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ACCESS TO PRIVATELY HELD DATA – AUSTRALIA'S EXPERIENCE

Prepared by the Australian Bureau of Statistics<sup>1</sup>

**Abstract**

*The COVID-19 pandemic has accelerated work by National Statistical Offices to secure new data sources to produce timely, high frequency statistics and insights – particularly to support health and economic policy makers.*

*This paper describes the public value generated by the Australian Bureau of Statistics (ABS) by securing privately held microdata to produce official statistics and complementary information. The challenges overcome and the processes and data supply agreements employed to secure these microdata are described. A brief discussion of the ABS' feasibility assessment of using energy consumption data, communication and internet usage data to inform official statistics is also provided.*

*This paper concludes with work underway by the ABS to productionise the acquisition of privately held microdata to support the compilation of official statistics and provide policy insights.*

**I. INTRODUCTION**

1. The Australian Bureau of Statistics (the ABS) is the central statistical authority for the Australian Government and, by legal arrangements, provider of statistical services to Australian State and Territory Governments. The purpose of the ABS is to inform Australia's important decisions by delivering relevant, trusted objective data, statistics and insights.

2. This paper explores activities by the ABS to acquire privately held microdata to support the production of official statistics and to inform policy development – particularly health and economic policy makers – as the COVID-19 pandemic took hold in Australia in the first quarter of 2020. We provide an overview of the experiences to identify data needs, negotiation (including legal considerations) and processes to secure privately held microdata, the statistics produced and future plans.

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<sup>2</sup> The ABS is grateful for the support of private sector businesses who provided microdata to the ABS. These data have made a material contribution to the quality of official statistics over the course of the pandemic.

3. The concept of privately held microdata is important to define at this early stage. In this context we consider privately held microdata to be detailed information relating to transactions or groups of transactions and are generally produced as a by-product of interactions between customers and businesses. Microdata are more detailed in nature, either by geography and/or product/product group, than the data national statistical offices typically request from businesses, notably from businesses' balance sheets (i.e. number of employees, wages and salaries, sales, etc.). Importantly, the ABS has only acquired de-identified, aggregated microdata from private sector data businesses during these activities.

4. This rest of this paper is organised as follows. Section 1 describes the challenges overcome and the processes employed to acquire privately held data. Data supply agreements and legal implications are discussed. Section 2 outlines the statistics produced. This section also briefly discusses the ABS' feasibility assessment of using energy consumption data, communication and internet usage data to inform official statistics. Section 3 outlines work underway by the ABS to productionise the acquisition of privately held data to support the production of official statistics and insights into important policy challenges. We conclude with thoughts and observations about the future.

## II. OVERCOMING CHALLENGES TO ACQUIRE PRIVATELY HELD MICRODATA

5. In a press release on 16 March 2020 the Australian Statistician, Dr David Gruen, said:

“The economic implications of the spread of the coronavirus, COVID-19, are highly uncertain. In these circumstances, there are sizeable benefits for the community and governments to have access to information about the economic responses of individuals and businesses that is as up-to-date as possible.

The ABS has considered what additional, more up-to-date information it can provide, over and above the existing statistical releases, to enhance understanding of the economic impacts of the coronavirus<sup>3</sup>.”

6. This public statement followed activities at the ABS to identify what action would be needed to secure existing data sources to continue to produce official statistics, and what new data sources would be valuable in the current circumstances. In regard to new data sources, attention quickly turned to microdata held by the private sector.

7. The ABS contacted Australia's largest financial institutions and retail businesses seeking their support to provide de-identified microdata to improve the timeliness and quality of official statistics, and to enhance understanding of consumer and business responses to rapidly evolving circumstances. Due to the urgent COVID-19 situation the ABS implemented a reasonably flexible approach to acquiring privately held microdata. The Australian Statistician contacted Chief Executive Officers (CEO) of each financial institution and large retailers to demonstrate the importance of the data request. Following CEO in-principle support to supply data to the

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<sup>3</sup> <https://www.abs.gov.au/media-centre/media-statements/additional-abs-products-help-measure-economic-impact-coronavirus>

ABS, two major topics needed to be resolved – (1) data supply arrangements; and (2) privacy and confidentiality of the data to be provided.

8. The second topic was resolved by relying on existing Australian laws. The ABS provided the following written statement to each of the private sector businesses:

“The ABS is committed to upholding the privacy, confidentiality and security of the information it collects. The ABS is an independent statutory authority established by the *Australian Bureau of Statistics Act 1975*, while the confidentiality of the data collected by the ABS is protected by the *Census and Statistics Act 1905*. The ABS will use data only as inputs into aggregate statistics and will never release your data to a third party.”

9. This statement provided the information needed by the private sector business to address their privacy concerns.

10. Agreeing numerous data supply arrangements was more difficult and time consuming. The ABS did not attempt to use the compulsion powers of Section 14 of the *Census and Statistics Act 1905* to acquire these data, rather the ABS focused on reaching agreement on the supply, use and dissemination of privately held microdata. The ABS used a variety of standard ABS drafted Memorandum of Understandings (MoUs)<sup>4</sup> and licence agreements drafted by the private sector businesses. The various approaches, terms and conditions to secure privately held microdata from each of the businesses required the ABS to seek legal advice, particularly relating to Intellectual Property Rights and financial liability. The ABS also offered to accept data in whatever format it was stored and to transfer the data using whatever secure technology was currently used by each of the private sector businesses.

11. Almost all data supply agreements were finalised within the first two months of the pandemic. This relatively quick agreement between the ABS and private sector businesses occurred, in large part, due to the collective desire to support the production of official statistics and informed policy development during the pandemic.

12. Of note, these developments built on existing data supply agreements the ABS had with Australian supermarkets. In 2012 the ABS began obtaining transactions (scanner) data from several large retailers. These data represent around 25% of the weighted prices which make up the CPI. By March 2014, the first big step forward came when these scanner data replaced their manually collected counterparts. In 2017, the ABS published the CPI using new methods which allowed the use of a greater amount of the information within the scanner data to enhance the CPI's accuracy.

### **III. STATISTICS PRODUCED AND THEIR USE BY POLICY MAKERS**

13. The ABS focused on using privately held microdata to inform national statistics on inflation, business sales, household consumption and Gross Domestic Product (GDP), and near real-time information to understand consumer and business responses to rapidly evolving

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<sup>4</sup> A MoU is a written agreement between parties describing the processes, deliverables, key terms and other arrangements to ensure a common understanding of agreed activities. MoUs are generally not legally binding.

circumstances. These data enabled more timely indicators to be produced at more granular levels, while at the same time not adding to the respondent burden of businesses and households.

14. In addition to producing official statistics, the ABS produced complementary, more timely and detailed information from these microdata on shifting spending patterns by households<sup>5</sup> and utilised supermarket scanner commodity data to examine consumption of essential items – which informed supply chain resilience analysis. This more timely and detailed information helped governments in Australia to formulate a range of economic policies to support household consumption, business investment and confidence, and softening the impacts of COVID-19 on the labour market.

15. The ABS also assessed the feasibility of using privately held electricity and communication microdata to help understand COVID-19 impacts and inform policy development during 2020.

16. The ABS explored electricity usage across households and businesses to assess whether insights could be made about population movements and economic activity due to COVID-19 disruptions. Data received for this research did not contain information about individuals or any other billing information. Only area level statistics were produced from the data. Using a sample of data, the ABS found that electricity usage patterns were indicative of a trend of a higher proportion of households staying home during the day as the crisis escalated, while business electricity usage fell, and that this fall was more substantial for particular industry groups<sup>6</sup>.

17. The ABS also investigated application-based geospatial positioning data from mobile phones as a source of information on social and economic changes during the coronavirus crisis. No information about individuals was obtained, nor any information that could be used to identify individuals. The results from this study and from publicly available sources of data (Apple and Google mobility data, city pedestrian counters) gave broadly consistent results, with all sources showing a sharp drop-off in activity as the pandemic escalated<sup>7</sup>.

#### **IV. PRODUCTIONISING THE ACQUISITION OF PRIVATELY HELD MICRODATA**

18. The ABS' flexible approach to acquiring privately held microdata by offering to accept data in whatever format it was stored and to transfer the data using whatever secure technology was currently used by the private sector business sped up data receipt during the pandemic but also has created operational challenges that now need to be standardised.

19. The ABS has secured the on-going supply of microdata from most private sector businesses who provided data to support Australia's COVID-19 response. The focus of the ABS

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<sup>5</sup> <https://www.abs.gov.au/articles/using-bank-transactions-data-measure-household-spending>

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<https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4661.0Main%20Features12020?opendocument&tabname=Summary&prodno=4661.0&issue=2020&num=&view=>

<sup>7</sup> <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/1504.0Main%20Features2Mar%202021?opendocument&tabname=Summary&prodno=1504.0&issue=Mar%202021&num=&view=>

now is to streamline the terms and conditions, processes and technology used to acquire privately held data.

20. The key aspects of our work to standardise these acquisitions cover:

- How the ABS partner with private sector providers on an enduring basis, and
- How the ABS need to adapt organisational capabilities.

#### **A. Regularising how the ABS partner with private sector data providers**

21. A current focus area for the ABS is improving our key relationship management arrangements with banks, retailers and data brokers over the long term. This in part reflects our growing reliance on security of supply from these providers as we adapt our business to a more balanced use of private sector microdata beyond simply augmentation of survey data. In a setting where these acquisitions are negotiated by agreement with providers, rather than legally compelled, the health of our relationship with providers requires ongoing attention.

22. With that in mind, the ABS recognises the need to understand and manage holistically a business' experience with the ABS. This spans survey data about the business itself, other data about its workers and now de-identified microdata as a result of interactions with its customers (this is in addition to other data it is providing to other government departments and regulators). Some large businesses are themselves proactively establishing expectations with the ABS on how they want these arrangements to work, not just with the ABS but across government agencies acquiring data from them generally.

23. To ensure a client centric approach to how the ABS acquires data from businesses across multiple domains and units, the ABS is shifting to more formal key client management arrangements and greater central oversight of acquisitions from each major business.

24. In addition, the ABS is working to reduce the data provider burden. As we look to harness the statistical opportunities that more real time microdata from businesses open up, the ABS is also working on how we can reduce reporter burden by acquiring data more directly by accessing businesses data flows. For example, we are exploring the potential to source data directly from the business' own accounting software rather than via a survey instrument.

25. We are also introducing streamlined MoU and data acquisition agreements under the governance of the ABS Chief Data Officer, supported by our policy and legal branch.

#### **B. Adapting the ABS' organisational capabilities**

26. To successfully implement more enduring, regularised operational settings to acquire and harness private sector microdata, the ABS is focused on the following:

- Use of cloud-based technology to ingest, store and process data at scale, at high frequency and with enterprise re-use in mind

- Evolving our processes, culture and governance around data acquisition from one focussed on individual (mainly survey) collections, to one that manages and optimises the value of data assets across the organisation
- Turning variable and bespoke processes into standardised and automated processes where possible
- Increasing the frequency and timeliness of data acquisition from the private sector. For example, monthly rather than quarterly indicators of business turnover, expenditure and workforce participation
- Standardising roles and accountabilities across the ABS for data acquisition and provider relationship management. This includes updating our corporate data acquisition and payment for data policies
- Moving from makeshift funding arrangements to clear funding rules for strategic data acquisitions and the associated information technology and data management support.

27. This implementation focus will require many different parts of the ABS to collaborate to make acquiring and using private sector microdata part of our business as usual.

## **V. CONCLUSION**

28. The paper shows that acquiring privately held microdata can deliver public value, both during a crisis and for the on-going production of official statistics. Lessons have been learnt by the ABS about the approach to acquire these data which is now being used to standardise our acquisition approach. Also evident is the very genuine support private businesses provide to national statistical offices to ensure governments and the community have the best available information to inform policy decisions.

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