αὐτοῦ τοῖς ναοποιοίς ἐδόθη ἑκατὸν ἄρξη, ἐδώκατεν ἑττηκό ἑττηκό. τοῖς τεσσάρακατα: τῷ τὸ εἶπεν ἐπικατάλατον εὔγενος.

To the *naopoioi*, when the *hieromnemones* bade us give 20 talents of Aeginetan (silver), we gave 18 talents 40 minas of Attic (silver). The rest was *epikatallage*.

Given a 70-drachma mina, 20 talents = 84,000 Aeginetan drachmas; given a 100-drachma mina, 18 talents 40 minas = 112,000 Attic drachmas. The treasurers were to pay 20 talents (120,000 Attic drachmas), but only paid 18 talents 40 minas, which left a difference (τῷ δὲ ἐξάλλο) of 8000 Attic drachmas (120,000 - 112,000). Bruno Keil first saw that 84,000 - 112,000 = .75 and 84,000 - 120,000 = .70, and so suggested that the amount by which the treasurers under-paid and the difference between exchange at 7:10 and 7:10 accounted for the same 8000 drachmas.18 On this view the treasurers paid in Attic drachmas, in spite of the *hieromnemones* request for payment in Aeginetan. Furthermore, because the *naopoioi*, the payees, would presumably want or need to convert that payment to Aeginetan, the treasurers included 8000 Attic drachmas to cover this expense. The *hieromnemones* bade payment to the *naopoioi* in Aeginetan. The treasurers paid in Attic, but included an additional sum to cover the fee that the *naopoioi* would have to pay for changing the money to Aeginetan. This means that in the end the treasurers only paid 78,400 Aeginetan drachmas (84,000 x .70 = 78,400). The details of the transaction are not known. Keil's explanation poses the question, why would the *naopoioi* have accepted less than the full 20 talents? We cannot be certain but the treasurers could only disburse what they had on hand. If the treasurers had an abundance of expendable Attic drachmas and a shortage of expendable Aeginetan drachmas, then in order to pay the full 20 talents they would have had to withdraw more than 20 talents, to cover the fee for exchange. This they were no doubt unwilling to do.

If *epikatallage* indicates *agio* then the treasurers paid the *naopoioi* less than they were instructed, a less than satisfactory outcome for the *naopoioi* and for

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13 Or on her behalf; see n. 17 below.
16 To give a modern analogy, imagine that the United States Treasury Department decreed that $1.00 was now to consist of 110 pennies. Now imagine that my neighbour wanted to buy a dollar bill from me, paying with 22 nickels. If $1.00 = 110 pennies = 22 nickels, on what logic would I be justified in reckoning two of the nickels that my neighbour paid me as income?
17 Marchetti, *Comptes et inventaires*, pp. 104-5, evidently aware of the problem, invoked a tangentially related argument advanced by Bourquet, that the crowns were given in honour of Olympia, not to a god on her behalf: *BCH* 109 (1985), pp. 240-2, against Bourquet, *FD* III 5 38 p. 226, who had assumed that the crowns were for Apollo and that the darics were borrowed from the prytanies on Olympia's behalf, an assumption once followed by Marchetti: 'A propos des comptes de Delphes sous les archontes de Théon (324/3) et de Caphis (327/6), *BCH* 101

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(1977), pp. 133-64, at 146-7. But, Marchetti asks (*Comptes et inventaires*, pp. 104-5), 'Que faire toutefois, dans cette dernière hypothèse (that of Bourquet), de Γερμασολαγη inscrite comme "recette" en argent éginétique? responding only with, 'Ce problème demeure.' But the problem has nothing to do with Olympia's role in the transaction. Whether the crowns were to be offered in her honour or paid for at her request the 95 staters comprising the *epikatallage* were accounted as revenue. See also F. Lefèvre, *L’Amphictionie Pyléo-Delphique: histoire et institutions* (Paris, 1998), p. 97 with n. 475.
Keil’s explanation. But it is a possible and plausible outcome; the treasurers could not pay money that they did not have and even naopoioi could be short-changed on occasion. Marchetti’s explanation, on the other hand, is in this instance mathematically impossible. He suggests that the evidence here is consistent with that of CID II 62.ii.A.5–13, asserting that epikatallage indicates a revaluation because the difference between 112,000 and 120,000 is proportional to the difference between a gold stater worth 7 Aeginetan staters and one worth 7½ Aeginetan staters (112,000 ÷ 120,000 = 14 ÷ 15).19

Here again the theory rests on two premises: 1) the weight of the larger denominations (mina and talent) remained constant across the coinages, and 2) the number of constituent small-denomination pieces changed only in Aeginetan silver:

- before 335 BC: 20 Aeginetan talents = 84,000 Aeginetan drachmas = 120,000 Attic drachmas
- after 335 BC: 20 Aeginetan talents = 90,000 Aeginetan drachmas = 120,000 Attic drachmas

Thus, according to Marchetti, the epikatallage changed the total number of physical Aeginetan drachmas in a mina from 70 to 75 (theoretically), without changing the weight of the Aeginetan mina; the number of Attic drachmas in one talent remained 6000. According to the account, however, the epikatallage affected the total number of Attic drachmas. On Marchetti’s interpretation the account would mean that before revaluation 112,000 Attic drachmas could buy 20 Aeginetan talents, but that after revaluation 120,000 were needed to buy the same weight of Aeginetan silver. This violates the two premises of Marchetti’s theory. 120,000 Attic drachmas always purchased 20 talents; Marchetti’s theory addresses only whether those 20 talents were composed of 84,000 or 90,000 Aeginetan drachmas.

An account for the archonship of Theon (324/3)20 records the rates of conversion for two quantities of darics (CID II 102.ii.A.5–12):


19 Marchetti, Comptes et inventaires, p. 106: ‘Ne traduisons pas trop vite: “le reste est un bénéfice de change”, car il n’y a pas eu change réel, mais une simple réévaluation de la valeur de l’encaisse en attique, que doit tenir compte des réalités du marché monétaire. La différence, ici, est exactement d’un quinzième, c’est-à-dire rigoureusement la même que celle séparant le cours d’un stater d’or à 14 ou 15 drachmes.’

20 Date: CID II 102 p. 219, 224.

Sample from the krater...11 190 darics reckoned at 7 staters (each). Another 30 darics reckoned at 7 staters and 1 drachma. And a sample from the lustral bowl, 1 daric. The daric was reckoned at 7 (staters) and 1 drachma.

Marchetti suggests that the 190 darics were reckoned here at 1:7 because the epikatallage had already been counted at CID II 97.7–8, but that by this date they and all other darics were really evaluated at 7½ Aeginetan staters. If, as Marchetti suggests, all the darics were evaluated at 1:7½, then a proportional change in the ratio of Aeginetan and Attic silver should be in evidence. In other words, we should find an Aeginetan mina of 75 drachmas, not 70. We do not. The same inscription continues (34–46):21

κέλετετο [τόις] τέμασις ἐπι-
\[i\] τῆς ὑπομνήμης πυλαίας τῆς ἑπτά Θέους: τάλαντα πέ-

36 [κοντα] ὀκτὼ, μιᾶς πεντάκοντα τέτταρας, στατήρας-
\[e\]ς δίκα ὀκτὼ, δραχμή, χαλκᾶς πέντε τοῦτον χρυσῶν δι-

40 ποκόιοι εἶκοσε ἑις τοῦτον [ο] [μ] [ι] [ν] [ε] [κ] [ο] [τ] [ο] [ν] [ο] [ν] [ι] [ν]-

44 [ο] [κοντα] καὶ ἐις ἑν ἐπτά [κ] [α] [δ] [ρ] [α] [χ] [μ] [ή]-

[E] τρίακοντα ἑις, χαλκᾶς πέντε χρυσῶν δι [δ] [α] [κ]-

21 The precise meaning of δοκιμιοῦ is disputed; see J. R. Melville Jones, ‘Darics at Delphi’, RBV 125 (1979), pp. 25–36, and Marchetti, BCH 101 (1977), p. 149, whose ingenious restoration, ἀριθμοὶ τῶν οὐρανῶν, may well be correct.


23 The account declares a balance of 58 talents 54 minas 18 staters 1 drachma 5 chalkoi. Included in this, 221 gold staters. Of these 190 had been reckoned at 7 staters, and 31 at 7 staters 1 drachma. Thus, their total in silver was 44 minas 22 staters 1 drachma. The total value of the silver, therefore, has been reckoned at 7 staters, and 31 at 7 staters I drachma. Thus, their total in silver was 44 minas 22 staters 1 drachma. The total value of the silver, therefore, has been reckoned – with the value of the gold subtracted – at 58 talents 9 minas 31 staters 5 chalkoi and 221 gold staters...

Bousquet’s text is admittedly heavily restored, but seems on the whole secure – the stoichedon format reduces the range of likely restorations considerably. The account declares a balance of 58 talents 54 minas 18 staters 1 drachma.
5 chalkoi and notes that a part of that balance consists of 221 darics, of which 190 were reckoned at 7 Aeginetan staters and the rest at \( \frac{7}{2} \). Then it accounts the gold in terms of Aeginetan staters, 44 minas 22 staters 1 drachma. If we follow the conversions listed in the account we arrive at the following figures:

<table>
<thead>
<tr>
<th>Account</th>
<th>Rate Aeginetan staters AR</th>
<th>Aeginetan drachmas AR</th>
</tr>
</thead>
<tbody>
<tr>
<td>190 darics</td>
<td>1: 7</td>
<td>1330</td>
</tr>
<tr>
<td>30 darics</td>
<td>1: ( \frac{7}{2} )</td>
<td>225</td>
</tr>
<tr>
<td>1 darics</td>
<td>1: ( \frac{7}{2} )</td>
<td>7( \frac{1}{2} )</td>
</tr>
</tbody>
</table>

221 darics | 1562.5 | 3125 |

If Marchetti’s proposed revaluation applies here to all the money, then we should expect the converted darics to result in minas of 75 drachmas. If the proposed revaluation applies to some of the money, but not all (i.e. to the 31 darics but not the 190 darics) then we should expect conversion of the darics to produce minas with an average number of drachmas between 70 and 75. Neither expectation is met. The account tells us that the 3125 drachmas equalled 44 minas 22 staters 1 drachma Aeginetan. These two figures are equivalent only on a 70-drachma mina (44 \( \times \) 70 = 3080; 3125 \( - \) 3080 = 45; 45 drachmas = 22 staters 1 drachma \( \Rightarrow \) 44 minas 22 staters 1 drachma). The account explicitly reckons all the darics at 1:14 (40–2) in spite of the fact that the itemized portion of the account lists two different rates of exchange (38–40).

Let us assume for a moment that Marchetti’s theory is correct. The account tells us that the treasurers have assessed the full 221 darics at the rate of 1:14. Now, suppose at some time after 335 BC, when the rate of exchange had been raised to 1:15, the temple wanted to sell some of its gold darics. Can we reasonably expect that after 335 everyone who changed a talent of Attic silver to gold darics I: 14, the rate at which the gold would have been obtained at the same price in weight regardless of the number of drachmas at which it was purchased?

Marchetti’s proposed revaluation thus encounters considerable obstacles, especially at CID II 97.4–9, 13–15 and CID II 102.ii.A.5–12, 34–46. Moreover, neither Marchetti nor Bousquet comments on the economic implications of the re-definition of epikatatallage. The economic problems with the new meaning are insuperable. First an obvious objection. On Marchetti’s argument, after 335 at Delphi, a mina of Aeginetan silver was not measured by weight, but by the number of drachmas or staters of which it was composed. The impracticality of such a gesture looms large. Can we reasonably expect that after 335 everyone who changed a talent of Attic silver for Aeginetan counted (or insisted that the other party do so) to make certain that all 4500 Aeginetan drachmas were present? When in 327/6 the hieronmnenes bade the treasurers pay 20 Aeginetan talents to the naopoioi (CID II 97.13–14), was any party prepared to count all 45,000 physical staters or 90,000 drachmas, instead of simply weighing the lot?

The economic policy that underpins Marchetti’s theory presupposes that the average person was willing to accept this additional burden. People tend to protect their own money, so if this were all that Marchetti’s theory assumed, we might suspend disbelief. The economic policy underlying Marchetti’s revaluation, however, can only have succeeded if the trading public were ignorant. In a system of bullion coinage regulation of large denominations by number of constituent coins, rather than by aggregate weight, only works if the individual coins enjoy near perfect consistency of weight or if the average person is willing to lose money regularly. Neither

Current consensus holds that inscribed accounts in antiquity were not rationally conceived economic tools, but proof that officials in charge of money had discharged their duties fully and honestly. The Delphic accounts no doubt served this function. Here, however, we may be certain that no treasurer would have sold any of the 221 darics without first consulting this account, or an internal document – written on papyrus vel sim. – containing the same information.

The Delphic apoustita accounts (see n. 6 above) and an incident reported in Plutarch, Lycurgus 16, in which bags of money held little notes (grammatidia) that bore the number of coins contained in each bag, are not enough to make one think so; cf. Le Rider, Kranz-Markholm Essays, p. 163; Marchetti, Comptes et inventaires, p. 105 n. 9.
condition obtained in antiquity. Suppose a trader had only, or mainly, full-weight money. Can we believe that he would have been willing to purchase e.g. 1 mina of Attic silver with a mina of Aeginetan silver that consisted of 3\frac{1}{2} staters but weighted more than 1 mina? What if another trader wished to buy gold from the temple, but only had severely worn coins? On Marchetti's theory the temple would have been constrained to accept 150 physical staters that weighed less than 4 minas. If Marchetti is correct then Delphi suffered a regressive monetary policy that could not have been acceptable to anyone, least of all the temple, whose financial interests it was presumably designed to safeguard.

At the fiscal level, Marchetti's theory fails in conception and in execution. The problem of worn, underweight coinage at this time and place may have been real, as Marchetti claims. This is a problem particular to bullion currency. But Marchetti suggests that the authorities attempted to solve the problem of the weight of individual coins, by reassessing the number of aggregated coins in larger denominations. This is an anachronistically fiduciary gesture. Application of this complex fiduciary solution to a simple bullion problem produces even more absurd results on the ground. Given an abundance of circulating worn and underweight coinage any law that assessed minas by the number of constituent coins rather than the total circulation. Anyone who desired to buy gold or Attic silver would have paid with underweight Aeginetan coins. Why would anyone have wasted good money, if bad money enjoyed equal worth under law? Instead of reducing the number of underweight coins in circulation, this measure might have prompted rampant clipping and filing of silver coins. If Marchetti's theory is correct then the treasurers could not have crafted a more backward fiscal policy. If Marchetti's theory is correct, this account suggests that Delphi was not alone in adopting this backward policy of revaluation. Bogaert assumes that the 25 drachmas paid to Tychon (41-2) in the month of April was the complete payment of which the katalogos knew it. See also Le Rider, Krazy-Morkholm Essays, pp. 164, 171, where Le Rider agrees with Marchetti - the Epidaurian account is invoked as a problem.

As we have seen, the Delphic accounts do not appear to support Marchetti's definition of epikatallage and the economics that his argument presupposes. On this basis Marchetti cites neither (nor does he ever say who he thinks mandated the revaluation.)
offers no clarification, but as it registers no other disbursements to Athens in the intervening lines, the assumption is not unreasonable.

If Bogaert is correct then at least two months passed from the time the 420 drachmas were withdrawn and the time Tychon presumably their deliverer was paid the 25 drachmas for the epikatalage. This is an unlikely set of circumstances if Marchetti’s theory is right. If a revaluation was mandated at Epidaurus, Tychon would have known the rate and brought the necessary money with him. Any revaluation, therefore, must have taken place at Athens. On Marchetti’s theory we would be constrained to believe that Athens passed a law stipulating the Aeginetan drachmas in a mina. This is not probable.

Tychon, on the other hand, might not know precisely what the going rate was at the Athenian money-changers’ tables. It is easy to imagine that Tychon was entrusted with the 420 Aeginetan drachmas under the understanding that he would float the agio with his own money and be reimbursted upon his return to Epidaurus. The treasurers were no doubt loathe to overestimate the agio and so release more money than was absolutely necessary. Moreover, by putting the responsibility for covering the agio on Tychon the treasurers reduced the likelihood of graft on his part. Let us imagine that Tychon had been given the 25 drachmas at the start. Now suppose he arrived at Athens to find that he could change the money for 20 drachmas. What was to stop Tychon from paying the money-changer a drachma to fudge the receipt, so that it read that the exchange had cost 25 drachmas, and keeping the other 4 drachmas? As safeguards go, this obviously would not have been foolproof, but it may have been an adequate deterrent.

The agio paid on the 420 drachmas is not inconsistent with that attested at Delphi. John Melville Jones offers the insightful suggestion that the 420 Aeginetan drachmas were paid in satisfaction of a bill of 600 Attic drachmas. Agio might have been 6 Attic drachmas per mina, totalling 36 drachmas. Now, 36 Attic drachmas, at 10:7, equaled 25§ Aeginetan drachmas, but a money changer might have been willing to accept 25 from a good customer. 7 years later: the payment to Tychon took place in the eleventh year of the account; this next, in the eighteenth.

Bogaert, Banques et banquiers, p. 48.

<table>
<thead>
<tr>
<th>Location</th>
<th>Source</th>
<th>Fee/Amt. Dr.</th>
<th>Reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Delphi</td>
<td>e.g. CID II 62.ii.A.5-13</td>
<td>113.7/1705.5</td>
<td>1/15</td>
</tr>
<tr>
<td>2 Epidaurus</td>
<td>IG IV 103.35-42</td>
<td>25/420</td>
<td>1/16</td>
</tr>
<tr>
<td>3 Epidaurus</td>
<td>IG IV 103.122-3</td>
<td>120/2310</td>
<td>1/19</td>
</tr>
<tr>
<td>4 Epidaurus</td>
<td>IG IV 103.125-6</td>
<td>130/2310</td>
<td>1/17</td>
</tr>
</tbody>
</table>

This spread of rates can only have arisen in an environment characterized by competition among money-changers and bargaining between changer and customer. If we agree that katalage and epikatalage are, in this case, synonymous then in order to maintain Marchetti’s definition of the latter we must assume that Athens was constantly calculating average bullion-loss from worn Aeginetan coins and re-drafting legislation to re-calibrate the Aeginetan coins against their own. This is not an attractive proposition. In spite of the spread of rates all four appear to hover around 4 drachmas/mina:

<table>
<thead>
<tr>
<th>Fee/Amt. in M</th>
<th>Fee (= 4 dr. ± n.) /M±n dr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 113.7/24.36 M → 4.66 × 24.36 = 113.7 = 4 dr. +4 ob. /M</td>
<td></td>
</tr>
<tr>
<td>2 25/6 M → 4 × 6 +1 = 25 = 4 dr. /M +1 dr.</td>
<td></td>
</tr>
<tr>
<td>3 120/33 M → 3.66 × 33 − 1 = 120 = 4 dr. −2 ob. /M −1 dr.</td>
<td></td>
</tr>
<tr>
<td>4 130/33 M → 4 × 33 − 2 = 120 = 4 dr. /M −2 dr.</td>
<td></td>
</tr>
</tbody>
</table>

Now it is easy to imagine that a money-changer took 1 drachma from every 15 drachmas changed (as in CID II 62.ii.A.5–13), but it is more difficult to believe that a money-changer took 1 drachma from every 17½ drachmas changed (as in IG IV 103.125–6). Perhaps bargaining between customer and money-changer or competition amongst money-changers customarily began at 4 drachmas per mina, and was graded in one or both of two ways. Either the rate itself was increased or decreased incrementally (as in e.g. CID II 62.ii.A.5–13), or a flat sum was added or subtracted from the calculated rate (as in IG IV 103.35–42, 125–6), or else both procedures were applied (as in IG IV 103.122–3). The variation in contemporary rates of (epik)katalage at Epidaurus is incompatible with Marchetti’s definition of the term.

The second piece of contemporary evidence is found in the last of Theophrastus’ Characters, the αἰσχροκρηβὴς, the man who profits through shameful means (30.15):

καὶ παρὰ ταῦτα κομιζόμενος ἀποροφάντων τοῦ χάλκου τῆς ἐπικαταλαγής προσπαθεῖται, καὶ λογισμὸν δὲ λαμβάνου τὰρ παῖρα τοῦ χερσίνων ἐστι.

and when he collects the rent from a slave, he demands in addition the epikatalage for the bronze; so too when he collects the account from the administrator.

34 Cited in LSJ s.v. ἐπικαταλαγή.
Marchetti’s definition of epikatallage renders Theophrastus’ example senseless. In every example of the aischrokerdes’ behavior Theophrastus shows him shamefully scrounging or pinching a few extra pennies. If Marchetti’s theory were correct then Theophrastus’ character would be consistent in every example but this one. If the epikatallage was a supplementary payment intended to bring an underweight payment up to its full weight then the sense of the example would be: the aischrokerdes gains shamefully because he demands payment in full. Where is the shame in that? The pejorative exemplum only works if the epikatallage denotes the charge for exchanging the bronze for silver. The aischrokerdes receives payment in bronze, which suggests that the payment is small, but demands also the fee for exchange (to silver). At CID II 62.i.A.5–13 the treasurers paid the ivoriesellers the amount due plus the epikatallage. The ivoriesellers, like the aischrokerdes, evidently demanded payment with the fee for exchange included. But they were businessmen transacting a deal worth more than 2000 Attic drachmas. No shame fell on a businessman looking after his own interests in a major transaction. Theophrastus’ aischrokerdes, however, was collecting a few bronze coins from one of his own slaves.

Marchetti’s bold new explanation of epikatallage in the Delphic accounts is interesting and worthy of close attention. On present evidence, however, it is untenable. In Marchetti’s own examples the accounts themselves do not make sense if epikatallage denotes revaluation as he defines it. The economics that underlie Marchetti’s theory, moreover, are impossible to credit. Finally, contemporary use of the word suggests in one case (IG IV 3 103.40–3) and all but demands in another (Theophr. Ch. 30.15) that epikatallage means nothing more than agio.

34 I am grateful to John Melville Jones and Richard Ashton for improving the paper in many places; also to John Oates and especially Kent Rigsby for criticism offered with patience and care.