AÑO 30 No. 110, 2025
ABRIL-JUNIO

RVG

No. 110, 2025
ABRIL-JUNIO

30 ANIVERSARIO

Revista Venezolana de Gerencia

UNIVERSIDAD DEL ZULIA (LUZ)
Facultad de Ciencias Económicas y Sociales
Centro de Estudios de la Empresa

ISSN 1315-9984

Como citar: Muñoz, C. M., Pérez-Uribe, R., Ramírez, M. T., y Diaz, O. L. (2025). Governance and coordination of business cartels. *Revista Venezolana De Gerencia*, *30*(110), 961-976. https://doi.org/10.52080/rvgluz.30.110.12

Universidad del Zulia (LUZ)
Revista Venezolana de Gerencia (RVG)
Año 30 No. 110, 2025, 961-976
Abril-Junio
ISSN 1315-9984 / e-ISSN 2477-9423

Governance and coordination of business cartels

Muñoz Maya, Carlos Mario*
Pérez-Uribe, Rafael**
Ramírez Garzón, María Teresa***
Diaz Villamizar, Olga Lucia****

Abstract

This research proposes an exploratory analysis of the dynamics of governance and coordination within business cartels, which enable the stability of these organizations outside the realm of formal legal control and despite the threat of cheating and detection. To this end, a case study was conducted to examine how informal mechanisms contribute to stability in 13 Colombian business cartels. The results underscore that explaining cartel stability requires considering social and economic mechanisms that induce trust, ranging from negotiation to coercion. These combined mechanisms contribute to maintaining cohesion and compliance with agreements within the cartel. The management of business cartels presents two main approaches: an economic approach and a social approach. The economic approach is based on distrust among parties and the need to implement monitoring and retaliatory mechanisms. The social approach highlights mutual trust, negotiation, and mediation for conflict resolution, thereby fostering cooperation.

Keywords: Cartel; organized crime; economic competition; governance and organization.

Recibido: 16.01.25 **Aceptado**: 17.03.25

* PhD in Administration. Associate Professor, Faculty of Business, Economics and Sustainable Development, La Salle University. Bogotá, D.C. Colombia. Email: carmunoz@unisalle.edu.co. ORCID: https://orcid.org/0000-0003-1451-1648

** PhD in Business Studies. Senior researcher Minciencias. Supatá-Cundinamarca. Colombia. ripudos@gmail.com. https://orcid.org/0000-0003-4760-7718

*** PhD in Administration. Junior researcher Minciencias. Supatá-Cundinamarca. Colombia. mariateresa_rg@yahoo.es. https://orcid.org/0000-0002-6319-3386

**** PhD in Administration. Full-time Professor, Postgraduate Degree in Economic Sciences, Nueva Granada Military University. Bogota, D.C. Colombia consultoresyasesores@gmail.com. https://orcid.org/0000-0003-4158-4551

Gobernanza y coordinación de los cárteles empresariales

Resumen

Esta investigación propone un análisis exploratorio sobre las dinámicas de la gobernanza y la coordinación de los carteles empresariales que permiten la estabilidad de estas organizaciones, fuera del ámbito del control legal formal y a pesar de la amenaza de hacer trampas y ser detectados. Para este fin, se tomó como estudio de caso como los mecanismos informales ayudan a la estabilidad en 13 carteles empresariales colombianos. Los resultados subrayan que, para explicar la estabilidad de los carteles hay que tener en cuenta los mecanismos sociales y económicos que inducen la confianza que van desde la negociación hasta la coerción, estos mecanismos combinados contribuyen a mantener la cohesión y el cumplimiento de los acuerdos dentro del cartel. La gestión de los carteles empresariales presenta dos enfoques principales: uno económico y otro social. El enfoque económico se basa en la desconfianza entre las partes y la necesidad de aplicar mecanismos de supervisión y represalias. El enfoque social destaca la confianza mutua, la negociación y la medición para la resolución de conflictos para así fomentar la cooperación.

Palabras clave: Cartel; crimen organizado; competencia económica; gobernanza y organización.

1. Introduction

The anti-competitive practice of business cartelization poses a significant challenge to economic and legal frameworks both in Colombia and internationally. These cartels operate through coordinated actions among rival firms, aiming to suppress market competition via mechanisms such as direct or indirect price fixing, supply or sales restrictions, quality degradation, market segmentation, and collusive bidding (Perez and Herrera, 2019).

Cartel stability is maintained through a combination of negotiated settlements and ongoing communication (Jaspers, 2017), alongside more coercive tactics such as threats of price wars or market exclusion for non-compliance (Faulkner et al., 2003). The imposition of sanctions on members who violate cartel agreements is a well-established strategy for preserving group cohesion (Ayres, 1987; Connor, 2001; Levenstein and Suslow, 2006). In some instances, cartels may rely on the backing of organized crime, employing the threat or execution of violence to enforce internal order (Varese, 2014).

The inherent opacity of business cartels raises critical questions regarding their governance, coordination, and control mechanisms, particularly in the absence of formal legal frameworks. While the stabilization of cartels has received limited scholarly attention, much of the existing research is fragmented, focusing on isolated cases or theoretical analyses, leaving a significant gap in our understanding, especially within the Colombian context. As noted by Jaspers (2017), criminological studies primarily address cartel behavior, whereas economic literature often centers on the theoretical instability of cartels, emphasizing incentives for defection and retaliatory measures.

Despite regulatory and academic efforts, a comprehensive understanding of the specific strategies and governance mechanisms employed by Colombian business cartels remains elusive. This research aims to bridge this knowledge gap by conducting a systematic analysis of multiple cartels within the country. Specifically, this article investigates how informal governance and coordination enable cartel stability beyond formal legal oversight.

Through an in-depth case study of 13 Colombian cartels, derived from diverse source documents, this research explores the factors contributing to their longevity, their organizational structures, and their conflict resolution strategies. It highlights the pivotal role of informal social mechanisms in coordinating, supervising, enforcing, and compensating members, thereby ensuring cartel survival.

Furthermore, this study posits that cartels utilize a range of governance and coordination strategies to facilitate their establishment, operation, and endurance (Jaspers, 2017). It is anticipated that this research will provide novel insights into cartelization strategies in Colombia, identifying common patterns and variations among the studied cases.

This study contributes to a broader understanding of business cartelization in Colombia, providing relevant findings for regulators, policymakers, businesses, and academics concerned with promoting competition and economic welfare.

This article is structured into three sections. The first section provides an introduction, outlining the research problem, objectives, and methodology. The second section presents the core analysis, examining theoretical models of cartel stability, the method and data sources, and the governance and coordination practices of Colombian cartels. The third section concludes with a summary of the findings.

2. Models of cartel stabiluty

The explanation of the models used by cartels to maintain their stability is given from two perspectives, economic and social. Each of them is explained below.

2.1. Economic perspective: Stability through retaliation

The economic literature that addresses cartels uses a conceptual framework based on mistrust among the companies involved. From a game theory perspective, economic studies conceptualize cartels as a problem where participants are instrumentally motivated, rationally evaluating the costs and benefits expected. Therefore, incentives play a crucial role in inducing deceptive behaviors among cartel members, such as the practice of overselling or pricing below the agreed level (Stigler, 1968).

This theory studies the interaction between rational agents who must make decisions that affect the well-being of the other players (Dancuart, 2002).

When two or more companies decide to form a cartel, they face two possible scenarios in each period: (i) maintaining the collusive agreement or (ii) deviating from the agreement. On the other hand, Bigoni et al., (2012) argue that there are two main reasons why a firm confesses its participation in a cartel: (i) to escape a possible fine; or (ii) to punish a cartel member who deviated from the collusive agreement. In this sense, leniency programs generate distrust among cartel members, either because of the fear that the individual who benefits from one will lead them to accuse or because of the fear of reprisals in the event of diversion.

Cartels must ensure that they monitor their agreement to detect any unfair conduct and sanction companies that engage in it (Levenstein and Suslow 2006; Connor 2001; Ayres 1987). For a cartel to endure, it is essential that there is an effective punishment mechanism in place, to penalize members who violate the rules of the agreement (Ayres 1987; Green and Porter 1984; Stigler 1968). Among the effective punishment methods mentioned are price reduction and the threat of price wars (Harrington 2008; Ashenfelter and Graddy, 2005).

Recent research challenges traditional views on cartel stability by highlighting two key aspects. First, cartels prioritize preventive measures against cheating over costly punishments (Harrington 2008; Levenstein and Suslow 2006). Second, retaliatory responses to cheating increase the likelihood of cartel dissolution (Levenstein and Suslow 2011).

2.2. Social perspective: Stability through mutual trust

Empirical studies that take a social approach criticize the simplistic assumptions of the economic perspective regarding cartel behavior (Haines and Beaton-Wells, 2012). Trust serves as a critical factor in explaining the longevity of cartels (Stephan, 2010; Leslie, 2004), offering a more compelling account for recent empirical evidence on cartel stability (Haines and Beaton-Wells, 2012).

Empirical studies applying a social approach to understanding cartel stability are limited, although there are similar explanations in the literature on legal business conduct in informal settings, known as “the shadow of the law”. This concept illustrates how business relationships are deeply rooted in social contexts and can generate social regulations that make legal sanctions redundant and superfluous (Ellickson 1991; Black 1983; Macaulay 2003).

Scholars of economic sociology have highlighted the concept and paradox of social rootedness in economic activity, arguing that as an informal economy becomes more like a genuine market, its dependence on social protection increases. This phenomenon is especially observed in environments where mutual trust is the only resource against dishonest behavior (Portes 2015; Granovetter 1993).

According to Stephan (2010), the idea of fostering friendships and taking relationships to a personal level can function as an obvious social mechanism to ensure compliance with an agreement when there is no robust legal protection. Personal relationships and interpersonal trust are fundamental to explaining the stability of cartels, highlighting three main conditions for interpersonal trust: communication, reciprocity and reputation.

Constant communication and the establishment of common protocols play a crucial role in the stability and effectiveness of business cartels. According to Leslie (2004), frequent interactions between individuals promote the perception of mutual trust. Face-to-face meetings and effective coordination are key tools to strengthen this perception, thereby driving cooperative behaviors that allow cartel participants to share relevant information, align strategies, and make coordinated decisions. Perceived mutual trust among cartel participants is substantially strengthened by fluid and regular communication, which serves to mitigate conflicts and ensure the fulfillment of long-term agreements. This, in turn, promotes a cooperative environment and reduces the likelihood of opportunistic behaviors that threaten agreement stability.

The social approach promotes the idea that the creation of rules and the facilitation of mechanisms for conflict resolution can be more effective in sustaining long-term cooperation, which minimizes the importance of sanctions posed by the economic approach (Leslie 2004). Therefore, instead of resorting to retaliation, negotiation and mediation are expected to be the usual responses to resolve discrepancies.

In the operation of business cartels, companies are based on shared rights and duties, derived from the coordination of agreements and the corresponding compensation that goes beyond the mere economic transaction (Van de Bunt, 2010; Hertogh, 2005). This network of reciprocal debts promotes interdependence between companies, thus strengthening the peaceful resolution of disputes and discouraging deceptive practices, which in turn contributes to the stability of the cartel.

In business cartels, reputation plays a vital role in establishing the need for trust between the parties for the enforcement of agreements that might not be legally binding. According to Leslie (2004), trust in cartels is built based on shared expectations and the perception that parties will deliver on their promises even in the absence of explicit legal sanctions. According to Van Erp (2008), companies that participate in cartels often face significant risks if their activities are discovered and penalized by antitrust authorities.

Chart 1 delineates two theoretical models explaining cartel stability. Both frameworks posit a comparable organizational architecture within cartels, encompassing coordination and monitoring systems. These models function as ideal types, providing a benchmark against which observed cases are examined to discern their realized practical component.

Chart 1
Ideal typical explanatory models of cartel stability

Model	Economic approach	Social approach
Underlying behavioral assumptions	Economic action instrumentally oriented: -Players with instrumental motivation -Lack of central mutual trust - Focuses on incentives to cheat: --maximize benefits --expand markets	Economic action with a social orientation: -Players motivated by regulations -Mutual trust is essential -Focuses on incentives to cooperate: --introjection value

Cont... Chart 1

Organization of cartels	As a result of a lack of trust and incentives to cheat: - Coordination and monitoring systems	As a result of social ties, the means to build trust and the incentives to cooperate: - Coordination and monitoring systems
Expected answer to deceit	Sanctions/Retaliation	Mediation/negotiation
Expected result	Cheating company is forced to comply with the original agreement, or cheater's exclusion	Tight agreement and/or compensation scheme and continuation of the cartel

Source: Taken from Jaspers (2017)

3. Methods and data sources

This article employs an exploratory approach, based on a qualitative analysis of 13 Colombian business cartel case files. These cases, in which the Superintendence of Industry and Commerce imposed fines and/or sanctions between 2000 and 2017, were selected for their substantial evidence, including documentation of cartel coordination and communication.

Relying on secondary sources limits the scope of this study in two key ways. First, selection biases may hinder the ability to generalize findings to all cartel conduct in Colombia. Second, all company official statements are sourced from secondary materials, potentially affecting the depth of analysis.

The relatively high number of companies in the cases studied may be biased due to three main issues: First, cartels with an active industry partnership are more likely to be detected. Second, cartels with a more limited number of companies can conspire more effectively, with little chance of being detected. Third, an effective cartel can have a self-amplifying effect; Collusion may offer more companies a chance to survive. The descriptive information of the selected cases is shown in Table 1, including duration of the cartel, number of companies and nature of the conduct.

Table 1
Descriptive information on the cartel cases selected

Case #	Duration in years	# of companies	Nature of the conduct	Collective market share
Case 1. Security	2010 – 2012	8	Fraudulent bids	252 Selection processes in 149 State entities.
Case 2. PAE School Snack Program cartel	2007-2017	9	Market allocation	74.30% of the budget allocated in the selection processes investigated
Case 3. The rice cartel	2009-2011	2	Pricing	33% of the white rice market
Case 4. The chlorine and caustic soda cartel	2002-2014	4	Pricing	An increase in the minimum price of 10% is calculated with an estimate of real transfer of welfare of $21,013,616,714
Case 5. The casting agencies cartel	Not available	4	Pricing	Not available

Cont... Table 1

Case 6. The toilet paper cartel	2000-2013	5	Pricing	Estimated increase in the sale price between 10% and 30%. Actual transfer to consumer welfare between $405,813,305,238 and $1,030,141,467,143
Case 7. The cement cartel	2010-2012	3	Pricing	Not available
Cartel 8. The disposable diapers cartel	2001-2012	5	Pricing	Approximately 96% market share in the period 2008-2013
Cartel 9. The sugar cartel	2008-2011	3 companies and 12 sugar mills	Obstruction to imports	Not available
Cartel 10. The notebooks cartel	2001-2014	3	Pricing	$123 million market in 2013
Cartel 11. The yards and cranes cartel	2007	5	Fraudulent bids	Contract for $89,352,427,534
Cartel 12. The cattle cartel	2011-2013	17 auctions	Pricing	3,480,509 livestock auctioned in the period
Cartel 13 The liquor cartel	2010 - 2013	3	Market allocation	Not available

Regarding duration, the Colombian cases in this study have an average of about seven years, which is comparable to the typical duration of cartels (Levenstein a nd Suslow 2006, 2011). Such extended periods indicate that companies are able to stabilize their cartels over multiple years, implying successful coordination. For example, in cases 1 and 2, 8 and 9 companies participated, respectively. This indicates the need for communication and monitoring systems to coordinate collective action in cartels.

Also, Table 2 shows the nature of the conduct. Four main categories stand out: bid rigging, price fixing, obstruction to imports, and market sharing or allocation. Based on legal definitions, they serve as a descriptive label, indicating the main category of the violation, although these categories are not mutually exclusive *per se*. They divide the work and rotate the offers, thus rigging the procedure. Also known as collusive bidding, it usually consists of raising price offers to the buyer. In price-fixing cartels, companies reach explicit agreements on the price or surcharge of a certain product or service. The other cases are those of distribution or allocation of markets. In these cartels, companies agree to fix market shares or divide markets into geographical regions and finally, there is a cartel aimed at obstructing imports.

4. Tracing Governance and Coordination in Colombian Cartels

To determine which elements of the two models are present in the cases, this analysis examines cartel organization, responses to cheating and conflicts, and the expected outcomes of these responses, in relation to the explanatory model presented in Table 1.

4.1. Power structure and strategic decision-making

Business cartels typically establish a power structure that facilitates joint strategic decision-making. This structure can range from informal agreements between competing companies to more formal organizations with bylaws and rules of operation.

The stability of cartels is favored in all cases by coordination, compensation and supervision systems, as expected from both an economic and a social perspective. The bidding rigging cartels, as in case #1 of the security cartel, pretended to be independent competitors in the tenders, when they would have really acted in a coordinated and concerted manner, deceiving the different contracting public entities, participating in approximately 252 selection processes in 149 State entities.

Below is an example from case #1 (security) of how such a system can work:

> "There are Excel files that would have been used as tools for concertation, execution and monitoring for dozens of collusive agreements for each of the processes identified in the spreadsheets" (Superintendence of Industry and Commerce, 2015a, p.26, 125*). "*The companies pretended to be independent competitors in public tenders (...) between 2009 and 2012, when they really acted in a coordinated, concerted manner and under the direction of a hidden controlling entity, deceiving the different contracting public entities" (Portafolio, 2017). "What he was looking for was that among all the companies that belonged to this group, the best selection was sought and that we did not generate any error, any mistake and that at the time of participating, we complied with all the specific requirements demanded by the bid at that time" *(*Superintendence of Industry and Commerce, 2015a, p.89)

Likewise, in case #4 (the chlorine and caustic soda cartel), the directors of *Quimpac* and *Brinsa* by an email discussion, decided what position *Brinsa* should have with an assigned client. The email pointed out:

> "I suggest pressuring BIO-SC to receive the acid through price. All of this is with the purpose of improving our current profit margin. To do this, we must have the support of Brinsa, so that you can please talk to the people, and we can get support. We must maintain this price of $870 and quote the single at $940, which represents the difference in freight cost" *(Par. 8)* (Amador, 2019).

With this email, the Superintendence of Industry and Commerce demonstrates how these two organizations, despite being competitors, managed the business of importing and marketing chlorine in the country. Among the clients that these companies had were: *Empresas Publicas de Medellin* (EPM), *Triple A* from Barranquilla and *EMCALI* (Amador, 2019).

In cartel #11 (The yards and cranes cartel), the companies entered into an illegal agreement, termed an 'Internal Commercial Agreement,' wherein they agreed not to compete in the contractual selection process. In exchange for abstaining from competition, the non-awarded party would receive 30% of the contract value. Additionally, each party agreed not to challenge the other's submitted proposals (SIC, 2018, p. 20). The SIC indicated:

> The following activities were implemented (paragraph 12): (1) They maintained constant meetings and communications through calls and emails; 2) they were common partners in private companies; 3) they formed plural structures (consortia or temporary associations) to participate jointly in other food selection processes other than the PREB; and 4) they were at the same time competitors of the PREB and suppliers among themselves of inputs for the snacks of the school feeding program" (Superintendence of Industry and Commerce, 2022a).

In case #3 (The rice cartel), cartel companies influence other companies to increase the prices of their products or to abandon the idea of lower prices. The influence of prices consisted of forcing distributors and vendors of white rice not to pass on to the final consumer the discounts granted to them by the companies, and thus artificially controlling the prices of their rice in Colombia (Superintendence of Industry and Commerce, n.d.).

In case #4 (The chlorine and caustic soda cartel), one of the mechanisms used by market agents was to submit bids that exceeded the estimated official budget established by a given client. Another mechanism was to submit a letter under which they withdraw from participating in the contracting processes (Superintendence of Industry and Commerce, 2019, p. 82)

In case #5 (The casting agencies cartel), Villa Villanueva (2020), quoting the Superintendence of Industry and Commerce, explains that in the "Agreement of concertation between casting agencies" a contract took place that restricts, limits or eliminates competition from the market. In this case, "The anti-competitive object of the agreement arises from the fixing of the prices related to the provision of the model selection service for advertising purposes (casting service), the minimum values of the models' fees and the percentage or commission on those fees (representation)" (p.108).

In case #7 (The cement cartel), it is demonstrated an agreement through conscious parallelism for price fixing. Ample evidence exists of information exchange and meetings between legal representatives and commercial personnel, resulting in collusion (Superintendence of Industry and Commerce, 2017).

4.2. Coordination among cartel members

This may include explicit agreements on prices, production quotas, market territories, or sales conditions. Coordination can be difficult to detect and test, as it often involves subtle exchanges of competitive information that may not be easily perceptible to regulators or external competitors.

Cartels show a capacity for learning when it comes to effective coordination. In the following example, companies develop and professionalize their coordination system through trial and error.

This is how in an email from Cartel # 1 (Security) is summoned: "to a meeting to review the processes (…) in some way, I think that for the assembly at a given moment we can rely on the private commercial coordinators while this high season of processes passes......... I look forward to your prompt reply, as well as to your suggestions regarding the date, place and suggested time*" (*Superintendence of Industry and Commerce, 2015a, p. 109)*.*

In case # 13 (The liquor cartel), the way to change the operation is discussed, as evidenced in one of the minutes:

> "The need to change the way in which the UT has been operating is raised and it is proposed that a commission be formed made up of members of the board of directors of the three companies, with the aim of studying and suggesting mechanisms that allow the formation of a commercial and logistical structure that enables sharing a common objective that guarantees compliance with the agreements of the United States" (Superintendence of Industry and Commerce, 2022b, p. 51).

Likewise, cases 2 (PAE School Snack Program), 9 (The sugar cartel) and 12 (The cattle cartel) are good examples of the coordination process in the cartels, for two reasons. First, it shows how parties can avoid resentment or conflict by compensating according to what is perceived as "fair" or with the direction of the person responsible for the process. Second, it demonstrates how cartel artists evaluate and negotiate to establish internal rules and agreements (Macaulay, 1963).

In most of the cartels there was concern and skepticism about the fulfillment of the agreement as indicated by the statement of one of the members of case #4: "Yes, let's say there was tranquility in the commercial area on the part of the commercial area that....... They were going to enter our customers, ... it gave us the peace of mind that we would submit the offer like this, because the others were not going to take from us and we were not going to really see competition from those customers, from our distributors or from our end customers" (Superintendence of Industry and Commerce, 2019, p.46*)*.

In business cartels, it is common practice for a company manager to coordinate the activities of the agreement, as in the case of cartel #11: "the operational management of the project and its logistical support, with the risk and responsibility that this represents, to which he added that for the success of the management experience and leadership has been a determining factor" (Superintendence of Industry and Commerce, 2018, p. 32).

4.3. Cartel monitoring and supervision

Typically, cartels are monitored by management-level personnel. For example, in cartel #6 (The toilet paper cartel), executives and managers held meetings in company offices, hotels, and restaurants to prevent future issues. This cartel, allegedly known as the 'Ugly group,' saw participants increasingly using personal emails for information exchange (Semana, 2014).

There is an interest in bringing other companies to join the cartel, as in case #6 (The toilet paper cartel), in which, according to several testimonies, the presidents and senior managers of the three companies met a couple of times at the Gun Club in Bogota and then in other places, until they managed to get another company to enter the agreement. The completion of this agreement was recorded in an email between the directors of the companies in which it is stated that:

> The most important thing has been to keep the company in the cage with a scheme that up to date has proven to be reasonably productive for our profitability and growth. The agreement was altered with the arrival of an aggressive pricing policy by a new competitor. Through its products, it managed to set prices up to 40 percent lower (Semana, 2014, paragraph 11)

4.4. Mechanisms for Response: Pitfalls, Debates, and Conflicts

Internal monitoring also provides insight into the behavior of other cartel members. This information sometimes reveals cheating by one or more cartel members. When the parties fail to communicate regularly, suspicions of cheating arise, leading to mutual disagreements and irritation. One of the companies openly raised doubts about the level of internal compliance in cartel #6 (the toilet paper cartel) in documents of internal correspondence between cartel members:

> The evidence is crystal clear!! And it hurts me to have to level the prices, if you don't put an end to them messing with our distributors. Looking forward to your comments (p. 95). Also, in another email: I don't understand why XXX is giving a 7% difference in prices in company X.... tell him to go back.... I don't understand, he doesn't ask Please make it return because my people are crazy for us to fight back… (Superintendence of Industry and Commerce, 2016, p. 109)

In Case #10 (The notebook cartel), collusion occurred through meetings initiated by mutual summons and conversations primarily between company presidents and managers. While mid-level managers and directors were also involved in some companies, the core coordination was at the executive level (Superintendence of Industry and Commerce, 2015b)

Generally, strict monitoring via periodic check reports involved individual verification by participating agents to ensure compliance with the agreements.

As a closure and based on the documents, it is not always possible to determine whether the cartels in the selected cases ceased their activities. If so, whether this took place before, during or after the administrative proceedings. However, as mentioned above, "internal breaches" involving cartel agreements are mostly resolved at an early stage, ex ante, through mutual compensation, negotiations and mediations.

Breaking up the cartel also used to be difficult because of the mutual dependencies that had developed because of working closely with others for years. When one relies on informal systems and methods to do business, it is not easy to reject them overnight for the sake of business continuity. This is illustrated by the following example of cartel #11 (The yards and cranes cartel): "besides the fact that for me the contract at that time was the life of my company (…) and because I felt the bitter taste of not having won the tender, my company needed it to survive (…). And I seriously thought about not providing the services to company X, or to group Y, but it was either I saved the company, or I sank (…)". (Superintendence of Industry and Commerce, 2018, p. 20).

5. Conclusions

This study analyzes the operational dynamics of business cartels within the selected cases, delineating two divergent paradigms: an economic paradigm, which posits a foundational lack of trust and necessitates supervision and retaliatory measures to ensure agreement adherence, and a social paradigm, which emphasizes reciprocal trust and the utilization of negotiation and mediation as primary instruments for dispute resolution and collaborative facilitation. The economic paradigm prioritizes control and sanction mechanisms to mitigate opportunistic conduct, while the social paradigm underscores the salience of cultivating robust, trust-based relationships, wherein firms rely upon good faith and mutual commitment to fulfill contractual obligations.

In the cases selected for this study, elements of both types of perspectives were observed. This suggests that, in practice, companies can combine aspects of supervision and sanction with trust-building and negotiation strategies. The coexistence of these approaches indicates that the dynamics of business cartels are complex and manifold and implement economic and social mechanisms for their effective management.

Research on business cartels reveals that these alliances seek stability using a combination of social mechanisms of negotiation and compensation, as well as devices of retaliation and control. First, social mechanisms foster trust between parties through communication, reciprocity, and informal rule-setting, which facilitates a smoother and less troubled collaboration. Negotiation and compensation play a crucial role in resolving disagreements and managing expectations, allowing companies to maintain long-term sustainable relationships.

The cases analyzed highlight the relevance of informal social mechanisms for the effective operation of business cartels. The companies involved established means of coordination and compensation, such as meetings, informal rules and mutual debts, through communication and reciprocity. This confirms the paradox of social integration: the need to operate in secret forces cartel members to rely heavily on social ties and informal means of coordination. In addition, mutual rights and obligations create an interdependence between the parties, where reciprocity acts as a very effective market mechanism. This allows relatively large groups of companies to cooperate effectively; for example, case 1 (the security cartel), 2 (PAE School Snack Program) with more than 8 companies and case #4 (the chlorine and caustic soda cartel) with a duration of thirteen years.

Second, in several business cartels there is a written formalization of the agreements, which reflects a lack of mutual trust between the parties involved. This mistrust manifests itself in the need to document the terms of collaboration to ensure compliance and accountability for each member. In some cases, this mistrust is translated into complaints, debates and conflicts between the participating companies. However, despite these initial disagreements, the companies involved in cartels are often able to overcome their differences over time through negotiation and compensation processes.

Also, the need for formal mechanisms for compensation and retaliation reflects an inherent lack of trust in certain situations. The formalization of agreements and the implementation of sanctions seek to guarantee compliance with obligations and prevent opportunistic behavior. The coexistence of these approaches demonstrates that both trust and distrust are determining factors in the configuration and management of business cartels.

Moreover, it is common for cartels to have an authority and coordinating figure who acts as an arbitrator. This actor, whether a person or a designated committee, has the responsibility of mediating debates and resolving conflicts, seeking to maintain the stability and continuity of the cartel. The presence of this authority figure contributes significantly to the ability of companies to manage and resolve their internal disputes, thus facilitating a more effective and lasting collaboration.

The results highlight that to explain the stability of cartels, social roots and the importance of the social mechanisms that encourage trust must be considered. Both trust and lack of trust influence in how companies manage and configure their cartels. In this sense, the economic approach overlooks the fact that – if the participants respond appropriately – conflicts can be an opportunity to strengthen the cartel and become a source of stability rather than instability.

In short, business cartels balance an essential duality: on the one hand, mutual trust facilitates cooperation and reduces the need for external intervention; on the other, the lack of trust is mitigated through control and sanction mechanisms that ensure the stability of the agreement. This dual dynamic allows companies to effectively manage their relationships and achieve their common goals, adapting to the complexities and challenges that arise in the business environment.

In business cartel research, it was difficult to obtain a clear perspective of cartelists solely from statements and testimonies collected by competition authorities. The documentary material available about the identified cartels often lacks crucial internal information, such as the strategic considerations of the companies that decided to denounce the cartel in exchange for the benefits of collaboration. This gap makes it difficult to delve into the internal motivations and dynamics that lead companies to engage in collusive practices, thus limiting the full understanding of this phenomenon.

References

Amador, A. (2019, marzo 31). Así fue descubierto el nuevo 'cartel del cloro y la soda cáustica'. *El Heraldo*. https://www.elheraldo.co/colombia/asi-fue-descubierto-el-nuevo-cartel-del-cloro-y-la-soda-caustica-614204

Ashenfelter, O., and Graddy, K. (2005). Anatomy of the rise and fall of a price-fixing conspiracy: auctions at Sotheby's and Christie's. *Journal of Competition Law and Economics, 1*(1), 3-20. https://doi.org/10.1093/joclec/nhi003

Ayres, I. (1987). How cartels punish: a structural theory of self-enforcing collusion. *Colombia Law Review, 87*, 295-325. https://www.jstor.org/stable/i246887

Bigoni, M., Fridolfsson, S.-O., Le Coq, C., & Spagnolo, G. (2012). Trust and Deterrence. *Research Gate.* https://www.researchgate.net/publication/241754710_Trust_and_Deterrence

Black, D. (1983). Crime as Social Control. *American sociological review*, *48*(1), 34. https://doi.org/10.2307/2095143

Connor, J. M. (2013). *Global Price Fixing: Our Customers are the Enemy* (2001a ed.). Springer. https://doi.org/10.1007/978-1-4613-0293-3

Dancuart, A. (2002). *The effect of leniency programs on cartels. [Undergraduate thesis, Pacífico University]. Digital file*. https://www.researchgate.net/publication/228593068_The_impact_of_leniency_programs_on_cartels

Ellickson, R. C. (2009). *Order without law: How neighbors settle disputes*. Harvard University Press. https://doi.org/10.2307/j.ctvk12rdz

Faulkner, R. R., Cheney, E. R., Fisher, G. A., & Baker, W. E. (2003). Crime by committee: conspirators and company men in the illegal electrical industry cartel, 1954–1959[1]. *Criminology; an Interdisciplinary Journal*, *41*(2), 511–554. https://doi.org/10.1111/j.1745-9125.2003.tb00996.x

Granovetter, M. (1993). The nature of economic relations. In R. Swedberg (Ed.), *Explorations in Economic Sociology* (pp. 3-41). Nueva York: Russel Sage Foundation.

Green, E. J., & Porter, R. H. (1984). Noncooperative collusion under imperfect price information. *Econometrica: journal of the Econometric Society*, *52*(1), 87. https://doi.org/10.2307/1911462

Haines, F., & Beaton-Wells, C. (2012). Ambiguities in criminalizing cartels: A Political Economy. *The British Journal of Criminology*, *52*(5), 953–973. http://www.jstor.org/stable/44173540

Harrington, J. E., Jr. (2008). Optimal corporate leniency programs: Optimal corporate leniency programs. *The Journal of Industrial Economics*, *56*(2), 215–246. https://doi.org/10.1111/j.1467-6451.2008.00339.x

Hertogh, M. L. M. (2005). Van naleving naar beleving van recht: bouwwereld en bouwfraude vanuit een rechtssociologisch perspectief. En T. Barkhuysen, W. den Ouden, & J. E. M. Polak (Eds.), *Recht realiseren: bijdragen rond het thema adequate naleving van regels* (pp. 51-68). Kluwer.

Jaspers, J. D. (2017). Managing Cartels: how Cartel Participants Create Stability in the Absence of law. *European Journal on Criminal Policy and Research*, *23*(3), 319–335. https://doi.org/10.1007/s10610-016-9329-7

Leslie, C. R. (2004). Trust, distrust, and antitrust. *Texas Law Review, 82*(3). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=703202

Levenstein, M. C., & Suslow, V. Y. (2006). What determines cartel success? *Journal of Economic Literature*, *44*(1), 43–95. https://doi.org/10.1257/002205106776162681

Levenstein, M. C., & Suslow, V. Y. (2011). Breaking up is hard to do: Determinants of cartel duration. *The Journal of Law & Economics*, *54*(2), 455–492. https://doi.org/10.1086/657660

Macaulay, S. (2003). The real and the paper deal: Empirical pictures of relationships, complexity and the urge for transparent simple rules. *The Modern Law Review*, *66*(1), 44–79. https://doi.org/10.1111/1468-2230.6601003

Pérez, A. M., y Herrera, J. P. (2019). Reflexiones sobre la cartelización empresarial a propósito de su definición jurídica y económica. En A. M. García Pabón, A. M. Pérez Herrán, & I. Beltrán Prado (Eds.), *Competencia económica: reflexiones sobre los diez años de la Ley 1340 de 2009* (pp. 115-139). Universidad Externado de Colombia. https://doi.org/10.57998/bdigital.handle.001.2743

Portes, A. (2010). *Economic Sociology: A Systematic Inquiry*. Princeton University Press. http://www.jstor.org/stable/j.ctt7skzn

Semana. (2014, noviembre 29). *El cartel del papel higiénico que da verguenza*. Semana.com Últimas Noticias de Colombia y el Mundo. https://www.semana.com/nacion/articulo/el-cartel-del-papel-higienico-que-da-verguenza/410587-3/

Stephan, A. (2010). Cartel Laws Undermined: Corruption, Social Norms, and Collectivist Business Cultures. *Journal of Law and Society*, *37*(2), 345–367. http://www.jstor.org/stable/40835494

Stigler, G. J. (1968). Price and Non-Price Competition. *Journal of Political Economy*, *76*(1), 149–154. http://www.jstor.org/stable/1830736

Superintendencia de Industria y Comercio (2015a). La Superintendencia de Industria y Comercio formula Pliego de Cargos contra 8 empresas de vigilancia y seguridad privada que presuntamente se cartelizaron en 252 contrataciones públicas. *Superintendencia de Industria y Comercio*. https://sic.gov.co/noticias/fiscalia-general-y-superintendencia-de-industria-y-comercio-revelan-existencia-de-presunto-cartel-de-la-vigilancia-y-seguridad-privada

Superintendencia de Industria y Comercio (2015b). *The notebooks cartel. Resolution 78971.* RESOLUCION_7897.pdf (sic.gov.co)

Superintendencia de Industria y Comercio. (2016). *Por la cartelización empresarial del papel higiénico y otros papeles blandos, la Superindustria sanciona a cuatro empresas productoras*. Superintendencia de Industria y Comercio. https://www.sic.gov.co/noticias/pliegos-de-cargos-contra-5-empresas-por-cartelizaci%C3%B3n-empresarial-en-papel-higienico-y-otros-papeles-suaves

Superintendencia de Industria y Comercio. (2017, 11 de diciembre). *Resolución 81391 del 11 de diciembre de 2017 cementos*. Gov.co. https://sedeelectronica.sic.gov.co/transparencia/normativa/resolucion-81391-del-11-de-diciembre-de-2017-cementos

Superintendencia de Industria y Comercio. (2018, 16 de agosto). *Resolución No. 58961 del 16 de agosto de 2018*. Superintendencia de Industria y Comercio. de https://www.sic.gov.co/node/36726

Superintendencia de Industria y Comercio. (2019). *El cártel de los astilleros y las grúas. Resolución 58961*. Superintendencia de Industria y Comercio. https://www.sic.gov.co/por-colusion-o-cartelizacion-en-licitacion-publica-para-servicios-de-patios-y-gruas-superindustria-sanciona-a-empresas-relacionadas-con-el-carrusel-de-bogota

Superintendencia de Industria y Comercio. (2022a). *Superindustria sanciona con multas por $28 mil millones cartel en procesos de selección en el programa de refrigerios escolares PAE en Bogotá*. Superintendencia de Industria y Comercio. https://www.sic.gov.co/slider/superindustria-sanciona-cartel-en-procesos-de-seleccion-en-el-programa-de-refrigerios-escolares-del-pae-en-bogota-con-multas-por-28-mil-millones

Superintendencia de Industria y Comercio. (2022b). *Esta Superintendencia sanciona cartel en el mercado de distribución de licores en el departamento de Antioquia*. Superintendencia de Industria y Comercio. https://www.sic.gov.co/boletin/juridico/despacho-del-superintendente/esta-superintendencia-sanciona-cartel-en-el-mercado-de-distribucion-de-licores-en-el-departamento-de-antioquia

Superintendencia de Industria y Comercio. (s.f.). *El cártel del arroz. Por violar la libre competencia, la Superindustria multa a la organización ROA Florhuila y a cuatro altos directivos*. Superintendencia de Industria y Comercio. https://www.sic.gov.co/noticias/por-violar-la-libre-competencia-superindustria-multa-a-la-ORGANIZACION-ROA-FLORHUILA-y-a%204-altos-directivos

Van De Bunt, H. (2010). Walls of secrecy and silence: The Madoff case and cartels in the construction industry. *Criminology & Public Policy*, *9*(3), 435–453. https://doi.org/10.1111/j.1745-9133.2010.00640.x

Van Erp, J. B. F. (2008). The Role of Reputation in the Control of Cartels. *Journal of Competition Law & Economics, 4*(2), 403-426. https://doi.org/10.1093/joclec/nhn017

Varese, F. (2014). Protection and extortion. En L. Paoli (Ed.), *The Oxford handbook of organized crime* (edición en línea). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199730445.013.020

Villa, M. D. (2020). *Eficiencia y maximización en el Análisis Económico del Derecho respecto de las sanciones impuestas por la Superintendencia de Industria y Comercio a carteles empresariales en el período 2008-2018*. [Universidad de la Costa]. https://hdl.handle.net/11323/6303