



## **CARTEL, MANAGERIAL INCENTIVES AND MERGER AND ACQUISITIONS**

**DNR 409/2019**

**(March 1<sup>st</sup>, 2020 – June 30<sup>th</sup>, 2022)**

### **Final Report**

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We would like to begin by thanking you for the research funding. This project would not have been possible without this funding support.

In this document, we first report our progress in each of the research papers included in the research proposal. For each of the articles we have generated, we provide information on their status, in terms of paper development, publication and conference and seminar presentations.

Finally, we add the financial report. Note that we have used up the full awarded budget.

Sincerely yours,  
Catarina Marvão (on behalf of all four researchers)

**Project 1**  
**How does collusion affect managerial compensation?**  
*by Matthew Bloomfield, Catarina Marvão and Giancarlo Spagnolo*

Status:

Two articles were written for this first project. Note that the research paper is currently under a revise and resubmit at the *Journal of Accounting and Economics* (ranked 4+ stars in the ABS rankings).

We have resubmitted a new version on August 17<sup>th</sup>, 2022.

Presentations:

1. *Tuck School of Business at Dartmouth, May 8<sup>th</sup>, 2020*
2. *International Industrial Organization Conference (IIOC), Boston, April 30<sup>th</sup>, 2021*
3. *Irish Economic Association (IEA) Conference, Limerick May 7<sup>th</sup>, 2021*
4. *Irish Accounting and Finance Association (IAFA) Conference, Dublin, May 13<sup>th</sup>, 2021*
5. *Competition and Regulation European Summer school and conference (CRESSE), Crete, July 2<sup>nd</sup>, 2022*
6. *European Association for Research in Industrial Economics (EARIE) Conference, August 26<sup>th</sup>, 2022 - forthcoming*

Articles:

1. **VoxEU article**, October 9<sup>th</sup>, 2020, available here:  
<https://voxeu.org/article/relative-performance-evaluation-sabotage-and-collusion>
2. **“Relative Performance Evaluation, Sabotage and Collusion”**  
SSRN Working Paper No.3524522  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3524522](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3524522)  
CEPR Discussion Paper No. DP15115  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3674891#](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3674891#)

Paper abstract:

We examine whether the potential for costly sabotage is a deterrent to firms’ use of relative performance evaluation (“RPE”) in CEO pay plans. We exploit illegal cartel membership as a source of variation in the potential for costly sabotage and document that firms are more likely to use RPE if they are currently cartel members. Moreover, firms frequently drop RPE from their CEOs’ pay plans immediately after their cartels are detected, convicted and punished. We further provide suggestive evidence that the potential for costly sabotage explains these patterns; cartel membership severs the empirical association between RPE and competitive aggression.

**Project 2**  
**How is competition affected by mergers and acquisitions involving former  
(legal) cartel members?**

*by Chloe Le Coq and Catarina Marvão*

Status:

Under this second project 3 articles were written.

The first step of the project was to explore the legal cartel data further. We have published a paper on managerial incentives and collusion. We have a second paper on the birth and death of cartels, which was presented at numerous conferences. We aim to submit it to the *International Journal of Industrial Organization* (IJIO) in September 2022.

The second step of the project was to examine the (in)efficiencies related to the substitutability between cartels and mergers. A third research paper focuses on this issue and is still ongoing. We have merged the legal cartel data with the merger data and written a preliminary draft.

Presentations:

1. Symposium on Competition Policy, University of Cambridge, May 2020
2. *BECCLE 2020 (accepted, but conference cancelled)*
3. *IIOC 2021, April 30-May 2, 2021*
4. *CCPC (Irish Competition Authority), June 21<sup>st</sup>, 2021*
5. *European Association for Research in Industrial Economics (EARIE) Conference, August 27<sup>th</sup>, 2021*
6. *Competition and Regulation European Summer school and conference (CRESSE), Crete, September 4<sup>th</sup>, 2021*
7. *European Association for Law and Economics (EALE), September 10<sup>th</sup>, 2021*
8. *Netherlands Competition Authority Seminar (invited presentation), October 26<sup>th</sup>, 2021*
9. *Asia-Pacific IO Conference (APIOC) (invited guest speaker), December 13<sup>th</sup>, 2021*
10. *CERNA Research Seminar, Mines Paris Tech, PSL University, March 9<sup>th</sup>, 2022*
11. *IIOC 2022, May 13-15, 2022*
12. *BECCLE Conference, June 2<sup>nd</sup>, 2022*
13. *CRED Law and Economics Workshop, June 7<sup>th</sup>, 2022*
14. *European Association for Law and Economics (EALE), September 13<sup>th</sup>, 2022, forthcoming*

Articles:

1. **“Managerial incentives to repeatedly collude: Frequency, partners and governance rules”**  
C. Le Coq and C. Marvão,  
Concurrences 04-2020, November 2020

Paper abstract:

Cartel recidivism has been discovered among many convicted firms and is often perceived as a result of the limited efficiency of competition policy. The incentives for managers to collude have been linked to the firm's organizational structure, the corporate culture, and the type of executive compensation packages in place. To the extent that undetected cartels differ from detected ones in relevant dimensions, the current empirical results on illegal cartels are biased. To tackle this issue, we use a novel dataset of a population of cartels, which were legal in Sweden up until 1993. We contribute to the current debate on the importance and extent of recidivism, exploiting managers' willingness to collude (repeatedly), absent law enforcement. This is a particularly important issue in the current climate of (potentially) weak law enforcement in terms of detected cartels and lack of optimal enforcement tools.

We illustrate how recidivism is, in a legal setting, a widespread phenomenon. We show that: (i) cartel members tend to be multiple colluders (MCs), i.e., participate in many cartels (up to 63 in a 46-year period); (ii) MCs tend to collude with similar firms, refuse entry and/or exit from the agreement and have less-strict governance rules (fewer meetings, fewer voting mechanisms and a less delineated hierarchy); and (iii) contrary to the current literature, there is no clear trend between the MCs and the involvement of a trade association.

**2. "Cartel's birth and death dynamics: empirical evidence"**

T. Forsbacka-Karlsson, C. Le Coq and C. Marvão,  
SSRN working paper No. 3873351, June 2021

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3873351](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3873351)

Paper abstract:

This paper examines how the legal and macroeconomic environments impact cartel births and deaths. We exploit the gradual tightening of the competition law to study how cartels react to increased anti-trust enforcement. To avoid the inherent sample selection bias in prosecuted cartel studies, we use a unique dataset covering the population of Swedish legal cartels registered between 1946 and 1993. We estimate both a count model that considers the registered cartels and a Hidden Markov Model, which accounts for incompleteness in the data. These two complementary approaches allow us to characterize the observed, and potentially hidden, dynamics of cartels. We find that strengthening the competition law has some deterrent effect. However, as the competition law becomes stricter, and the threat of cartel prohibition becomes credible, cartels continue to form but do so undercover.

**3. "Survival rate of legal cartel members: the case of Sweden"**

C. Le Coq and C. Marvão,  
**Mimeo**