Financial System Inquiry
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Data as a Catalyst for Research, Innovation and Best-Practice Policy
Submission to Financial Systems Inquiry

SIRCA is a global pioneer in "Big Data" technology for the financial services sector. It was established in 1997 to develop technology and systems to collect and store large volumes of financial market data from the ASX and to provide Australian finance researchers from a number of Universities with shared access to technology and data services.

SIRCA has grown significantly and today has created unique technology that stores and catalogues big data sets from every major global financial market. SIRCA now serves hundreds of leading academics, regulators and market participants worldwide.

For more than five decades, data has been at the heart of creating dynamic, robust and innovative financial systems. In 1960 for example, the University of Chicago created the world's first comprehensive and complete database of stock price returns at the Centre for Securities Prices (CRSP). CRSP and its data collections have been central to a global wave of theoretical and finance innovation that has put the University at the centre of market theory and practice ever since — attracting seven Nobel laureates in Economics for its faculty members since 1968[1].

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[1] By way of comparison, Australians were awarded eight Nobel laureates across all fields in the same time span.
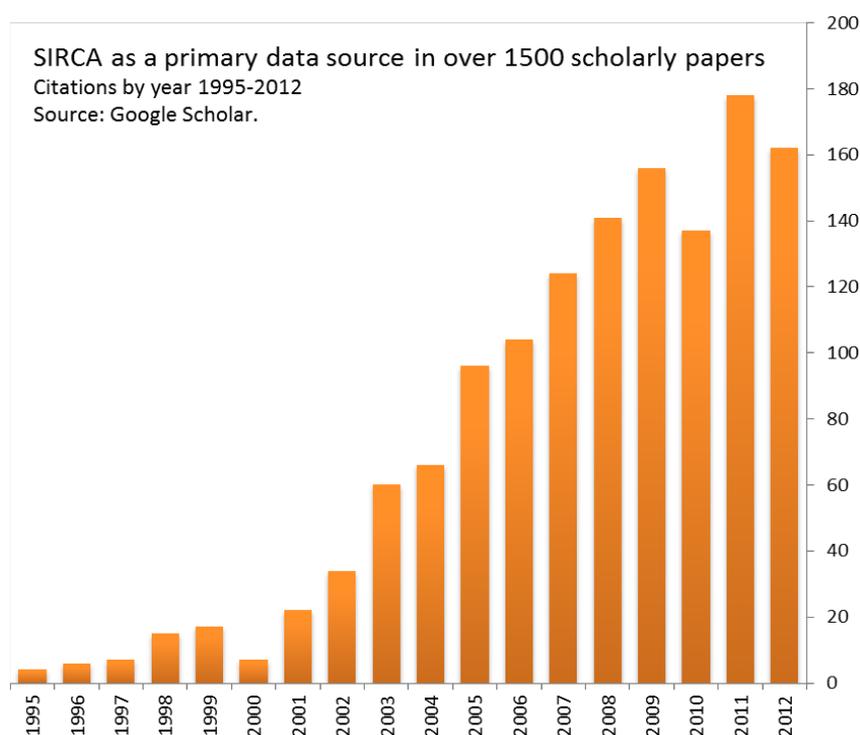
The power of new data collections: SIRCA's own first-hand experience

In 2005 SIRCA created what it understands now to be the world's largest financial market data archive used by regulators, academics, and banks around the world. Marketed commercially through a global partnership with Thomson Reuters, *Tick History* comprises over provides two petabytes of microsecond, time-stamped tick data and covers more than forty-five million instruments worldwide traded on all major public financial markets including stock markets, derivatives markets, commodities, foreign exchange and bonds.

At the intersection of the University sector, Government and Industry, SIRCA has learnt first-hand about the potential of data to enable research, innovation and better policy making.

- **Research**
  Financial Services Industry Data powered by SIRCA has been used to advance the frontiers of research and innovation in an era characterized increasingly by Global market regulation and High Frequency Trading.

SIRCA as a primary data source in over 1500 scholarly papers
Citations by year 1995-2012
Source: Google Scholar.

SIRCA's technology and data has been cited in over 1500 scholarly research works by leading academics from over fifty institutions including Oxford, Berkeley, Harvard as well as its own thirty-nine Member Universities in Australia and New Zealand.

- **Innovation**
  SMARTs is a pioneering financial services company who are the world's leading provider of financial market surveillance and compliance technology. SMARTs was built in Australia leveraging SIRCA and the Capital Market CRC's global research leadership in financial market data collections and technology. SMARTs is now installed in more than 35 national exchanges and regulators and 65 brokers across 60 countries and was acquired by NASDAQ OMX in 2010. SMARTS demonstrates the huge potential for innovative data-enabled applications and services in financial services.

- **Policy**
  Accurate, independent and timely data informs better policy making and hence improvements to both market quality and efficiency. Many regulators around the world including the US Federal Reserve[2] have used SIRCA data technology and services to underpin evidence-based policy-making.

In summary, SIRCA submits to the Inquiry that data is central to policy formulation, innovation and research. Indeed the opening up of new system wide data collections that shed light on new areas such as CRSP's US stock market returns data collection created 1960 and SIRCA's own global tick data collection created in 2005 have enabled waves of innovation and improved financial market productivity.

While the tomorrows' data frontiers are yet to be defined (one suggestion is included as an appendix), the ability to effectively store and manage very large data collections from disparate sources is increasingly becoming central to effective and efficient financial systems the world over.

While this is obvious in an era of high-frequency trading from the market participant point of view, data fluency and agility is also an increasingly vital capability for policy makers, researchers and for sector-wide innovation more broadly.

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[2] For example "The Federal Reserve's Large-Scale Asset Purchase Programs: Rationale and Effects" by Stefania D'Amico, William English, David López-Salido, and Edward Nelson uses market data to inform it analysis.

Appendix: A new frontier in company data – private company data

Small and medium sized private businesses are the lifeblood of many Western economies including Australian. Many feel small businesses are key to future employment growth and productivity yet there is little sector wide focus and research on the firms that make-up this important group.
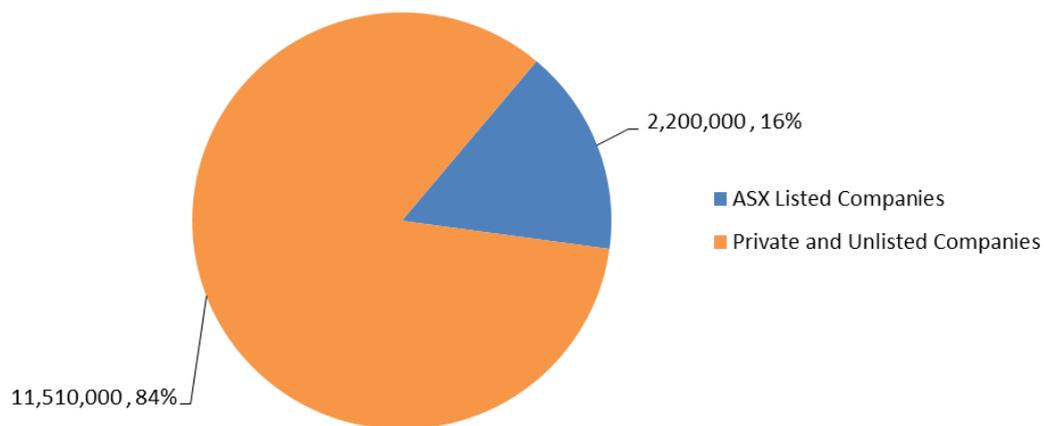
Private companies, many of them small, employ around five times the total number of Australians as Public listed companies, with very research focused on them.
[Source: ABS Cat. No. 8155.0; 8127.0; 5368.0.55.006 et al]

Currently the bulk of business, finance and economics research in Australia focuses on public listed companies, yet these employ less than 20% of the total workforce. There very little industry wide research on private companies due to the difficulty in accessing reliable, consistent industry-wide statistical data despite the fact that private companies employ over 80% of Australia's private sector workers.

While the ABS holds some survey data in this space, a number of regulators including ASIC have a treasury of information which potentially could provide a new source of data for researchers in this space to understand vital sector wide questions in this arena such as: could Australia's exports be expanded by microbusinesses?

Some of this information is currently available but not in a format that is readily usable for industry research. So for example, private company filings are available, on request one at a time for a fee from an information broker, but there's no way of currently accessing industry wide statistical information about types of companies – say incorporation data on all dentists, or bankruptcy data across all florists – which could be very valuable for both policy makers and researchers.

About SIRCA

SIRCA is a big data leader and an independent trusted partner to Government, University and Industry. SIRCA is a not-for-profit Australian University-spinout enterprise at the intersection of Australia's Financial Services Industry, the University sector and the Tech Start-up community. SIRCA provides online services to support data-intensive research in Universities, Government and Industry Worldwide. Established in 1997, the SIRCA Group of Companies has grown to employ over 80 direct staff and create over 500 jobs through spin-off enterprises it has created or cofounded.