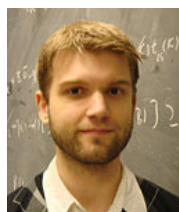
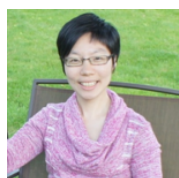


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China's industrial policy fosters collusion

China's economic growth is often attributed to the rapid proliferation of special economic zones (SEZ). New research suggests that gains to firms arising from the preferential tax and regulatory incentives for locating inside an SEZ, may come at a cost to consumers. Clustering may equally promote competition and collusion among firms in SEZs; could benefits from collusion outweigh the costs?

The Chinese economic miracle of the past few decades is perhaps the most important and dramatic economic growth episode in recent history. It has moved an estimated 750 million people out of extreme poverty.

Many economists and policymakers attribute the start of the Chinese economic miracle of the past few decades to the founding of "Special Economic Zones" – special areas in which markets, international trade, and innovation are promoted through public-private cooperation and a variety of tax, regulatory, and infrastructure incentives. In the early 2000s, India followed suit, proliferating similar zones in the hopes that they would lead to economic growth and development. Other countries, both developing and advanced, have adopted similar strategies.

Collusion among firms is higher inside the economic zones

Our recent [research](#), however, has uncovered a potential dark side of these zones: they promote collusion. Focusing on China, our index of collusion is four times as high in the Special Economic Zones (SEZs) we study as it is outside of the zones.

In addition, we find high rates of collusion in certain other industrial clusters, even those not designated SEZs. Current research is investigating whether impacts in India are similar.

Our collusion index is based on a tool that we develop and validate to measure rates of price collusion among subgroups of firms in the same disaggregated industry. The test builds off of a simple idea: independently competing firms consider the impact of price behavior on their own market share, but colluding firms also consider the impact of lower prices on the market shares of other colluding firms. One way we validate the test is by showing that it can identify correctly which firms (in this case plants) are colluding with each other, and which aren't. We do this by examining plants owned by the same

article. We do this by examining plants owned by the same parent firm, which collude with each other in much stronger fashion than plants owned by different parent firms.

Proximity within a zone naturally increases interaction and mechanisms for collusion

The zones are meant to attract and agglomerate businesses. We conjecture that firms who are closer to one another are more likely to interact in a number of ways. Informally, increased interaction may allow for greater trust, easier communication, and easier monitoring. Formally, industry boards and associations and coordinated marketing venues are often part of the policies.

“Countries are often happy to have firms collude in the export market, however, because the costs are born by foreign consumers, while benefits accrue to the domestic economy. “

In an interview, one firm leader in China acknowledged that the members of the local industrial association have an agreement to not compete on price. Instead, the industry association leader receives contracts, and allocates the business among the member firms. The railroad cartel in the 19th century U.S. began with the forming of an industry association as well. We don't rely on anecdotal evidence or even case studies, but the evidence supports our conjecture on the mechanisms.

Who pays the price for collusion?

In most countries around the world, collusion is discouraged if not explicitly criminalised. If SEZs lead to collusion, they may be beggar-they-neighbor development policies: good for local economies but gains are at the expense of consumers in the rest of the country. Countries are often happy to have firms collude in the export market, however, because the costs are born by foreign consumers, while benefits accrue to the domestic economy. Surprisingly, we find higher rates of collusion in clusters dominated by domestic firms with lower export shares, so it seems more likely to harm the domestic economy.

Collusion leads to inefficiently low levels of output, but it might improve how efficiently production is allocated across the firms in the industry. We find evidence that colluding clusters equalize their markups, and we show this is consistent with more efficient allocation of production among colluding firms. Finally, it may be that higher profits associated with collusion are necessary to sustain growing industries. The infant industry argument states that young industries need protection, especially when financial markets are underdeveloped. In that case, allowing collusion may be an unorthodox way of protecting the industry.

Do Special Economic Zones necessarily lead to increased collusion?

Perhaps proper organisation of the industrial cluster or proper oversight might eliminate the risk of collusions. In that case, the message is not, “Beware Special Economic Zones,” but instead, “Be vigilant about collusion when firms are agglomerated!” We note that our results are not applicable to the larger zones that began in the 1980s and introduced market

the larger zones that began in the 1990s and introduced market incentives into an otherwise planned economy. Instead, our results focus on more local SEZs that have proliferated since.

These zones are often industry-specific and involve land developers. Ongoing work will explore whether certain types of zones are more closely associated with collusion than others.

Areas for further research: Do the pros outweigh the cons?

If collusion is bad, and inextricably tied to special economic zones, the desirability hinges on whether the benefits outweigh the costs.

There are several purported benefits of industrial clusters: Thick product markets may increase sales. In addition, labour market pooling and thicker markets for specialised intermediates may lower costs, and give firms greater flexibility in adjusting production levels.

Finally, technology spillovers might improve productivity for everyone. This is another question of ongoing research, but it seems clear that the typical argument in favour of clusters does not appropriately answer this question. Proponents of cluster policy have often pointed to higher growth or profitability within industrial clusters. These could be driven by either the above benefits, or by beggar-thy-neighbor collusion. Therefore, new metrics and methods are needed to answer the question.

Collusion in other settings

We have evidence for China, but special economic zones are common in many countries, and cluster initiatives are even more ubiquitous. An important question is whether the incidence of collusion is particular to the Chinese economic model or not. We do not yet have the answers, but we are currently pursuing a parallel study in India, where industrial organisation, average firm size, cluster policies, and the role of government more broadly are all considerably different. A nice advantage of our test is that it is quite portable to any country with data that tracks firms over time.