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**LATIN AMERICAN AND CARIBBEAN COMPETITION FORUM**

**Session III: Promoting effective competition in public procurement**

**-- Contribution from Brazil --**

**12-13 April 2016, Mexico City, Mexico**

*The attached document from Brazil is circulated to the Latin American and Caribbean Competition Forum FOR DISCUSSION under Session III at its forthcoming meeting to be held on 12-13 April 2016 in Mexico.*

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# LATIN AMERICAN AND CARIBBEAN COMPETITION FORUM



## 14th Latin American and Caribbean Competition Forum 12-13 APRIL 2016, Mexico City, Mexico

### Session III: Promoting Effective Competition in Public Procurement

#### Part 2 The use of screens to prevent and detect bid rigging in public procurement

##### -- CONTRIBUTION FROM BRAZIL<sup>1</sup> --

1. Since mid-2010, Cade has been keeping a partnership with the Public Expenditure Observatory (ODP), linked to the Office of the Comptroller General (CGU in its acronym in Portuguese). This partnership resulted in intense exchange of information regarding a robust tool for public procurement data analysis, with real time alerts of suspicious behaviors from bidders.
2. After years promoting auditing based on data analysis, the ODP decided to deliver real time actionable information. The purchaser has access to some of the information the auditors have when auditing. The objective of this innovation is to give the opportunity to prevent wrongdoing in public procurement. In a broader set of measures, two types of alerts sent to every purchaser under the federal regime have antitrust impact: i) whether the price of a particular contract is far from the average price; and ii) whether there is interlocking directorship between suppliers in a particular bid. Those alerts allow for auctioneers to react whenever they have reasons to suspect of collusion.
3. The unit that starts cases at Cade has been receiving many notifications of alleged cartels through that tool. Since bids are immediately suspended or the purchaser publicly reveals its suspicions of cartel, notifications have rarely entailed the opening of full investigations, but they are an efficient mean to protect the public administration from bid rigging.

<sup>1</sup>

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4. In the second semester of 2013, Cade gathered a team to evaluate the creation of in house techniques to detect bid rigging.
5. The first step was to conduct a benchmarking of best practices in the use of information technology for cartel detection in foreign antitrust authorities. The team involved technical staff from different areas of expertise and professionals from the Department of Economic Studies, the International Unit, as well as case handlers from the General Superintendence, in order to collect information from other jurisdictions. It is worth mentioning the contributions from countries participating in the OECD roundtable on “Ex officio cartel investigations and the use of screens to detect cartels”, in October 2013.
6. The team also aimed at establishing partnerships with Brazilian public institutions acknowledged by their capacity to use big data for institutional purposes, such as the Federal Court of Auditors (TCU), and the Council for the Control of Financial Activities (COAF in its acronym in Portuguese).
7. Among the international experience, the main lesson learned was that the field of public procurement has two essential aspects to structuring a project of data analysis: the availability of public data and the relevance of the economic impact, reason by which the design of Cade’s project for screening techniques initially focused on public procurement.
8. In 2014, Cade contracted external consultants with specialized knowledge in Statistics, IT, and data mining for the development of analytical tools. Based on the products delivered by the consultants, the interface called “Cérebro” (Portuguese word for “brain”) was created, incorporating tasks of data mining and economic screens.
9. The project was built as a set of tools based on two different approaches.
10. First, the project prioritized IT to automate analyses usually made by case handlers.
11. In addition to the information collected in meetings with a focal group of specialists, the project used analysis roadmaps, largely based on international guidelines, such as OECD’s “Fighting bid rigging in public procurement”. The goal of the set of techniques is to identify suspected, improbable facts, or patterns of behavior that can indicate simulated competition.
12. The identification of numerical patterns among proposals from competitors and the detection of identity among bids – which by law should be presented independently and confidently until the beginning of the auction – are examples of this family of techniques.
13. Second, the project developed an initiative based on the more specialized econometric literature, out from the idea to generalize collusion markers in data of prices, costs, profit margins, market share and spatial econometrics.
14. A set of academic works describing the behavior of colluded companies in real cartel cases, whose data were retrospectively analyzed after the detection and punishment of the cartels, was identified. The identified behaviors were translated into mathematical models as a statistical test of general application, in a type of reverse engineering. The work developed with the consultants was the coding of algorithms that search for the patterns identified by the econometric literature in the databases of public procurement. The algorithms return to the analyst measures of similarity between behaviors considered suspicious in theory and those effectively seen in the bids.
15. The construction of the set of techniques is still in progress, but Cade has already a few tools working. By the end of 2015, data analyses had an important role in one dawn raid operation conducted by

Cade, including in the argument that based the granting of a warrant. Furthermore, Cérebro's analyses have already allowed the opening of other investigations in public procurement.

16. Cade has currently around 40 databases, including companies' registry information, purchases registered in public accounts, inputs prices and public procurements.

17. The greatest challenges are in data handling, which is intensive in human resources, and in the process of recruiting personnel itself. The access to data was an initial challenge that soon revealed less serious than the assessment of quality and reliability of databases.

18. Moreover, the profile of professionals specialized in data science, with competences ranging from database infrastructure to algorithms specialized in scientific computing, is hard to recruit and train.

19. In parallel with the development of tools for economic analysis of bidding data, Cade started the organization of an Intelligence Unit. The assumption was that once the screening tools were put into operation, their consolidation would largely depend on their use in *ex officio* investigations that would allow a process of continuous improvement, with the identification of the limits and the real functionalities of "Cérebro".

20. The Intelligence Unit, formed by senior case handlers and civil servants recruited in institutions responsible for criminal investigations, is not only a *locus* for increasing the effectiveness of screening tools, but also the result of a diagnosis pointing to the impact that the development of more robust investigative techniques would have in cases investigated by Cade.

21. In this sense, the Intelligence Unit – by promoting training programs for planning and conduction of interviews and hearings, the use of analysis softwares, investigating and mapping, among others – acts in the consolidation of knowledge in the field of investigation, identifying among the various complaints received by Cade those that could give rise to effective investigations of violations to the economic order.

22. The use of active techniques for cartel detection works as an additional element in the system of incentives of reactive tools. In other words, the consolidation of screening tools – via opening of administrative proceedings and eventual condemnations in the administrative sphere – will certainly work as an additional incentive for companies and individuals to apply for leniency, to propose Cease and Desist Agreements (TCC in its acronym in Portuguese), and to file complaints with Cade.