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# The impact of European antitrust policy: Evidence from the stock market

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ABSTRACT

We evaluate the impact of European antitrust policy by analyzing the stock market response to investigation announcements, infringement decisions, and appeals for 253 companies involved in 118 European antitrust cases over 1974–2004. We find significantly negative stock price responses of almost −5% around the dawn raid and −2% around the final decision, and a significantly positive response of up to 4% around a successful appeal. These numbers correspond to a total market value loss of €24 billion around the raid and the decision, of which roughly 75% cannot be explained by fines and legal costs. The stock market thus anticipates a decrease in profitability and reputational damage. The magnitude of the market response depends on the fine, infringement duration, and in particular firm size and media attention. Small firms suffer more from an infringement decision. Greater newspaper coverage is associated with a more pronounced response, suggesting the importance of reputational effects.



## 1. Introduction

Antitrust policy aims at preventing companies from abusing market power, restraining free trade, and/or forming anticompetitive agreements. Its objective is to foster competition in the interest of consumer welfare. A number of studies try to quantify the costs of anticompetitive conduct for society and document substantial and prolonged increases in prices and profits by cartels.[1] Although it is widely believed that anticompetitive conduct has detrimental effects, it is unclear whether antitrust policy is effective in averting these effects (Baker, 2003; Crandall and Winston, 2003). The likelihood that price-fixing collusion is detected and prosecuted in the US and the EU is estimated at less than 20% (Bryant and Eckard, 1991; Combe et al., 2008). And even in cases where infringements of antitrust law are established, we know little about their impact on the prosecuted firms.

Advocates of antitrust policy maintain that a conviction results in the end of the illegal practice and consequently leads to product price decreases (e.g., Porter, 1983; Motta, 2004). Others argue that companies pay the fine related to their conviction and continue their illegal practices, repeat them in other markets, and/or that the wrong cases are targeted (e.g., Sproul, 1993). Several studies point at the large number of repeat offenders (Veljanovski, 2007; Stephan, 2008; Carree et al., 2010). Furthermore, there is an ongoing debate about the magnitude of the fine, which should serve not only as a punishment but also as a tool for deterring anticompetitive practice (e.g., Sproul, 1993; Geradin and Henry, 2005; Bos and Schinkel, 2006; Veljanovski, 2007; Combe and Monier, 2009).

Research on the stock market response to antitrust decisions can add to the debate on whether antitrust policy is effective in affecting firm behavior. First, if the stock market punishes companies for antitrust infringements, this can be an important deterrent to future anticompetitive practice by the same as well as by other companies. Second, it is standard in event studies to interpret the stock price reaction as the market's best estimate of the change in the value of the company as a result of the event. Hence, event studies of antitrust policy are informative about whether the market expects the value of the company to decline as a result of the antitrust conviction and whether the decline in value exceeds the magnitude of the fine—which would indicate that the market expects future profitability and reputation to be diminished. Bosch

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[1] See, e.g., Werden and Simon (1987), Posner (2001), Connor (2005), Connor and Bolotova (2006), and Connor et al. (2008, 2009) for evidence on cartels. Levenstein and Suslow (2006) survey this strand of the literature and conclude that cartels last on average five years and are able to increase prices and profits. Not only horizontal collusion, but also abuse of dominance and vertical agreements can have serious adverse welfare implications, although we are not aware of quantitative estimates.

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and Eckard (1991) argued that the stock price drop can be decomposed into foregone future profit, loss of reputation, and legal costs.

The purpose of this paper is to evaluate the impact and effectiveness of European antitrust policy by studying the stock market response to European Commission antitrust investigation announcements and infringement decisions as well as European Court of Justice appeal judgments. We analyze a comprehensive sample of 253 companies involved in 118 European antitrust cases over the period 1974–2004. We show that there are substantial negative abnormal stock returns around the time of the dawn raid and around the final decision date. We find statistically and economically significant average abnormal returns of −4.7% for the dawn raid and −1.9% for the final decision. We also find significant stock price reactions around the appeal sentence. If the original decision is upheld by the European Court of Justice, there is a marginally negative stock price reaction. However, if the decision is partially or fully annulled, we observe a significantly positive average stock market response of 2–4%. The significance of our standard event study results is robust to the non-parametric inference developed by Gelbach et al. (2013).

Our estimates of the stock market reactions translate into a decrease of almost €24 billion in the aggregate market value of the involved companies. The valuation effects can only to a limited extent be explained by fines and legal costs, which suggests that the stock market anticipates a decrease in future profitability due to a loss of profits from anticompetitive conduct and/or reputational damage. We analyze the relation between the stock price reactions and several case and company characteristics. We show that small companies suffer more from antitrust convictions than large firms and uncover several important country and industry effects. Other factors determining the severity of the stock price response are the magnitude of the fine, the duration of the infringement, and especially print media attention around the antitrust investigation events. This latter finding suggests that reputational damage may be an important channel through which antitrust decisions affect firm value. Consequently, at least two of the three factors suggested by Bosch and Eckard (1991) seem to be important determinants of the stock market response to European antitrust decisions.

Overall, our results are consistent with the view that European antitrust policy has a significant impact on the convicted companies. Although we present no direct evidence on whether antitrust decisions lead to the end of the anticompetitive conduct and thus enhance consumer welfare, our results do indicate that the stock market anticipates the effects on the value of the companies to be substantial. Convicted companies suffer value losses due to the antitrust decisions that clearly exceed the magnitude of the fine and legal costs, which suggests that their expected future profitability is hurt by the termination of the anticompetitive conduct and loss of reputation. Our findings also suggest that the stock market response to infringement decisions may be an important additional deterrent to anticompetitive conduct.

## 2. Research on the stock market reaction to antitrust policy

The first event study of antitrust policy that we are aware of is Burns (1977), who finds no significant stock market reaction to the news that major US trusts had to break-up at the beginning of the 20th century. Subsequent studies investigate various aspects of US antitrust policy in different settings. Examples include Garbade et al. (1982; 34 companies that infringed the Sherman and Clayton Acts in the period 1934–1974), Binder (1988; 34 railroad companies convicted for trust forming in the 1890s), Gilligan (1986; 43 firms convicted for resale price maintenance in the period 1962–1985), Bosch and Eckard (1991; 127 firms involved in 57 US federal price fixing indictments), Mullin et al. (1995; the dissolution of US Steel at the beginning of the 20th century), Bizjak and Coles (1995; 481 private antitrust litigation cases in the US in the period 1973–1983), Bittlingmayer and Hazlett (2000; US federal antitrust action against Microsoft in the 1990s), and De Vany and McMillan (2004; vertically integrated movie studios in the period 1939–1949).

Our study is related to those of Bosch and Eckard (1991) and Langus and Motta (2009). Bosch and Eckard (1991) analyze a sample of 127 firms involved in 57 US federal price fixing indictments and find a statistically significant −1.08% share price drop around the event date. They attribute the loss in the market value to three factors: legal costs (fines, legal and economic counseling, etc.), foregone potential future collusion profits, and loss of reputation. They show that the legal costs only account for 13% of the stock market reaction. They attempt to quantify the effects of expected foregone profits, but not of reputation

While working on the first draft of this paper, we became aware of an independent study by Langus and Motta (2009) that also examines the stock market reaction to European antitrust cases. Langus and Motta find a statistically significant abnormal return of −2% around the raid and of −3% around the decision date in a sample of 55 cases involving 88 firms. Our paper uses a significantly larger sample of European antitrust cases, also analyzes appeals, and – in contrast to Langus and Motta (2009) – includes cases that did not involve a fine. Moreover, we perform a cross-sectional analysis in which we relate the stock market response of individual companies to a number of case and company characteristics, including the magnitude of the fine, the duration of the infringement, media attention (a proxy for reputational effects), and the country and industry of the companies involved. In addition, we are able to measure the relative importance of the sales generated on the market where the misconduct took place for a large subset of the firms in our sample. We use this variable as a proxy for the importance of profits generated as a result of anticompetitive conduct on this market for the firm as a whole.

## 3. European antitrust policy

The European Commission is the highest authority of competition policy enforcement in Europe and the only one to initiate regulations and modify existing antitrust law implementation. In this respect, the Commission is similar to the Department of Justice (DOJ) or the Federal Trade Commission in the US. In contrast to the US system, it is in charge of the entire investigation procedure and issues a decision without Court involvement in the first instance. Within the Commission, the Directorate General for Competition (DG Comp) is responsible for the enforcement of the European Community's competition policy law guarding over antitrust, mergers, and state aid cases. In this study, we focus on antitrust only and leave mergers and state aid aside.[2] The foundation of European antitrust policy was laid in 1957 when Belgium, France, Germany, Italy, Luxembourg, and the Netherlands signed the European Economic Community (EEC) Treaty in Rome. Articles 81 and 82 of the Treaty establish which types of agreements and concerted practice that affect trade and the well-functioning of a harmonized market within the European Community are prohibited. [3] Article 81, similar to the 1890 Sherman Act introduced in the US, deals with agreements and concerted practices between companies and

[2] There is a large body of literature on the market response to anti-merger policy in North America (Ellert, 1976; Eckbo, 1983, 1992; Eckbo and Wier, 1985; Stillman, 1983; Banerjee and Eckard, 1998) and in Europe (Aktas et al., 2004, 2007; Brady and Feinberg, 2000; Duso et al., 2007).

[3] The numbering of Articles 81 and 82 stems from the Treaty signed in Amsterdam in 1997. Since the Treaty of Lisbon came into force in December 2009, the numbering is 101 and 102, respectively. We use the former numbering because as it is applies to our sample period.