

Deterrence through procurement design

Paul A. Johnson, PhD

T.D. MacDonald Chair in Industrial Economics
Competition Bureau (Canada)

Cartels are hard to run

- Agreement must be self-enforcing
- Agreement must be kept secret
- Everyone wants to “cheat”

Procurement design can take advantage of these challenges to deter collusion

Cheating in an infrastructure procurement (hypothetical)

- Government regularly solicits bids for renovation of public housing
- Two potential suppliers agree to collude
 - A to offer to do the work for \$100,000 and B to offer \$110,000
 - Cheating: B “undercuts” by offering \$99,000
 - If cheating is attractive, the collusion is not self-enforcing and competition will result
- Key question: What features of the procurement process support this kind of cheating?

Procurement design #1: don't continue to negotiate a lower price

- Suppose B cheated (i.e., just undercut A who was the designated winner)
- A procurement authority can
 1. Accept the bid and award the business to B
 2. Use the bid to negotiate a lower price from A
 - Cost: Allows A to monitor cheating and avoid harm from cheating very easily
 - Cost: Allows A to offer high initial proposals without fear of losing business

Do those costs outweigh any benefits?

Procurement design #2: hold infrequent high-value procurements

- Two situations where A and B agree to divide opportunities equally
 - Situation 1: 2 opportunities (auctioned simultaneously)
 - Situation 2: 10 opportunities (auctioned simultaneously)
- Suppose B cheats by undercutting A slightly and winning all the opportunities
 - Situation 1: Cheating brings profits on one extra opportunity
 - Situation 2: Cheating brings profits on five extra opportunities
- Cheating is much more profitable in situation 2

Do the costs of holding frequent low-value procurements outweigh the benefits?

Procurement design #3: Encourage the collection and monitoring of price data

- Certain settings may be particularly conducive to collusion (e.g., small number of bidders, entry barriers)
- In those settings, the benefits of monitoring may be substantial
 - Related to fairly large literature on “screens”
- Main challenges are practical
 - How to allocate scarce resources to a new task?
 - How to deal with substantial heterogeneity in opportunities in simple ways?

Many other insights exist

- All may not be applicable in all situations but some may be applicable in some situations
- Suggests that outreach to other entities in government can be productive
- Recommended reference (especially ch. 10):
 - Marshall & Marx. The Economics of Collusion: Cartels and Bidding Rings. MIT Press, 2012.