DETECTING CARTELS FOR EX OFFICIO INVESTIGATIONS

OECD Roundtables on Competition Policy Papers

O))OECD

Foreword

Competition authorities have developed various tools to detect cartels and substantiate the basis for opening investigations. Ex officio investigations, meaning investigations initiated by the authorities themselves, are derived from detection tools that require a higher level of proactivity from the competition authority, for instance through industry monitoring and cartel screenings. New technologies such as artificial intelligence also provide competition authorities with greater opportunities to improve their detection efforts. This paper provides an overview of detection tools to launch ex officio cartel investigations, including recent trends and experiences from Latin America and the Caribbean. It concludes by highlighting the need for competition authorities to implement a variety of approaches to complement one another and enhance cartel detection.

This paper was prepared by Marcelo Guimarães with research support by Gabriela Berbert-Born and benefited of comments from Ori Schwartz, Antonio Capobianco and Paulo Burnier (all from the OECD Competition Division). It was prepared as a background note for discussions on "Detecting cartels for ex officio investigations" taking place at the 2024 Latin American and Caribbean Competition Forum (LACCF) being held on 9-10 October 2024 in Santo Domingo, Dominican Republic. The OECD is thankful to the Brazilian Administrative Council for Economic Defence (CADE) who kindly provided a voluntary contribution in support of the LACCF's work this year.

The opinions expressed and arguments employed herein are those of the authors and do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

Table of contents

Figures

Boxes

1 Introduction

Cartels are usually perceived as the most serious anti-competitive behaviour and are often a priority for competition authorities. However, as cartels are secret practices, finding evidence to support investigations is a challenging task.

In this context, this background note focuses on cartel detection techniques, which are the methods that competition authorities use to spot cartels and substantiate the basis for launching formal investigations. Traditionally, detection techniques are classified into proactive and reactive, depending on whether they are generated proactively by the authority or trigged in response to an external event. Nevertheless, this distinction is not always straightforward, and this note refers to ex officio investigations as those in which the competition authority takes the leading role in identifying indications of collusive behaviour.

Although many jurisdictions worldwide have historically relied on leniency to detect cartels, in recent years several competition authorities started investing more in alternative detection methods, including ex officio investigations, in order to foster cartel enforcement.

In Latin America and the Caribbean (LAC), cartel enforcement has improved in the last decades with several jurisdictions adopting competition laws or strengthening existing competition legal frameworks (OECD, 2022[1]). However, the overall number of cartel decisions in the region is still below the OECD average. In addition, cartel enforcement is highly concentrated in a handful of LAC jurisdictions. The use of proactive tools is also modest, with a lower number of ex officio investigations when compared to OECD countries. Nonetheless, LAC competition authorities have increasingly become aware of the need to enhance their cartel detection toolkit in recent years, particularly by expanding the use of proactive techniques.

Against this backdrop, this paper focuses on how to gather evidence to launch ex officio investigations to fight cartels, in particular proactive cartel detection tools. More specifically, it discusses the classification of detection methods into proactive and reactive and how these techniques can be combined to benefit one another. It also presents recent trends on cartel enforcement in LAC as well as experiences with opening ex officio investigations in the region.

It should be noted that this note focuses on the pre-investigatory phase of cartel investigations, namely the tools that competition authorities rely on to open formal investigations. This is usually only the starting point, requiring further evidence for a conduct to be sanctioned, which can be gathered during the investigatory phase through the use of competition authorities' investigatory powers, such as conducting dawn raids, requesting information and taking statements. Such investigatory powers are not covered by this paper.

This note builds on and complements past OECD work on the topic and related issues. For instance, the Global Forum on Competition held a roundtable on Alternatives to Leniency Programmes in 2023, exploring experiences with proactive and reactive cartel detection tools besides leniency. Also in 2023, the Working Party No. 3 on Co-operation and Enforcement discussed The Future of Effective Leniency Programmes: Advancing Detection and Deterrence of Cartels, highlighting the need for varied tools for uncovering antitrust violations, including both proactive and reactive detection approaches. Furthermore, in 2022 the Working Party No. 3 on Co-operation and Enforcement held a roundtable on Data Screening

Tools for Competition Investigations, underlining developments in digital screening tools in academic literature and competition authority practice. This topic was also discussed at the Competition Committee in 2013 in a roundtable on Ex officio Cartel Investigations and the Use of Screens to Detect Cartels.

This background note is organised as follows:

- **Section 2** provides an overview of the main ex officio cartel detection tools and their interaction with other detection methods.
- **Section 3** presents the experiences of LAC jurisdictions with cartel detection techniques that may lead to ex officio investigations.
- **Section 4** concludes.

2 Ex officio cartel detection tools

Competition authorities have developed various tools to detect signs of collusive behaviour. These methods are usually used in the pre-investigatory phase and aim to collect elements to substantiate the basis for launching a formal investigation, during which further evidence is gathered through competition authorities' investigatory powers, such as conducting dawn raids, requesting information and taking statements.

Cartel detection tools are traditionally classified into proactive and reactive methods, relying on the origin of the efforts to initiate investigations (i.e. how the competition authority becomes aware of an anti-competitive case). Reactive tools are based on information or evidence brought before the competition authority by third parties, i.e. they relate to an external event occurring before the competition authority becomes aware of an issue. In turn, proactive tools are agency generated, enabling investigations to be initiated from within the competition authority, on their own initiative (OECD, 2023[2]; OECD, 2019[3]; ICN, 2021[4]).

According to this traditional doctrine, examples of reactive detection tools include leniency programmes, complaints (e.g. by competitors or customers) and external information (such as whistle-blowers and informants). On the other hand, proactive tools range from more traditional methods (such as industry monitoring, analysis of previous cases, co-operation with other domestic and foreign agencies, and education and outreach) to more advanced digital and technological instruments (namely, digital screening tools) (OECD, 2023[5]; ICN, 2021[4]).

Despite the utility of this classification for systematisation purposes and its general use among competition authorities worldwide, the distinction between reactive and proactive tools is imperfect, and the two categories often overlap. For instance, complaints submitted to competition authorities are frequently insufficient to justify the opening of a formal investigation, requiring competition authorities to carry out active efforts to find additional evidence of collusive conduct to build up a case. This means that cases initiated by reactive tools can sometimes require a high level of ex officio efforts from the competition authority. On the other hand, complaints and leniency applications often derive from proactive advocacy efforts by competition authorities. Likewise, more traditional proactive tools, such as industry monitoring and cartel screens, are regularly complemented by reactive techniques, such as informal complaints and whistleblowing programmes. Co-operation with other competition agencies or domestic authorities, although typically regarded as a proactive tool, may also involve significant reactive elements, for instance when the competition authority is notified about the existence of potential collusive behaviour.

In this sense, more important than the origin of the efforts to launch investigations within the competition authority, the notion of ex officio cases should relate to the substantial amount of effort that the competition authority must employ to start a case. In practice, competition authorities seldom use only one type of detection tool, meaning that even the identification of ex officio investigations as opposed to investigations opened due to reactive tools may be challenging.

Nevertheless, since the classification abovementioned is widely used by LAC competition authorities, this paper focuses on the more traditional proactive tools, although it also provides an overview of other tools – traditionally classified as reactive tools – that should complement one another.

It should be noted that detection tools aim at providing competition authorities with a certain level of information about the existence of a cartel to substantiate the basis for the launch of a formal investigation.[1] Some jurisdictions establish statutory thresholds that must be met for a formal investigation to be opened, such as the existence of reasonable grounds that a competition infringement has occurred or of a reasonable possibility that a case can be developed (ICN, 2021, p. 41[4]).

In most LAC jurisdictions, there are no clear standards on the required thresholds that a competition authority must meet to open cartel cases. In general, competition authorities in the region have discretionary powers to decide whether there is enough evidence of a collusive behaviour that justifies the launch of a formal investigation, and they often look at whether there are reasonable grounds for suspecting a competition infringement is taking place.[2]

2.1. Key ex officio cartel detection tools

Competition authorities regularly and consistently monitor market activities, for instance tracking general media, specialised press, websites, social network and other publicly available industry and trade association sources (such as discussion fora and bulletin boards), to search for an indication or early warning sign of cartel activity. For example, the following information may suggest the existence of a cartel: a magazine interview in which a firm alleges that others are engaged in collusive practices; publicised statements or interviews including comments such as "it's time the industry took action to increase its margins"; customers reporting that they have been told by a supplier that no one will quote a different price (ICN, 2021, pp. 22-23[4]).

Analysis of previous cases, either from the authority itself or from a foreign competition authority, can also help the identification of potential new collusive behaviour. For instance, the competition authority may assess its records of successful cartel cases to identify different cartel activity in the relevant or adjacent markets. Examining past cases that did not reach a specific threshold for investigation or prosecution may also reveal additional evidence that reinforce the original suspicions. Merger reviews and market studies may also provide the competition authority with elements to open cartel investigations. In addition, following other competition authorities' investigations (for example through media releases and announcements) can also be a way of identifying industries or companies that could be proactively targeted. In particular, decisions and settlements from other agencies regarding international cartel cases may be a relevant investigative source if the investigated parties also operate in the jurisdiction of the relevant competition authority (ICN, 2021, p. 21[4]).

Competition advocacy efforts by competition authorities can also be an effective detection tool, since increasing social awareness of and fostering compliance with competition law can empower individuals and companies to detect anti-competitive cases and report them to the competition authority, for instance through complaints, whistle-blowing and leniency applications. Target outreach work in specific groups, such as sectors more vulnerable to cartelisation, may be particularly relevant in this regard.

Finally, cartel screens are also a relevant tool to detect cartels, referring to empirical methods developed to assess observable economic data and information and flag markets which may either have been affected by collusive behaviour or may be more prone to cartelisation (OECD, 2013, p. 14[6]).

Cartel screens are typically classified into structural or behavioural. Structural screens seek to identify markets with structural market and product characteristics in which collusion is more likely to form and thrive. Markers (flags) for structural screens include structural (e.g. small number of competitors, high entry barriers and frequent interaction between firms), demand-related (e.g. stable demand conditions and low demand elasticity) and supply-related (e.g. the mature stage of an industry, product homogeneity and low pace of innovation, symmetry and commonality of costs, symmetric capacities, excess capacity, multi-market contracts, structural links and a history of anti-competitive behaviour in that market) factors.

Behavioural screens look for firms' conduct and market outcomes which may raise suspicions that firms have in fact colluded through patterns of unusual or unexplained behaviour that could indicate the existence of a cartel. Unlike structural screens, which rely on the elements of the environment that facilitate cartel formation, behavioural screens focus on the outcome of collusion. Behavioural screens aim at analysing whether a certain behaviour is more or less likely to be consistent with a collusion or competition. In this regard, they consist of two main steps: (i) selection of markers (flags), enabling to differentiate conduct consistent with the competitive process from that consistent with collusion; (ii) identification of structural breaks (e.g. a cartel price war) or exogenous shocks (e.g. a change in input prices), which can explain a change in companies' conduct (OECD, 2022, pp. 8-9[7]; OECD, 2013, pp. 21-25[6]; Harrington and Imhof, 2022, pp. 135-136[8]).

The main markers used in behavioural screens are based on what economic theory and analysis of uncovered cartels tell us about factors that mark the creation, life and break-up of a cartel, including prices (or bid values in case of bid rigging), costs, margins, quantities, capacity utilisation or market shares. A variety of approaches for behavioural screens has been proposed by the academic literature, based on such markers, and were further assessed by previous OECD Competition Committee's roundtables (OECD, 2022[7]; OECD, 2013[6]). These discussions have indicated that there is no "one-size-fits-all" approach (i.e. a single perfect screen able to identify all violations in all markets), and different screens should be tailored to different potential types of violations and different markets.

2.2. Interplay between ex-officio investigations and other cartel detection tools

Competition authorities worldwide are more and more aware of the relevance of developing proactive cartel detection tools to complement reactive techniques. Indeed, despite a decline in cartel ex-officio investigations worldwide between 2016 and 2021, since 2022 there has been a significant increase in such investigations (OECD, 2024, p. 17[9]). Proactive detection methods are a necessary complement to reactive detection tools, even if effective reactive tools (e.g. leniency programmes, complaints and whistle-blowing programmes) are in place. Indeed, by employing proactive detection tools, competition authorities can best match their cartel detection policy with their enforcement priorities, for instance as regards the nature of the case and its geographic impact, the robustness of the evidence, the relevance of the sector and the size of the market (OECD, 2019, pp. 34-35[3]).

For instance, industry monitoring has proven to be successful in uncovering cartels, especially where a vigorous competition culture is not yet established and businesses may not even be aware that collusive behaviour is an illicit practice, which for instance is the case in many LAC jurisdictions. Once competition knowledge becomes more robust and spread among the business community, with firms feeling an effective threat of severe sanctions, cartels become more sophisticated and companies more careful about what they make public. However, even at this stage publicly available information may contain indications of cartels, and therefore industry monitoring can be useful in revealing potential collusive practices.

This tool can be less costly than other ex officio methods, allowing competition authorities to identify the existence of potential anti-competitive practices, which can then be further investigated. While some authorities monitor markets in-house, others hire external companies carry out such activities, including the search for public information containing specific keywords (ICN, 2021, p. 22[4]). Furthermore, technology-led mechanisms (including artificial intelligence and screening techniques) can help competition authorities monitor markets more effectively and easily in the search for hints of anti-competitive practices, as already observed in several jurisdictions (OECD, 2024, p. 52[10]).

Since competition authorities have limited resources, it is not possible to cover the entire economy and therefore agencies usually focus their monitoring efforts on certain markets. This may involve markets more prone to cartelisation (for instance based on structural screens or past cases, either domestic or in

foreign jurisdictions) or more relevant to the economy according to prioritisation plans, as well as those subject to a handful of complaints that were not strong enough to open a formal investigation.

Nonetheless, information obtained through media (notably the general press) and other open sources should be regarded with caution, as it may often be unreliable and contain imprecise data. Thus, indications of cartel identified through industry monitoring should only serve as the starting point for further investigation, requiring corroboration with additional, more robust evidence, in order to complement the case with more robust evidence.

Cartel screens have also been subject to increased interest by competition authorities. While many authorities decide not to publicise their screening initiatives out of fear companies adjust their behaviour to beat these detection tools, publicly available information shows that more and more agencies have developed or are developing screening tools, including in LAC.

Recent developments in the use of technology (such as data science and artificial intelligence) have brought about additional methods that can be used by competition authorities to develop new and improve existing screening tools, which is likely to optimise the detection of collusive behaviour (OECD, 2024, p. 52[10]; Hofmann and Lorenzoni, 2023, pp. 41-42[11]). The potential of these digital tools was recently recognised by the ICN, which highlighted the need to strengthen competition law enforcement by applying technical expertise for detection purposes, which can help agencies to conduct more efficient, rigorous, and faster investigations (ICN, 2024[12]).

Nonetheless, cartel screens, either digital or not, involve risks of false positives or false negatives, providing only economic evidence that is often ambiguous (i.e. that could be consistent with either collusive or competitive actions). Indeed, screens do not provide conclusive evidence of cartel behaviour, but only indications of collusive conduct that must be corroborated by evidence gathered during investigations – for instance, through dawn raids. Screens can also complement other detection tools, reinforcing evidence presented for example by complainants or leniency applicants.

Moreover, cartel screens are a data-intensive activity, as sufficient, relevant and accurate information is required for designing screens, implementing them and interpreting their results. Thus, a first challenge competition authorities must overcome to develop effective cartel screens relates to the existence of data, access to such data (particularly disaggregated and raw data, as well as data not publicly available), format, integrity and quality of data, as well as data searchability, cleaning and use (OECD, 2022, p. 19[7]; OECD, 2013, pp. 38-39[6]).

Data may be obtained through publicly available information, for instance, from companies' registries, chambers of commerce, e-procurement platforms and sector regulators' databases. Getting not publicly available information may be more challenging, as issues such as data privacy and confidentiality often emerge. Web scrapping (i.e. extraction of data from the internet, which tends to be eased by the evolution of IA tools) and acquisition of data from commercial data providers are other available (although more costly) methods for collecting data. Moreover, datasets from data providers could eventually be obtained through requests for information, which competition authorities usually have the power to issue. Nevertheless, this may face legal discussions in some jurisdictions, for instance whether requests for information could be used to access data outside the context of a current investigation.

As data collection may be time consuming and resource-intensive (or eventually factually impossible), cartel screens have been more fruitful as regards public procurement and, to a lesser extent, regulated sectors, as information in those markets is often more easily available. As discussed below, co-operation between competition authorities and other domestic entities (such as government bodies, procurement agencies and sector regulators) may facilitate the acquisition of data and is therefore crucial for achieving effective screening tools.

However, even when datasets are available (which is not always the case, even for public procurement), there may also be other challenges related, for instance, to the absence of centralisation and data

fragmentation or to the machine readability of data. This may prevent agencies from employing wide and complete databases, which may undermine the accuracy and usefulness of the screening results.[3]

Additionally, developing and implementing screens to detect cartels – particularly the more sophisticated methods involving data collection and IA – may be expensive and require additional resources, including staff with specific expertise (such as data and technology skills), as well as new equipment and software (OECD, 2023[13]; Schrepel, 2021, p. 14[14]).

However, simpler, albeit effective, screening tools may be feasible to be used by staff already working at an authority without significant additional resources in a case-by-case approach. This includes, for instance, methods relying on economic analyses of suspicious bidding patterns in public procurement, such as the same supplier being often the successful bidder, regular suppliers failing to bid on a tender they would normally be expected to bid for, some suppliers unexpectedly withdrawing from bidding, certain firms always submitting bids but never wining, companies seeming to take turns at winning and consistent group of bidders submitting incomplete bids or non-responsive bids. Likewise, economic analysis of bid prices can indicate potential collusion in public procurement, for example a sudden and/or identical bid price increases that cannot be explained by cost or market price increases, sudden elimination or significant reduction of anticipated price discounts, identical pricing, differences in the prices submitted by bidders are regular and repetitive across different tenders, a large difference between the winning bid the losing bids, or the second and subsequent bids have close value, the winning bid far exceeds the estimated value of the contract, large difference between bids by the same supplier in two similar tenders. Screenings focusing on warning signs in tender documents (e.g. identical mistakes in bids submitted by different bidders and bids from different companies that are identical or have similar format or metadata) may also be easily implemented as a tool to uncover potential bid rigging (OECD, 2009[15]).

In any case, the overall effectiveness of screening techniques has been subject to debate. On the one hand, even though there is not ample public information on the success of screens, as mentioned above, it seems that successful cartel cases relying on screening results are still relatively limited (Pabon, Meester and Westrik, 2023, p. 61[16]). On the other hand, screens have also been used to complement other detection tools (for instance, complaints), including to obtain judicial warrant to conduct dawn raids. Furthermore, screens have enabled competition authorities to better understand markets (including for the purpose of reviewing mergers), assess complaints and prioritise cases (OECD, 2022, pp. 27-29[7]; Schrepel and Groza, 2023[17]).

Moreover, international co-operation among competition authorities, either formal or informal, may be a powerful tool for uncovering cartels – or at least complementing other detection tools – and enforcing competition law in an increasingly international connected world. Indeed, closer international co-operation may allow competition agencies to proactively communicate about the same or related matters. International co-operation may range from less extensive co-operation (for instance, keeping each other informed on the stages of the investigation or having general discussions on substantive issues) to more extensive co-operation, such as parallel investigations, investigatory assistance (e.g. by assisting the gathering of evidence relevant to the investigation) and more enhanced co-operation (for example, by setting up joint investigative teams or entering into work sharing arrangements). Co-operation can also improve enforcement practices through sharing techniques, practices, theoretical tools and approaches (OECD; ICN, 2021[18]).

Nonetheless, in practice there are many challenges to international enforcement co-operation, such as limited resources, difficulties in co-ordination, legal limitations related to sharing confidential information and investigative assistance, trust and reciprocity, as well as practical issues such as language and time differences (OECD; ICN, 2021, pp. 34-35[18]). Over the years, the OECD has been promoting international co-operation among competition authorities. In particular, the 2014 Recommendation Concerning International Co-operation on Competition Investigations and Proceedings calls for Adherents to foster effective international co-operation and take appropriate steps to reduce obstacles or restrictions to

effective enforcement co-operation between competition authorities and provides a high-level framework of existing aspects of international co-operations, e.g. exchange of confidential information, investigative assistance and consultation, notifications and co-ordination of competition investigations or proceedings (OECD, 2014[19]).

Likewise, co-operation with domestic authorities, such as criminal prosecutors, procurement authorities and sector regulators, has proven to be an effective mechanism to uncover collusive behaviour, also complementing other detection tools. By actively co-operating with domestic agencies, competition authorities can acquire knowledge in specific fields and build a solid network that may provide relevant information of potential collusive behaviour. For example, criminal prosecutors can help competition authorities develop investigative skills and co-ordinate parallel investigations (e.g. in some jurisdictions with criminal cartel enforcement prosecutors can work at the competition authority). Likewise, procurement authorities and competition authorities can work jointly to identify bid rigging in public procurement. Closer co-operation between competition authorities and domestic agencies such as sector regulators may also facilitate information sharing and notification of potential collusive behaviour. Domestic authorities may also provide the competition authority with access to information datasets (e.g. on regulated sectors and public procurement), which may allow the identification of cartels. In this regard, many competition authorities have entered into agreements (e.g. Memoranda of Understand – MoUs) with domestic agencies to strengthen technical and enforcement co-operation, although informal co-operation still seems to remain the most common form of co-operation (OECD, 2022, pp. 14-20[20]; ICN, 2021, pp. 19-20[4]).

Domestic co-operation faces challenges similar to international co-operation, such as limited resources and lack of trust and commitment from both institutions. Legal limitations related, for example, to the share of confidential information and investigative assistance can also sometimes make domestic co-operation difficult to be implemented. In addition, the lack of competition expertise among public authorities may limit the effectiveness of the relationship. In such cases, more proactive advocacy efforts towards public officials may be necessary to facilitate the exchange of relevant information that can help competition authorities detect potential cartels (OECD, 2022, pp. 27-30[20]).

Despite the increasing importance of ex officio investigation methods, in the last decades many competition authorities have heavily relied on leniency applications as their main cartel detection tool. According to several agencies, leniency programmes would be a very effective tool for detecting cartels, since they not only foster deterrence, by destabilising cartels, but also ease their prosecution, bringing anti-competitive secret behaviour and hard evidence to competition authorities' attention. Moreover, leniency programmes are a less resource intensive in terms of detection efforts (OECD, 2023[2]).

However, leniency only works if companies have incentives to apply for leniency, which in turn depends on a high risk of detection and high fines. Accordingly, the concerned competition authority must have a sufficient level of credibility regarding detection and punishment of cartels. If companies face a low risk to be uncover and prosecuted in the absence of a leniency application or even if detected the sanctions imposed are not significantly severe, wrongdoers may not be compelled to report cartels (OECD, 2023[2]). This means that the effectiveness of leniency depends on the effectiveness of non-leniency detection tools, including proactive methods, and the deterrent effects of cartel enforcement.[4]

Overreliance on leniency may also undermine anti-cartel policy in the long term. Indeed, if competition authorities concentrate their resources on leniency to the detriment of other detection tools (which is common when the leniency programme takes up), the probability of companies getting caught without recourse to a leniency application will be reduced, lowering firms' incentives to apply for immunity and the overall deterrence of the competition regime (OECD, 2023[2]).

Complaints have also been a powerful source of information about potential collusive practices, allowing competition authorities to open cartel cases. While complaints have traditionally been seen as a reactive detection tool, in practice they often do not contain enough evidence to open cases, requiring competition authorities to employ additional investigative efforts, thereby moving closer to ex officio investigations.

Indeed, according to the survey within the context of the review of the 1998 OECD Recommendation concerning Effective Action against Hard Core Cartels, complaints constituted the largest group of triggers for ex officio investigations (OECD, 2019, p. 33[3]).

Moreover, whistle-blowing programmes have been implemented in some jurisdictions to provide competition authorities with inside information on cartels in a secure, confidential and anonymous manner outside the context of leniency applications. In particular, a few countries, such as Hungary, South Korea, Slovakia, the UK and Peru, have introduced financial rewards to incentivise whistle-blowers to report competition violations (Spagnolo and Nyreröd, 2019[21]). However, evidence provided by whistle-blowers is usually just the starting point of investigations, and allegations must be corroborated by additional evidence collected during the proceedings, for instance through dawn raids.

Therefore, each detection technique has its own challenges and should go hand in hand with other detection tools. In fact, there is a virtuous circle between the various detection tools, with each tool complementing the others and making them stronger. For example, ex officio investigations create more incentives for leniency applicants to come forward. Other proactive tools such as co-operation with domestic agencies, and education and outreach, can contribute to increase the number and quality of complaints and whistle-blowers. Proactive detection techniques also complement one another. For instance, information obtained through co-operation initiatives can be used to developed screens to identify collusive behaviours. Likewise, evidence obtained through industry monitoring may suggest industries that could be subject to screenings. Thus, competition authorities' cartel detection toolbox should combine a variety of methods for uncovering collusive behaviour, including both proactive and reactive approaches.

Indeed, this is the approach promoted by the OECD Recommendation concerning Effective Action against Hard Core Cartels, which states that jurisdictions should "implement and effective cartel detection system by: (a) introducing effective leniency programmes (…) (ii) using pro-active cartel detection tools such as analysis of public procurement data, to trigger and support cartel investigations. (c) facilitating the reporting of information on cartels by whistle-blowers who are not leniency applicants, providing appropriate safeguards protecting the anonymity of the informants" (OECD, 2019[22]).

Nevertheless, while some reactive tools, such as leniency programmes and robust complaints, typically require fewer resources from the competition authorities, more proactive cartel detection methods are more costly and resource intensive, demanding specific skills and tools. Having case handlers with enhanced investigative expertise, for instance with intelligence and forensic skills, may be necessary to boost such detection methods as authorities are invited to play a more proactive role in identifying anti-competitive practices.

Furthermore, the use of data and technological tools – which has been called "Computational Antitrust" – may improve existing investigative techniques and provide new detection tools, increasing competition authorities' ability to detect anti-competitive behaviour and allowing them to better understand practices in digital markets (Schrepel, 2021[14]). This may also require additional resources, including staff with data and technology skills, as well as purchase and maintenance of equipment and software (OECD, 2023, p. 12[23]).

3 Enforcement experiences in LAC

This section presents the experiences of the LAC region regarding cartel detection techniques that may lead to ex officio investigations. It starts by providing a context regarding cartel enforcement in LAC vis-à-vis other regions. Then, it explores recent developments and challenges regarding ex officio investigations in the region.

3.1. Regional context

The relevance and application of competition law and policy have increased substantially in the past two decades in Latin America and the Caribbean. Indeed, over this period several LAC jurisdictions have adopted their first competition law and established a competition authority. In addition, LAC countries with an already well-established competition regime and authority have strengthened their existing competition legal frameworks.[5] In this context, LAC features a mix of younger and older competition regimes, resulting in different levels of competition enforcement (OECD, 2022[1]).

Despite these improvements, competition enforcement – and cartel enforcement in particular – remains limited in LAC when compared to other regions in the world. Indeed, almost all cartel enforcement indicators in LAC are below the OECD and non-OECD averages according to the OECD CompStats database, which compiles general statistics relating to 77 jurisdictions, including 16 LAC counties,[6] between 2015 and 2022. Moreover, as indicated below, the enforcement practice varies substantially among LAC jurisdictions, with a few countries accounting for most of these activities.

In particular, the use of proactive detection methods seems modest. LAC average number of ex officio investigations is below the OECD and non-OECD averages (Figure 1). Going against the international trend, the number of ex officio cartel investigations launched per jurisdiction declined in 2022 relative to 2021 in LAC (from an average of 2.3 in 2021 to 1.8 in 2022). In addition, these numbers refer to just a few jurisdictions (i.e. two jurisdictions undertook nearly one half of all ex officio cartel investigations in the region from 2015 to 2022), indicating that most LAC countries do not conduct ex officio investigations.

Figure 1. Average number of ex officio cartel investigations per jurisdiction, 2015-2022
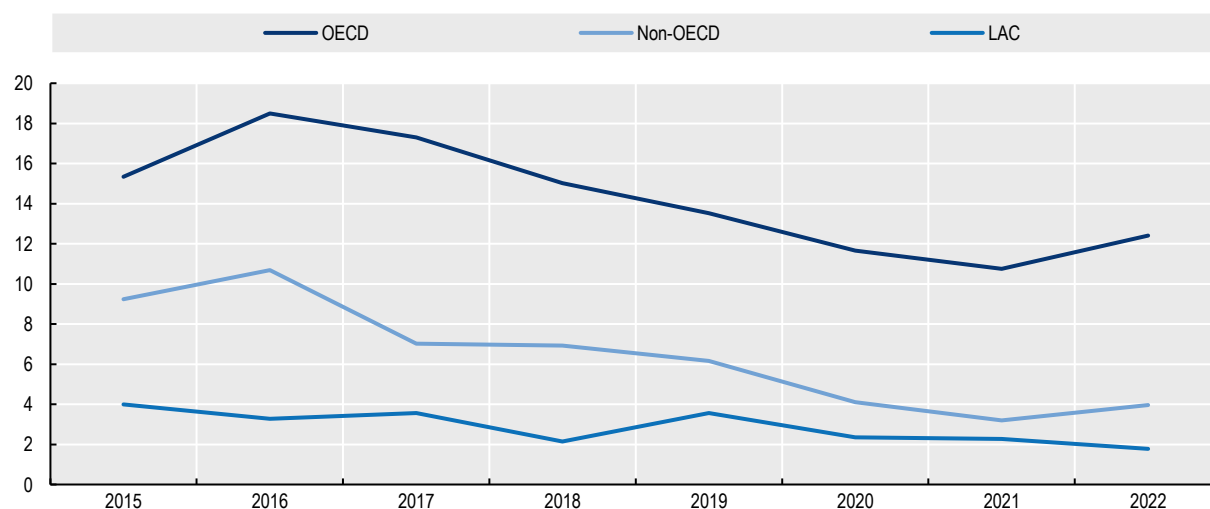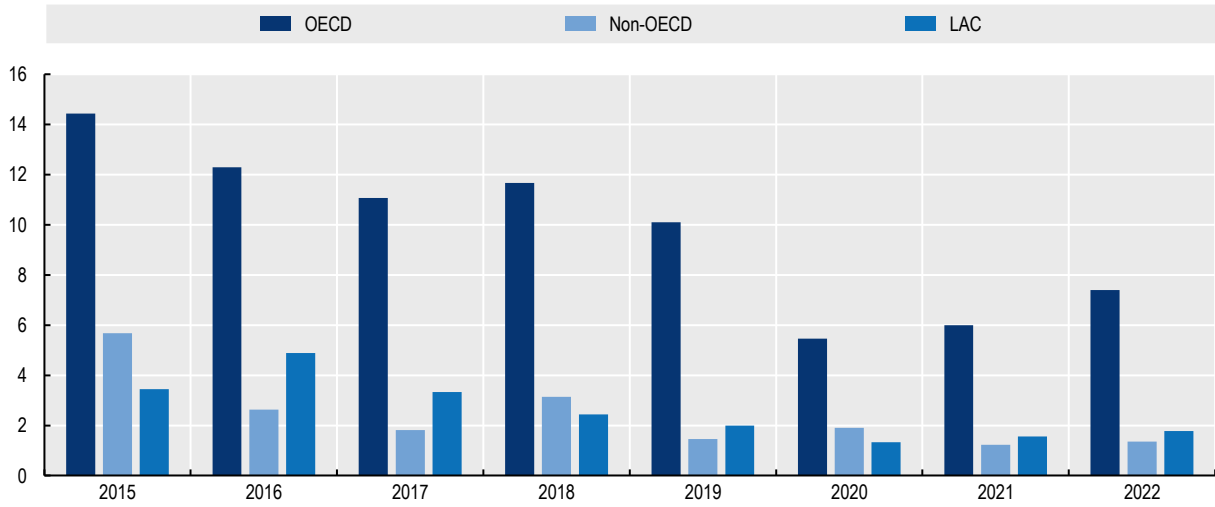

Note: Data based on the 61 jurisdictions in the CompStats database that provided comparable data for ex officio cartel investigations for eight years.
Source: OECD CompStats database.

Moreover, several LAC jurisdictions have introduced a leniency programme in the last decades, aiming to increase cartel detection. Today, 12 out of 16 LAC jurisdictions included in the OECD CompStats database have a leniency programme. Nevertheless, only a few jurisdictions have been successful in implementing an effective leniency policy. Only seven jurisdictions had at least one leniency application during the period 2015 to 2022 and only two had at least one per year (these two jurisdictions accounted for around 75% of all leniency applications in LAC from 2015 to 2022). This suggests an underuse of leniency programmes in the region (OECD, 2022[1]). In addition, the few jurisdictions that have an effective leniency programme have experienced a decline in the number of applications over the years, with a slight increase in 2021 and 2022, although the numbers remain below levels in 2016 (Figure 2).

While some leniency programmes are more recent, which would still require time to take up, the main raison for the inefficiency of most regimes relate to the absence of a real threat of detection and deterrent sanctions, which give no incentives for firms to apply for leniency. Thus, perhaps even more than in other regions, the development of proactive detection tools is indeed paramount in LAC for achieving a fruitful cartel enforcement practice – and only then leniency may become a more effective detection tool.
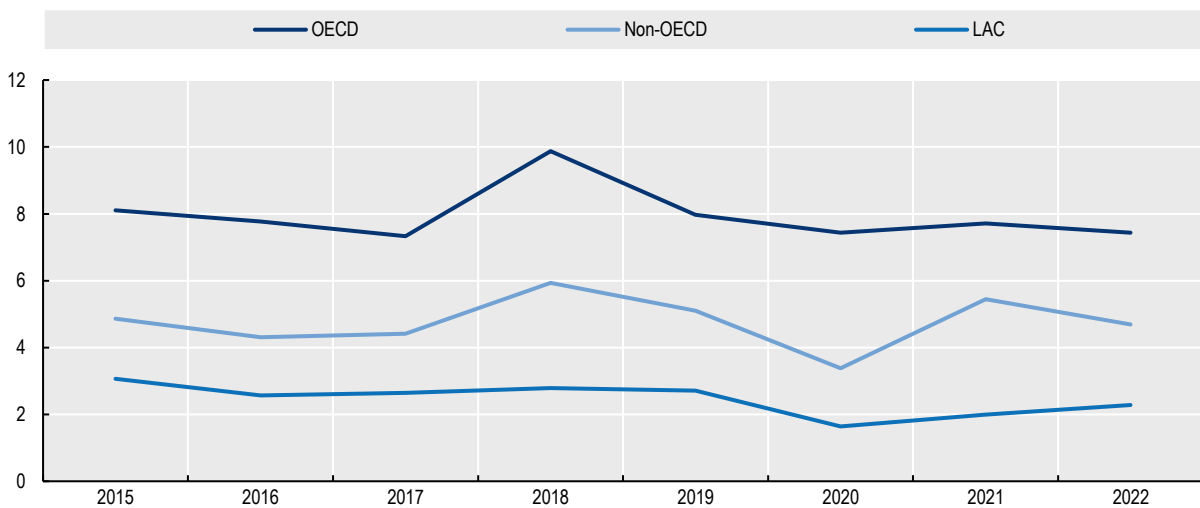
Figure 2. Average number of leniency applications per jurisdiction, 2015-2022

Note: Data based on the 52 jurisdictions in the CompStats database that provided comparable data for leniency applications for eight years.
Source: OECD CompStats database.

The numbers mentioned above help explain, at least partially, the low number of cartel decisions in LAC. The average number of cartel decisions in LAC is indeed below the OECD and non-OECD averages, although there has been an increase since 2020 (i.e. 1.6 decisions in 2020, 2 decisions in 2021 and 2.3 decisions in 2022) (Figure 3). These numbers also confirm that leniency programmes are unlikely flourish if competition authorities do not focus first on ex officio investigations.

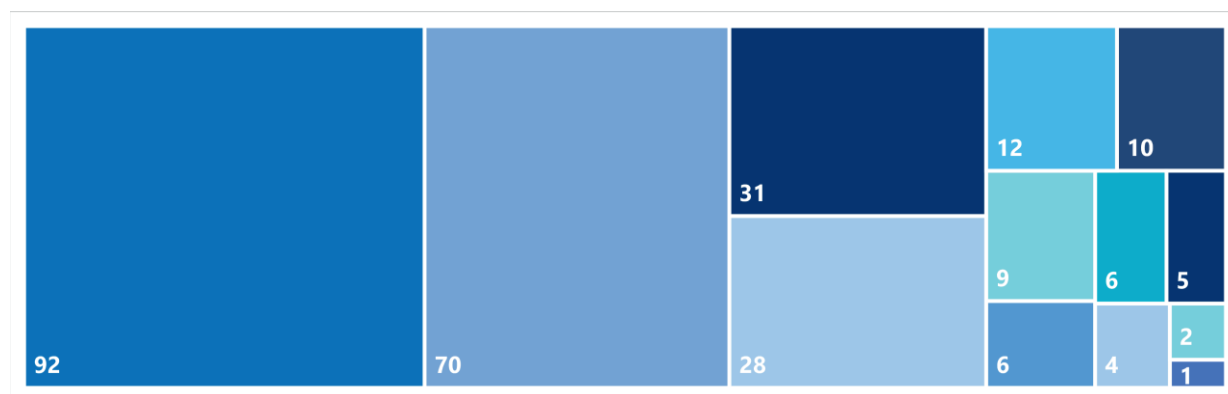**Figure 3. Average number of cartel decisions per jurisdiction, 2015-2022**

Note: Data based on the 68 jurisdictions in the CompStats database that provided comparable data for cartel decisions for eight years.
Source: OECD CompStats database.

Cartel enforcement in LAC is also highly concentrated in a handful of jurisdictions. 60% of all cartel decisions from 2015 to 2022 were issued by two jurisdictions, and four jurisdictions accounted for 80% of the total cartel decisions in the region (Figure 4).

Figure 4. Total number of cartel decisions per jurisdiction in LAC, 2015-2022

Note: Data based on the 14 LAC jurisdictions in the CompStats database that provided comparable data for cartel decisions for eight years. Each colour represents a different LAC jurisdiction in the CompStats database.
Source: OECD CompStats database.

The indicators presented above suggest that there is room for improving cartel enforcement in LAC, particularly by engaging more often in ex-officio investigations. The next subsection presents some recent developments and challenges in cartel detection, with a focus on proactive tools that allow the launch of ex officio investigations.

3.2. Recent developments and challenges

3.2.1. Setting an intelligence unit

Several LAC competition authorities have already started to recognise the need to further improve ex officio to complement other detection methods. In this regard, some LAC jurisdictions have implemented units dedicated to use market intelligence, including – but not limited to – data analysis, to boost their ex officio investigations. Box 1 below illustrates examples of intelligence units created to strengthen the competition authorities' capabilities to proactively detect and prosecute anti-competitive conducts. One of the main objectives of such units is precisely to increase the number of ex officio investigations.

Box 1. Examples of intelligence units in LAC

Brazil

The General Superintendence of the Brazilian *Conselho Administrativo de Defesa Econômica* (CADE) has a unit in charge of (i) receiving all complaints reported to CADE and conducting the initial screening and analysis of these data; (ii) organising dawn raids and processing evidence (including electronic evidence) collected during these searches; (iii) developing methodologies and seeking data technologies to enhance or dismiss potential cases and ongoing investigations, including the "Cérebro" project, a data-mining tool that was set up to detect cartels (see more in Box 3 below).

The team of the intelligence unit has a multidisciplinary and complementary background, with experience in various public administration bodies. It currently includes, for instance, engineers, economists, computer scientists, data scientists and former police officers.

Chile

In 2020, the Chilean *Fiscalía Nacional Económica* (FNE) established an Intelligence Unit dedicated to cartel detection through data science. The Unit comprises three professionals, including two data scientists, and reports directly to the Anti-Cartel Division. Its primary responsibilities are conducting cartel screenings and developing investigative approaches to analyse large volumes of data.

For instance, the Intelligence Unit employs machine learning algorithms and other AI approaches to collect, assess, and classify information that may help respond to consumer complaints, enhance the data used in ongoing investigations, and initiate ex-officio investigations. The unit has also developed a platform to analyse public tenders based on screening techniques, aimed at translating a large volume of data into reports with a user-friendly interface. A future goal is to use machine learning algorithms to build classification models that use available historical data to assess the potential for bid-rigging practices in public tenders and to build ex-officio investigations.

Other initiatives include the systematisation of data provided by public services (such as the Customs National Service) to enhance accessibility for all the divisions of the FNE, and systematisation and analysis of phone call logs and georeferenced data obtained from mobile devices to create reports that identify trends and support ongoing investigations.

Mexico

In 2014, the Investigative Authority of the Mexican *Comisión Federal de Competencia Económica* (COFECE) created a Market Intelligence Unit specifically dedicated to monitoring markets and screening market data. This unit assists the teams in charge of investigating cartels, abuse of dominance and barriers to competition by providing insights derived from the collection and analysis of key market and company information. Additionally, the unit conducts forensic acquisition of digital information during dawn raids and processes economic and digital data from investigations to support substantive cases.

The Market Intelligence Unit has around 25 professionals with different complementary backgrounds, including law enforcement, intelligence and forensic work, economics and data science. It employs intelligence tools, as well as data and economic analysis techniques. These include, for instance, the use of structural-behavioural screens in public procurement, the development of market monitoring algorithms, and the monitoring of multiple information platforms, including social media.

The use of these tools has allowed COFECE to increase the number of ex officio investigations. For example, in 2022 around 25% of cartel investigations were initiated as a result of intelligence work carried out by the Market Intelligence Unit. Such techniques have also strengthened ongoing investigations by enhancing their economic robustness.

Source: Schrepel and Groza (2023[17]), The Adoption of Computational Antitrust by Agencies: 2nd Annual Report, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4476321; FNE (2020[24]), FNE creates an Intelligence Unit, https://www.fne.gob.cl/en/fne-crea-unidad-de-inteligencia-dependiente-de-la-division-anticarteles/; COFECE (2021[25]), Manual de Organización Institucional, https://www.cofece.mx/wp-content/uploads/2021/12/Manual-de-Organizacion-Institucional-2021.pdf; Mexico (2023[26]), Alternatives to Leniency Programmes – Contribution from Mexico (COFECE), DAF/COMP/GF/WD(2023)39; CADE (2021[27]), Coordenações-Gerais de Análise Antitruste, https://www.gov.br/cade/pt-br/acesso-a-informacao/institucional/competencias/coordenacoes-gerais-de-analise-antitruste; CADE (2016[28]), Cartilha do CADE, https://cdn.cade.gov.br/Portal/acesso-a-informacao/perguntas-frequentes/cartilha-do-cade.pdf

Although hiring additional staff and acquiring new tools may not always be possible, especially due to budgetary constraints (which are particularly severe in LAC), alternatives can be in-house training or upskilling of current staff, co-operation with other government bodies (for instance, using the expertise and technological devices of criminal law enforcers), hiring external experts/academics or joining efforts with international agencies (OECD, 2023, p. 12[23]). Moreover, as discussed above, some proactive detection techniques (such as some methods of industry monitoring and simpler cartel screens) are less complex and costly and could potentially be implemented or further used by competition authorities in LAC to boost their ex officio investigations.

3.2.2. Monitoring media and other public information sources

Many LAC competition authorities have regularly monitored a variety of public sources of information, such as specialised media, social media, discussion forums, chat rooms and blogs, with the aim of detecting potential cartel activities (see examples in the box below). Although industry monitoring is not a new tool, it seems that LAC competition authorities are increasingly investing in this technique, especially with the help of technology, including AI, which may facilitate and make its use more effective. In this context, competition agencies may find indications of cartels in news articles, press releases, public statements, interviews, social media posts, audio and video recordings, photographs and public messages.[7]

Box 2. Experiences in using industry monitoring to launch ex officio investigations in LAC

Chile

In 2017, FNE initiated an ex officio investigation after learning, through a national television report broadcast, about a judicial proceeding in Spain in which companies providing aerial firefighting services were accused of dividing zones of influence in multiple countries, including Chile. This investigation culminated in the filing of complaints before the TDLC, which in 2020 imposed fines exceeding USD 6 million against two helicopter companies and their executives for colluding to manipulate the outcomes of public and private bidding processes for forest firefighting services in Chile.

Mexico

In 2018, COFECE opened an ex officio investigation to assess potential anti-competitive behaviours regarding professional football players after finding indications in public statements made by the Mexican Football Federation during the authority's routine media monitoring. The investigations revealed two collusive practices: (i) the imposition of maximum wage caps for female football players and (ii) the segmentation of the male players' market through a no-poach agreement. It was estimated that the illegal practices generated a harm of almost USD 4 million to the market. COFECE imposed fines on 17 football clubs, the Mexican Football Federation and 8 individuals, totalling around USD 8 million.

Source: TDLC (2023[29]), Sentencia N° 185/2023: TDLC acoge requerimiento de la FNE contra Inaer Helicopter S.A., Pegasus South América Servicios Integrales de Aviación SpA ("Faasa"); Ricardo Pacheco Campusano y Rodrigo Juan Pablo Lizasoaín Videla por collusion, https://www.tdlc.cl/sentencia-n-185-2023-tdlc-acoge-requerimiento-de-la-fne-contra-inaer-helicopter-s-a-pegasus-south-america-servicios-integrales-de-aviacion-spa-faasa-ricardo-pacheco-campu/; Chile (2024[30]), Annual Report on Competition Policy Developments in Chile – 2023, https://one.oecd.org/document/DAF/COMP/AR(2024)5/en/pdf?sessionId=1722261824146; Mexico (2023[26]), Alternatives to Leniency Programmes – Contribution from Mexico (COFECE), DAF/COMP/GF/WD(2023)39; COFECE (2021[31]), Resolución Pleno Federación Mexicana de Futbol Asociación, A.C. y otros, Expediente 10-002-2018, https://www.cofece.mx/CFCResoluciones/docs/Asuntos%20Juridicos/V351/1/5535148.pdf

---

However, as abovementioned, the success of this detection method is uncertain, since efforts can be employed without identifying any relevant hints of collusion. In addition, even when indications are found, it is necessary to assess their reliability, which may be challenging. In practice, information obtained through industry monitoring has only provided competition authorities with the starting point for investigations, requiring the use of additional investigative techniques to open formal investigations.

3.2.3. Developing and using cartel screenings to detect bid-rigging patterns

In line with international practices, a number of LAC competition authorities have also developed cartel screenings, especially but not limited to detect bid rigging in public procurement.[8] Nevertheless, the level of development regarding cartel screens is very different across LAC jurisdictions. In fact, while some countries are more advanced in this regard, with a more structured approach (see some examples in the box below), others are at an early stage or still considering the use of such tools. For example, the Dominican Republic has recently published a methodological guide on screening techniques for cartel detection, with the aim of mapping available screening tools and promoting their use by *Comisión Nacional de Defensa de la Competencia's* (Pro-Competencia) (Pro-Competencia, 2024[32]).

Box 3. Experiences in using cartel screens in LAC

Brazil

In 2013, CADE launched "Cérebro" ("Brain"), a proactive detection tool that relies on data mining and statistical tests to identify suspicious bidding patterns in public procurements. By automating analyses formerly conducted by investigators and case handlers, "Cérebro" aims at enhancing the collection of evidence, facilitating both the initiation of ex officio investigations and the support of ongoing investigations.

For this purpose, "Cérebro" includes: (i) a data warehouse that combines public and private databases into a single searchable database; (ii) data mining on patterns and similarities in competitors' behaviour, suspicious facts, and signs of simulation of competition; and (iii) statistical tests (models) based on academic literature on statistical cartel screens, previous cartel cases and microeconomic theory.

In particular, the tool searches for patterns in procurement data like bid suppression, cover bidding, bid rotation, superfluous losing bidders, stable market share, pricing patterns, text similarities, and submitted files' metadata.

"Cérebro" also relies on technical cooperation agreements between CADE and other agencies with competence to investigate collusive behaviour, such as criminal prosecution services and courts of accounts, to facilitate access to local public procurement data and to conduct probes in partnership with these bodies. Additionally, the project team has also shared experiences and techniques with members of 14 foreign competition agencies.

Two cases illustrate how "Cérebro" can help CADE in its detection activities. The first involves the "Operation Merchant of Venice" in 2016, which investigated cartels in public procurements for orthoses, prostheses, and medical devices. The screening tool was used to identify the priority targets with the highest amount of evidence, which would be the focus of the dawn raids. In May 2024, the investigation culminated in the conviction of three companies and 16 individuals, with fines exceeding USD 18 million.

Similarly, in 2018, "Cérebro" identified suspicious behaviour by 14 companies in more than 50 public tenders concerning the employment of firefighters, gathering evidence that enabled CADE to obtain judicial authorisation to conduct dawn raids at 13 of these companies. To date, this investigation is still ongoing.

Mexico

COFECE's Investigative Authority, established in 2014, has been developed and used data and economic analysis tools, including structural and behavioural screens in public procurement and market monitoring algorithms that assess prices, quantities, and other supply variables. The outcomes of these techniques have allowed the launch of ex officio investigations, particularly regarding bid rigging in public procurement. Moreover, these tools have benefited investigations derived from complaints, strengthening their economic robustness.

One example of successful use of cartel screens was a case involving the procurement of medicine carried out by the Mexican Institute of Social Security (IMSS). The investigation started after IMSS filed an informal complaint reporting "strange patterns" in tenders between 2003 and 2006 for human insulin and electrolyte and intravenous solutions.

Price screens identified tenders with identical award prices and winner rotation, while market share screens revealed that some bidders had similar market shares that converged over time. Furthermore, the competition authority identified that the tender prices did not appear to correspond to costs, and while the cartel members bid on average at the same prices with minor variance, this changed with the entrance of a new competitor in the market, leading to lower prices and increased dispersion. These elements were corroborated by additional evidence obtained by the authority demonstrating the existence of a communication channel between the companies.

The competition authority imposed fines totalling around USD 12 million. The decision was later confirmed by the Mexican Supreme Court of Justice, who considered that the screening evidence was sufficiently ample, clear, and decisive to prove the facts, therefore confirming the legitimacy of economic analysis as valid indirect evidence to support the existence of an anti-competitive behaviour.

Source: Brazil (2022[33]), Data Screening Tools for Competition Investigations – Note by Brazil, DAF/COMP/WP3/WD(2022)36; Brazil (2023[34]), Alternatives to Leniency Programmes – Contribution from Brazil, DAF/COMP/GF/WD(2023)8; OECD (2022[7]), Data Screening Tools in Competition Investigations, OECD Competition Policy Roundtable Background Note, https://web-archive.oecd.org/2022-10-18/643539-data-screening-tools-in-competition-investigations-2022.pdf; Schrepel and Groza (2024[35]), Computational Antitrust Within Agencies: 3rd Annual Report, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4861858; Mexico (2023[26]), Alternatives to Leniency Programmes – Contribution from Mexico (COFECE), DAF/COMP/GF/WD(2023)39; Schrepel and Groza (2023[17]), The Adoption of Computational Antitrust by Agencies: 2nd Annual Report, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4476321

However, as discussed above, the effectiveness of cartel screens is contested, since so far there does not seem to be many cases built on evidence identified through the use of these techniques. Thus, competition authorities should keep in mind that screening tools are not a silver bullet that can easily identify all cartel cases. Rather, screens should be regarded as one element of competition authorities' investigative toolkit, mainly to complement other investigative methods. This seems to be particularly relevant for smaller and younger authorities (such as in many LAC jurisdictions), in which budget constraints are more prominent and where other priorities are more urgent to be addressed. On the other hand, the usefulness of screening methods should not be disregarded, particularly in a case-by-case approach.[9]

Moreover, co-operation among competition authorities may allow smaller and younger authorities facing more serious resource constraints to make use of more sophisticated screening tools in the future. For example, Brazil and Mexico have been co-operating with several competition authorities from the region, sharing their experiences regarding screening tools and providing support in this regard.[10]

3.2.4. Co-operating with foreign competition authorities and domestic agencies

Besides technical co-operation, as mentioned above, competition authorities can also use enforcement international co-operation to boost their ex officio investigations. As indicated above, information sharing

and investigative assistance can help competition authorities detect cartels and strengthen investigations, particularly in cases of international cartels. Nevertheless, although there exist a number of MoUs between LAC competition authorities (OECD, 2022[36]), effective co-operation is still limited, covering mainly the exchange of public information. This can be explained by several reasons, including resourcing, legal limitations, and trust. Initiatives such as the LACCF and the OECD Regional Centre for Competition in Latin America in Lima can be useful to promote greater co-operation. The box below presents a recent example involving Mexico, the United States and Canada that illustrates how international co-operation can be a way of fostering ex officio investigations.

Box 4. Joint initiative between Canada, Mexico and the United States within the context of the 2026 FIFA World Cup

In 2023, COFECE, Canada's Competition Bureau and the US Department of Justice launched a joint initiative to deter, detect and prosecute potential collusive schemes by businesses and individuals involved in the provision of goods and services related to the 2026 FIFA World Cup, which will be jointly hosted by the three countries. The aim of this joint work is to ensure that the major football event will be held under competitive conditions.

Through this initiative, the three competition authorities are collaborating on investigations, using intelligence sharing and existing international co-operation tools. The agencies are also working together to promote outreach activities about anti-competitive behaviour, including by inviting individuals and the business community to report tips related to suspected competition violations.

Source: COFECE (2023[37]), Cofece Launches Joint Initiative with Partners from the United States and Canada within the framework of the 2026 FIFA World Cup, https://www.cofece.mx/wp-content/uploads/2023/09/Cofece-027-2023_ENG.pdf

---

Co-operation with domestic agencies is also a common practice in LAC, particularly regarding bid rigging in public procurement. LAC competition agencies have regularly signed MoUs with domestic authorities, such as procurement authorities, sector regulators and criminal prosecutors. While the existence of MoUs does not ensure that co-operation will occur in practice, it suggests a willingness of the authorities to engage in dialogue, offering a more formal framework. Co-operation may include, for example, giving competition authorities access to procurement databases and specific sector monitoring reports, which can be used for example to develop screening tools. Co-operating with criminal prosecutors in charge of investigating cartels and other economic offences (e.g. corruption) is also common and can improve investigations.[11] LAC competition authorities have also been very active in providing training to procurement authorities so they can detect potential bid rigging schemes.[12]

Furthermore, as awareness of competition law is particularly limited in the LAC region,[13] competition authorities have also invested to build a competition culture, for example among businesses and consumers.[14] As mentioned above, proactive efforts to increase awareness of competition law is indeed a powerful tool for increasing cartel detection, for instance through complaints, whistle-blowers and leniency applications.[15]

3.2.5. Assessing and complementing complaints

While complaints are typically classified as a reactive detection tool, in LAC they have significant proactive elements and are often used by competition authorities to launch ex officio investigations. This is because many LAC jurisdictions have the legal requirement to handle, assess (at least preliminary) and respond to all the complaints received and do not have discretionary powers to prioritise cases, for instance vis-à-vis the nature of the case and its geographic impact, the relevance of the sector and the size of the market.

This forces competition authorities to further examine complaints, often with the need to employ additional investigative efforts.

The absence of priority powers may limit the use of competition authorities' scarce resources in a more efficient way, reducing their possibility to set their own priorities regarding enforcement actions. This may be particularly problematic if complaints are not sufficiently robust or refer to practices other than anti-competitive behaviour (such as conducts raising consumer protection issues or private disputes between competitors), creating a heavily workload that is unlikely to lead to new cases.

To address this issue, some competition agencies have used screening tools to assess complaints in order to identify groundless complaints that should be rejected.[16] This may enable agencies to focus on cases that are worthwhile to pursue and that merit in-depth investigation (i.e. those with at least some degree of evidence of anti-competitive conduct).

Even if prioritisation of cases is not properly allowed when it comes to complaints, competition authorities have some level of discretion to prioritise cases (for example specific markets) through ex officio investigations. Accordingly, agencies can decide in which sectors and practices their proactive tools will be used more often and more carefully.

4 Conclusions

The detection of collusive conduct has been at the core of the work of competition authorities worldwide, including in LAC. Identifying cartels, however, is a challenging activity and various tools have been developed to enable agencies to spot anti-competitive behaviour and open formal investigations. In this context, the aim of these techniques is to achieve a certain level of indication about the existence of a cartel, justifying the launch of a formal investigation, in which additional evidence needs to be gathered. There are no clear standards regarding the required threshold for opening cartel cases, and LAC competition authorities generally have discretionary powers to decide whether there are enough suspicions of a collusive behaviour to launch a formal investigation.

Detection methods are traditionally classified according to the level of effort the competition authority needs to employ. In this sense, ex officio investigations are derived from detection tools that require a higher level of proactivity from the authority.

While reactive tools, especially leniency applications, have been perceived for a long time as the most powerful detection methods in many jurisdictions, in recent years competition authorities started to realise that other techniques are also crucial. This is particularly relevant in jurisdictions where leniency programmes are less effective, which is the case in most LAC jurisdictions.

In this context, competition authorities have increasingly used proactive tools to detect cartels and launch ex officio investigations. Examples include monitoring market activities, for instance tracking media and other public information sources; using screenings, in particular to identify bid rigging in public procurements and collusion in regulated sectors; and co-operation with foreign competition agencies and domestic authorities, such as procurement authorities, sector regulators and criminal prosecutors. The emergence of technologies such as artificial intelligence also provide competition authorities with greater opportunities to improve their detection tools.

Since each detection tool has its own strengths and drawbacks, competition authorities should employ a variety of tools to complement each other and enhance cartel detection and enforcement, rather than focusing on a single technique.

On the other hand, developing and implementing some tools may be extremely resource-intensive and not feasible, especially for smaller and younger authorities facing more serious resource constraints, such as many LAC jurisdictions. In those cases, while it may be tempting to develop more complex and sophisticated tools, less complex and costly methods may be more effective, at least until a more successful cartel enforcement activity is achieved.

Endnotes

[1] As mentioned above, this is only the starting point of an investigation and should not be confused with the standard of proof required to issuing a competition enforcement decision.

[2] For example, in Mexico there must be an indication of the existence of a collusive behaviour (known as "objective cause") to open formal investigations (COFECE, 2015[52]). Likewise, in Peru, a formal investigation can only be launched when there is reasonable evidence to support an anti-competitive hypothesis (OECD, 2018, p. 42[65]). In Ecuador, the competition authority can start formal investigations if it suspects that a behaviour breaches competition law (OECD, 2021, p. 73[63]). In El Salvador, formal investigations can only be initiated if there is enough evidence of possible anti-competitive practices (OECD, 2020, p. 31[64]).

[3] In this context, the OECD Recommendation on Fighting Bid Rigging in Public Procurement underlines the importance of using "to the extent possible, electronic procurement systems for all stages of the procurement process", as well as keeping "reliable and comprehensive databases, which: a) are consistent across contracting authorities; b) cover all procurement process stages to support pro-competitive tender design as well as appropriate law enforcement; c) include data about bids (both successful and unsuccessful) and contracts (including amendments and subcontracts) and key variables (such as firm identifiers) that facilitate evaluating whether bid rigging might have occurred; d) are accessible to public procurement officials and relevant law enforcement authorities, including competition authorities" (OECD, 2023[42]). The OECD Recommendation on Fighting Bid Rigging in Public Procurement also recommends that jurisdictions consider developing digital screens of procurement data to help detect collusive behaviour in public procurement.

[4] There are also other factors that may affect (positively and negatively) the effectiveness of leniency programmes, including the growing complexity of cartels, private enforcement, criminalisation of cartels and policies on settlements (OECD, 2023[2]).

[5] These changes relate to both institutional set-ups (e.g. to ensure greater independence for the competition authority and increase its enforcement powers) and substantive provisions of the competition law (e.g. introduction of and/or improvements to leniency programmes, as well as strengthening of investigative and sanctioning powers of the competition authorities) (OECD, 2022[1]).

[6] The 16 LAC jurisdictions covered by the OECD CompStats database are the following: Argentina, Barbados, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, and Uruguay (OECD, 2024[9]).

[7] See, for instance (COFECE, 2015[52]).

[8] For instance, this is the case of Brazil (Brazil, 2022[46]), Chile (Schrepel and Groza, 2023, pp. 79-80[17]), Colombia (Colombia, 2022[47]), Costa Rica, Dominican Republic (Pro-Competencia, 2024[50]), Ecuador (Ecuador, 2022[48]), Mexico (Mexico, 2022[49]) and Paraguay (UNCTAD, 2023, pp. 20-21[51]).

[9] For instance, this was the case in Paraguay, where the *Comisión Nacional de la Competencia* (CONACOM) opened an investigation of collusion in public tenders for medical supplies based on information provided by the National Directorate of Public Procurement and used screenings to substantiate the case (UNCTAD, 2023, pp. 20-21, 33[51]).

[10] However, co-operation regarding the development and use of screening techniques may be limited, since most authorities decide to keep their tools confidential and share neither their source code nor binary executable (Lianos, 2021, p. 11[53]).

[11] For example, Pro-Competencia and the National Police of the Dominican Republic co-operate to gather evidence in cartel cases (OECD/IDB, 2024, p. 49[58]). CADE has also co-operated closely with criminal prosecutors and criminal law enforcers in Brazil, including by conducting joint investigations of cartels (OECD, 2019, pp. 69-70[62]).

[12] This is the case, for example, of Argentina (OECD, 2019[54]), Brazil (OECD, 2021[55]) and Peru (OECD, 2021[56]).

[13] For example, a study by a consulting firm commissioned by COFECE analysed the level of awareness of competition law in Mexico among business, private practitioners, public servants and other opinion makers. It found that more than 80% of the business community had very little or no knowledge of competition law and only 4% said that they had a good familiarity with the investigation procedures. Although acknowledging the existence of collusive behaviour in the sectors in which they operate, the majority of business representatives indicated that they did not consider lodging a complaint to COFECE (McKinsey&Company, 2017[38]). Several OECD Peer Reviews of LAC countries have also indicated a low awareness of competition law (for instance, (OECD/IDB, 2024[58]; OECD, 2020[64]; OECD, 2018[65])).

[14] For example, the Trinidad and Tobago Fair Trading Commission (TTFTC) has carried out several advocacy campaigns to raise awareness of competition law among stakeholders in relevant sectors, such as the pharmaceutical, food and beverage, shipping and maritime industries (TTFTC, 2024[57]).

[15] Experiences of some LAC jurisdictions were discussed in a Roundtable on assessing and communicating the benefits of competition interventions held in June 2023 by the OECD Competition Committee's Working Party No. 2 on Competition and Regulation (see https://www.oecd.org/competition/assessing-and-communicating-the-benefits-of-competition-interventions.htm).

[16] For instance, CADE has used a screening technique to assess a large number of complaints of anti-competitive conduct in the fuel retail market, aiming to separate cases that appeared to merit further investigations from those less worthwhile to pursue. The tool was developed with the use of existing large amount of data gathered by the sector regulator, allowing to reject groundless complaints and to identify cases where there are red flags of potential collusive behaviour (OECD, 2022, p. 29[7]).

References

Bonin, A. and S. Malhi (2020), "The Use of Artificial Intelligence in the Future of Competition Law Enforcement", *Journal of European Competition Law & Practice*, Vol. 11/8, pp. 468-471, https://academic.oup.com/jeclap/article/11/8/468/5940770.   [44]

Brazil (2023), *Alternatives to Leniency Programmes – Contribution from Brazil*, https://one.oecd.org/document/DAF/COMP/GF/WD(2023)8/en/pdf.   [34]

Brazil (2022), *Data Screening Tools for Competition Investigations – Note by Brazil*, https://one.oecd.org/document/DAF/COMP/WP3/WD(2022)36/en/pdf.   [46]

Brazil (2022), *Data Screening Tools for Competition Investigations – Note by Brazil*, https://one.oecd.org/document/DAF/COMP/WP3/WD(2022)36/en/pdf.   [33]

CADE (2021), *Coordenações-Gerais de Análise Antitruste*, https://www.gov.br/cade/pt-br/acesso-a-informacao/institucional/competencias/coordenacoes-gerais-de-analise-antitruste.   [27]

CADE (2016), *Cartilha do CADE*, https://cdn.cade.gov.br/Portal/acesso-a-informacao/perguntas-frequentes/cartilha-do-cade.pdf.   [28]

Chile (2024), *Annual Report on Competition Policy Developments in Chile - 2023*, https://one.oecd.org/document/DAF/COMP/AR(2024)5/en/pdf?sessionId=1722261824146.   [30]

COFECE (2023), *Cofece Launches Joint Initiative with Partners from the United States and Canada within the framework of the 2026 FIFA World Cup*, https://www.cofece.mx/wp-content/uploads/2023/09/Cofece-027-2023_ENG.pdf.   [37]

COFECE (2021), *Manual de Organización Institucional*, https://www.cofece.mx/wp-content/uploads/2021/12/Manual-de-Organizacion-Institucional-2021.pdf.   [25]

COFECE (2021), *Resolución Pleno Federación Mexicana de Futbol Asociación, A.C. y otros, Expediente 10-002-2018*, https://www.cofece.mx/CFCResoluciones/docs/Asuntos%20Juridicos/V351/1/5535148.pdf.   [31]

COFECE (2015), *Guía para el inicio de investigaciones por prácticas monopólicas*, https://www.cofece.mx/wp-content/uploads/2017/12/guia-0022015_inicio_investigaciones.pdf.   [52]

Colombia (2022), *Data Screening Tools for Competition Investigations – Note by Colombia*, https://one.oecd.org/document/DAF/COMP/WP3/WD(2022)28/en/pdf.   [47]

Ecuador (2022), *Data Screening Tools for Competition Investigations – Note by Ecuador*, https://one.oecd.org/document/DAF/COMP/WP3/WD(2022)42/en/pdf. [48]

FNE (2020), *FNE creates an Intelligence Unit*, https://www.fne.gob.cl/en/fne-crea-unidad-de-inteligencia-dependiente-de-la-division-anticarteles/. [24]

Gutiérrez, P. (2020), *El Denunciante Reservado, Antitrust Research LAB, No. 2*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3730999. [41]

Harrington, J. and D. Imhof (2022), "Cartel Screening and Machine Learning", *Stanford Computational Antitrust*, Vol. 2, pp. 133-154, https://law.stanford.edu/wp-content/uploads/2022/08/harrington-imhof-2022.pdf. [8]

Hofmann, H. and I. Lorenzoni (2023), "Future Challenges for Automation in Competition Law Enforcement", *Stanford Computational Antitrust*, Vol. III, pp. 36-54, https://law.stanford.edu/wp-content/uploads/2023/04/hofmann-lorenzoni.pdf. [11]

ICN (2024), *Building Digital Capacity to Strengthen and Support Law Enforcement Agencies, Technologist Forum statement on building agency digital capacity*, https://www.internationalcompetitionnetwork.org/working-groups/icn-operations/technologists/technologist-forum-statement-on-building-agency-digital-capacity/. [12]

ICN (2021), *Anti-Cartel Enforcement Manual, Chapter 4 - Cartel Case Initiation*, https://internationalcompetitionnetwork.org/wp-content/uploads/2022/01/CWG_ACEM_Case_Initiation_CH4-2021.pdf. [4]

Inman, M., R. Pike and A. Dijakiewicz-Kocon (2020), *Whistleblower programmes – making cartel detection more effective*, https://www.financierworldwide.com/whistleblower-programmes-making-cartel-detection-more-effective. [39]

Lianos, I. (2021), *Computational Competition Law and Economics: An Inception Report*, https://www.epant.gr/en/enimerosi/publications/research-publications/item/1414-computational-competition-law-and-economics-inception-report.html. [53]

Luz, R. and G. Spagnolo (2017), *Leniency, Collusion, Corruption, and Whistleblowing*, pp. 729-766, https://academic.oup.com/jcle/article/13/4/729/4781632. [40]

Mattiuzzo, M. and H. Machado (2022), "Algorithmic Governance in Computational Antitrust - a Brief Outline of Alternatives for Policymakers", *Stanford Computational Antitrust*, Vol. II, pp. 23-43, https://law.stanford.edu/wp-content/uploads/2022/03/Mattiuzzo-Machado.pdf. [45]

McKinsey&Company (2017), *Estudio y análisis de la percepción sobre temas de competencia económica y la labor de la COFECE, Informe de Resultados, Estudio realizado para la COFECE*, https://www.cofece.mx/wp-content/uploads/2018/01/Estudio-labor-COFECE-17.pdf. [38]

Mexico (2023), *Alternatives to Leniency Programmes – Contribution from Mexico (COFECE)*, https://one.oecd.org/document/DAF/COMP/GF/WD(2023)39/en/pdf. [26]

Mexico (2022), *Data Screening Tools for Competition Investigations – Note by Mexico*, https://one.oecd.org/document/DAF/COMP/WP3/WD(2022)32/en/pdf. [49]

OECD (2024), *Artificial intelligence, data and competition, OECD Artificial Intelligence Papers, No. 18*, OECD Publishing, https://www.oecd-ilibrary.org/science-and-technology/artificial-intelligence-data-and-competition_e7e88884-en. [10]

OECD (2024), *OECD Competition Trends 2024*, OECD Publishing, https://www.oecd.org/daf/oecd-competition-trends-5b916b97-en.htm. [9]

OECD (2024), "The intersection between competition and data privacy", *OECD Roundtables on Competition Policy Papers*, No. 310, OECD Publishing, Paris, https://doi.org/10.1787/0dd065a3-en. [60]

OECD (2023), *Alternatives to Leniency Programmes - Call for contry contributions - Global Forum on Competition*, https://one.oecd.org/document/DAF/COMP/GF(2023)3/en/pdf. [5]

OECD (2023), *Executive Summary of the Roundtable on Data Screening Tools for Competition Investigations*, https://one.oecd.org/document/DAF/COMP/WP3/M(2022)2/ANN2/FINAL/en/pdf. [13]

OECD (2023), "Ex-post Assessment of Merger Remedies", *OECD Roundtables on Competition Policy Papers*, No. 302, OECD Publishing, Paris, https://doi.org/10.1787/84c232b6-en. [59]

OECD (2023), *Recommendation of the Council on Fighting Bid Rigging in Public Procurement, OECD/LEGAL/0396*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0396. [42]

OECD (2023), "The Future of Effective Leniency Programmes: Advancing Detection and Deterrence of Cartels", *OECD Roundtables on Competition Policy Papers*, No. 299, OECD Publishing, Paris, https://doi.org/10.1787/9bc9dd57-en. [2]

OECD (2023), "The Optimal Design, Organisation and Powers of Competition Authorities, OECD Competition Policy Roundtable Background Note", *OECD Roundtables on Competition Policy Papers*, No. 304, https://doi.org/10.1787/dea26a24-en. [23]

OECD (2022), *Competition Trends in Latin America and the Caribbean 2022, OECD Business and Finance Policy Papers*, OECD Publishing, https://www.oecd-ilibrary.org/finance-and-investment/competition-trends-in-latin-america-and-the-caribbean-2022_472518b6-en. [1]

OECD (2022), "Data Screening Tools in Competition Investigations, OECD Competition Policy Roundtable Background Note", *OECD Roundtables on Competition Policy Papers*, No. 284, https://doi.org/10.1787/4c5bbb9d-en. [7]

OECD (2022), "Interactions between competition authorities and sector regulators, OECD Competition Policy Roundtable Background Note", *OECD Roundtables on Competition Policy Papers*, No. 285, https://doi.org/10.1787/b85b4140-en. [20]

OECD (2022), *OECD Inventory of International Co-operation Agreements between Competition Agencies (MoUs)*, https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/competition-and-international-co-operation/2022-inventory-of-international-cooperation-agreements-between-competition-agencies-MOUs.pdf. [36]

OECD (2021), *Fighting Bid Rigging in Brazil: A Review of Federal Public Procurement*, https://www.oecd-ilibrary.org/finance-and-investment/fighting-bid-rigging-in-brazil_ea7e1690-en. [55]

OECD (2021), *Fighting Bid Rigging in the Health Sector in Peru: A Review of Public Procurement at EsSalud*, https://www.oecd-ilibrary.org/finance-and-investment/fighting-bid-rigging-in-the-health-sector-in-peru_13f7e8f4-en.   [56]

OECD (2021), *OECD-IDB Peer Reviews of Competition Law and Policy: Ecuador*, https://doi.org/10.1787/a8c94373-en.   [63]

OECD (2021), *Recommendation of the Council on Transparency and Procedural Fairness in Competition Law Enforcement, OECD/LEGAL/0465*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0465.   [43]

OECD (2020), *OECD-IDB Peer Reviews of Competition Law and Policy: El Salvador*, OECD Publishing, https://doi.org/10.1787/f715903a-en.   [64]

OECD (2019), "Access to the case file and protection of confidential information"*, OECD Roundtables on Competition Policy Papers*, No. 236, https://doi.org/10.1787/91c55a68-en.   [61]

OECD (2019), *Fighting Bid Rigging in the Procurement of Public Works in Argentina*, https://www.oecd-ilibrary.org/finance-and-investment/fighting-bid-rigging-in-the-procurement-of-public-works-in-argentina_fb97ef26-en.   [54]

OECD (2019), *OECD Peer Reviews of Competition Law and Policy: Brazil*, https://doi.org/10.1787/8657b785-en.   [62]

OECD (2019), *Recommendation of the Council concerning Effective Action against Hard Core Cartels, OECD/LEGAL/0452*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0452.   [22]

OECD (2019), *Review of the 1998 OECD Recommendation concerning effective action against hard core cartels*, https://doi.org/10.1787/58c38ceb-en.   [3]

OECD (2018), *OECD-IDB Peer Reviews of Competition Law and Policy: Peru*, OECD Publishing, https://doi.org/10.1787/b624f9da-en.   [65]

OECD (2014), *Recommendation of the Council Concerning International Co-operation on Competition Investigations and Proceedings, OECD/LEGAL/0408*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0408.   [19]

OECD (2013), *Ex Officio Cartel Investigations and the Use of Screens to Detect Cartels*, https://doi.org/10.1787/4089581e-en.   [6]

OECD (2009), *Guidelines for fighting bid rigging in public procurement*, https://doi.org/10.1787/8cfeafbb-en.   [15]

OECD/IDB (2024), *Peer Reviews of Competition Law and Policy: Dominican Republic*, OECD Publishing, https://doi.org/10.1787/18f04007-en.   [58]

OECD; ICN (2021), *OECD/ICN Report on International Co-operation in Competition Enforcement*, https://doi.org/10.1787/86f9eb12-en.   [18]

Pabon, A., W. Meester and D. Westrik (2023), "Competition Enforcement – Trends – Resources – Pro-active cartel screening – Merger intervention – Fines : The OECD shares, in its Competition Trends report, the main developments in competition enforcement around the world", *Concurrences* 2-2023, pp. 58-64, https://www.concurrences.com/fr/review/issues/no-2-2023/chroniques/competition-enforcement-the-oecd-shares-in-its-competition-trends-report-the-112495.   [16]

Pro-Competencia (2024), *Guía Metodológica Técnicas de Screening en la Detección de Carteles*, https://procompetencia.gob.do/wpfd_file/guia-metodologica-tecnicas-de-screening-en-la-deteccion-de-carteles/.   [50]

Pro-Competencia (2024), *Técnicas de Screening en la Detección de Carteles*, https://procompetencia.gob.do/wpfd_file/guia-metodologica-tecnicas-de-screening-en-la-deteccion-de-carteles/.   [32]

Schrepel, T. (2021), "Computational Antitrust: An Introduction and Research Agenda", *Stanford Computational Antitrust*, Vol. 1, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3766960.   [14]

Schrepel, T. and T. Groza (2024), *Computational Antitrust Within Agencies: 3rd Annual Report*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4861858.   [35]

Schrepel, T. and T. Groza (2023), *The Adoption of Computational Antitrust by Agencies: 2nd Annual Report*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4476321.   [17]

Spagnolo, G. and T. Nyveröd (2019), *Financial Incentives for Whistleblowers: A short Survey*, https://www.econstor.eu/bitstream/10419/249245/1/hasite0050-1.pdf.   [21]

TDLC (2023), *Sentencia N° 185/2023: TDLC acoge requerimiento de la FNE contra Inaer Helicopter S.A., Pegasus South América Servicios Integrales de Aviación SpA ("Faasa"); Ricardo Pacheco Campusano y Rodrigo Juan Pablo Lizasoaín Videla por colusión*, https://www.tdlc.cl/sentencia-n-185-2023-tdlc-acoge-requerimiento-de-la-fne-contra-inaer-helicopter-s-a-pegasus-south-america-servicios-integrales-de-aviacion-spa-faasa-ricardo-pacheco-campu/.   [29]

TTFTC (2024), *Media Releases*, https://tandtftc.org/media-and-publications/media-releases/.   [57]

UNCTAD (2023), *Voluntary peer review of competition law and policy: Paraguay*, https://unctad.org/publication/voluntary-peer-review-competition-law-and-policy-paraguay.   [51]