Research Proposal on
Anti-trust Sanctions and US Competitive Edge

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Motivation

The Trump administration is broadening its China trade battle beyond tariffs with a plan to use export controls to counter the theft of intellectual property. Trademark infringement was the most common form of IP violation in China, while copyright infringement was the most damaging to foreign companies. One important question in the policy debate is whether America gains its competitive edge with increasing anti-trust sanctions.

In this paper, I plan to examine the effect of increases in U.S. antitrust enforcement on the competitiveness of US firms in product markets. On the one hand, a more stringent enforcement from the delegation of antitrust enforcement could benefit US companies, through the reduction of future infringements. These enforcements can lead to lower barriers to entry, increase profitability and competitive advantage for US firms. On the other hand, anti-trust sanctions encourage more U.S. companies to work with the government to counter intellectual property theft , which may lead to the relative rise of concentration and market power in the US. Increases in lobby activities would also crowd out future innovation, which have adverse implications to creative destruction. Therefore, anti-trust sanctions can be costly, and have unintended consequence to competitive advantage of US companies.

Research objectives

First, it is important to exploit the determinants of the enforcement using data across industries and across states. I plan to study whether political considerations (e.g., national-security threats) or economic factors (e.g., losses associated with property infringements) lead to increases in lobby activities in the US. Second, using anti-trust cases filed by US firms in China, I examine whether anti-trust sanctions reduce the number of subsequent patent infringements by analyzing the likelihood of subsequent filings, resolution outcomes (e.g., favor US firms or Chinese firms). For example, whether foreign firms have a higher win rate in patent cases than domestic ones, and are awarded more damages overall. Third, I study whether anti-trust enforcements affect the competitive edge of US companies in terms of barriers to entry and profitability. In addition, I test the heterogeneous effects associated with sanctions across industries with differential exposure to infringements. Moreover, this paper attempts to quantify the potential benefits and costs associated with lobbying activities and sanctions.

Data

Several data sources are used throughout the analysis. First, US anti-trust sanctions are obtained from the Federal Trade Commission and Department of Justice. Second, I extract anti-trust cases of US firms filed in China from local courts in China. These original legal documents provide detailed information on US firms involved, court locations, judge characteristics, case start dates, case resolution dates, and resolution outcomes. To study the entry of US firms, I obtain information on merger and acquisitions and joint ventures between US and Chinese companies. Furthermore, I track the changes in patents filed by US firms before and after anti-trust sanctions for the industries that are more exposed to infringements.

Research methodology and computing language

I address the identification issue by exploiting anti-trust sanctions that are unrelated to the economic conditions (e.g., patent infringements). To rule out the unobservable characteristics that may drive the relation between anti-trust sanctions and case outcome and competitive measures, I performance a difference-in-differences tests before and after anti-trust sanctions for the industries that are more exposed to infringements relative to those that are less exposed.

In terms of the computing language, I plan to apply machine-learning methods in extracting the case-level information. The original legal documents resemble unstructured data, and it is challenging to decode the relevant information. The Big Data and High-Performance Computing workshop provides an excellent opportunity to explore new tools on high-performance computing and big data techniques for social sciences. Moreover, it is important identify new research questions inspired by big data and shed lights on regulatory policies.