

# The Kauṭilyan market tax

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Abstract:

The famous Indian manual on the management of kingdoms (called the *Arthaśāstra*) suggests an unusual tax that is based on a seller's assessment of the price of the good to be sold. We show that this tax confronts the seller with an optimization problem. In translations, some interpretational issues have arisen that this paper claims to solve.

## 1. Introduction

2000 years ago (Olivelle (2013: 29) argues for “sometime between 50 and 125 C.E.”), Kauṭilya wrote a manual on ‘wise kingship’, the *Arthaśāstra* which we denote by KAŚ. Among other topics, this book deals with taxation, diplomacy, warfare, and the management of spies (see the survey by Boesche (2002) and Scharfe (1993)). We concentrate on a small part of book 2 which is about the activities of superintendents. In particular, chapters 21 and 22 treat the superintendent of customs and the operation of customs. Custom authorities collect both “customs duty” (*śulka*<sup>1</sup>) and the “increase in price” (*mūlyavṛddhi*). The latter is called market tax in this article. According to Kauṭilya, this tax should work as follows:

<sup>1</sup>The Superintendent of Customs should set up the customs house along with the flag facing the east or the north near the main gate ...

<sup>7</sup>The traders should announce the quantity and the price of a commodity that has reached the foot of the flag: “Who will buy this commodity at this price for this quantity?” <sup>8</sup>After it has been proclaimed aloud three times, he should give it to the bidders. <sup>9</sup>If there is competition among buyers, the increase in price along with the customs duty goes to the treasury. (KAŚ 2.21.1, 7-9 in Olivelle (2013: 148))<sup>2</sup>

Olivelle (2013: 555) argues that Kauṭilya has an auction in mind. He interprets “increase in price” as follows: “This must refer to the increase beyond the asking price that was initially announced. Such an increase caused by the bidding process appears to go to the state rather than to the trader.” The same interpretation is held by Rangarajan (1992: 239): “... He shall call out for bids three times and sell to anyone who is willing to buy at the price demanded. If there is competition among buyers and a higher price is realised, the difference between the call price and the sale price along with the duty thereon shall go to the Treasury.”

An important point concerns the question whether Kauṭilya had an ascending or a descending auction in mind. (Auction theory is presented by McAfee and McMillan (1987)). In ascending auctions (also called English auctions), the auctioneer raises the price starting with some minimum price. The last bidder still upholding his wish to buy, gets the object. In a descending auction (Dutch auction), the auctioneer lowers the price starting with some maximum price. As soon as one bidder is prepared to pay the price announced, he obtains the object. Of course, “the increase in price” clearly points to the ascending auction. A second reason will be given below.

Since some of the goods were exempt from duty (see KAŚ 2.21.18 in Olivelle (2013: 148)), it is not obvious whether Kauṭilya proposes the market tax for dutiable and non-dutiable goods alike. Be that as it may, we deal with the market

tax, exclusively. It is, of course, debatable whether "market tax" is a suitable term for Kauṭilya's tax. Obviously, Kauṭilya has in mind an indirect tax, i.e., a tax on transactions, in contrast to a direct tax which would affect income or property (see, for example, Schenk and Oldman (2001: 12-17)).

For simplicity, we assume that one unit of a good is to be imported and sold. Let us denote the call price by  $V$  (the value declared by the trader) and the sale price by  $p$ . Also, the trader's cost of buying, or producing, this good is denoted by  $C$ . A concrete example might be helpful. The trader may quote a value  $V=5$  *pañas*. Some bidders are interested in the good at this price and start to outbid each other. Assume a highest bid of  $p=9$  (*pañas*). Then, the tax inspectors will collect a market tax (*mūlyavrddhi*) of  $9-5=4$ .

Our trader may hope to evade the tax by indicating a higher value. For example,  $V=7$  would lead to the tax of  $p-V=9-7=2$ , only. However, if the trader overestimates the bidders' eagerness to obtain the object, he may try  $V=12$  and learn that no bidder is prepared to pay as much. Then, we have to imagine what is to happen next. Assume that the trader could try different values during the same market day without additional cost. In our example, he would not find any bidder for  $V=12$ ,  $V=11$ , or  $V=10$ . But, finally, at  $V=9$ , the most eager bidder would be prepared to pay 9. In that case, the trader's market tax is  $p-V=9-9=0$ . Thus, it would surely be in the trader's interest to try a relatively high value first and

lower the value in successive rounds. In this way, he could practically avoid the market tax.

We argue that Kauṭilya would not have proposed a tax that can easily be avoided. A similar argument makes clear that Kauṭilya could not have a descending auction in mind. For that auction type, the trader could quote a very high valuation (for example,  $V=15$ ) and find out the highest bidder by successively lowering the price. In that case, there would be no danger of not finding a buyer and the market tax  $p-V=9-15$  would be negative (!) or, ruling out negative taxes, zero.

The main idea of the paper is this: On the basis of an ascending auction, we assume that the trader who has not found a bidder (because his value was too high) cannot, without cost, simply try again, with a lower value. In practical terms, the unsuccessful trader may have to pay duty once again or may have to leave the market and incur transportation cost in order to try at another market place. We denote these cost by  $F$ . They are not to be confounded with the cost of production  $C$ . Then, the market tax presents the trader with an optimization problem. On one hand, he would like to choose a relatively high valuation  $V$  in order to evade the market tax. On the other hand, a high valuation carries the risk of not selling the good and incurring duty and transportation cost  $F$  once again.

We spell out the optimization problem in some detail in the next section. We then discuss additional provisions made by Kauṭilya in section 3. Some remarks on important vocabulary and the setup of the text round up the argument in section 4. Finally, concluding remarks are offered in section 5.

## 2. The trader's optimization problem

In this section, we explain the optimization problem hinted at in the introduction. Kauṭilya did not comment on the possibility of  $V > p$  (no bidder is prepared to pay  $V$ ). Since this possibility is central to the understanding of his market tax, we need to distinguish two cases: First, the buyers' competition for the good drives up the highest bid  $p$  above  $V$ . Then, the price to be paid by the winning bidder is  $p$ , the tax authorities collect  $p - V$  and the trader's revenue after tax is

$$p - (p - V) = V$$

and, taking the production cost  $C$  into account also, his profit amounts to

$$V - C$$

possibly minus duty and/or transportation cost.<sup>3</sup>

Second, the highest bid obtained is below  $V$ . In that case, taxes and revenue are zero, and the trader suffers cost  $F$  for trying again at a later time.

Let us assume that the trader has some probability assessment of the highest bid he can obtain for his good. To take a concrete example, assume that any highest bid  $p$  between 0 and 10 is equally likely. Then, the probability for a bid between 5 and 6 equals  $1/10$  and the probability for a bid above 5 equals  $1/2$ .

The trader's decision problem is to choose the valuation (or call price)  $V$ . A relatively low  $V$  makes a highest bid above  $V$  likely. For example,  $V=2$  implies that a bidder will be found with probability  $8/10$ . The optimal  $V$  depends on the cost  $C$  of producing one sole unit of the good and the cost  $F$  of market entry (duty and/or transportation cost). Let us assume  $C=4$ .

The trader chooses the valuation  $V$  so as to maximize his expected profit. "Expected" means the profit he can expect on average, given the probability information about the highest bids. The trader will not choose a valuation  $V$  below  $C=4$  because he would merely risk to find a buyer and obtain a negative profit  $V-C$ . Also, he should not proclaim a value above 10. In that case, he could be certain not to find a buyer and would have spent his market-entry cost in vain.

Now, the trader's expected profit at one specific market place is given by

$$\Pi = -F + \frac{10 - V}{10} (V - C) + \frac{V}{10} \Pi$$

According to the formula, the profit consists of three terms. (i) Whenever the trader enters the market, he has to pay the market-entry cost  $F$ . (ii) With probability  $(10-V)/10$ , the highest bid lies above  $V$ . Of course, the higher  $V$ , the lower this probability. In that case, the trader obtains the revenue after tax  $V-C$ . (iii) With probability  $V/10$ , the trader is not successful in finding a bidder who is prepared to pay  $V$  or more. Then, the trader has to try again at a later time where he obtains the expected profit  $\Pi$ .

The above formula uses a mathematical trick. Left of the equation sign, we have the same expected profit  $\Pi$  as on the right-hand side. Thus, the derivation of the trader's expected profit is based on the assumption that he chooses the same valuation  $V$  in the current period and in every future period. This is a reasonable assumption if the model's parameters (such as the highest bids between  $0$  and  $10$ , the production cost  $C=4$ , and the market-entry cost  $F$ ) do not change.

Expected profit  $\Pi$  reveals a trade-off. On the one hand, the trader benefits from a relatively high  $V$ . The higher  $V$ , the higher revenue after tax if an interested bidder can be found. On the other hand, a relatively high  $V$  leads to a relatively low probability that this case occurs. Correspondingly, the probability for not finding a bidder is relatively high. In that case, the trader can expect to find himself in the original situation (before paying the market-entry cost) once more.

We now solve the above equation for  $\Pi$  and obtain

$$\Pi = (V - C) - \frac{1}{10 - V} F$$

The expected profit  $\Pi$  consists of two terms. The first one is the trader's gain (after tax) for zero market-entry cost. Since we assume that the trader keeps on trying to find a buyer, he will finally be successful. However, he still has to bear the market-entry cost in each attempt. This negative term gets very large if the probability for finding a buyer is low, i.e., if  $V$  is close to  $10$ .

In the appendix, we show how to derive the following

**Proposition:** Assuming  $F \leq 9/10$ , the trader maximizes his expected profit by choosing

$$V^* = 10 - \sqrt{10F}$$

The maximal profit is not negative by the above assumption. If the unsuccessful trader does not try again in the kingdom at hand, the expected tax payment is

$$\frac{1}{2} F.$$

Otherwise (if the trader keeps on trying at the current market), expected tax payments are

$$\frac{1}{2}\sqrt{10F}$$

### **[Layout hint: End of proposition]**

Thus, if the market-entry cost is not too high, the trader maximizes his expected profit by choosing some  $V^*$  that balances the two effects just described. Assume market cost  $F=0$  (no market-entry cost). In that extreme case, waiting for the next period has no cost. Indeed, we then find  $V^*=10$  (or, indeed, a value just below  $10$ ) and the trader will try again and again until he is lucky and encounters a very high bid. In that case, the tax payment is zero. For strictly positive market-entry cost, the trader will choose a valuation  $V^*$  that leads to a positive expected tax payment to the government.<sup>4</sup>

### 3. Additional provisions for the market tax

So far, we have made our life easy by focusing on the market tax. The main result is this: The trader can find a call price or value  $V^*$  that is (i) sufficiently high (so that the market tax can be avoided as much as possible) and (ii) sufficiently low (so that the bidding process is successful with a reasonably high probability and the cost of market entry  $F$  is not to be paid again).

We now argue that Kauṭilya was aware of these conflicting interests and also of the unwillingness of traders to pay duties. His further provisions are to ensure that traders quote “correct” values:

<sup>10</sup>When a man, fearing customs duty, declares a lower quantity or price, the king shall confiscate the amount in excess of that; <sup>11</sup>or he should pay eight times the customs duty. ...

<sup>13</sup>Or, when a man, fearing competing buyers, increases the price beyond the normal price of a commodity, the king shall confiscate the increase in price or assess twice the customs duty ... . (KAŚ 2.21.10, 11, 13 in Olivelle (2013: 148))<sup>5</sup>

Apparently, these provisions rest on a “normal price of a commodity”. Indeed, two verses later, Kauṭilya demands that prices (the values) are to be set according to “weight, measure, or number”. (KAŚ 2.21.15 in Olivelle (2013: 148))

The first provision (10, 11) deals with dutiable goods. These duties also depended on the value and amount to about one fifth of the value, in kind or in currency (see Olivelle (2013: 150)). This gave the trader (if he were to sell dutiable goods) an incentive to state a low  $V$ . According to Kauṭilya, a fine of “eight times the customs duty” should give him a proper disincentive.

The second quotation above (“or ... fearing competing buyers”) has caused some puzzlement. The Sanskrit reads *pratikreṭṛ bhayād vā*. First, a comment on Kangle (1992b: 142) is called for. Kangle does not see any real difference between “competition among buyers” (quote in the introduction, Kangle uses “purchasers” instead of “buyers”) and “fearing competing buyers” (quote in this section, Kangle: “fear of a rival purchaser”).<sup>6</sup> In terms of our model, the first quote is about price increases above a given  $V$ . In contrast, the second quote is concerned with incentives to increase  $V$  above the correct level.

Olivelle (2013: 555) finds the market tax “complex and unclear”. He asks why additional buyers should constitute a reason for fear. Maybe, so Olivelle's tentative suggestion, *pratikreṭṛ* stands for competing traders who “may sell their goods at a higher price than he”.<sup>7</sup> This interpretation is not impossible. A trader may be jealous of other traders who are more successful in obtaining a high price. However, the current author does not find this interpretation very plausible: If a trader thinks that other traders will compete with him, he will typically (for reasons of expected-profit maximization) reduce his price. In contrast, it is the absence of competitors that allows a trader to increase his price. Of course, Olivelle also has his doubts (after all, the translation above is his).

Scharfe (in a communication with Olivelle (2013:555)) understands *pratikreṭṛ* as an intermediary who buys from the present seller in order to sell later on. For the interpretation given in this paper, it is irrelevant whether a *pratikreṭṛ* bids in

order to consume for himself or in order to sell. In either case, Olivelle's question of why a trader should fear additional bidders remains to be answered.

Alternatively, Olivelle (2013: 555) toys with the “possibility ... that the seller fears that bidders would increase the purchase price; the increase ... goes to the state. So it may be in the interest of a trader to set an artificially high price, from which it could only come down as a result of bidding.” Here, Olivelle contradicts himself (see the introduction). As argued in the introduction, a descending auction cannot be allowed by Kauṭilya's duty authorities.

However, we like to offer an interpretation that comes close to Olivelle's “possibility ... that the seller fears that bidders would increase the purchase price”.

We suggest the following interpretation of “fear”. If the trader expects many eager bidders, it would be in his interest to drive up  $V$ . Inversely, if he has chosen a low  $V$ , he may indeed fear many bidders that would make him regret his decision. Consider this analogy: You take an umbrella with you, but “fear” it might not rain after all (in that case you would have taken the umbrella without good cause).

Thus, “fearing good weather” may be shorthand for “fearing the regret of having carried an umbrella which was unnecessary because it happened not to rain”. Similarly, “fearing competing buyers” is short for “fearing the regret of having chosen a relatively low  $V$  in case of many competing buyers”.<sup>8</sup>

#### 4. Vocabulary and composition

Kauṭilya deals with the market tax in two different sections. First, he describes the tax for a given value  $V$  (see the introduction). It equals  $p-V$  where  $p$  is the highest bid obtained and  $V$  is the valuation proclaimed by the trader. Second, Kauṭilya puts down provisions for valuations  $V$  that he thinks inappropriate (see the previous section).

We now turn to some additional (albeit weak) support for our interpretation.

Firstly, we need to examine the vocabulary used by Kauṭilya. He stipulates (the Sanskrit terms have been added by the present author):

<sup>137</sup>The traders should announce the quantity (*pramāna*) and the price (*argha*) of a commodity that has reached the foot of the flag: "Who will buy this commodity at this price (*argha*) for this quantity (*pramāna*)?" <sup>8</sup>After it has been proclaimed aloud three times, he should give it to the bidders. <sup>9</sup>If there is competition among buyers, the increase in price (*mūlyavrddhi*) along with the customs duty goes to the treasury. (KAŚ 2.21.7-9 in Olivelle (2013: 148))

Thus, in 7-9, Kauṭilya clearly distinguishes between valuation (*argha* =  $V$ ) and (highest) bid (*mūlya* =  $p$ ) where the tax is addressed as increase in price (*mūlyavrddhi* =  $p-V$ ). <sup>9</sup>

Unfortunately, Kauṭilya (or later redactions) does not use *argha* in 13. Here, we have:

<sup>13</sup>Or, when a man, fearing competing buyers, increases the price (*mū-lyā*) beyond the normal price of a commodity (*panyamūlyā*), the king shall confiscate the increase in price (*mūlyavrddhi*) or assess twice the customs duty ... ." (KAŚ 2.21.13 in Olivelle (2013: 148))

Thus, the specific words used by Kauṭilya provide feeble support of our claim, if any.<sup>10</sup>

We now turn to the overall composition of the text. It may seem at a first glance that Kauṭilya presents a confused text. Indeed, we find the following table:

<i>sūtras</i> in chapter 21	content matter	specific reference to
1	flag near the main gate	
2	identification of trader	
3-6	penalties for missing or forged seals	
7-9	market tax <i>p-V</i>	market tax (for given valuation)
10-12	penalty for avoiding duty	duty (incentives for fixing valuation)
13-14	penalty for avoiding market tax	market tax (incentives for fixing valuation)
15	correct measurement	
16-30	no duty, spies, punishments	

In the following chapter 22, *sūtras* 1-14 determine the duty (for given valuation) for specific goods. One may ask the question why the market tax is treated twice and why duty is also treated twice (in chapters 21 and 22). After all, the two chapters refer to the tasks undertaken by the superintendent of customs (*śulkādhyakṣa*) whose main task should be the levy of duty (*śulka*). This is clear to the reader who will not be surprised to read: "If there is competition among buyers, the increase in price **along with the customs duty** goes to the treasury." (KAŚ 2.21.9 in Olivelle (2013: 148))<sup>11</sup>

Here, the duty to be paid is mentioned in passing, only. As indicated above, the specific duty payments are listed in chapter 22. In line with the arguments presented in the two previous sections, we need to distinguish carefully. First, duty and market tax are described on the basis of a given valuation (2.22 and 2.21.7-9, respectively). Second, the incentives for fixing the valuation with respect to duty and market tax are spelled out (2.21.10-12 and 2.21.13-14, respectively). In fact, *sūtras* 10-12 (penalty for avoiding duty) are clearly set in opposition to *sūtras* 13-14 by the conjunction *vā* (meaning "or"): *sūtra* 10 begins with *śulkabhayāt* ("fearing customs duty") while 13 starts with *pratikreṭṛ bhayād vā* ("or, fearing competing buyers").

## 5. Conclusion

Kauṭilya's market tax is very unusual in basing the tax payments on a price or value declared by the seller. Our model shows that the tax “works” in the sense of giving the trader an incentive to quote a valuation  $V^*$  that leads to positive expected tax payments. We hope to have shown that the market tax that Olivelle (2013: 555) calls “complex and unclear” is indeed complex, but has become somewhat clearer to the reader.

It is not to be overlooked that the practical implementation of this tax should prove difficult. After all, the seller and the final buyer have a very clear motivation to report a lower bid to the tax authorities, for some side payment from the buyer to the seller. While this problem holds for many taxes, it is very serious for the market tax because the trader's profit does not depend on  $p$  as long as  $p$  is at least as high as  $V$ . However, if the sale is to be effected near the “foot of the flag” (see the quote from the introduction), supervision of both seller and buyer may not be too difficult. Presumably, this tax has been applied a few times a day, maybe, but certainly not a thousand times per day.

It is interesting to note that the incentives to fix the value in a strategic manner may be weak because duty payment presents a reason to offer a low estimate of the value while the market tax makes the trader exaggerate the value.<sup>12</sup> One

should not exclude the possibility that the very clever Kauṭilya may have foreseen this effect.

An ongoing debate on Kauṭilya's *Arthaśāstra* dwells on the question of whether it should be seen as a historical document (telling us a lot about actual diplomacy, spying and taxing etc.) or, rather, as a teaching manual on statecraft (see the discussion by Rangarajan (1992: 31-32)). Of course, both aspects may be relevant for different subject matters or, sometimes, even one and the same topic. While Olivelle (2013: 39) argues that the *Arthaśāstra* may be quite accurate with respect to the material culture, our analysis of Kauṭilya's market tax argues against the historical view. Indeed, the current author conjectures that Kauṭilya's market tax (if ever applied) was unique in human history. In any case, a suchlike tax has not been reported by tax historians Webber and Wildavsky (1986) who do not, contrary to the title of their book, restrict attention to the “western world”.

The previous section may make the reader feel sorry for traders who have a hard time finding the correct valuation  $V$ . They are punished if  $V$  is too low and also, if it is too high. One is reminded of modern-day competition policy: According to William Landes (see Kitch (1983: 193), Ronald Coase, a famous member of the Chicago school of economics said “he had gotten tired of anti-trust because when the prices went up the judges said it was monopoly, when the prices went

down, they said it was predatory pricing, and when they stayed the same, they said it was tacit collusion.”

Indeed, Kauṭilya may have had the idea to supervise nearly all traders in the same way that competition theory sometimes suggests to deal with so-called natural monopolies. In network markets like the provision of electricity, gas, or water, many firms are unlikely to co-exist. Therefore, it is often thought that (i) competition will be defective in these markets and (ii) that the government should step in to ensure “efficiency” (see Braeutigam (1989)). (It is no foregone conclusion that (ii) follows from (i).)

Kauṭilya, it seems, had no belief in market mechanisms and wanted traders of all goods (not just natural monopolies) to quote the correct or normal value.

However, the requirement that prices are to be set according to “weight, measure, or number” (KAŚ 2.21.15 in Olivelle (2013: 148)) is not operational. Presumably, implementation rules were necessary to tell the customs officers how to proceed in practice.

As a final afterthought, while the market tax may not have been implemented (or may not have been a good idea) in Kauṭilya's times (in the case of many transactions, at least), auctioneering houses like Sotheby's or electronic trading platforms like ebay do not encounter these supervision problems since  $p$  is readily available for these market makers. Therefore, Kauṭilya's market tax (without

punishment for too low or too high valuations) may still await realization in modern times.

## 6. Appendix

The expected profit derived in the main text is given by

$$\Pi = -\frac{1}{10-V}F + (V-C) = \frac{-10F + (V-C)(10-V)}{10-V}$$

The profit  $\Pi$  is positive if and only if the nominator is positive. We now set the parabola  $-10F+(V-C)(10-V)$ , which opens downward (!), equal to zero and obtain two solutions,

$$V^1 = 7 + \sqrt{9 - 10F}$$

$$V^2 = 7 - \sqrt{9 - 10F}$$

If the solutions are not real, the profit cannot be positive. In that case, the trader will not try to produce and sell the good. Real solutions imply  $F \leq 9/10$ .

We now form the derivative of  $\Pi$  with respect to  $V$ , set this derivative equal to 0 and obtain two solutions:

$$\begin{aligned} V_1 &= 10 - \sqrt{10F} \\ V_2 &= 10 + \sqrt{10F} \end{aligned}$$

By  $F > 0$ , we can exclude  $V_2 > 10$ . Observe, now, that  $V^* := V_1$  obeys

$$\begin{aligned} V^* &= 10 - \sqrt{10F} < 10 - \sqrt{10 \cdot 0} = 10 \\ V^* &= 10 - \sqrt{10F} \geq 10 - \sqrt{10 \cdot 9/10} = 7 \\ \frac{\partial^2 \Pi}{(\partial V)^2} \Big|_{V^*} &= -\frac{20F}{(\sqrt{10F})^3} < 0 \end{aligned}$$

Therefore,  $V^*$  is the profit-maximizing valuation.

If the trader does not try again in the current market but turns to another one, the current market's inspectors obtain the expected tax payments

$$\frac{10 - V^*}{10} \left( \frac{10 + V^*}{2} - V^* \right) = \frac{(10 - V^*)^2}{20} = \frac{(10 - [10 - \sqrt{10F}])^2}{20} = \frac{1}{2} F$$

If, however, the trader keeps on trying at the current market, expected tax payments are

$$\frac{10 + V^*}{2} - V^* = \frac{10 - V^*}{2} = \frac{10 - [10 - \sqrt{10F}]}{2} = \frac{1}{2} \sqrt{10F}$$

**Acknowledgements:**

Thanks are due to Sadananda Das, Frank Hüttner, Werner Knobl, Julia Körnig, Hendrik Kohrs, Katharina Lotzen, and Kerstin Szwedek. I also thank participants of “Deutscher Orientalistentag”, Münster 2013, in particular Oskar von Hinüber and Jens-Uwe Hartmann. Detailed comments were provided by Patrick Olivelle.

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## Footnotes

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<sup>1</sup> Sanskrit words or passages are taken from Kangle (1992a) or Shamasastri (2005) with only minute differences in sandhi representation. The translations are usually taken from Olivelle (2013).

<sup>2</sup> Alternatively, one may consult KAŚ 2.21.1, 7-9 in Kangle (1992b: 141-42), KAŚ 2.21.1, 7 in Shamasastri (2005: 216-217) or KAŚ in Rangarajan (1992: 340, 239).

<sup>3</sup> A very honest trader might try  $V:=C$ . His profit would be zero (or even negative with duty or transportation cost) and the market tax  $p-C$ . This difference is known as the producer's rent in economic theory. Therefore, Sihag (2009: 62) presents the market tax as evidence that the *Arthasāstra*'s author already knew about this concept.

<sup>4</sup> The reader is welcome to contact the author for a more general model where the interval boundaries 0 and 10 and the unit costs  $C$  are variables. In that model, we also introduce a discount factor which reflects the trader's time preference.

<sup>5</sup> Similarly, KAŚ 2.21. 10, 11, 13 in Kangle (1992b: 142-43), KAŚ 2.21.8, 10 in Shamasastri (2005: 217) or KAŚ in Rangarajan (1992: 341-42).

<sup>6</sup> Kangle's purchasers are local traders who buy from foreign traders in order to resell to their local customers (see Kangle (1992c: 178)). The first part of the

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composite *pratikreṭṛ bhayād* can be understood as a singular or a plural. To our mind, Olivelle's plural is the better choice.

<sup>7</sup> While the usual expression for selling is *vi-krī*, Olivelle (2013:555) points out that *pratikreṭṛ* is a very unusual word.

<sup>8</sup> From the rhetorical point of view, we seem to have an example of “soloecismus per detractionem” (see the handbook by Lausberg et al., 1998:235).

<sup>9</sup> Somewhat similarly, immovable property can also change hands by way of an auction. There, Kauṭilya uses the very same expression of *mūlyavṛddhi* (see KAŚ 2.21.9 in Olivelle (2013: 148) and KAŚ 2.21.7 in Shamasastri (2005: 217)).

<sup>10</sup> Patrick Olivelle (in personal communication) suggests that the distinction between *mūlya* and *argha* is minute, only, with *mūlya* meaning the “original price” and *argha* referring to the “actual price at which the seller is offering the article”.

<sup>11</sup> Note that Rangarajan (1992: 239) translates *sūtra* 7 by “**After the duty is paid**, the merchant shall place himself near the customs house ... .” Here, “after the duty is paid” is freely added by the translator.

<sup>12</sup> Breloer (1934: 463) addresses this predicament (which he calls a “Zwickmühle”). However, since he translates *pratikreṭṛ* by “Konkurrenz-Kaufmann” (something like “competing trader”), it is not quite clear to the present author what he had in mind.