

TO: Tom Miller, EPA SAB
FROM: Trudy Ann Cameron
RE: "Illegal Competitive Advantage" Draft Advisory of March 23, 2005
DATE: April 25, 2005

Here are some suggested edits for the document. I have merely transcribed my current set of marginal notations to this list. I'll need to think more about a few "big picture" issues before our teleconference on Friday.

--TAC

Cover letter:

p. 3, lines 10-12: The syntax is awkward here. "It would be more transparent to have only two categories: (i) [when] economic advantage is limited to delayed or avoided compliance costs; and (ii) [when] economic advantage includes profits on increased sales."

p.3, line 19: "...of particular importance to you." This reads strangely. It should be of particular importance to the Agency in redesigning penalties.

p. 4, line 2: "making more effective the deterrent effects of its penalties." This should be changed to "enhancing the deterrent effects of its penalties."

Report

p. 3, lines 10-13: This should be split into two sentences: There are several factors other than cost that might influence the amount by which the violator's profit was increased by the violation. The Agency's White Paper has essentially placed all of these factors in one of four categories under the heading of "benefit from illegal competitive advantage."

p.3, line 19: difficult to attribute [exclusively] to the noncompliance.

p.3, line 21: There will be general equilibrium consequences to noncompliance. If the firm's output is an input to other firms, or if the firm's derived demands for its own inputs are affected by noncompliance, inappropriate quantities will be produced either downstream or upstream from the non-complying firm. There may also be effects on the markets for substitute or complementary goods if the price of this firm's output is affected by noncompliance.

p.3, line 22: "appear to [stem from] unusual circumstances that are very context[-]dependent.

p.3, line 26: similar awkward wording, like the problems in the cover letter. At the very least, "(ii) firms [that]gained profits from increased sales.

p. 5: line 20 "full-blown change[-]in[-]profit analysis"

Also, it is not clear at this point when avoided/delayed costs leads to a clearly substantial overestimate or underestimate of the economic benefit. Make it clear that the conditions for this case will be explained later in the document.

p. 5, line 24: "...it will [need] to have access..."

p. 6, line 6: Two places in the document, there is a description of ex ante and ex post benefits. It would be much more logical to arrange the descriptions of these two so that you can say "the former is referred to as the [ex ante] benefit whereas the latter is the [ex post] benefit. Right now, the order of the descriptions and the order-in-time of the benefits are backwards. This is unnecessarily confusing.

p. 6, lines 16-19: This paragraph duplicates the previous paragraph.

p. 6, line 27: Perhaps "the economically [efficient] penalty..."

p. 7, line 4. I wonder about how this would mesh with the legal requirement that the penalty not be "grossly disproportionate" compared to the harm done. Scaling up the penalties to reflect the probability of punishment could produce penalties that are far greater than the harm, even though the expected penalty is of the "right" magnitude. There may be legal limits on scaling the penalty to reflect the odds of being caught and successfully prosecuted.

p. 7, line 11-13: Too much use of "these." The argument also sounds circular. "Thus, in many cases, these methods may not be practical unless the harm, and thus the expected penalty, is extremely large. But these are likely to be the cases that result in very significant and quantifiable harm." {You've just said that in the previous sentence.}

p. 7, line 20: "...violation is likely to be [very close to] the monetary equivalent of [the] harm.

p. 7, line 22-26: "... (a) whether [] a violator is subject to mandatory reporting that is available [for] the public to use in filing citizen lawsuits, (b) the ratio of facilities to inspectors in an EPA region, (c) the strength of environmental activism in a region/state, and (d) whether [] the violator [has] a history of violations and thus [has been] subject to increased scrutiny or targeted enforcement."

p. 7, line 29 "...time [until] capture..."

p. 7, line 30. "Another method—the "capture/recapture" approach [is an adaptation of methods used to estimate] the number of animals in a given geographic area.

p. 8, lines 9-11: It might be added that data deficiencies are going to create opportunities for regulatory discretion in enforcement and thus concerns about the political economy of enforcement.

p. 11, line 11: "...as to the [factors] that should be considered when assessing..."

p. 13, lines 22-24: The material here sounds very redundant after just having read page 12, line 29. Is it necessary to repeat this?

p. 12, line 26: "...it needs to be practical and [amenable to] implementation..."

p. 14, lines 20-28: The gains and losses are variously described as "unwanted," and "unlawful." I think it would be best to describe these uniformly as "unwarranted" gains to the violator and "unwarranted" losses to other parties. This would involve at least seven changes.

p. 15, line 16: "...two different approaches [will] lead to a similar assessment..."

p. 15, line 25: another occurrence of "unlawful" loss (to the environment).

p. 16, line 5-6: "We see the size of the violator as being relevant to the deterrence objective of a penalty rather than the restoration of the status quo." I would expect that the size of the violator is a more relevant consideration in terms of SBREFA (the Small Business Regulatory Enforcement Fairness Act). If the violator is small enough that the proposed penalty would put them out of business, they get cut some slack.

p. 16, line 28: "[] It can estimate savings from deferred..." (drop "As such")

p. 17, lines 7-9: "...in the penalty assessment process[,] [aggregate] annual penalty assessments have risen dramatically. It is not possible to entirely untangle the impact of BEN from the impact of changes in EPA enforcement policies, but it seems apparent that [BEN] has been a factor in this increase.

p. 17, lines 11-12: "[] BEN is presently limited to calculating the difference in discounted cash flows that result from cost-savings during non-compliance[. Thus,] it is not now configured to support..."

p. 17, lines 15-16: "...for the user [], parallel to the present questions[,] that prompt..."

p. 19, lines 8-10: Would it be helpful to refer to "ceteris paribus (providing no other changes occurred)"

p. 19, lines 18-19: "...noncompliance scenario with the [(unobserved)] counterfactual compliance scenario; and observed increases in market share might be difficult to attribute [exclusively] to the noncompliance.

p. 19, line 25: "...firms experienced no revenue [change] and

p. 20, line 20: "When non-compliant firms do sell more than they would have [sold] if they had complied..."

p. 20, line 19: Mention the implications of the simplifying assumption of constant MC, AC (no fixed costs). This assumption, without comment, will raise questions.

p. 20, line 27: “costs at the quantity actually produced[. That] measure in [F]igure 1 would be areas C+D. {The stuff after this seems more complicated than necessary.}

p. 21, line 2: Mention whether this general proposition is true even if average costs are not constant. Don’t make the reader work this out.

p. 21, line 4: produced (i.e. C+D) overstates the true economic benefits of compliance (i.e. C+D+E-A), since E-A is negative.

p. 22, lines 3-11: This paragraph is less easy to follow than it could be. The passage about “having QC shift to the left until it reaches the axis” is a trifle irksome. Would it not suffice to say “If $MC(=AC)$ under compliance is greater than the choke price for the product, then optimal output would be zero under compliance.” Rather than asking the reader to imagine changes in the existing Figure 1, offer Figure 2 where the curves are shifted that the corresponding areas are labeled as before. Refer to Figure 2 in the discussion.

p. 23, line 1: “cost advantage from non-compliance, a company [that is] subject, in effect, to minimum price regulation...” {Even so, it is not clear to the uninitiated reader where this minimum price stuff comes from. If this is the standard interpretation for bidding on a cost-plus contract, be explicit about this. Given an intermediate textbook citation to reassure readers that this is a familiar story.

Later on, in the paragraph on page 23 between lines 11 and 18, we are asked to “consider separately the issue of a firm subject to cost-based price regulation.” Explain how this is distinct to a cost-plus contract, where the “plus” is merely constrained to be zero. Be clear about what makes this context different.

p. 24, line 2: “which are [analogous to] sales of an illegal product.”

p. 24, line 10-11: Would it be appropriate to mention first-mover advantages?

p. 24, line 20: “if the firm had to [incur] the costs associated with compliance.”

p. 25, line 15: “calculate the economic benefits {and;} {Is there something missing here, or should you just drop the “and;”?”}

p. 26, line 13-14: “that would not [otherwise have] occurred.”

p. 27, lines 1-2: Mention of only competitive and monopolistic markets leads the reader to wonder about all other types of market structures—monopolistic competition, oligopoly, natural monopoly, regulated monopoly, mixed market structures (dominant firm/price leadership), and so on.

p. 26-27: The verbal branching is somewhat hard to follow. Might it be helped by a diagram that summarizes this in a flow diagram with branch points?

p. 28, line 4: Now we see the first mention of other market structures. Could this have been intimated at the top of page 27?

p. 29, line 8: The possibility of “first-mover advantages” comes to mind again.

p. 29, lines 12-13: Too many occurrences of the word “it” and “its”. Be more specific.

p. 29, lines 15-16: It wasn’t sufficiently clear how this conclusion is supported by the discussion in the rest of the paragraph. Sorry. Perhaps I am being too dense. The closing sentence appears to reassert the first sentence of the paragraph and I need a few more words to see immediately why the general logic of optimization has anything to say about “dynamic effects,” whatever they are. Are they “a persistent advantage from prior non-compliance.” Throughout this page, I have trouble sustaining a good intuition about the meaning of “dynamic effects.”

p. 30, lines 6-7: Here is the recurrence of the opposite orderings in “former...latter” and “ex ante...ex post” No point in distracting people by matching these incorrectly in time.

p. 30: “Enforcement personnel should avoid simply selecting the method that results in the largest or smallest penalty.” {Should they be advised as to how else they should choose between competing candidates for penalty size, rather than just being told how NOT to do it?}

p. 30, lines 20-21. This sounds a bit like waffling. Perhaps “The panel considers its advice on this topic to be cautionary, rather than prescriptive. The Agency should recognize that the standard ex post approach will not fit every penalty context.”

p. 30, line 28-29: “Where the benefit from the violation was arguably a reduction in risk...” Whose risk? Not environmental risk. Risk of what? How can this be assessed by looking at “premiums avoided.” This needs a little better explanation.

p. 32, line 11: “The economic theory of optimal [penalties] approaches the issue of deterrence...”

p. 33, line 2: “...noncompliance is the [overall socially] efficient outcome.”

p. 33, line 15. “As suggested [in the example in the previous paragraph concerning the under-deterrence of a mugging offense], and as Polinsky and Shavell...”

p. 33, line 26: “...rather imply a goal of absolute deterrence of polluting activities[, at least up to a safety standard when thresholds are understood to exist].

p. 34, line 14: “...damages, the [relevant] methodologies...”

p. 35, line 27: “...ultimately determine that [evasive] actions were taken...”

p. 36, line 4: “...widely used method is the “time [until] capture” approach...”

p. 36, line 9: "...for this type of regulatory violation" {Which type of regulatory violation? Four appear just to have been listed. Perhaps use "...for these types of regulatory violations"}

p. 36, line 20: It seems that the capture/recapture strategy hinges upon the probabilities of detection by the two separate monitoring agents should be independent. If inspections by one agent are correlated with inspections by the other agent, the algorithm might be more complex? If independence needs to be assumed, perhaps this should be mentioned.

p. 37, line 48: The probability of detection is likely to vary regionally and by many factors. It may be difficult to defend a particular national average probability-of-detection estimate.

p. 37, lines 54-56: I was confused by the distinction between different types of self-reports. Could this distinction be clarified?

p. 37, line 58: Do we want to limit data on violations pursued to "whether by the state or by an NGO," or does this include citizen suits by individuals?

p. 38, line 61: Can this probability be reliably derived from the rate of inspections? Can we assume that EPA inspections catch all violations?

p. 38, line 64: "further investigation and [some] informed assumptions about the [duration] of a typical violation, etc. However, while the data are not perfect, neither is [there a] need for 100% accuracy. {The regulated firms may disagree with this degree of accuracy as a determinant of their fines. The strategy for assigning penalties is likely to be contested.}

p. 38, line 89: "what is sought here is an approximate estimate of the general probability of detection..." A lot of heterogeneity will be active here. I predict that everybody's assigned probability of detection will be 'higher than the average in the population,' at least in their individual opinions. Thus their penalty will be lower than the formula based on this average probability would recommend.

p. 39, line 104-105: Whether [] this one example is illustrative[,] and other cases...{which ones?} are related to the detection probability is unclear.
{underline the two gravity components, make sure the indentation is consistent}

p. A-2: line 163: Capitalization.

Throughout, decide whether noncompliance is hyphenated as non-compliance, or not.