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THOUGHT LEADERSHIP BRIEF

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How Effective Were Leniency Programs Globally?

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KEY POINTS

- Antitrust leniency programs allow the courts and/or regulators to grant full or partial immunity to companies that participated in illegal cartels but cooperated in providing information about the cartel. Antitrust lawyers have been considering them among the most significant developments in cartel detection and deterrence.
- Our research finds that leniency program passage around the world led to more cartel detections and lower profitability margins of affected firms and thereby likely improved consumer welfare.
- However, when firms face new regulatory barriers to cartel formation, they acquire other firms and these mergers have a negative effect on customer firms' stock prices, thus mitigating the effectiveness of leniency programs.
- These findings imply that anti-collusion enforcement may be effective only when coupled with a strong merger review process, providing implications that emerging market institutions pondering optimal antitrust enforcement should consider both antitrust infringements in unison.

ISSUE

Academics, policy makers, and media have recently raised attention to the potentially decreasing product market competition around the world. Reduced competition may come from increasing industry consolidation as well as collusion among market participants retaining their individual market shares. In their efforts to combat anticompetitive misconduct, many countries, including the emerging markets, introduced leniency programs that offer companies within a cartel either total immunity or a reduction in the fines if they self-report and hand over evidence to antitrust authorities.

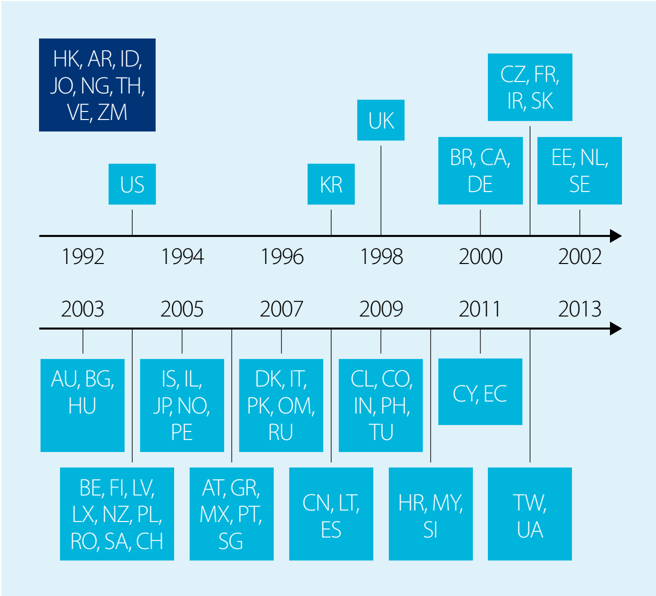
However, the observations that product market competition has not intensified and in fact may even have weakened raise questions about the effectiveness of these programs, especially in the markets with weaker antitrust enforcement such as emerging economies. In particular, one possible reason for such ineffectiveness could be that firms that wish to preserve market power might be substituting their participation in the collusive activities with increased horizontal integration via mergers and acquisitions.

Investigating the effectiveness of any government policy in a single country is challenging as that country might be facing contemporaneous policies or some economic trends that might reduce the certainty that the observed changes in firm or individual behavior indeed comes from the studied policy rather than from other reasons. With that in mind, in my paper "The effects of global leniency programs on margins and mergers", which was coauthored with Ailin Dong (Shanghai Jiao Tong University) and Massimo Massa (INSEAD) and published in the RAND Journal of Economics, we investigate the effectiveness of national leniency programs by collecting data on their passages in 63 countries and territories over 1990-2012. As these programs were passed at various countries at different times and they were unlikely to be correlated with the same economic trends, we can estimate their average impact on the profitability of 54,189 publicly listed global firms and their subsequent merger and acquisition activity.

ASSESSMENT

We first make sure that indeed the passage of different leniency programs were not confounded with a particular common trend in economic or political conditions. We carefully read online discussions and press announcements. We find that some countries such as the US, Hungary, and Switzerland improved their leniency programs after prominent collusion cases. Other countries such as Mexico and Singapore passed leniency programs after significant pressure from the US, the EU, or supranational organizations such as OECD. Moreover, the EU encourages its member states to adopt leniency programs and often seeks similar provisions in its bilateral associations and trade agreements, whereas the IMF and the World Bank request the overhaul of antitrust laws as a condition for loans and other funding. The economic conditions around the passage of leniency programs also varied. For instance, Taiwan passed its law in response to general concerns about rising consumer prices, whereas Korea passed it after the financial crisis. While we observe that more advanced jurisdictions passed the law first, other macroeconomic characteristic do not seem to be related to the timing of the leniency law passage. Figure 1 depicts the timeline when leniency programs were adopted (or strengthened) in different jurisdictions.

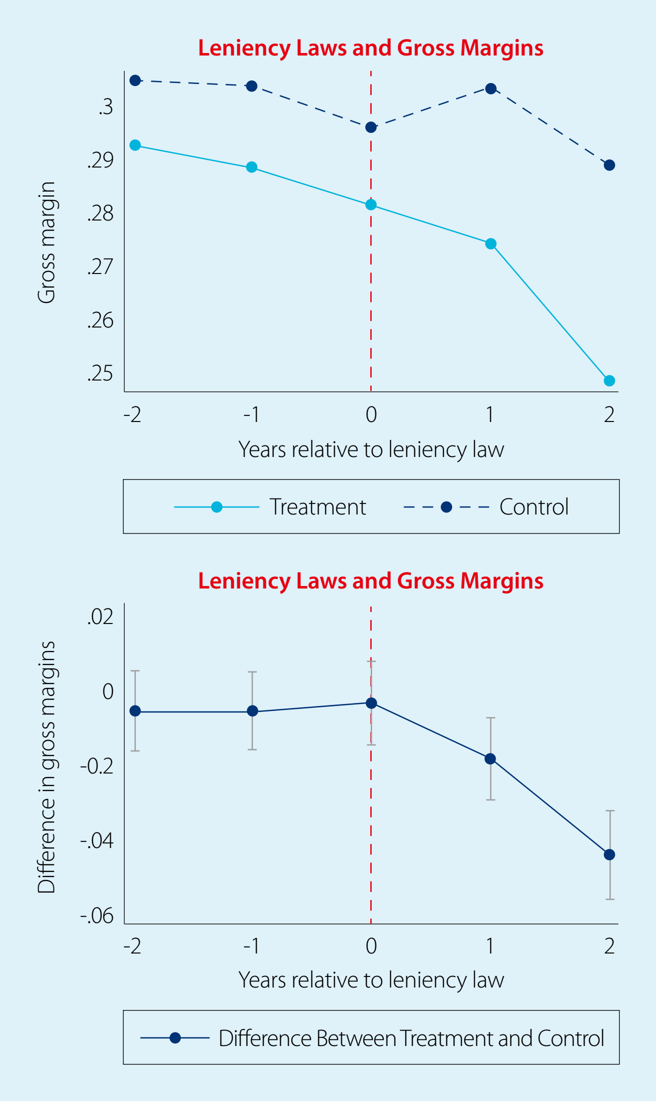
Figure 1. Timeline of leniency program passage across countries



With this in mind, we estimate that the national leniency programs more than doubled the number of cartels detected by antitrust authorities in the countries and territories that passed these laws, increasing them by 154%. However, additionally leniency programs might have also affected the break ups of undetected cartels. We thus look at the gross profit margins of the firms headquartered in the law-passing jurisdictions since the drop in the profitability can more comprehensively reveal a positive effect of leniency programs in facilitating competition between firms.

Our estimation suggests that leniency laws lead to a 14.8% drop in gross profit margins from the average sample gross margin of 34.5% before the leniency law passage, confirming that these laws were generally effective in increasing the competition between the firms. Figure 2 plots this effect graphically by showing leniency program effect on gross profit margins for the period from the two years before to the two years after the passage of the law. We display the average gross profitability margins for firms that were affected by leniency laws as well as for a sample of control firms. The control sample consists of firms that did not face the introduction of leniency laws over the same five-year period as the treated firms. Our regression estimates are consistent if we compare firms that are in the same industry, are similar in size, and are located in countries with similar states of economic development. Therefore, in the absence of leniency laws, we expect them to have experienced similar changes in profitability and to have followed similar corporate policies. Taken together these results suggest, by and large, leniency programs have been effective tools in dissolving existing collusive arrangements and/or preventing the formation of new ones.

Figure 2. Gross profit margin trends

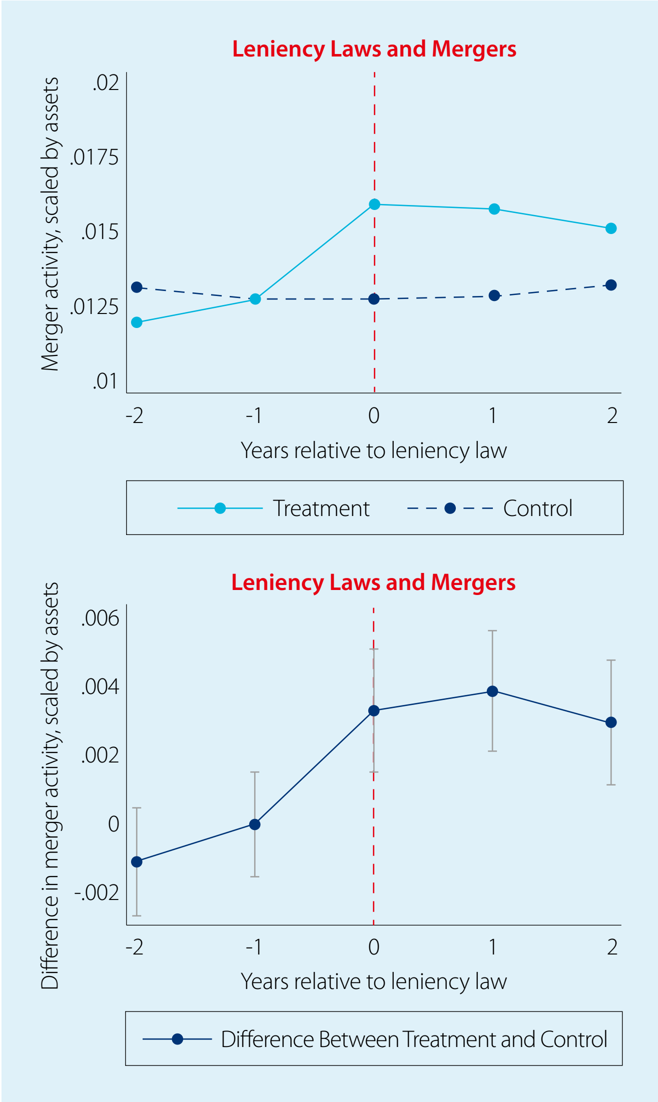


However, as plotted in Figure 3, we also find that when firms face new regulatory barriers to cartel formation, they acquire other firms. The passage of a leniency law raises the annual total dollar value of mergers from 0.6% to 1.3% of the total assets. In other words, firms replace the market power provided by a cartel with the market power provided by a larger scale. Indeed, firms that pursue mergers after the passage of leniency laws experience a smaller drop in profitability than (a) similar firms in their industry and country, and (b) similar firms in their industry and country that attempt but fail to complete mergers.

Finally, one could argue that these firms merged to improve cost efficiency and thus these mergers could have had a positive contribution to the economy. However, we provide evidence that these mergers were negatively perceived by the investors of the customers of the merging firms. We find a strong negative stock market reaction for downstream firms around the post-leniency-law merger announcements of supplier firms. This suggests that potential customer firms are expected to lose from the mergers initiated in the wake of new leniency laws. At least to a certain extent then, these mergers act as a substitute for now harder-to-form explicit cartels, mitigating the effectiveness of the leniency laws.

We find that these leniency law effects were not uniform but differed across firms. We observe stronger effects in the cases when the firm had recently been detected in a cartel case or when based on the past data we can predict a probability that firm is detected in a cartel case. We also discover stronger effects in more concentrated industries or industries with little international competition. However, we also show that international firms seem to be affected by leniency programs in the other countries where they operate.

Figure 3. Merger trends



RECOMMENDATIONS

Given that breaking up cartels is justified as it encourages competition and protects consumer welfare, our findings suggest that although leniency programs are effective in general, their positive effects are mitigated if firms redraw their boundaries in response to regulatory actions.

This has significant implications for the objectives of antitrust policy. If the goal of such policy is to benefit the customers of the cartels, the merger reorganization that takes place after the passage of the laws makes policy intentions more difficult to achieve. In this respect, our findings suggest the need for closer integration between the merger review and horizontal restraint arms of antitrust authorities.

In fact, antitrust enforcers' decisions to pursue actions against cartel behavior are usually made by considering cartels' potentially negative effect on consumer welfare, as compared to consumer welfare under the competition between the same number of formerly colluding firms. However, an accurate comparison must take into account how firms would reorganize themselves after collusion costs increase.

This also implies that having a lax merger control policy could mitigate or completely wipe out the beneficial competition-inducing effects of otherwise effective leniency laws, suggesting that the two policies might need to go hand-in-hand. In fact, we find that leniency laws have a smaller effect on the margins of non-US firms, whereas the economic effect on merger activity is similar for US and non-US firms. One might conclude from these findings that leniency laws have been less effective in reducing gross margins outside of the US, especially in the jurisdictions that have weaker merger review enforcement such as those in the emerging markets.

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Reference:
Based on Ailin Dong, Massimo Massa, Alminas Zaldokas, 2019, The Effects of Global Leniency Programs on Margins and Mergers, RAND Journal of Economics 50, 883-915

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