

The effect of transparent unequal penalties on compliance with business safety regulations

Christoph Kogler¹, Magda Osman², Jerome Olsen³, & Marcel Zeelenberg¹

¹ Tilburg University, The Netherlands

² Queen Mary University of London, UK

³ Max Planck Institute for Research on Collective Goods, Bonn, Germany

Abstract

Theories of corporate illegality (e.g., Baucus, 1994; Coleman, 1987; Finney & Lesieur, 1982) assume three preconditions for illegal behavior of businesses: (1) the motivation to break the law in order to achieve goals or to ensure survival; (2) the opportunity to engage in illegal behavior; and (3) no effective controls to deter from illegal behavior. In line with the economics-of-crime paradigm (Becker, 1968), a classic economic assumption is that illegal behavior, as - for instance - noncompliance with safety standards and regulations, should be negatively related to the level of penalties. Accordingly, high compared to low penalty levels are expected to result in more pronounced compliance. The aim of the present study was to investigate 1) whether an unequal penalty rate for small size in contrast to big size businesses has a different effect on relative compliance when it is transparent compared to when it is not transparent. We tested whether the effectiveness of different proportional penalty rates for small and big size businesses is attenuated or even undermined when such policies are transparent. We also tested 2.) how different income levels, different relative compliance costs, and different audit probabilities influenced compliance with safety regulations over repeated compliance decisions. Additionally, we wanted to see whether 3.) business size (small size vs. big size companies) affected relative compliance when equal penalty rates were applied.

666 participants (243 males, 418 females, 5 other) living in the UK were recruited via the research platform Prolific Academic for an online experiment. Their mean age was 34.89 years (median = 31; SD = 12.86 years) and the mean payoff was £ 6.18 (SD = 0.89), consisting of a basic payment and additional payment dependent on the outcomes of the decisions in the study. We used a mixed design with a total of eight between-subject conditions resulting from three factors with two levels each: business size (small size business vs. big size business), penalty rate (equal: 50% of evaded compliance costs for both business sizes vs. unequal: 50% of evaded compliance costs for small size business and 150% of evaded compliance costs for big size business), and transparency of penalty scheme (non-transparent/only informed about penalty rate for own business size vs. transparent/also informed about penalty rate for other business size).

Participants in all conditions had to go through 18 rounds of compliance decisions. Each round represented a unique combination of the different levels of the within-subject factors business

income, compliance costs due, and audit probability (3x2x3 levels). Income was either 1000, 1500, or 2000 ECU (Experimental Currency Units; small size companies) or 1500, 2000, or 2500 ECU (big size companies). Compliance costs were either 20% or 40% of the round income. The audit probability was set at 10%, 15%, or 20%, and audits were determined based on these probabilities in each round. The key dependent variable was relative compliance with safety regulations, measured as amount of paid safety costs divided by the due safety costs. After the 18 rounds of the experiment, participants had to fill in a post-experimental questionnaire consisting of six blocks (e.g., attention/manipulation checks, risk propensity, norm following).

The results reveal a positive influence of a higher penalty rate on compliance of big businesses in comparison to small businesses when this unequal penalty scheme is non-transparent, as relative compliance of big size companies was over 10% higher in this case. This is indicated by the significant interaction effect of business size x penalty rate. We do not observe this pattern when the different penalty scheme was transparent, since the three-way interaction business size x penalty rate x transparency was not significant. In this case compliance of big size businesses was not different from small size companies, although the big businesses faced a higher penalty rate. This suggests that the deterring effect of a higher penalty rate was attenuated when participants were aware of the different relative penalties. Relative compliance was clearly influenced by the level of compliance costs as well as the probability of an audit, and – to a lesser extent – by the size of income. Exclusively considering the experimental conditions where big and small size companies faced the same penalty rates, we find a difference in compliance between businesses of different size. Big businesses exhibited a significantly lower relative compliance compared to small businesses.

We find that the deterring effect of a higher penalty rate for big size in contrast to small size businesses observed when such an unequal penalty scheme is not transparent is clearly attenuated when this information is available. This supports the idea of a backfiring effect of higher penalties in connection with a penalty scheme that treats businesses differently. In combination with the finding that perceived unfairness of the penalty scheme was associated with lower general compliance, this suggests that penalty schemes that imply potentially unfair procedures can produce unintended negative effects on compliance with regulations.

References:

Baucus, M. S. (1994). Pressure, opportunity and predisposition: A multivariate model of corporate illegality. *Journal of Management*, 20(4), 699-721.

Becker, G. S. (1968). Crime and punishment: An economic approach. In *The economic dimensions of crime* (pp. 13-68). Palgrave Macmillan, London.

Coleman, J. W. (1987). Toward an integrated theory of white-collar crime. *American Journal of Sociology*, 93(2), 406-439.

Finney, H. C., & Lesieur, H. R. (1982). A contingency theory of organizational crime. *Research in the Sociology of Organizations*, 1, 255-299.