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Features

proceedings before agencies and the courts. However, in light of *Trinko* the antitrust courts should be disinclined to impose antitrust liability for Section 2 refusal to deal claims in industries where regulatory agencies provide an effective forum for redressing claims of anticompetitive behavior by market participants.

EPA's Economic Benefit Analysis Policy and Practice

Jonathan S. Shefftz

Compliance with environmental regulations often entails significant capital investment in pollution control equipment, which in turn leads to ongoing operation and maintenance expenses. The environmental improvements that justify these costs typically accrue to society, rather than to the facility that installs the controls. This can create significant financial incentives to delay or avoid such pollution control costs.

In response, the U.S. Environmental Protection Agency (EPA) has made the recapture or disgorgement of this financial gain—or "economic benefit"—a cornerstone of its civil penalty policy for environmental enforcement. Critics have alleged that EPA assumes such environmental noncompliance always generates a positive economic benefit to the noncomplying entity. Sunil K. Garg, *Conundrums in EPA's Economic Benefit Analysis Policy and Practice*, NAT. RES. & ENV'T., Spring 2004, at 32 However, EPA clearly understands and acknowledges that delayed compliance does not inevitably lead to economic benefit. For example, EPA's economic benefit, "BEN," computer model contains a number of features designed specifically to address situations where the economic benefit may be negative (e.g., entry of negative cost estimates reflecting net savings from new pollution control equipment, specification of separate on-time versus delayed cost estimates reflecting significantly lower costs had the delay not occurred). The *BEN User's Manual* (also incorporated into the computer model's help system) provides guidance for applying these features to situations where the economic benefit might be negative. EPA's June 1999 *Federal Register* response to public comments, while cautioning users about negative economic benefit claims, states quite clearly that "The Agency recognizes that economic benefit can be negative—in both theory and practice." EPA, *Calculation of the Economic Benefit of Noncompliance in EPA's Civil Penalty Enforcement Cases*, 64 Fed. Reg. 32,966.

When economic benefit is present, EPA has metaphorically referred to its recapture as "leveling the playing field," but the implicit postscript is "all else being equal." That is, the recapture of the financial gain from environmental noncompliance returns the violator to the level it would have attained had the violations not occurred. The overall competitive playing field between the violator and others may be unlevel for a variety of factors (e.g., location, management, input costs, marketing). Therefore, a violator's financial gain from polluting the air, land, or water of the United States should not be offset by, say, the wage differential accruing to its Chinese competitor, despite one critic's assertions to the contrary. *Id.* at 38. The purpose of a civil penalty's economic benefit component is not to promote international competitive parity across producers.

The economic benefit that does exist and that is to be disgorged manifests itself as higher profits than would have prevailed had the violator complied. Economic benefit therefore represents the additional profit that arises from the wrongful actions. But for calculational simplicity, most cases do not require an analysis of the violator's entire profit during the noncompliance period. Rather, a safe and reasonable assumption is that the violator's level of production, output prices, and hence, revenues are all unaffected by whether or not the violator purchased and then operated the pollution control equipment. Therefore, to measure the incremental profits from the violations over the noncompliance period, the analysis focuses only on a present value analysis of the incremental delayed or avoided pollution control costs. The user needs to know only the delayed or avoided pollution control costs, as well as a few relevant dates, to determine the additional profits that resulted from the violator's wrongful actions. The overall profits that the violator earned during the noncompliance period can remain unknown because profits would have remained the same—but for the additional pollution control costs—had the violator come into compliance. Given this focus, BEN's detailed financial modeling is in some ways simple, yet in some ways complex. But it is definitely not a "black box" model, as has been alleged. *Id.* at 33. Instead, BEN generates up to seven pages of printed output, which document every single one of its potentially hundreds of individual calculations. Even more importantly, the spreadsheet that runs the model is available in each user's program folder, and can be viewed in publicly available software. Every single cell and every single formula is thus revealed for the user's thorough inspection if so desired. EPA is to be commended for such transparency, not tarred with the "black box" label.

Because the pollution control costs occur in different years, they must be adjusted to a present value as of a common date. As a result, a rate must be applied to the necessary discounting and compounding. EPA's goal is to disgorge the company's financial gain (as opposed to, say, restore losses to the government or damage to the environment). Companies are not able to borrow at the U.S. Treasury's essentially risk-free cost of capital, nor are they in business to earn returns at the risk-free rate. Therefore, BEN applies the private sector's risk—reflecting cost of capital, which incorporates both the opportunity cost of investing in pollution control equipment, and the expected return on monies available (through noncompliance) for purposes other than pollution control. Were BEN to instead apply the U.S. Treasury's short-term cost of capital,

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as some critics advocate, then companies would have a financial incentive to delay compliance even if they expected an economic-benefit-based penalty, since their actual borrowing rate and expected rate of return both would exceed the rate applied to the economic benefit penalty component. *Id.* at 35.

The timing of the pollution control costs can be an important element in BEN's calculations. Just as in a commercial damages analysis, BEN calculates the present values for two different sets of cash flows. The difference between them is the economic benefit. In a commercial damages analysis, the two sets of cash flows are typically referred to as the hypothetical "but for" scenario (i.e., what should/would have happened and when, but for the wrongful action) and the actual state of the world scenario (i.e., what actually will/did happen and when). BEN terms these the on-time compliance scenario and the delayed compliance scenario. As a shortcut, and to employ terms more familiar to financial economics laypersons, the start date for the former is termed the noncompliance date and the start date for the latter is the compliance date. EPA's various documents provide different levels of explanations for determining these dates, potentially creating confusion that can be misconstrued as EPA's contradictions. *Id.* at 34. As a first cut, the legal equivalents serve as good proxies for the information BEN needs. That is, the date when the violations first began is typically a reasonable approximation for when the pollution control costs should have been incurred (the noncompliance date), and the date when the violator finally came into compliance is typically a reasonable approximation for when the pollution control costs actually were incurred (the compliance date). At a more precise level, the actual dates on which the monies should have been and then were spent are preferable. (Or if the payments were spread out, then the midpoint of those dates would suffice.) Yet the typical use of the legal proxies actually works to a violator's advantage: if new requirements are to take effect January 1, the violator would have incurred the pollution control costs significantly in advance of that date. Therefore, BEN's guidance actually shifts the entire economic benefit calculation further away from the past, decreasing the economic benefit estimate.

Going Beyond BEN

As useful and widely used as the BEN model is, economic benefit in some cases may require going beyond BEN's simplifying paradigm of delayed or avoided pollution control costs. Even though the assumption of revenues unaltered by the compliant/noncompliant state is safe and reasonable for the typical enforcement action, atypical cases also exist. In such atypical cases, estimating the additional profit from noncompliance via estimating the delayed or avoided pollution control costs (i.e., BEN's approach) does not yield accurate or even meaningful results. Instead, the violator's entire profit during the noncompliance period must be estimated for the activities at issue, and compared to the profit that would have prevailed had the violator been in full and timely compliance during this same time period. An analysis that goes beyond the BEN model is thus simply a more complete analysis of the economic benefit. Viewed in this context, at the other end of the spectrum is a BEN type analysis, which essentially is a convenient analytical shortcut that still yields the correct answer for a straightforward case involving delayed and/or avoided pollution control costs (and nothing more).

EPA's white paper on economic benefit that goes beyond BEN is the basis for an upcoming Science Advisory Board peer review. EPA, *Identifying and Calculating Economic Benefit That Is an "Illegal Competitive Advantage" (Economic Benefit That Goes Beyond Avoided And/or Delayed Costs)*, June 20, 2004, *available at* www.indecon.com/IEC_WEB/EPA/Models/CIVIL%20PENALTY/ICA%20Background%20White%20Paper.pdf. The paper provides four broad categories of situations where going beyond the BEN model's simplified approach is necessary. What all of these situations have in common is that the violations allowed to the violator to realize revenues that were higher than would have prevailed under a compliant state. Therefore, BEN's simplifying paradigm of analyzing only the delayed and/or avoided pollution control costs (and assuming that all else—including revenue—is constant) simply does not apply. The white paper's only potentially confusing (as opposed to complex) aspect is the catch-all phrase "illegal competitive advantage." As the subtitle clearly states, this phrase is meant simply to describe "economic benefit that goes beyond avoided and/or delayed costs," or in other words, beyond what the BEN model can calculate. The content focuses on present value calculations for the incremental profit that arose from the violations. Unfortunately the "competitive advantage" terminology has induced confusion on behalf of those who would construe the white paper as something that it is not: that is, an analysis of a violator's competitive position vis-à-vis other producers, rather than a straightforward analysis of its enhanced profits from environmental violations. *Id.* at 37.

Clarifications versus Conundrums and/or Confusion

Explaining technical terms and analysis in a succinct manner that is easily comprehensible is always a difficult proposition, and the previously referenced EPA documents are no exception. Any confusion they generate, however, should not be misconstrued as contradictions or conundrums on behalf of EPA's policy, practice, or models. EPA's considerable efforts have made the economic benefit calculations and underlying theory transparent, and also subject to continuing review and improvement. While aspects of the theory and application of economic benefit can be complex, EPA's approach is theoretically sound and well established.