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Data Screening Tools for Competition Investigations – Note by Australia

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This document reproduces a written contribution from Australia submitted for Item 3 of the 136th OECD Working Party 3 meeting on 28 November 2022.

More documents related to this discussion can be found at www.oecd.org/daf/competition/data-screening-tools-for-competition-investigations.htm

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Introduction

1. The Australian Competition and Consumer Commission (**ACCC**) is actively exploring the use of data screening tools in competition investigations. This forms part of a suite of initiatives the ACCC is presently engaged in to drive proactive detection of competition issues.[1]

2. Like many other competition regulators, the ACCC's initial focus is on identifying possible collusion in the context of public procurement. Public procurement has long been considered susceptible to cartel conduct due to the fact that procurement transactions are highly structured and transparent. The OECD estimates its member countries spend approximately 12% of their GDP via public procurement, and that the elimination of bid rigging could help reduce procurement prices by 20% or more.[2] In Australia, Commonwealth Government contracts published on AusTender in the 2021-22 financial year had a combined value of AU$80.8 billion.[3]

3. The ACCC is in the process of building a "cartel screening tool" and obtaining procurement data on which to apply it. This is a collaborative project between investigators, economists, intelligence analysts and data scientists.

4. In this submission we provide some reflections about the two fundamental components that are needed when building a proactive detection capability: firstly, a methodology; and secondly, some data.

1. Component #1 – Methodology

1.1. Defining the methodology

5. To develop an analytical methodology, we need to define what collusion might look like in the data.

6. To do this, one option is to take a rule-based approach, where we define circumstances that are theoretically more likely to result from or give rise to a cartel – for example, a concentrated market as expressed by the Herfindahl-Hirschman Index[4] (HHI) – and build algorithms to detect these circumstances.

7. Another approach we could take, depending on the data we have available, is a machine learning approach – by which the algorithm itself helps define the rules of what a cartel might look like. If we have a labelled dataset of "suspicious" and "not suspicious" data points, we might explore so-called supervised learning to automate the labelling of new data points. Additionally or alternatively, we could also look at using unsupervised

1 https://www.accc.gov.au/speech/law-council-competition-and-consumer-law-workshop-opening-address

2 https://www.oecd.org/competition/cartels/fightingbidriggininpublicprocurement.htm

3 https://www.finance.gov.au/government/procurement/statistics-australian-government-procurement-contracts-

4 https://stats.oecd.org/glossary/detail.asp?ID=6205

learning to identify anomalies in our dataset that might be indicative of something not according with the norm.

8. At the ACCC we have primarily focussed on the rule-based approach, drawing on economic theory and academic research to define the rules, while also developing some rules inhouse. We use the term "indicator" to refer to the outputs of these rules. For example, the HHI is one of the indicators we have used in our methodology.

1.2. Building the tool

9. Prior to building the indicators into a tool, we tested them on some sample data. The indicators flagged several firms, which had incidentally come to the ACCC's attention via other channels. This gave us some confidence the indicators are useful in at least some situations.

10. We are now building indicators into a tool, which is an interactive dashboard that automatically calculates the indicators on a bidding dataset uploaded by the user. It is designed with the philosophy that determining whether an indicator raises significant concern is highly context-dependent and hence best determined by a human operator. For example, rather than prescriptively flagging a market as concerning because the HHI is above some threshold, the tool simply presents the HHI value. This is then evaluated by a human operator (such as an investigator, economist or intelligence analyst) sufficiently familiar with the metric and the market.

11. This project is an iterative one, in that we will continually review the effectiveness of the tool and adjust our approach as needed.

1.3. Collaboration on methodology

12. We are also in contact with other competition regulators about their development of similar tools, and we are actively collaborating with a small number of agencies including some that have developed a sophisticated approach to work in this area. This includes some tools and techniques that are being shared.

13. In relation to publicising our methodology more broadly (e.g. to the market), there are arguments both for and against. On the one hand, we recognise that broadcasting our emerging investigative capabilities can have the effect of deterring wrongdoing. On the other hand, we consider there is a risk that, if we were to publish extensive details about our methodological approach, this could make it easier for committed cartelists to evade detection. We seek to strike a balance between these competing considerations, by publicising the existence of our tool without publicly disclosing the intricacies of how it works.

2. Component #2 – Data

2.1. Data access

14. The ACCC's current focus is obtaining access to procurement data. We have identified some potential challenges to achieving this objective, including the fact that public procurement in Australia has traditionally been decentralised – that is, managed and recorded at the agency level.

15. Where procurement data is combined across agencies (e.g. the AusTender website that records all Australian Government contracts that meet specified criteria), it is often

limited to data about awarded contracts and does not include particulars about unsuccessful tenders. This limits the number of indicators we can run on such datasets.

16. In circumstances where procurement data is centralised, holding parties are sometimes reluctant to voluntarily provide access to it, and the ACCC does not necessarily have the legal authority to compel its production. (As a regulator, we regularly deal with confidential and private information, and we have several internal protocols in place that ensure it is managed appropriately.)

2.2. Data quality

17. Even in instances where we have been able to obtain procurement data from public sector agencies, data quality issues have posed additional challenges. For instance, some datasets capture the tenderer identity as a free text field, rather than using a unique identifier. This results in the same tenderers being recorded differently within the one dataset. As a hypothetical example, we might have "Smith & Smith Pty Ltd" recorded as "Smith and Smith", "Smith & Smith" and "SMITH & SMITH PTY LTD T/AS SMITHS". Inconsistencies like these can impact the reliability of some indicators (such as those relating to market concentration) when they are applied to procurement datasets.

2.3. Advocacy

18. Where appropriate, we are seeking to advocate for improved procurement data capture at all three levels of government within Australia. This is to both improve the breadth and granularity of data that is captured about procurement, and the quality of that data. To support this work, we have prepared a guide of data fields that we circulate to interested agencies to assist in standardising procurement data. We further consider there would be benefits to standardisation on a global scale.