Ansökan om forskningsmedel

Observera att ansökan med bilaga endast ska skickas elektroniskt till konkurrensverket@kvv.se

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3 Projektskrivning
Projektets syfte, betydelse och genomförande (högst 1400 tecken).

Swedish Part of the European Cartel Project: "What Do Legal Cartels Tell Us about Illegal Ones?"

Projektets avsats starta, datum
2014-04-01
Projektets beräknas vara slutfört, datum
2015-03-31

This project is part of a greater main European cartel project, "What Do Legal Cartels Tell Us about Illegal Ones?". We hereby apply for funding for codifying the Swedish cartel register in accordance with the protocol proposed in the main project.

The main project takes its starting point in the fact that economists and policy analysts know very little about the conditions under which cartels are formed in differing legal environments, how they act against outsiders, how they act against deviating insiders, and how they react to changes in the economic environment.

The project will analyze these aspects empirically, using data on legal and illegal cartels, and in the sequel, theoretically. Studying legal cartels could prove to be directly helpful in fighting illegal cartels. Whereas legal cartels do not need to conceal their existence and actions, many of the internal and external incentive issues they face are issues faced by illegal cartels as well.

The project will be based on a unique cross-country data set on legal and illegal cartels. In Austria, Finland, Norway and Sweden, the formation of cartels was completely legal from World War II until the accession to the EU in 1993. That is why we can use cartel registers in these countries in the study of legal cartels.

Bifoga en utförligare projektbeskrivning (max 10 A4-sidor).
4 Kostnadsredovisning

Fyll i de ofärgade cellerna med för projektet gällande information, så uppdateras de färgade automatiskt. Ge akt på de felmeddelanden i rött som visas vid överträdelse av Konkurrenseverkets riktlinjer för anslag till forskningsprojekt.

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<th>Projekt 1</th>
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<td>Lars Persson, professor</td>
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<td>Rickard Hammarberg, master of science</td>
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Summa övriga kostnader (hämtas från tabell 4a) 0
Total kostnad inklusive sociala-, och förvaltningsavgifter 345 345

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Total kostnad inklusive sociala-, och förvaltningsavgifter 0

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Total kostnad inklusive sociala-, och förvaltningsavgifter 0
4a Redovisning övriga kostnader

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5 Kostnadssammanfattning (anges i kronor) för nu sökt anslag

Total projektkostnad

345 345

Därav söks från                  Tidigare erhållna anslag från

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*Anslagsgivarens namn

Ansökan inlämnad, datum Sökt belopp

**Anslagsgivarens namn

Ansökan beviljad, datum Beviljat belopp

6 Övriga projekt som samtidigt kommer att ledas av huvudansvarig

Projekttitel För att radbryta texten, använd Alt + Enter


Namn och institution på personer som beviljas forskningsbidrag kommer att publiceras på Konkurrensverkets webbplats.
Swedish Part of the European Cartel Project: “What Do Legal Cartels Tell Us about Illegal Ones?”

1. Introduction

This project is part of a greater main European cartel project, “What Do Legal Cartels Tell Us about Illegal Ones?”. We hereby apply for funding for codifying the Swedish cartel register in accordance with the protocol proposed in the main project.

The main project “What Do Legal Cartels Tell Us About Illegal Ones?” takes its starting point in the fact that cartels have been prominent in entrepreneurial activity probably ever since human societies began to rely on the market mechanism, and for sure since the late 19th century. By standard micro-economic reasoning in the Anglo-Saxon tradition since Adam Smith, cartels seek to act similarly to monopolists, and thus inflict losses on society via excessively high prices and low quantities. Beyond that, they create barriers to entry. The U.S. American Competition Policy that developed out of the 1890 Sherman Act and subsequent legislation is an attempt to fight this behavior.

Contrasting the Anglo-Saxon view, the early 19th economics research in Germany promoted the use of cartels (see e.g. Schröter 1996), and these views were echoed in Scandinavia (see e.g. Altham 1921). In a short but important deviation from the standard Anglo-Saxon view, the formation of cartels was explicitly encouraged in the US in the period of 1933–35, in order to overcome the Great Depression. The vehicle for this was the U.S. National Industrial Recovery Act (NIRA). Also, the NIRA cartels followed several years in which the FTC promoted information sharing through its trade association meetings activities. Likewise, in the UK, cartels were legalized until 1956 in order to induce growth post WW II.

In all, it is not fully clear whether the formation of cartels has had the effects detrimental to welfare attributed to them. In particular, the jury is out whether cartel formation has created effects on non-price variables such as investment, market concentration, and technical change that would adversely affect innovation and growth.

As can be attested to by any competition authority, cartels are not a phenomenon of the past. Dozens of international cartel-like conspiracies allegedly were in force in the 1990s and have been investigated by, or are currently under scrutiny of, the European Commission and the U.S. Department of Justice. Numerous smaller, national cartels have also been exposed in many industrialized countries. Many of these have attracted the attention of society at large and media in particular. Yet the empirical research on cartels is rather scant, and heretofore has been restricted either to detected illegal cartels, or case studies on legal cartels emerging in the U.S. in the 19th century.1 While important, both strands suffer from significant shortcomings. The two most important of them are that (i) studying detected illegal cartels, as

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1 The only more recent evidence is provided cartel formation within the U.S. National Industrial Recovery Act (NIRA) episode, which covered a short period of three years (June 1933 until May 1935) within an exceptionally stressful economic environment – the Great Depression.
eminently surveyed by Levenstein and Suslow (2006), is subject to potential selection bias because detection is highly likely to be non-random, and that (ii) studying individual cartels, such as done by Genesove and Mullin (2001), rarely allows for the generalizations needed to develop policy recommendations. Yet any closer reading of the evidence on illegal cartels suggests that they are faced with very much the same organizational problems as the legal cartels of the more recent past, whose behavioral analysis is in the focus of the planned research project.

There is particularly little work on the organization of cartels, for instance: on the actors involved in their creation, e.g. a leading firm, a pool of firms, or an association; on the modes the participants’ private information about key variables is collected and communicated within the cartel; on the modes decisions are taken within the cartel; or on the modes conflicts between the cartelists are adjudicated.

Examples of the scant literature discussed below (in Section 2) are Chen (2008) and Harrington and Bos (2010) on the theory of cartel formation, and Levenstein and Suslow (2011) on the empirical analysis of cartel organization and its effects. Cross sectional evidence is also summarized, and individual industry studies are added, in Grossman (2004). The theory is rudimentary, and the quantitative work suffers from the aforementioned selection bias.

If we are to attempt to improve the execution of antitrust policy in the current policy regime that restricts (or forbids) the formation of cartels, we will need a thorough understanding of the intra-industry and external conditions under which cartels are formed; how cartels are organized; and under which internal and external conditions they maintain stability, destabilize, and dissolve. The objective of this research project is to provide comprehensive international evidence on these phenomena under diverse policy regimes. On the basis of that evidence, we seek to contribute also to the theory of cartel formation, organization and dissolution.

Understanding the organization and behavior of these cartels should also shed new light into the current day operation of the European economies looked at. Many of these economies share the past in the sense that cartels were legal, and many of the institutions created during that era are still alive, that could contribute to less overt effective cartelization. In view of this, path-dependence as affecting the likelihood of cartelization today would be a very appropriate hypothesis that could be brought to a test.

2. State of research and relevance to our project

First, we report on the empirical research we consider relevant for our project, and then briefly on the theory of cartel formation. Probably the most cited empirical case is the 19th century Great Lakes shipping cartel. The cartelists provided a homogenous product, and faced periods of price wars when prices suddenly declined and stayed low for extended periods of time. Porter (1983), Lee and Porter (1984), and Ellison (1994) study how theoretical models
of collusion can explain these price wars. Little is said about how the cartels were formed, organized, and dissolved; or in particular, what affected the firms’ participation, or exit decisions. Yet the contributions, especially Porter’s early paper, have rightfully become a reference for modeling econometrically the behavior of collusive industries.

Symeonidis (2002, 2003) in turn used the change in cartel laws in the UK (in the mid-50’s) to study the effects of cartels on corporate behavior, such as their effect on R&D and productivity. He was able to exploit a quasi-natural experiment that arises because some industries were cartelized prior to the change in the law, and some were not. Symeonidis assumes that competition in the previously cartelized industries increased after the legislative change, which is confirmed by the increase in concentration (for exogenous sunk cost industries). While these interesting studies shed light on the effects of cartels, they again provide relatively little information on the organizational issues.

Genesove and Mullin (2001) base their detailed description and analysis on the archives of a member of the American sugar cartel from the late 19th and early 20th century. The archives contain the correspondence between the cartel members, and memoranda on their meetings. This information allows them to describe in detail how this particular cartel operated. While very insightful and illustrative, their qualitative description cannot be used to derive principles of cartel formation robust enough to become the basis for policy prescription.

Morton (1997) and Podolny and Morton (1999) analyze the British shipping cartel from the late 19th and early 20th century, and study how the cartel acted towards entrants. Morton (1997) finds in particular that the probability of a price war depends positively on a new firm’s entry on a route. This is strongly suggestive of predation. Whereas this conclusion is very interesting and intuitive, this work also highlights one of the difficulties that previous cartel research has encountered: the sample concentrates on one sector and consists of less than 50 observations, making difficult statistical inference and cross sectional generalization. In our project, even if we do not code all country data available, we will have much larger samples per sector and across industries.

Steen and Sorgard (2002), and Röller and Steen (2004) study the behavior of a Norwegian cement cartel. They focus on how the cartelists decided on investment, given the agreed upon rule on the division of profits. Using data on prices, production, exports, and production costs, they establish that the firms over-invested in capacity in order to maximize their share of cartel rents. The organization and internal working of the cartel is not analyzed in detail, however.

Some older papers use data on exposed illegal US cartels. Examples are Asch and Seneca (1975) and Fraas and Greer (1977). Asch and Seneca compare, for the period of 1958-67, the characteristics of some 51 collusive firms to a random sample of 50 firms presumably active in non-collusive industries. Fraas and Greer use aggregate data on some 600 exposed price fixing cartels to study the impact of structural industry conditions on collusive price conduct. Whereas all authors produce rather suggestive results, they suffer from the aforementioned selection bias. Their statistical analysis is also limited to bivariate statements. Given the time
the analysis was conducted, modern micro-econometric tools available now could not have been exploited.

There are a number of studies on legal cartels organized under the auspices of the U.S. National Industrial Recovery Act between July 1933 and May 1936. Many of them are formulated in a descriptive manner, in the tradition of Economic History. Alexander (1994), Krepps (1997, 1999), and Taylor (2010) are exceptions.

Alexander (1994), corrected by Krepps (1997, 1999), uses the very shortness of the legalization window to estimate path dependence effects. More specifically, she employs a switching regression technique on aggregate data from 58 industries to compare concentration levels between Pre-NIRA, NIRA, and post-NIRA episodes. She attributes switches in collusive regimes to the presence of NIRA codes of Fair Competition. Taylor (2010) uses cartel data from the NIRA episode to check efficient cartel hypotheses and shows that industries faced with highly variable demand saw relatively large welfare gains, whence, contrary to expectations, this was not the case in industries characterized by high avoidable fixed costs. Unlike Alexander (1994), Vickers and Ziebarth (2011) and Chiu et al. (2012) detected collusive pricing effects during the NIRA episode in industries as diverse as the macaroni, and the cement industry, respectively. In none of the papers on the NIRA episode, the detail available on cartel contracts and organization is exploited towards an analysis of the effectiveness of the cartel organization.

Finally, Connor (2003) and Levenstein and Suslow (2011) have compiled data sets that cover several cartels. Connor concentrates on describing the effects of the cartels, and provides a wealth of (quantitative) information on them, but performs no econometric analyses. These two sets of data are very interesting, but they are based on exposed cartels.

Summing up, there is only little empirical work done on the organization and design of cartels. It seems, in particular, that quantitative and qualitative work on the organizational issues that would use data on several cartels is almost non-existent, and the little that is known is based on a most likely biased sample of exposed cartels. Levenstein and Suslow (2006) arrive at the same conclusion in their detailed survey. To the best of our knowledge, there is no work performed since on this issue.

We conclude our cursory review of the literature with a brief survey on theories of cartel formation. Almost all theories of collusion rely on versions of an infinite period game that starts with the assumption of collusive pricing of all firms in an industry. There is almost no theory of cartel formation, and very little theory of cartel organization. As a notable exception, Bos and Harrington (2010) develop a theory of endogenous cartel formation involving a subset of capacity-wise large firms in the industry. The very recognition of the empirically frequent observation that a cartel need not encompass all the firms in an industry leads to a number of interesting questions, amongst them on the characterization of insiders and outsiders, as well as on the effects of mergers, or of demand and technology shocks on cartel stability - not to speak of new questions provoked on the conventional variables, such as pricing, quantity setting and profit sharing inside and outside the cartel.
Chen (2008) looks at the efficacy of organizational form for the functioning of cartels. He asks how the authority over collusive arrangements is allocated in a firm hierarchy, and how it contributes to facilitating collusion. Spagnolo (2005) also considers an agency relationship by looking at income smoothing as a collusion incentive for managers. Neither author compares the efficiency of internal vs. external organizational structures found in organizing cartels. The choice of instruments from the empirically observed rich set enacting and sustaining the cartel arrangement is also not considered.

3. Objectives and Work Schedule

3.1 Objectives

The idea underlying our quantitative and qualitative analysis of historical legal cartels is that although these cartels did not have to operate in secrecy, many of the economic forces that affect their operation apply to illegal cartels as well. In particular, cartels are typically organized because the cartelists feel that market prices, and with them, industry profits are too low. Yet the very increase in prices, and with them, in industry profits generated by the cartel incentivizes the individual cartelist to prof-itably deviate from the cartel agreement, no matter its (il-) legality. Literally all other aspects involving cartel formation and cartel member behavior are similar as well. Indeed, a close reading of much of the literature on collusive activity does often not reveal whether the authors speak about overt, or secret cartels – or about whether punishment strategies to discipline deviant behavior are overt or secret. Differences emerge only when it comes to cartel enforcement, e.g. the courts can be called upon enforcing legal cartel agreements, or detection by the competition authorities comes into play.

The proposed research project is unique in its design, because we aim at building a uniquely large and comprehensive sample of legal cartels. This sample does not suffer from the selection bias inherent in the samples of exposed cartels. Unlike the papers that focus on the design of isolated cartel cases, we can study cartel design and behavior quantitatively across industries and countries, where the countries differ in the institutional framework offered to industry. These unique components of our research design allow us to explore in detail how legal cartels were organized. In all, this should further our understanding of how illegal cartels operate.

The data available to us from the respective National Competition Authorities and/or National Archives contains information about the objectives of each registered cartel, information about each cartel member in a given year, much detail about the way the cartel is organized, the instruments by which the objectives are pursued, and any changes in all of these over time.

We are in the process of developing a commonly formatted data base which focuses on official cartel registration data available for Austria, Finland, Norway, and Sweden for the
period of 1970–93, and the U.S. for 1933–36, and incorporate it into this common format data on legal as well as illegal German cartels for the period of 1970–93.

We plan to complement this data base by data:

- on outsiders not participating in the cartel arrangements
- on the macro-economic conditions prevailing in the countries and time periods considered
- in future work: on firm investment, in particular, in inventive and innovative activities, including their results in form of patents.

With this database, we expect to provide answers to the following research questions:

1. What are the macro-economic and market conditions under which cartels are formed?
2. How are cartels formed? In particular:
   a. Which type of firm/organization initializes the formation of a cartel?
   b. What are its objects?
   c. How is their enforcement designed?
3. How do cartels perform? Impacts on
   a. Prices (f.o.b. and c.i.f.)
   b. Quantities
   c. Investment, in particular capacity as well as innovative activity?
4. How do cartels adjust to changes in economic conditions, at the macro, as well as the industry level?
   a. How do cartels behave against deviating insiders?
   b. How do cartels behave against emerging outsiders?
5. What is the impact of different institutional set ups at the national level
   a. Legality versus illegality of cartel formation
   b. legally enforceable versus legally unenforceable cartel arrangements
6. What are the implications for current Antitrust and Competition Policy?
   a. Identification of industries prone to legal cartels: increasing likelihood of illegal cartels
   b. Identification of organizational framework of cartel operation
   c. Identification of industry external conditions under which cartels tend to form
   d. Identification of industry internal conditions under which cartels tend to form

We plan to perform cross section as well as panel econometric analyses. As an example, one could employ the methods developed by Hyytinen, Steen and Toivanen (2010) to estimate the "birth and death" process of cartels. We can also enlarge the analysis of cartel contracts of Hyytinen, Steen and Toivanen (2012) to an international data set of cartels, with hopefully improved measures of contracts and a longer list of relevant control variables.
Complementing such quantitative analyses we will pursue, using the qualitative research methods employed in economic history, in-depth analyses of single industries, in analogy to John Sutton's (1991) book. The candidates will be selected as soon as we have an overview of the data in the common format. Natural candidates are the production and distribution of raw materials such as iron and cement, as well as the production of localized products such as roads, or tradeables such as cars.

An improved understanding of legal cartels is helpful in fighting illegal cartels. The reason for this is that many of the internal and external incentive issues that legal cartels face are issues illegal cartels also face. One could envisage first building a theoretical model that, like Harrington and Skrypacz (2012), explains features of legal cartels as part of the equilibrium outcome. The second step in theoretical modeling would be to change the environment faced by the cartel to one where a competition authority is active, and to investigate what type of a cartel arrangement then arises in equilibrium. Based on our empirical work, and simultaneously with it, we will pursue this type of theoretical research.

3.2 Work Schedule

Our research team consists of established researchers in Industrial Economics (see below). In each country project, they will be joined by very able senior or junior researchers who already co-operate with the senior ones. In particular, most of them are or were doctoral students of the senior members of the team.

Currently the research teams working on the country data are working in different stages of data collection and analysis.

We need to coordinate this first and essential step, by agreeing on a common coding scheme, and collecting the additional information eventually needed from the respective national archives. In view of the fact that the data collection and analysis efforts vary by country, we wish to pursue some stand-alone analyses, such as of the Finnish cartels, and bilateral comparisons, e.g. of Austrian and German cartels.

The second step, pursued in parallel, involves the addition of data on non-cartel members in the cartelized industries. In view of the access to firm level data in the Nordic countries, this is easy in Finland, Norway and Sweden, yet more difficult in Austria and Germany.

The third step comprises the analysis at the individual country level. These results will be discussed at the second workshop. In addition, based on the results of the outcomes at the individual country level data we will develop the empirical strategies for cross-country comparisons. These analyses will be done by mixed teams consisting of researchers from different countries.

Results of the third step will be presented at the third project workshop. This workshop also marks the starting point to derive joint conclusion for policy. Theoretical analyses will be performed in parallel to the finale step of empirical analyses which is represented by the
cross-country comparison of cartelized and non-cartelized firms. The development of theoretical explanations for the observed behavior is a basic precondition of policy conclusions.

3.3 Dissemination of Research Results

We plan to produce several research papers, on topics including an international comparison of the incidence of legal cartels and structural comparison by industry, and specifically a comparison of legal cartels in Austria with illegal ones in Germany, as well as items of new theory. According to our current plans, we will include summary information on Norwegian, Swedish and U.S. cartels only, as more time is required to develop the respective micro data bases.

In addition to the standard academic dissemination through seminars, conferences, and publications, we will ensure that our results are disseminated to the policy community as well, including the national cartel offices and the E.U. Competition Commission.

4. Composition of the Research Group

**Germany:** (PI) Konrad Stahl, Ph.D. Professor of Economics (em) University of Mannheim, Research Associate at ZEW Mannheim, MaCCI and CEPR

**Austria:** (PI) Christine Zulehner, Ph.D., Professor of Economics, University of Linz, and Research Associate, WiFo Vienna

**Finland:** (PI) Otto Toivanen, Ph.D., Professor of Economics, University of Leuven and CEPR

**Norway:** (PI) Frode Steen, Ph.D., Professor of Economics, HHL Bergen and CEPR

**Sweden:** (PI) Lars Persson, Ph.D., Professor of Economics, Deputy Director, IFN Stockholm

**The U.S.:** (PI) David Genesove, Ph.D., Professor of Economics, Hebrew University, Jerusalem and CEPR.

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