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The Australia App Economy, 2019 Update

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INTRODUCTION

Apple introduced the first iPhone in 2007 just as the Global Recession was about to begin. While central bankers and national leaders struggled with a deep financial crisis and stagnation, the fervent demand for iPhones and the wave of smartphones that followed provided a rare force for growth.

The smartphone also triggered a new era for job creation around the world. Apple opened the App Store in 2008, followed by Android Market (now Google Play) and other app stores. This unexpected "side-effect" of the smartphone quickly took on a life of its own, creating a whole new class of iOS and Android developers who were writing mobile applications that could run on smartphones anywhere.

It's not an exaggeration to speak of a global App Economy, with an army of app developers writing mobile applications for billions of users.[1] For businesses, apps have become the essential front door for their customers, providing access to everything from shopping to customer service to banking services to entertainment to information to essential health knowledge.

What's more, the App Economy still has room to grow. Internet of Things (IoT) mobile connections are estimated to reach 4.1 billion by 2024, increasing at an annual growth rate of 27 percent.[2] Consumers and businesses are increasingly interfacing with physical objects

and processes through their smartphones and tablets via the IoT. Companies and individuals are utilizing apps to control everyday items and processes such as smart homes, e-commerce shopping, manufacturing analytics, smart farming, telemedicine, and drones.

THIS REPORT

This report updates our 2017 paper, "The Rise of the Australian App Economy." Based on our methodology that combines government occupational figures with comprehensive data on posted job openings, we estimate that Australia has 136,000 App Economy jobs as of January 2019, up from 113,000 in March 2017.

This 20 percent gain in App Economy jobs is partly driven by an increase in the overall number of ICT professionals, as reported by the Australian Bureau of Statistics, combined with a rising share of IT job openings that require App Economy skills, such as knowledge of iOS or Android.[3]

The growth of the App Economy is particularly important for Australia, because mobile apps can be exported globally. Australian-based apps such as Stashd, Procreate, iAuditor, Canva, and Invoice2go have significant global user bases. These revenue-generating global exports may be contributing to the rapid rise of Australian exports of information services in recent years.

ANALYSIS

For this study, a worker is in the App Economy if he or she is in:

- An IT-related job that uses App Economy skills—the ability to develop, maintain, or support mobile applications. We will call this a "core" App Economy job. Core App Economy jobs include app developers; software engineers whose work requires knowledge of mobile applications; security engineers who help keep mobile apps safe from being hacked; and help desk workers who support use of mobile apps.

- A non-IT job (such as sales, marketing, finance, human resources, or administrative staff) that supports core App Economy jobs in the same enterprise. We will call this an "indirect" App economy job.

- A job in the local economy that is supported either by the goods and services purchased by the enterprise or by the income flowing to core and indirect App Economy workers. These "spillover" jobs include local professional services such as bank tellers, law offices, and building managers; telecom, electric, and cable installers and maintainers; education, recreation, lodging, and restaurant jobs; and all the other necessary services. We use a conservative estimate of the indirect and spillover effects.

We estimate the number of App Economy jobs by combining quarterly data on ICT professionals from the Australian Bureau of Statistics[4] with comprehensive counts of "App Economy" job openings in Australia from Indeed.com.[5] The methodology is described in the Appendix to the 2017 study.

We estimate that Australia has 136,000 App Economy jobs as of January 2019, up from 113,000 in March 2017 (Table 1).

TABLE 1: Australian App Economy Jobs

	THOUSANDS OF APP ECONOMY JOBS
January 2019	136
March 2017	113

Data: Progressive Policy Institute, Indeed

Many App Economy job postings list a mobile operating system or multiple mobile operating systems with which the job candidate is expected to be familiar. This allows us to assess the distribution of mobile operating systems in the Australian App Economy. We estimate that

Australia has 121,000 jobs in the iOS ecosystem, and 106,000 jobs in the Android ecosystem. Compared to 2017, estimated iOS ecosystem jobs are up 25 percent, while estimated Android ecosystem jobs are up 22 percent.

TABLE 2: Australian App Economy Jobs by Operating System

	THOUSANDS OF APP ECONOMY JOBS, JANUARY 2019
iOS ecosystem	121
Android ecosystem	106

Data: Progressive Policy Institute, Indeed
The numbers sum to more than the total number of App Economy jobs because many jobs specify more than one operating system.

Our methodology allows us to break down the App Economy by state and major territory. We estimate that roughly half of App Economy jobs are in New South Wales, with the rest spread around the country (Table 3).

TABLE 3: Australian App Economy Jobs by State and Territory

	THOUSANDS OF APP ECONOMY JOBS, JANUARY 2019
New South Wales	68
Victoria	38
Queensland	15
Western Australia	7
ACT	6
South Australia	3
Tasmania	1
Northern Territory	N/A

NA=Less than 500 jobs.
Data: Progressive Policy Institute, Indeed.com

We are also able to calculate the "app intensity," or the number of App Economy jobs in a country or region as a percentage of total jobs in that country or region, for Australia as a whole and for each state and territory (Table 4).

TABLE 4: App Intensity for Australia and by State and Territory

	APP INTENSITY, JANUARY 2019
Total	1.1%
New South Wales	1.7%
Victoria	1.1%
Queensland	0.6%
Western Australia	0.5%
ACT	2.6%
South Australia	0.4%
Tasmania	0.4%
Northern Territory	N/A

NA=Less than 500 jobs. App intensity is the number of App Economy jobs divided by total number of jobs.
Data: Progressive Policy Institute, Indeed.com, Australian Bureau of Statistics

Finally, we compare Australia's app intensity to some of its industrialized peers (Table 5). Australia's app intensity is tied with the United States and United Kingdom, and ahead of Germany.

TABLE 5: How Australia's App Economy Compares Internationally

	APP INTENSITY	DATE OF ESTIMATE
Australia	1.1%	Jan 2019
United States	1.1%	Dec 2016
Canada	1.4%	Nov 2018
UK	1.1%	Apr 2018
Germany	0.8%	Apr 2018

Data: Progressive Policy Institute, Indeed.com, Australian Bureau of Statistics

EXAMPLE OF EXPORT APPS

Australian apps have become an export of the digital economy, utilized by millions of users around the world. For example, iAuditor enables employers to standardize their inspection processes and manage risks, streamlining the inspection and audit process in the workplace. Headquartered in Townsville in the state of Queensland, the app is used to conduct over 1 million inspections per month by professionals in more than 80 countries in industries including construction, hospitality, manufacturing, transportations, and mining.[6,7]

E-commerce app Stashd allows users to swipe on fashion they like, giving retailers a platform to sell to the 415 million Chinese millennial market. After winning third place on the Chinese TV show The Next Unicorn, the app was featured by TenCent on its app store of 700 million users.[8] Headquartered in Surry Hills in the state of New South Wales, the app was available in 136 countries and offered about 500,000 products as of 2016.[9]

Art app Procreate enables users to create sketches, paintings, and illustrations on mobile devices.[10] Developed by Savage Interactive Pty Ltd., the company is headquartered in North Hobart in the state of Tasmania and is used by artists at Pixar, Mattel, Ubisoft, DC Comics, and Disney.

Founded in 2002, billing app Invoice2Go is headquartered in Sydney and provides invoicing, expense-tracking, and reporting for micro and small business owners. As of 2018, the app had more than 250,000 small business owners in more than 160 countries invoicing $24 billion annually.[11]

Graphic design app Canva was founded in 2012 and utilizes a drag-and-drop format to democratize design for both experienced and layman users. The app is headquartered in Sydney and, as of October 2018, had more than 10 million users across 179 countries.[12]

CONCLUSION

In recent years Australian exports of computer and information services have soared, rising by 30 percent in 2018 alone.[13] Exports of the category "other computer and information services"—which likely includes app developers—is up more than 60 percent in 2018.

We therefore see the App Economy as a powerful force driving growth of both employment and exports in Australia. Apps created in Australia can be easily delivered across the world, without expensive transportation, to generate jobs and income at home.

About the Authors

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2   "Ericsson Mobility Report: Interim Update," November 2018, https://www.ericsson.com/assets/local/mobility-report/documents/2018/ericsson-mobility-report-november-2018.pdf

3   The basic methodology is described in the appendix to "The Rise of the Australian App Economy," Progressive Policy Institute (June 2017).

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13   Based on comparing the four quarters ending 3Q2018 with the previous four quarters.

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