

Dynamic Interrelationships in the Process of Criminal Antitrust Investigations

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Extended Abstract

Firms' conduct related to price-fixing, bid-rigging, output-restriction and market allocation schemes are considered illegal *per se* and these constitute the criminal antitrust conspiracies. The U.S. Supreme Court ruled price-fixing to be without justification even in the early-1900s. Price-fixing agreements are covert and hard to detect, implying that the Antitrust Division of the U.S. Department of Justice – the sole agency entrusted with criminal antitrust prosecutions – has to rely on diverse sources of information to uncover the conspiracies. This paper first outlines the genesis, taxonomy and timeline of criminal antitrust investigations. The sources of information that may lead to prosecutions can be myriad. For example, information could be unearthed during a merger investigation about firms' illegal conduct in certain markets; due to information revealed in one price-fixing prosecution, we could get follow-on prosecutions in the market under investigation and related markets; grand jury investigations and information revealed during convictions of individuals and firms could lead to new information and subsequent prosecutions; information revealed by consumers; among others avenues. The paper provides selected examples of actual cases in each of the above categories.

After discussing the various channels of information flows, the paper examines the dynamic interrelationships between the key variables in the process of criminal investigations. The econometric methodology employed is Vector-Autoregressions (VAR). The VAR technique is particularly suited to the study of dynamic interrelationships as it allows us to examine all the dynamic feedback effects. For example, if the number of grand jury investigations increases today, we can examine how this affects future grand jury investigations, the number of criminal prosecutions, the number of individuals and firms convicted, among others. In our VAR system, we declare the following variables as jointly-determined (or endogenous): civil investigations, number of grand jury investigations, number of criminal prosecutions, the number of firms convicted and the number of individuals convicted. We also examine fines levied on the guilty firms and individuals.

Some of the highlights in terms of our results from the estimated impulse-responses from the VAR analysis are as follows:

- (1) Criminal prosecutions increase a year or two after increases in civil antitrust enforcement (e.g., merger and monopolization cases).
- (2) Increase in the number of grand jury investigations lead to increases in the number of criminal cases in general and prosecution of firms in particular, with lags of about two years.
- (3) Increase in the number of firms convicted leads to future increases in the number of grand jury investigations and the number of firms and individuals convicted.
- (4) Increase in the number of individuals convicted leads to increase in the number of firms and individuals convicted in future periods.

Result (1) suggests *complementarities* in the antitrust investigative process between civil and

criminal investigations. In other words, information revealed during civil investigations appear to play an important role in prosecution of price-fixing cases. Results (2)-(4) point to significant dynamic interrelationships and *information-spillovers* in the process of criminal investigations; information revealed in the process of existing criminal investigations and prosecutions lead to increases in future prosecutions. For all of the above results, the estimated quantitative effects are meaningful. The results from the estimated forecast error variance decompositions suggests that increases in any one of the jointly-determined (or endogenous) variables in the VAR system have significant predictive powers for forecasting future movements in the other jointly-determined variables.

Aside from the above, our broader analysis reveals the following additional results:

(1) Criminal enforcement follows a counter-cyclical pattern with the number of criminal cases prosecuted increasing about two years after an economic downturn. The estimated impact is an increase of 7-8 criminal prosecutions following a one-standard-deviation decline in GDP growth. We tie this finding to the literature which suggests cartel instability during economic downturns.

(2) There is a structural-break in criminal enforcement starting late-1970s. The post-structural-break era has about 37 more criminal prosecutions per year compared to before the break. We relate this result to a shift in U.S. antitrust doctrine lead by the Chicago-school economics and legal scholars which argued for focusing antitrust on areas of clearer harm to welfare.

(3) Our results show that post-structural-break, Republican administrations have placed greater emphasis on criminal enforcement as compared to Democrats. On average, Republican administrations have prosecuted 12 more cases per year than Democratic. An explanation of this finding is that Republicans have attempted to target business conduct with incontrovertible harm to consumers without compensating gains in efficiency.

We highlight some implications of our findings. First, the result that merger and civil antitrust investigations are good predictors of future criminal prosecutions, implies information spillovers. The practical implication of this is that firms who are engaged in price-fixing agreements should be very careful about applying for merger clearance as the merger investigation may lead to information about price-fixing activities and subsequent prosecutions. Discovery of price-fixing agreements may also serve as an important reason for the merger to be blocked. Second, price-fixing agreements are covert and difficult to unearth. The message is that antitrust authorities, as part of current criminal as well as civil investigations, should make a concerted effort to glean information about cartel-like activities in the markets.

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This paper is part of broader project on antitrust enforcement that was initiated when I was an Economist at the Antitrust Division of the U.S. Department of Justice.