

# ENVIRONMENTAL SELF-REGULATION: IMPLICATIONS FOR ENVIRONMENTAL EFFICIENCY AND PROFITABILITY

By

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## Abstract

There continues to remain considerable controversy about the potential for firms to improve environmental performance while simultaneously increasing their productivity and about the benefits of environmental self-regulation (ESR) for firms. This paper uses non-parametric techniques to examine the ‘win-win’ potential to simultaneously reduce input-use and pollution while increasing output, for a sample of S&P 500 firms. An environmental efficiency index that indicates the costs of increasing efficiency when pollution disposal is costly is developed for each firm. We find that win-win opportunities are non-existent or modest for 89 percent of the sample firms. The maximum extent to which efficiency gains could increase output and reduce aggregate toxic releases varies across industries and ranges from 1% to 6% and from 0.1% to 4%, respectively. We find that ESR does increase environmental efficiency of firms indicating that it leads them to internalize their environmental externalities. ESR is found to have both a direct effect on market values, as measured by Tobin’s  $q$ , as well an indirect effect, by influencing environmental efficiency, except in industries that are either very small or very large polluters. Additionally, we find that poor environmental performance and greater risk of environmental liabilities have a significant negative impact on profitability.