

# FORWARD WORK PROGRAM 2019–20



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The Forward Work Program 2019–20 can be found at **www.abs.gov.au** 



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# PREFACE

The focus of the ABS is to maximise public value across the dimensions of:

- Provision of quality, timely national statistics;
- Producing new statistical insights;
- Enabling effective, safe use of ABS data;
- Pursuing data capture that is efficient and less intrusive; and
- Continuing to build ABS capability for the future.

Inevitably, we have to make choices between these five dimensions within the overall context of the ABS budget and staff capability.

The ABS continues to prioritise reliable, essential official statistics for the nation. Increased attention and resources have been focused on statistical risk management and quality assurance. Improvements have been made to the quality of a number of our key economic indicators including labour force estimates, the Consumer Price Index and population estimates. In 2019-20, no significant change to the current suite of statistical products is planned.

The ABS is measuring an economy, society and environment that are becoming more complex. Globalisation is challenging how we measure economic activity and international trade and we are working to enhance the measurement of growing sectors of our economy such as health, education and disability services. Productivity is a key policy and measurement conundrum that requires focused attention. Addressing mental health issues, providing a place based perspective on the socio-economic condition of communities in economic transition and population pressures are also emerging as measurement priorities.

The ABS data integration capability is underpinning the production of official statistics, informing economic assessments, and contributing improved understanding to significant policy questions such as firm dynamics, wage movements, education, health policy and mental health considerations.

The ABS is enabling improved yet safe access to our valuable statistical resources, especially our microdata. ABS data is part of our essential national infrastructure, available to inform important decisions by governments, business and the community. Importantly, greater access and use of ABS data is occurring while simultaneously ensuring the confidentiality of individuals' and businesses' information. This is core activity for national statistical offices.

The ABS wants to improve the experience for those who generously supply information to the ABS. New data acquisition systems are progressively enabling us to increase the level of on-line survey completion. We continue to assess opportunities to reduce the call we make on households and businesses. This includes developing opportunities to make better use of existing information.

While much has been achieved, there is more to do. The ABS transformation will be ongoing. In a world of constant change, particularly emerging data opportunities and risks, this is both inevitable and essential.

David W. Kalisch Australian Statistician

# 1. ENVIRONMENTAL AND ORGANISATIONAL CONTEXT

ABS statistics and analysis empower decisions across government, business, and in the communities of every day Australians. Guided by the *Census and Statistics Act 1905* and the *Australian Bureau of Statistics Act 1975* the ABS continues to collect, compile, analyse and disseminate statistics that remain relevant for Australia.

# 1.1 ENVIRONMENTAL CONTEXT

In the provision of high quality statistics, the ABS needs to constantly evaluate its program in light of the changing external environment. Maintaining the relevance and quality of statistics requires a continuous focus on enhancing methods, data sources and practices. It also requires vigilance in re-shaping the program to ensure we are measuring changes in the economy and changes in government and community priorities and expectations.

In 2019-20, focus will continue on seeking to enhance measurement of growing sectors of the economy, digital activities and globalisation. At the same time, the ABS will be delivering on an ambitious measurement program around living conditions, including Indigenous health and social support, mental health, household time use, personal safety and education.

Increasingly, place-based socio-economic policy and assessment of land use, resource use and the associated environment is being prioritised by communities and governments. The ABS will develop this capability as resources permit.

With increasing demand for data coupled with technological advances that will enable increased access to a plethora of information (often instantaneously), the role and practices of the ABS will need to continue to evolve in an increasingly crowded and complex data landscape. The need for data literate analytical capability across the public and private sector will continue to grow and remains a major challenge. This is occurring against the back drop of growing public awareness and concern about the appropriate use of their information.

The ABS is actively supporting the Australian Government's data policy, by working with the National Data Commissioner, to enable a national data system that maximises the value of data, while ensuring the community can be confident about the public sector use and protections of their information.

# 1.2 ABS STRATEGIC DIRECTIONS

To position the ABS for the future, the ABS has articulated four longer term goals. These goals point to the agency the ABS aspires to be. These strategic directions are as follows.

- Continue to invest in the production of high quality data and statistics
- Be recognised as a leader in the Australian data landscape
- Demonstrate leadership in data skills and capability building across Australia
- Deliver new data solutions and services

# 1.3 INFRASTRUCTURE MODERNISATION

2019-20 is the final year of the ABS' five-year program to modernise its information technology infrastructure and statistical business processes. This transformation program has delivered against the original program objectives to:

- Improve customer outcomes through more seamless interfaces that reduce red tape for providers of information and increase the availability of information for the users of ABS statistics; and
- Reduce risk to our statistical outputs by improving statistical processing systems and supporting technology infrastructure.

The objective of delivering financial efficiencies is yet to be fully realised. This reflects delays in the delivery of statistical processing capabilities and the need to adopt a cautious approach in transitioning the current statistical programs to the new infrastructure. This cautious approach has been designed to protect the quality and continuity of ABS statistics during the transition.

The ABS has started using cloud computing as part of its information technology infrastructure. This includes the use of cloud service providers from the Australian Signals Directorate Certified Cloud Services List. An example is our new data integration lab that allows access to large scale computing for researchers using our large integrated datasets. These services are configured in line with advice from the Australian Cyber Security Centre (ACSC).

The ABS has a large security uplift program running in 2019-20 to better safeguard citizen data in line with community expectations. The ABS will be focussing on raising maturity against ACSC's Essential 8 Maturity Model.

# 1.4 WORKFORCE STRATEGY

The ABS operates in an environment where there is increasing external demand for staff with high quality data and statistical capabilities. Over coming years it is expected the growth in demand for data scientists will outpace overall employment growth, and Australian businesses will make significantly increased investment in data analytics capabilities.

Within this context, the ABS Workforce Strategy 2019-23 provides a four year outlook to ensure that the ABS continues to attract, develop and retain high quality staff and equip them with required skills and knowledge. The strategy includes four streams to drive high organisational performance:

- Increase the capacity and capability of the ABS workforce through development and recruitment to address gaps;
- Identify, monitor, and predict where specialised and general skills and knowledge are required to responsively meet short, medium and long term needs;
- Support innovative ways of working to achieve high performance and efficiency; and
- Improve the ABS' position as an 'employer of choice' to retain and attract the best employees.

As Australia's National Statistical Office we are well placed to assist data capability development in the Australian Public Service (APS). The ABS is working with public sector partners to determine how we can assist government employees to develop data analytical skills. This includes investigating:

- Making statistical training developed by the ABS easily accessible by other APS staff;
- Increasing opportunities to undertake secondments to and from the ABS; and
- Developing a data related job roles and capability framework to support a sector wide approach to professionalising the data workforce.

# 1.5 FINANCIAL CONTEXT FOR 2019-20

The level of ABS resources is a combination of Government appropriation and user funding for data products and services.

In 2019-20, the ABS will receive an annual appropriation of \$261.7 million and user funding of \$49.5 million. This appropriation is marginally higher than the \$258.6 million appropriated in 2018-19 due to additional funding to conduct a Time Use Survey, produce the Labour Accounts publication, and various other minor cyclical funding adjustments.

This base funding excludes funding for the Census of Population and Housing, which is appropriated separately, the Statistical Business Transformation Program (SBTP), capital and low value asset replacement funding. In 2019-20 Census funding will increase by \$44 million to \$74.8 million as the program ramps up.

The ABS appropriation largely funds the demographic and economic statistical programs; data acquisition and enabling services such as information technology. Data acquisition (including surveys, data cleaning) accounts for around a quarter of the ABS appropriated funding.

By contrast, the social statistics program is largely reliant on user funding. Seventy-five per cent of the \$49.5 million in user funding in 2019-20 supports the social statistics program, with a small proportion supporting the industry, environment and agricultural statistical programs and data integration.

Appropriated funding for a number of activities ceases in June 2020, including funding for the Data Integration Partnership for Australia (DIPA), labour accounts and research into measuring the non-market service sector.

# 1.6 MEDIUM TERM FUNDING OUTLOOK

Over the past decade the need for prioritisation has become sharper as the ABS' ongoing appropriation has reduced. Funding in 2019-20 in real terms is 28 per cent lower than a decade ago. This takes into account the additional funding of \$31.2 million (excluding capital) over five years provided to the ABS in the 2018-19 Budget and 2018-19 MYEFO (refer Chart 1).

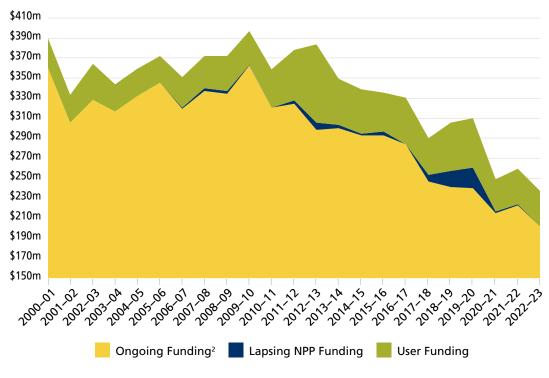
The ABS has achieved efficiencies by reducing:

- Corporate overheads;
- Staffing numbers, through several rounds of redundancies and not replacing staff leaving the organisation;
- Our property footprint through activity based working and sharing with other government agencies; and
- Direct information collection methods, where administrative and transactional data can be used.

These efficiencies are offset by rising costs of:

- Household surveys, particularly the monthly Labour Force Survey;
- Data security protections; and
- Qualified expert staff recruitment and development.

Future efficiencies will be dependent on changes in the way the ABS collects information, such as further use of administrative data, more e-form collection, and the efficiency with which we compile and analyse this information, such as more automation of coding and editing.



#### CHART 1: REAL ABS OPERATING FUNDING<sup>1</sup>, 2000-01 TO 2022-23

Notes:

- 1. Excludes funding for SBTP, the Census of Population and Housing and the Australian Marriage Law Postal Survey. Depreciation funding of approximately \$30m per annum was removed from 2010-11 onwards.
- 2. Base funding after WCI, Efficiency Dividend, efficiencies following SBTP and Whole-of-Government Savings. Includes ongoing NPP funding and offsets for property savings.
- 3. Base funding excludes the reclassification of Departmental Capital Budget funding for low value asset purchases.

# 2. STRATEGIC OBJECTIVES FOR 2019-20

### 2.1 STRATEGIC OBJECTIVE ONE: ABS STATISTICS ARE TRUSTED AND USED TO INFORM IMPORTANT DECISIONS

The ABS released 496 statistical products in 2018-19, with a similar number of releases scheduled in 2019-20. Table 1 sets out the broad schedule for the ABS' regular publications. This does not include the myriad of experimental, one-off or ad hoc releases that occur throughout the year. Appendix 1 sets out the statistical program in more detail.

With funding in 2019-20 similar to funding in 2018-19, the ABS is not contemplating significant changes to the statistical work program in 2019-20.

#### 2.1.1 ECONOMIC AND LABOUR MARKET MEASUREMENT

#### **Main Economic Indicators**

The main economic indicators are the Consumer Price Index (CPI), the Labour Force Survey (LFS) and the National and International Accounts inclusive of the business survey, price deflators and administrative data that are critical inputs for these.

The ABS will continue to prioritise maintaining the quality of these core economic statistics. This includes continuing to embed enhanced statistical risk management and prioritising critical staff capability and availability. To the extent possible within diminishing resources, the ABS will continue to focus research activity on enhancing economic measurement to maintain relevance in a changing economy.

Australia is recognised internationally as a leader in economic statistics. We are one of very few countries that publishes all three measures of Gross Domestic Product in the National Accounts. The introduction of annual re-weighting of the CPI and use of scanner and web scraped data in the CPI are world leading. However, we remain the only G20 country that does not have monthly inflation estimates.

Australia's LFS is first class by world standards (see Box 1). Our monthly labour force publication now includes monthly estimates of underemployment and underutilisation. Australia is the only country to release a comprehensive quarterly Labour Account. Denmark, the Netherlands and Switzerland release components of a Labour Account

Maintaining high quality labour force statistics comes with challenges in terms of costs and response rates. In order to sustain the survey, the ABS has identified a range of essential changes in consultation with international and domestic experts. This includes the establishment of an "Innovation Panel" that allows randomised controlled trials with survey respondents to test communication and survey material. This is already yielding returns through increased use of e-forms making it easier for people responding to the survey and ameliorating some cost pressures associated with maintaining strong response rates.

#### MONTHLY QUARTERLY ANNUAL **OTHER FREQUENCIES** PRICE INDICES LABOUR MARKET AUSTRALIAN NATIONAL SOCIAL STATISTICS ACCOUNTS Labour Force CPI Household Income & Expenditure • Input output tables International Trade ECONOMIC INDICATORS National Health Survey • Supply use tables Producer Price • Building approvals • Industry multi-factor National Aboriginal & Torres Residential Property Strait Islander Health Survey • Retail Trade productivity estimates Selected cost of living Survey of Disability, Ageing • International Trade in Wages LABOUR MARKET & Carers Goods & Services Labour Force Status & • Family & Community Lending to households **ECONOMIC ACCOUNTS** Other Characteristics of Experiences & businesses National Income, Families Expenditure & Product DEMOGRAPHIC Employment & Earnings, CENSUS • Finance & Wealth Public Sector **Overseas Arrivals &** • Agriculture Government Finance Departures Jobs in Australia Population & Housing Statistics • Job Search, Participation Balance of Payments & & Mobility DEMOGRAPHIC International Investment Population projections Position **ENVIRONMENT AND** Household & family SECTORAL projections LABOUR MARKET • Water & Energy Accounts Aboriginal & Torres Strait Labour Account • Energy Use & Electricity Islander population estimates • Job Vacancies Generation & projections Industrial Disputes Agriculture commodities • Aboriginal & Torres Strait & production Islander life expectancy **ECONOMIC INDICATORS** • Motor Vehicle Use Quarterly Business OTHER Tourism Satellite Account Indicators Average Weekly Earnings • Private New Capital (6 monthly) SOCIAL STATISTICS Expenditure & Expected • Business & Government • Income of Migrants Research & Development Expenditure • Gender Indicators Expenditure Building Activity & • Consumption of Alcohol Engineering Constructions Australian Statistical Mineral & Petroleum • Patient Experience Geography Standard • Crime: prisoners, criminal courts, crime Exploration DEMOGRAPHIC victimisation, recorded crime **Quarterly Estimated** Resident Population DEMOGRAPHIC by State, including net **Overseas Migration** Life expectancy • Births & deaths • Regional population statistics • Marriages & divorces

#### Enhancing economic measurement

TABLE 1: ABS SCHEDULE OF STATISTICAL RELEASES

To ensure the way the ABS measures the economy is contemporary and adapting to trends in the economy the ABS continues to progress research to:

- Measure digital activity in the economy, with the publication of experimental digital activity estimates (see Box 2) – the scheduled Time Use Survey will contribute to enhanced digital measurement;
- Improve economic (output) and productivity measurement of the non market sector, with the publication of experimental disease based hospital estimates and plans to extend this work to the education sector; and
- Improve the measurement of the housing sector by providing greater detail to estimates of housing stock and planning and zoning data.

	AUSTRALIA	CANADA	NZ	UK	US
Frequency	Monthly	Monthly	Quarterly	Quarterly	Monthly
Responding sample size	26,000 households	56,000 households	15,000 households	40,000 households	74,000 households
	50,000 people	100,000 people	30,000 people	100,000 people	105,000 people
Response rates	Around 93%	Around <b>90%</b>	Around 86%	Around 49%	Around 86%
Rotation groups	8	6	8	5	8*
Population compared to Australia		1.5 times the size of Australia	19% the size of Australia	2.7 times the size of Australia	13.3 times the size of Australia

#### **BOX 1: INTERNATIONAL LABOUR FORCE SURVEY COMPARISONS**

In 2019-20, attention has turned to investigating options for enhancing the measurement of consumption, including potential new data sources, noting that annual re-weighting of the CPI uses estimates of household final consumption expenditure.

Implementation of new economic and finance statistics data collected by the Australian Prudential Regulation Authority (APRA) will occur in 2019-20, significantly improving the quality of financial information in the National Accounts, and finance and lending publications.

These economic measurement challenges are common across the world and the ABS is collaborating through United Nations, OECD, IMF and country bi-laterals to ensure the ABS leverages and contributes to international research and enhancements. The ABS is also working with international statistical organisations to ensure international conceptual frameworks, standards and classifications are fit for purpose for an Australian economy.

#### Enhanced labour market measurement

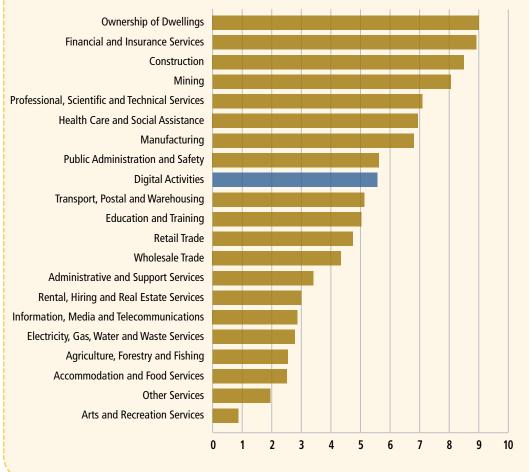
Through the creation of an annual and quarterly Labour Account, the ABS has built an overarching picture of the labour market with coherent estimates of the number of jobs, people, hours worked and labour income in each industry. Quarterly Labour Accounts are now released a week after the National Accounts.

One input to the Labour Account, and a statistical asset in its own right, is the linkage of personal income tax, Pay As You Go Payment Summaries (PAYG), individual tax returns and the Business Longitudinal Analysis Data Environment (BLADE) to provide annual data on filled jobs for more than 2,200 different regions across Australia (see Box 3). Previously this detail was only available with the five yearly Census of Population and Housing.

#### BOX 2: ENHANCING MEASUREMENT OF DIGITAL ACTIVITIES<sup>1</sup>

Adopting an approach developed by the US Bureau of Economic Analysis (BEA), the ABS has estimated the size and contribution of digital activities in the Australian economy. While digital activity is already included within the traditional measures of the economy, this work gives visibility to the growing contribution of digital activities occurring across industries. The ABS intends to update, and potentially enhance in the future using information from the Time Use Survey.

In 2011-12 digital activities contributed 5.4% (\$75.6 billion) to the total Australian economy. This grew to 5.7% (\$93.5 billion) in 2016-17. Digital activity is becoming increasingly important, with a contribution to the Australian economy larger than industries such as retail, education and training and agriculture (see Figure 1 below). Traditional drivers of economic growth such as finance, construction and mining continue to make a larger contribution to economic activity.



#### FIGURE 1: AVERAGE INDUSTRY SHARE IN AGGREGATE VALUE ADDED (%), DIGITAL ACTIVITIES 2011-12 TO 2016 17, CURRENT PRICE

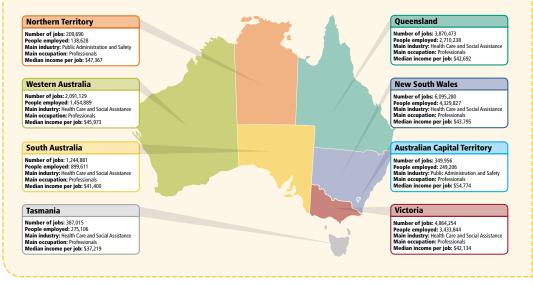
<sup>1</sup> Measuring Digital Activities in the Australian Economy released on 27 February 2019.

#### **BOX 3: ANNUAL JOBS IN AUSTRALIA<sup>2</sup>**

Jobs in Australia provides a detailed economic summary of jobs for each State and Territory and over 2,200 regional areas across Australia, including information on employment income, age, gender and detailed industry information. An updated instalment of Jobs in Australia will be released in 2020.

The research revealed that people under the age of 30 were more likely to be multiple job holders, with one in every four holding multiple jobs in 2016-17. Around 26 per cent of multiple job holders worked all of their jobs in the same industry. For multiple job holders working across industries, the most common combinations of industries where people worked were:

- Health care & social assistance and Administrative & support services
- Health care & social assistance and Education & training
- Retail trade and Accommodation & food services



#### 2.1.2 DEMOGRAPHIC MEASUREMENT

Under the *Census and Statistics Act 1905*, the ABS is required to produce 'statistics of the number of people of each state as on the last day of March, June, September and December in each year'. Estimated Resident Population (ERP) is the only measurement that is legislatively required, aside from the five yearly Census of Population and Housing. Maintaining the quality of ERP is therefore a priority, particularly given the contribution it makes to ensuring Australia has fair electoral boundaries and its central role in determining the distribution of GST revenue between the states and territories.

Other key elements of the demographic program include:

- National indicators for Aboriginal and Torres Strait Islander people including population estimates and projections, and information on fertility, mortality and life expectancy; and
- Statistics on births and deaths, including the compilation and coding of detailed information about causes of death.

<sup>&</sup>lt;sup>2</sup> The ABS released Jobs in Australia, 2011-12 to 2016-17, on 1 August 2019

Consistent with international best practice, after each Census, the ABS conducts a large Post Enumeration Survey, now to be known as the Post Census Review (PCR). This provides a mechanism to quality assure the Census outcomes and to re-benchmark ERP every five years. Planning and field testing for the 2021 PCR commences in 2019-20.

The ABS is working closely with The Treasury in helping to establish the Centre for Population announced in the 2019-20 Budget. The ABS is contributing data and expertise. The Centre is part of the Government's broader population package and will provide a central, consistent and expert perspective on population in Australia.

#### 2.1.3 CENSUS

Preparation for the 2021 Census has reached the mid-point of the Census cycle with two years to go until Census night in August 2021. A number of important milestones are being reached as activities build towards mobilisation and operational readiness during 2019-20.

The three strategic objectives of the 2021 Census are:

- Smooth Running;
- Strong Support; and
- High Quality Data.

Underpinning these high level objectives is the goal to increase the participation of Aboriginal and Torres Strait Islander people in the Census, in order to improve the quality of statistics for this population. This work directly supports the measurement of the Closing the Gap Refresh and making data available for Aboriginal and Torres Strait Islander Communities. The ABS Aboriginal and Torres Strait Islander Round Table will guide this work.

Other key goals include providing appropriately calibrated support for vulnerable and disadvantaged people and communities to participate (for example through pop-up support centres) and enhancing customer experience (for example through improved call centre arrangements).

To provide a basis for assessing progress and assuring various elements for the 2021 Census, two major tests are planned over the next 12 months:

- A test of key design decisions and assumptions with an emphasis on understanding impacts to data quality of some potential questions; and
- An end-to-end full operational readiness exercise in August 2020.

Procurement of digital information technology, e-forms and workforce recruitment has been secured. Other significant procurements to be finalised over the next 12 months include paper form printing, logistics and payroll.

An independent Privacy Impact Assessment for the whole Census, to be conducted by Galexia, has commenced and is planned to be completed by August 2020.

The Government will make its decision on the 2021 Census topics ahead of the release of an exposure draft regulation and explanatory material that will set out the proposed topics for the 2021 Census. The regulation is expected to be tabled in both Houses of Parliament in the first half of 2020.

#### 2.1.4 MEASURING SOCIETY'S LIVING CONDITIONS

The ABS social statistics program over the next two years is significant. The following surveys will be in the field collecting information from individuals and households in 2019-20:

- The General Social Survey;
- The next iteration of the Survey of Income and Housing;
- The Longitudinal Study of Australia's Children; and
- The Family and Community Experiences Survey.

In 2019-20, the outcomes and findings of large surveys conducted in previous years will be published, including:

- The 2017-18 National Health Survey;
- The 2017-18 Survey of Income and Housing;
- The 2018-19 National Aboriginal and Torres Strait Islander Health Survey; and
- The 2018 Survey of Disability Ageing and Carers.

Preparation for the first Time Use Survey since 2006 will occur in 2019-20, with the collection of information to commence in July 2020. This survey will enable, for the first time, e-diary recording to provide information on how people spend their time (see Box 4).

Design work and field preparation will also commence in 2019-20 for an ambitious Intergenerational Health and Mental Health Study to be conducted in 2021. This study was announced by the Minister for Health, the Hon. Greg Hunt MP on 14 August 2019. It is being developed in collaboration with the Commonwealth Department of Health (see Box 5).

#### **BOX 4: THE TIME USE SURVEY**

A Time Use Survey was announced by the Government in the Women's Economic Security Package. The survey will provide insights into:

- The distribution of paid and unpaid work between men and women;
- The effectiveness of various policy measures to support flexible work arrangements and workforce participation;
- Barriers (such as caring roles) and incentives to labour force participation;
- The value of unpaid work to the Australian economy;
- The balance between work and other roles within families and how this has changed since 2006;
- The health and wellbeing of Australians (time spent sleeping, active vs sedentary leisure);
- Volunteering and community participation; and
- The impact of technology on how Australians work and spend their time.

The Social Statistics work program also includes significant work in compiling, analysing and presenting administrative data in the fields of education, crime and justice, migration and social wellbeing.

#### **BOX 5: THE INTERGENERATIONAL HEALTH AND MENTAL HEALTH STUDY**

The Intergenerational Health and Mental Health Study will be the most comprehensive health study in the nation's history. It will provide detailed insights into:

- The impact of mental and behavioural and other chronic health conditions on Australians;
- The use of health services and barriers to accessing them;
- Factors underlying increases in chronic conditions and obesity;
- Dietary and physical activity habits;
- Undiagnosed health conditions and nutrition deficiencies;
- Biomedical factors that contribute to poor health outcomes; and
- Lived experiences of suicide and related services.

Specific Aboriginal and Torres Strait Islander samples will be surveyed for all components except mental health.

## 2.2 STRATEGIC OBJECTIVE TWO: PARTNERSHIPS TO ENABLE BETTER DECISIONS

#### 2.2.1 MAINTAINING COMMUNITY TRUST

The ABS relies on the trust of households, businesses and other data suppliers to provide their information to the ABS. Without this trust the ABS could not produce the statistics to inform important decisions.

The ABS professionally and transparently uses information provided to produce official statistics. Information is made available to expert analysts and researchers, while protecting the secrecy of individuals' and business' information. Access to detailed microdata, including integrated data assets, is carefully managed to protect privacy and confidentiality while enabling valuable research and evaluation of public policy issues.

Community trust in the quality and integrity of ABS statistics remains high. In 2020 ABS will again commission an external research agency to conduct a Community Trust in ABS Statistics Survey. This survey was previously conducted in 2010 and 2015. Its purpose is to measure the current levels of trust in the ABS and its products among the general community and informed users of statistics.

#### 2.2.2 MAKING IT EASIER TO PROVIDE INFORMATION TO THE ABS

The quality of the service experience we deliver to the community matters. The ABS is continuing to transform our approach to data collection to improve the experience of those providing information to the ABS.

In 2019-20, more businesses and households will be able to take advantage of the ABS' new data acquisition platform.

The adoption of new infrastructure will allow the ABS to remove paper survey form obligations from a number of businesses, with our first adopters scheduled to transition in 2019-20. For other business surveys that are already digital, they will benefit from an improved provider experience and smarter digital forms.

Businesses and organisations that provide the ABS with administrative data files will also progressively move to the new platform, which provides them with a single view across their interactions with the ABS and a greater ability to self-service. The new platform for collecting administrative data files is helping remove the need for physical transfer of data on digital media, as well as other security enhancements.

For households completing ABS surveys, e-form submission that is easier and quicker will gradually become available. The Survey of Income and Housing and the General Social Survey were the first household surveys to offer an e-form option using the ABS' new data acquisition digital solution (see Box 6).

#### 2.2.3 MAKING IT EASIER TO USE ABS STATISTICS

As part of its modernisation, the ABS is designing a new website to make it easier to find, understand and use ABS information. A beta website was launched in 2018-19 to gather feedback from customers to support the development of the new website. In 2019-20 the

COLLECTIONS	BENEFITS
HOUSEHOLD SURVEYS	<ul> <li>Introduction of web reporting</li> <li>Improved communication materials</li> <li>Continued support for telephone and face to face interviewing</li> <li>More reliable and secure systems</li> </ul>
BUSINESS SURVEYS	<ul> <li>Removal of paper survey forms</li> <li>Enhanced web reporting with increased data validation</li> <li>Digital contact and reminders to support timely participation</li> <li>More reliable and secure systems</li> </ul>
ADMINISTRATIVE DATA PROVIDERS	<ul> <li>✓ Single view of all ABS collections</li> <li>✓ Ability to self service</li> <li>✓ Removal of physical digital media transfers</li> <li>✓ More reliable and secure systems</li> </ul>

focus is to design and build the new website based on this feedback. The ABS will support stakeholders through the transition to a new website by having a fully functional beta website in parallel to the current website.

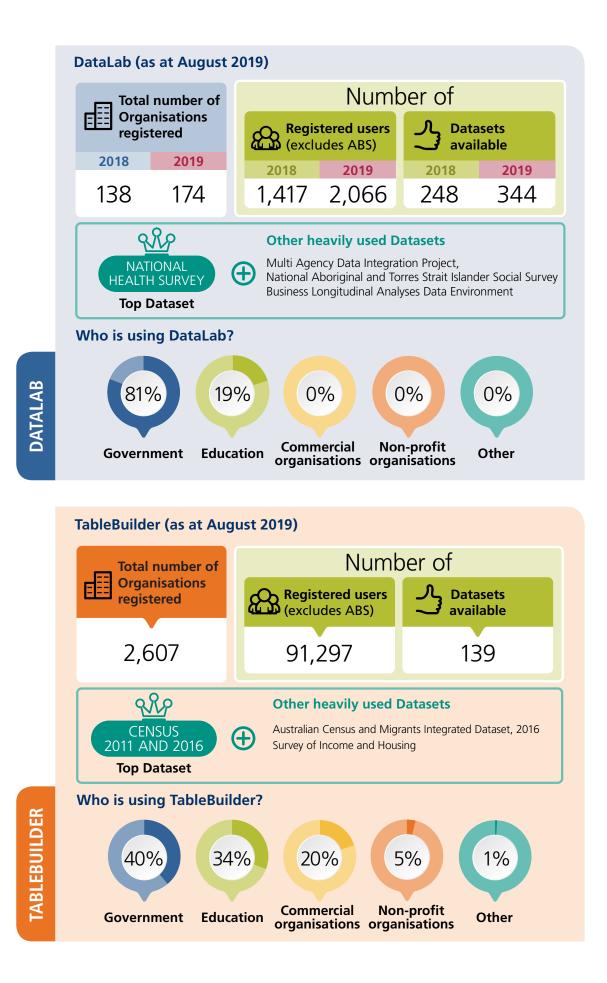
The ABS is also developing Application Programmable Interfaces (API) services to enable systematic access to ABS data. In 2018-19 the ABS Indicator API was released to provide market moving economic statistics to approved media customers at the time of official release. In 2019-20 the ABS Data API will be released, providing an alternative channel to access complete datasets for key economic indicators at the same time they are released to the ABS website.

An ongoing challenge for the ABS is how to enable access to more detailed and bespoke datasets that meet specific stakeholders' needs that cannot be met through publicly releasing information. Safe and secure access to confidentialised data is essential to maximise the data's public value.

While TableBuilder<sup>3</sup> will remain the primary means for using microdata to build customised statistical tables (with over 1 million user sessions in 2018-19), the ABS is testing new innovative solutions to cater to highly sophisticated users of microdata.

In 2018-19, the ABS DataLab was launched. There are currently over 2,000 authorised users of the ABS DataLab, with 81% of those users from the government sector and the remainder from the academic sector. A focus in 2019-20 will be to deliver solutions that allow the DataLab facility to continue to meet growing demand and expected service levels.

<sup>&</sup>lt;sup>3</sup> TableBuilder is an online application that enables customers to interact and create customised tabular outputs from ABS data.



#### 2.2.4 COLLABORATING WITH STAKEHOLDERS

Engaging, partnering and collaborating provides benefits to the ABS and data users. Through these interactions, the ABS better understands data needs and stakeholders gain a better understanding of and access to the data that is available, stakeholders also gain access to ABS data capability.

Collaboration and partnership will continue to be a focus in 2019-20. A survey of ABS stakeholders conducted in May 2019 found that:

- 96% of stakeholders agreed or strongly agreed that the ABS is a credible source of data and information;
- 87% of respondents either agreed or strongly agreed that they were satisfied with their relationship with the ABS; and
- 72% of respondents either agreed or strongly agreed that the ABS collaborates effectively with its stakeholders and that trust in ABS data continues to remain high.

A number of formal and semi-formal advisory groups have been established as a mechanism for external advice on the shape of the statistical program, priorities, innovations and enhancements. Membership typically comprises representatives from Commonwealth agencies, state and territory government agencies, academia, private sector organisations and industry/community organisations (see Box 7).

The ABS has increased representation of external experts in its governance structure. Three experts from the private sector, state government, other large service delivery agencies, are members on each of the 2021 Census and SBTP Boards.

The ABS has a network of Strategic Relationship Managers out posted to state and territory Treasuries or Premiers departments to facilitate consultation and collaboration. ABS staff are also out posted to a range of Commonwealth agencies including Prime Minister and Cabinet (PM&C), Treasury, Australian Taxation Office (ATO), Department of Environment and Energy (DoEE), Department of Social Services (DSS), Department of Health and Department of Education.

In return agencies are increasingly embedding staff with the ABS to either make use of unpublished data (for example, the RBA work on wages) or to contribute an external perspective to the development of ABS statistics (for example, Department of Employment, Skills, Small and Family Business in relation to the development of the Labour Account).

#### **BOX 7: ABS STATISTICAL ADVISORY GROUPS**

**Australian Statistics Advisory Group:** ASAC is the ABS's primary advisory group, established through and with its functions outlined in the *Australian Bureau of Statistics Act 1975*.

**Economic Statistics Advisory Group:** ESAG comprises membership from Departments of: Treasury, Foreign Affairs and Trade, Employment, Skills, Small and Family Business, Industry, Innovation and Science, NSW Treasury as well as Parliamentary Services, Grattan Institute, Productivity Commission, Reserve Bank of Australia (RBA), University of NSW, and Deakin University. ESAG provides provide feedback on developments in the ABS in the field of economic statistics

**Population and Social Statistics Advisory Group:** PSSAG comprises membership from Departments of Education, Treasury, Home Affairs, Social Services, Prime Minister and Cabinet, NSW Families and Communities and Victorian Health and Human Service as well as the Australian National University, Charles Darwin University, Australian Council of Social Services and Uniting Care Australia. PSSAG provides strategic advice on the demographic and social statistical program.

Labour Statistics Advisory Group: LSAG comprises membership from Departments of: Employment, Skills, Small and Family Business, Education, Home Affairs, Social Services, Treasury, ACT Treasury, South Australian Premier and Cabinet, Treasury and Finance Victoria, Western Australia Treasury, Northern Territory Treasury, Queensland Treasury, New South Wales Treasury and Tasmania Treasury as well as Reserve Bank of Australia, Productivity Commission, Workplace Gender Equality Agency, Fair Work Commission, Parliamentary Library, Chamber of Commerce and Industry, Australian Council of Trade Unions, Flinders University, University of New South Wales and Melbourne University. It advises on the labour statistics program.

**Regional Statistics and Agricultural Advisory Group:** RSAAG was recently established with membership from the Australian Bureau of Agricultural and Resource Economics and Sciences, Department of the Environment and Energy, Department of Infrastructure, Transport, Cities and Regional Development, Bureau of Meteorology, Geoscience Australia, National Farmers Federation, Meat and Livestock Australia, Cotton Research and Development Corporation, Queensland Department of Agriculture and Forestry and Deakin University. RSAAG will guide directions for regional, infrastructure, agriculture and environment statistics.

**Aboriginal and Torres Strait Islander Roundtable:** is a senior advisory group with membership from Aboriginal and Torres Strait Islander people from across Australia, including the Torres Strait with extensive experience working with the Aboriginal and Torres Strait Islander communities.

#### 2.2.5 Collaboration with Academics and Scientific Organisations

The ABS collaborates with Australian Universities and scientific organisation to facilitate effective use of ABS data by academics and to leverage academic expertise in ABS work program and capability building.

**Deakin University Partnership:** began in 2016 when the ABS National Data Acquisition Centre was established in the Deakin Waterfront Campus. The ABS has gained access to contemporary academic thinking on issues such as operational organisational design and approaches to improve response rates from providers of information. Deakin, in turn, has been exposed to the real world issues faced by National Statistical Organisations. This relationship will continue, including through the offer of ABS internships to give Deakin students industry experience

**The ARC Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS)**: the ABS is an official partner of the ACEMS and under this partnership, the ABS is exploring and developing machine learning solutions with the Queensland University of Technology (QUT) and Monash University, both nodes of ACEMS.

**Australian National University:** and the ABS jointly offers an ANU course in environmental economic accounting, and collaborates with the ANU in analysing mortality data. Senior ABS and ANU representatives are working to build a framework for cooperating in statistical training; secondments and internships; data integration; and joint projects. A wide range of possible areas to work on have been identified, including labour mobility; survey methods; data linking; spatial modelling; missing data and disclosure control.

**CSIRO and Geoscience Australia:** both have projects in partnership with the ABS, including:

- Development of a Location Index API to seamlessly integrate data on people, business and the environment;
- A Data61 geospatial project that uses sophisticated modelling to dynamically translate data onto different geographies;
- A Data61 prototype Protari API that is being used by researchers to analyse data from the Multi-Agency Data Integration Project (MADIP);
- Leveraging ABS methodologists to assist on differential privacy (an emerging approach to data confidentiality);
- The use of satellite imagery from Geoscience's "Earth Observations" platform to inform the accuracy of the ABS address register through the use of Image Recognition machine learning.

## 2.3 STRATEGIC OBJECTIVE THREE: NEW STATISTICS TO SUPPORT AUSTRALIA'S EMERGING NEEDS

#### 2.3.1 DATA INTEGRATION IS PROVIDING NEW INSIGHTS

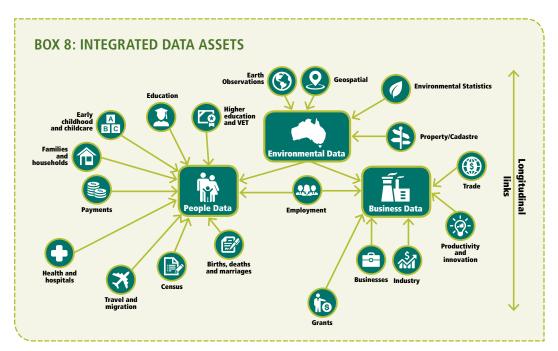
Data integration and increased sharing of administrative data has the potential to provide insight into "wicked policy questions" that cut across policy domains, different groups in the community, and different generations.

As a means for evaluating programs, data integration can provide insights into the effectiveness of interventions in areas such as health, social security, education, Aboriginal and Torres Strait Islander wellbeing, and the economy. This has the potential to underpin more cost effective Government expenditure and economic policy. There is also a potential to inform place-based analysis through a socio-economic and location based data resource.

With funding from the Government's Data Integration Partnership for Australia (DIPA) initiative and user funding, there are two related aspects to the ABS data integration work that will continue in 2019-20:

- Building and maintaining an integrated data asset; and
- Using this data asset to undertake projects for policy agencies and researchers to inform "cross cutting public policy issues".

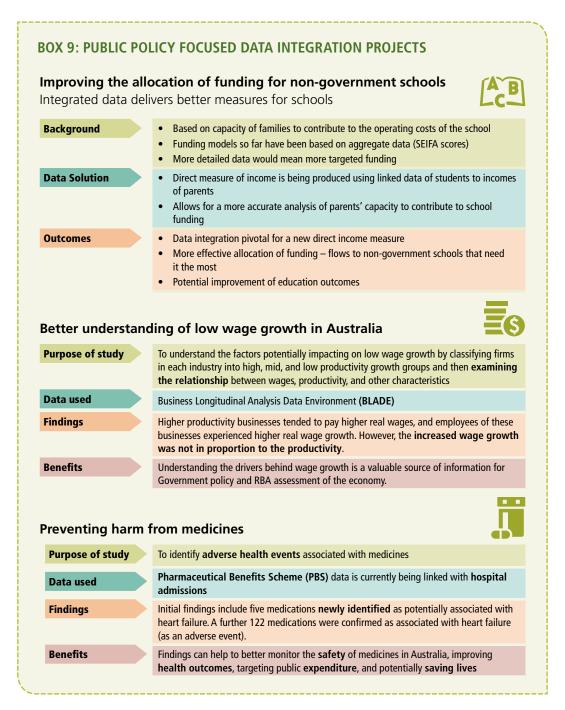
Box 9 depicts the current ABS integrated data asset, which is built around three core domains of people, business and location. This asset has now reached a high degree of maturity with a large number of administrative and survey data included. In the last 12 months, for example, export and education data has been added. Maintaining the currency of this data asset and adding new data sources will continue to require resources in 2019-20.



The number of uses of this integrated data asset to inform official statistics and policy challenges is growing.

Data integration is now a critical element of official population estimates. Without integrating Medicare enrolment information with travel data from the Department of Home Affairs, the ABS would be unable to produce reliable estimates of state and territory population. This follows the cessation of the Outgoing Passenger Card for international travel.

A number of ground-breaking projects are now contributing directly to Government policy decisions and/or assessments of the economy. Examples include the allocation of school funding, assessment of wages growth by the RBA, and assessment of health outcomes from certain medicines (see Box 10).



Linking Census data longitudinally (2006, 2011 and 2016) has provided a rich data set that is informing policies such as the COAG initiative *Closing the Gap* for Aboriginal and Torres Strait Islander People (see Box 11).

Current data integration projects with policy relevance that will be conducted by the ABS in 2019-20 include:

- A Treasury led project in collaboration with the Department of Social Services, Department of Education and the University of Sydney examining how parental receipt of income support and family circumstances can affect children's social, health, education and employment outcomes;
- A Treasury led project in collaboration with the Reserve Bank of Australia and the Department of Industry, Innovation and Science to understand the drivers of multi-factor productivity;
- A Department of Industry, Innovation and Science project to identify the key drivers of innovation in Australian firms; and
- A Department of PM&C led project to examine the outcomes for job seekers who have left employment services programs in remote Australia since 2013.



#### 2.3.2 ALTERNATIVE DATA SOURCES

The ABS has long had an ambition of increasing its use of non-survey data, as well as emerging alternative data sources associated with innovation and technological change. Non-survey data includes for example, administrative data collected by public and private sector entities in the conduct of their business, retail transaction data, and web scraped data. Non-survey data has the potential to substitute or complement direct collection of information from business and household surveys.

Non-survey data already underpins a large proportion of official statistics including:

- Official population statistics, sourced entirely from administrative data;
- The CPI, which uses transactions data from the private sector and web scraped data;
- Trade statistics, which are primarily based on data from the Department of Home Affairs;
- The National Accounts and a number of our economic indicators which draw heavily on business and personal income tax data; and
- Financial sector statistics, which use APRA and RBA data.

Increased use of non-survey data can be more cost effective than surveys, and can eliminate duplication of effort and minimise 'red tape' burden on data providers.

In 2019-20, the ABS has an ambition to progress the use of innovative data sources as part of our strategic directions.

The new Regional and Agricultural Statistics Advisory Group has been established with the specific intent of leveraging alternative and emerging data sources to inform agricultural statistics, place-based socio-economic and environmental information at a regional level and further develop environmental economic accounts particularly for water and land use.

Pilot projects are being conducted with the Meat and Livestock Association and the Grains Research and Development Corporation to leverage industry data, and satellite imagery is being tested for use in gathering information about land use.

The ABS is conducting research to improve the Census count with the use of administrative data. The research is focused in two key areas: (1) improving the decision on whether each dwelling in Australia was occupied or not on Census night; and (2) developing improved methodologies to provide counts where no Census form is returned, but where the ABS believe the dwelling was occupied on Census night.

The ABS will also examine the Census experiences of peer international statistical agencies, and their use of administrative data, to inform future Census research.

#### 2.3.3 ENVIRONMENTAL AND SATELLITE ACCOUNTS

Satellite accounts are a mechanism to re-use and combine existing information to provide a new perspective or increased transparency to information underpinning existing official statistics.

An example of this includes environmental-economic accounts which use a national account framework to allow for an expanded and enhanced view of economic activity through its relationship with the physical environment. Existing publications of water and energy accounts combine ABS economic information, some survey data and administrative data from agencies such as the Bureau of Meteorology, state governments and the DoEE.

Experimental estimates of a waste account, prepared in collaboration with the DoEE, have recently been released, and the development of a land account continues in collaboration with state government agencies and DoEE.

In 2019-20, the ABS will continue to produce a tourism satellite account in partnership with Austrade, and will look to update the experimental transport satellite account in partnership with Department of Infrastructure, Transport, Cities and Regional Development (both these accounts are funded by these partner agencies).

# APPENDIX 1: ABS STATISTICAL WORK PROGRAM BY COMPONENT

Elements of the ABS statistical work program are classified into four components. These are used to assist with prioritisation. This work was informed by the earlier development of the list of Essential Statistical Assets for Australia (cat. no. 1395.0), in consultation with a wide range of stakeholders.

Refer to Tables below for the ABS work program classified into four components. A number of these programs and outputs are making significant use of data integration to reduce provider burden or enhance the information available.

COMPONENT				
ENABLING CAPABILITIES AND ASSETS	Essential capabilities required to deliver a quality national statistical service. These capabilities are reviewed and prioritised on an ongoing basis.			
TIER 1	Statistics that are considered to be the foundation work of a national statistical organisation.			
TIER 2	Important areas of statistics where there is a significant government outlay or where there is a significant public policy interest.			
TIER 3	Other important statistical work that is currently undertaken to meet identified user requirements that could be deemed as falling beyond tiers 1 and 2.			

# **ENABLING CAPABILITIES AND ASSETS**

PROGRAM			
REGISTERS AND	Address Register		
FRAMEWORKS	Business Register and Tax Data Program		
	Classifications		
	Data Governance and Assurance		
	Data Standards and Methods		
	Geospatial Standards and Methods		
	Statistical Spatial Framework		
METHODOLOGY	Statistical Methods		
	Statistical Quality Assurance		
	Statistical Risk Management		
TRANSFORMATION	Data Integration Infrastructure		
	Data Integration Research, Feasibility and Development projects		
	Statistical Business Transformation Program		
PARTNERSHIPS AND	Partnership projects		
DISSEMINATION	Statistical Services to the state and territory governments		
	Customised Data Delivery		
	Dissemination and Publishing		
	Microdata Delivery and Access Support (including DataLab)		
	Business Longitudinal Analysis Data Environment		
	Multi-Agency Data Integration Project		
DATA COLLECTION	Data Acquisition		
	Provider Management		
	Survey Management		

# TIER 1

PROGRAM	
NATIONAL ACCOUNTS	Quarterly and Annual statistics of Gross Domestic Product and components
SUPPLY	Input Output tables
INTERNATIONAL	Australia's Balance of Payments Estimates
ACCOUNTS	International Investment
	International Merchandise Trade
	International Trade in Services
<b>BUSINESS INDICATORS</b>	Private New Capital Expenditure and Expected Expenditure
	Quarterly Business Indicators
	Retail Trade
	Consumer Sales
	Dwelling and Other Building Approvals
	Construction related gross fixed capital formation – Building Activity and Engineering Construction
INDUSTRY STATISTICS	Economic Activity
FINANCIAL STATISTICS	Quarterly Australian Prudential Regulation Authority and Managed Funds
	Financial Information
PUBLIC FINANCE	Government Finance Statistics
LABOUR STATISTICS	Labour Force
	Average Weekly Earnings
	Major Labour Costs (irregular)
	Employee Earnings and Hours (biennial)
	Employment and Earnings
CENSUS OF POPULATION AND HOUSING	Census of Population and Housing
PRICES	Consumer Price Index
	Wage Price Index
	Producer Price Index
	International Trade Price Index
	Pensioner and Beneficiary Living Costs Index
DEMOGRAPHY	Estimated Resident Population
	Births and Deaths
	Indigenous Mortality
	Overseas Arrivals and Departures
LIVING CONDITIONS	Household Expenditure
	Income and Housing
INTERNATIONAL RELATIONS	Collaborating with international statistical agencies and organisations such as e.g. United Nations Statistical Commission and Organisation for Economic Co-operation and Development

Т	E	R	2

PROGRAM	
NATIONAL ACCOUNTS	Annual productivity (including annual estimates of multi-factor productivity)
	Annual State Accounts
	Annual Supply and Use Tables
	Annual Input and Output Tables
BUSINESS INDICATORS	Mineral and Petroleum Exploration
INDUSTRY STATISTICS	Business Characteristics
	Business Demographics
	Agricultural Census
	Rural Environment and Agricultural Commodities Survey
	Value of Agricultural Commodities Produced
FINANCIAL STATISTICS	Lending Indicators
ENVIRONMENT STATISTICS	Environment Accounts, including Water and Energy
	Environmental Indicators
	Water Supply and Sewerage Supply / Use
LABOUR STATISTICS	Barriers and Incentives to Labour Force Participation
	Characteristics of Employment
	Jobs in Australia
	Retirement and Retirement Intentions
	Work Related Injuries
	Participation, Job Search and Mobility
	Labour Force Status, and Other Characteristics of Families
	Job Vacancies
	Labour Account
CENSUS OF POPULATION	Australian Census Longitudinal Dataset
AND HOUSING	Australian Census and Temporary Migrants Integrated Dataset
PRICES	Residential Property Prices Index
TRANSPORT AND TOURISM	Motor Vehicle Census
STATISTICS	
DEMOGRAPHY	Population Projections
	Regional Population Growth
EDUCATION AND TRAINING	National Schools Statistics Collection
	Education and Work
	Work Related Training and Adult Learning
HEALTH AND DISABILITY	Causes of Death
STATISTICS	National Health
	National Aboriginal and Torres Strait Islander Health
	Disability, Ageing and Carers
MIGRANT STATISTICS	Characteristics of Migrants
	Personal Income Tax and Migrants Integrated Dataset
	Data by Region (national regional profiles)
LIVING CONDITIONS	Time Use

# TIER 3

PROGRAM			
INTERNATIONAL ACCOUNTS	Characteristics of Australian Exporters		
	Foreign Currency Exposure		
	Australian Owned Foreign Businesses		
INDUSTRY STATISTICS	Research and Experimental Development – Business,		
	Government, Private Non-Profit and Higher education		
	Venture Capital and Later Stage Private Equity		
	Wool Receivals, Purchases and Sales		
	Livestock, Poultry and Game Slaughtering		
FINANCIAL STATISTICS	Assets and Liabilities of Australian Securitises		
LABOUR STATISTICS	Industrial Disputes		
	Estimates of Personal Income for Small Areas		
TRANSPORT AND TOURISM	Tourism Satellite Account		
STATISTICS	Survey of Motor Vehicle Use		
CRIME AND JUSTICE	National Recorded Crime Victims & Offender		
STATISTICS	National Criminal Courts		
	National Corrective Services		
	Crime Victimisation		
CULTURE AND RECREATION STATISTICS	Cultural Participation and Attendance		
DEMOGRAPHY	Marriages and Divorces		
EDUCATION AND TRAINING	Childhood Education and Care		
	Educational Outcomes		
	National Early Childhood Education and Care		
	Programme for the International Assessment of Adult Competencies		
HEALTH AND DISABILITY	Patient Experience		
STATISTICS	Mental Health and Well-being		
SOCIAL CONDITIONS	Longitudinal Survey of Australian Children		
	Family and Community Experiences		
	General Social		
INTERNATIONAL RELATIONS	Indonesia Government Partnership Project		
	Statistical development work in the Pacific, Fiji, Papua New Guinea and Timor-Leste		