





# The Australian App Economy, 2021 Update

MICHAEL MANDEL  
ELLIOTT LONG

MARCH 2021

 @ppi |  @progressivepolicyinstitute |  /progressive-policy-institute

# The Australian App Economy, 2021 Update

MICHAEL MANDEL  
ELLIOTT LONG

MARCH 2021

## INTRODUCTION

**Amidst the turbulence of the global Covid-19 pandemic, Australia went through its first recession in almost 30 years. Yet the Australian App Economy has grown compared to 2019, when we last estimated Australia's App Economy employment.**

Remember also that the App Economy has a history of being recession resistant. Apple opened the first App Store in July 2008, just as the global economy was plunging into financial crisis. The App Store and the others that followed, including Google Play (originally Android Market) which launched in October 2008, were successful despite historic economic turmoil.

This report updates our 2019 paper, "The Australian App Economy, 2019 Update" and 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 156,000 App Economy jobs as of January 2021, up from 136,000 in January 2019.

This 15 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 steady share of IT job openings that require App Economy skills, such as knowledge of iOS or Android.

The steady growth of the App Economy is particularly important for Australia, because mobile apps can be exported globally. Australian-based apps such as Procreate, Canva, Afterpay, Pocket Casts, and TripGo have significant global user bases.

**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 with comprehensive counts of “App Economy” job openings in Australia from Indeed.com.<sup>1,2</sup> The methodology is described in the Appendix to the 2017 study.

We estimate that Australia has 156,000 App Economy jobs as of January 2021, up from 136,000 in January 2019 and 113,000 in March 2017 (Table 1).

**TABLE 1: AUSTRALIAN APP ECONOMY JOBS, JANUARY 2021**

DATE OF ESTIMATE	THOUSANDS OF APP ECONOMY JOBS
January 2021	156
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 137,000 jobs in the iOS ecosystem, and 123,000 jobs in the Android ecosystem. Compared to 2019, estimated iOS ecosystem jobs are up 14 percent, while estimated Android ecosystem jobs are up 16 percent.

**TABLE 2: AUSTRALIAN APP ECONOMY JOBS BY OPERATING SYSTEM**

OPERATING SYSTEM	THOUSANDS OF APP ECONOMY JOBS
iOS ecosystem	137
Android ecosystem	123

*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.*

How does Australia’s App Economy compare to other industrialized peers? Obviously countries such as the United States and the United Kingdom are much larger than Australia, making direct comparisons difficult.

Instead, we calculate the “app intensity” of different countries, defined as the number of App Economy jobs as a share of total jobs. Table 3 compares Australia’s app intensity with that of the United States, Canada, Germany, and the United Kingdom.

As of January 2021, Australia had an app intensity of 1.2 percent, higher than Germany and roughly comparable to the United Kingdom but lagging Canada and the United States. Table 3 also shows that app intensity rose during the pandemic, which is not a surprise because the App Economy grew while the rest of the economy shrank.

**TABLE 3: HOW AUSTRALIA COMPARES**

COUNTRY	DATE OF ESTIMATE	APP INTENSITY
Australia	January 2019	1.1%
Australia	January 2021	1.2%
United States	December 2016	1.1%
United States	April 2019	1.4%
United States	August 2020	1.7%
Canada	November 2018	1.4%
Germany	July 2019	0.7%
United Kingdom	July 2019	1.1%

*App intensity is the number of App Economy jobs as a share of total jobs. Data: Progressive Policy Institute, Indeed, International Labor Organization.*

## GEOGRAPHY

Our methodology enables us to estimate the geography of App Economy jobs, since job postings generally identify where the job is located. Table 4 lists App Economy jobs by state and territory and calculates app intensity.

Not surprisingly, New South Wales and Victoria lead in the number of App Economy jobs. Australian Capital Territory (ACT) has the top

app intensity, followed by New South Wales. Note that with the Covid pandemic, more work is being done remotely. We have modified the methodology slightly to take account of this factor, but at least up to now, the number of Australian App Economy jobs being advertised as purely remote without a location is not large enough to substantially distort the results.

**TABLE 4: AUSTRALIAN APP ECONOMY JOBS BY STATE AND TERRITORY, JANUARY 2021**

STATE/TERRITORY	THOUSANDS OF APP ECONOMY JOBS	APP INTENSITY
New South Wales	71	1.7%
Victoria	41	1.2%
Queensland	21	0.8%
Western Australia	13	1.0%
South Australia	5	0.6%
ACT	4	1.9%
Tasmania	1	0.3%
Northern Territory	1	0.5%

*The "app intensity" of a geographical region is the number of App Economy jobs in that region divided by total number of jobs.  
Data: Progressive Policy Institute, Indeed.com, Australian Bureau of Statistics*

The same approach enables us to estimate App Economy jobs by urban areas. We use a radius of 50 kilometers as our measure of the urban area, except for a small number of cities that are sufficiently close to larger urban areas that a 50 km radius would pick up a significant number of jobs from the larger area. In those cases, marked

by an asterisk, we use 25 kilometers as our measure.

Table 5 ranks the top urban areas by App Economy jobs, rounded to the nearest thousand. Note that urban areas with less than 500 jobs are reported as NA (not available). Sydney, Melbourne, Brisbane, and Perth are at the top of the list.

**TABLE 5: AUSTRALIAN APP ECONOMY JOBS BY URBAN AREA, JANUARY 2021**

	THOUSANDS OF APP ECONOMY JOBS
Sydney	62
Melbourne	36
Brisbane	14
Perth	10
Canberra	4
Adelaide	4
Gold Coast*	3
Newcastle	1
Central Coast*	1
Sunshine Coast	1
Wollongong*	1
Darwin	1
Townsville	1
Cairns	NA
Geelong*	NA
Toowoomba	NA
Hobart	NA

50 Km radius except for cities marked with \*, which are 25 km radius.  
 NA is less than 500 jobs.  
 Data: Progressive Policy Institute, Indeed.

Finally, for this report we introduce a new analysis. Many core App Economy jobs require familiarity not only with iOS or Android, but with one of the app development languages or frameworks, such as Swift (iOS) or Kotlin (Android).

Table 6 below presents a list of app development languages and frameworks, ranked by the number of mentions on App Economy job postings. Java is first, followed by Swift. Because the methodology is new, we are not yet ready to quantify the list.

**TABLE 6: APP DEVELOPMENT LANGUAGE OR FRAMEWORK (RANKED BY NUMBER OF APP ECONOMY JOB POSTINGS)**

Java
Swift
Kotlin
React Native
Objective-C
Xamarin

## EXAMPLES

App Economy workers are found across most industries and geographic areas in Australia. Of course the tech sector is hiring workers with Android and iOS knowledge. As of February 2021, IT consulting firm Cognizant was searching for an iOS engineer in Melbourne. Digital product creator Roam Creative was seeking an intermediate iOS developer in Sydney. Zensys Technologies was looking for a developer with iOS and Android experience in

Tamworth, New South Wales. ContentKeeper Technologies, which focuses on web security solutions, was hiring a quality assurance engineer with understanding of iOS and Android in the Australian Capital Territory.

Financial services is one key area where there is a lot of demand for App Economy workers. Banking company Bankwest was searching for a mobile developer with knowledge of Kotlin and Swift in Perth. Commonwealth Bank was looking for a senior software engineer with knowledge of iOS and Android applications in Perth. National Australia Bank was hiring a security consultant with testing experience on iOS and Android in Melbourne. Financial services firm Suncorp Group was searching for a senior developer with experience in Swift, Android or Xamarin in Brisbane.

Fintech firm Zip was seeking an Android engineer in Sydney. Zip, which specializes in point-of-sale credit and digital payment services, has operations across Australia, New Zealand, South Africa, and the United Kingdom and recently acquired US-based QuadPay.<sup>3</sup> Cover-More Insurance Services was looking for an iOS developer in North Sydney.

But Australia's App Economy continues to spread to other industries too. Online healthcare company HealthEngine was looking for iOS and Android engineers in Perth. HealthEngine bills itself as "Australia's consumer healthcare platform." Personal fitness app Today's Plan was searching for a test engineer with iOS and Android experience in Canberra.

A company called Real Time Data—which "provides software applications which revolutionize the collection, reporting, and management of commercial fishing worldwide"—was searching for a full stack iOS developer in

Adelaide.<sup>4</sup> The company's LinkedIn page states boldly that "We believe the future of humanity relies on sustainable oceans." The Victorian Department of Environment, Land, Water and Planning was hiring for a software engineer with experience in Xamarin development for Android and iOS in Melbourne.

Global commercial real estate giant CBRE was looking for an Android software engineer in Brisbane. Sports betting platform Sportsbet.com.au was hiring an Android developer in Melbourne. Handmade goods company Tibet House was searching for a software engineer with knowledge of iOS and Android in Heidelberg West, Victoria. Consumer loyalty program flybuys was seeking a senior Android engineer in Melbourne. eBay Inc. was looking for an Android developer in Sydney. Online car selling platform carsales.com.au was hiring an iOS developer in Melbourne.

Accenture was seeking a lead security consultant with iOS and Android experience in Brisbane. Deloitte was looking for a digital technology consultant with experience in iOS and Android in Canberra. MCS Consulting was hiring a mobile software engineer with experience in iOS and Android in Melbourne. Marketing company Metigy was searching for a senior Android developer in North Sydney. New Zealand-based cloud accounting platform Xero was seeking a senior mobile product designer with knowledge of iOS in Melbourne.

Multi-modal public transportation company Keolis Downer was searching for an application support developer with experience in iOS and Android application development in Adelaide. Keolis Downer is the largest light rail operator in Australia and a major bus operator. RMIT University was seeking a senior developer

with iOS and Android experience in Melbourne. Macleans Waste Management was looking for a full stack developer with experience in Kotlin development for Android in Penrith, New South Wales.

Truck and equipment tracking firm Teletrac Navman was hiring an Android lead in Melbourne. Honeywell, which recently acquired Adelaide-based Sine, a maker of a visitor and contractor management app, was hiring two Android developers there. Legal assisting app Smokeball-AU was seeking a software tester with iOS and Android experience in Sydney.

Media content creator Nine was hiring a senior software engineer with experience in iOS and Android programming in North Sydney. Social networking app Travello was seeking a full stack Android developer in Fortitude Valley, Queensland.

### Examples of Export Apps

Our 2019 report noted that “Apps created in Australia can be easily delivered across the world, without expensive transportation, to generate jobs and income at home.” That’s even more true today. Graphic design platform Canva, cited in the 2019 report, is based in Sydney and now has more than 30 million users worldwide.<sup>5</sup> Art app Procreate, also cited in the 2019

report, was developed by Hobart-based Savage Interactive. Procreate is used by artists at Pixar, Mattel, Ubisoft, DC Comics, and Disney.

Another “export” app is Afterpay, headquartered in Melbourne, which provides online post payment services and has more than 11 million global users.<sup>6</sup> Pocket Casts, based in Adelaide, South Australia, is a podcast hosting app with global reach.<sup>7</sup> And TripGo, developed by SkedGo in Sydney, lets users around the world compare and combine transport modes like train, bus, taxi, subway, metro, cab, tram, car, bike, motorcycle or ride share.<sup>8</sup>

### CONCLUSION

While the Covid-19 pandemic induced Australia’s first recession in nearly three decades, Australia’s App Economy has once again served as an important source of growth. As of January 2021, we estimate that Australia has 156,000 App Economy jobs, an increase of 15 percent relative to our January 2019 estimate of 136,000 jobs. The country’s App Economy is competitive globally, with this growth spread throughout the states and territories in industries like tech, commerce, banking, government, and healthcare. Australia’s App Economy is also exportable, with a number of apps attaining a global following.

---

## ABOUT THE AUTHORS

Dr. Michael Mandel is chief economic strategist at the Progressive Policy Institute and senior fellow at Wharton’s Mack Institute for Innovation Management at the University of Pennsylvania. Mandel received a Ph.D. in economics from Harvard University and formerly served as chief economist at BusinessWeek.

Elliott Long is senior economic policy analyst at the Progressive Policy Institute. Elliott holds a BA in Political Science from Florida Gulf Coast University and MPA from George Washington University.



# References

- 1 Table EQ07a.
- 2 The website is [au.indeed.com](https://au.indeed.com). Indeed.com bills itself as the “#1 job site in the world.”
- 3 Simcock, L (2020, Sept. 1). Zip Co (ASX:Z1P) completes QuadPay acquisition. *The Market Herald*. <https://themarketherald.com.au/zip-co-asxz1p-completes-quadpay-acquisition-2020-09-01/>
- 4 <https://www.linkedin.com/company/real-time-data/>
- 5 Canva. Craft.com. <https://craft.co/canva>
- 6 Evers, J. Afterpay global users surpass 11 million. *Financial Review*. <https://www.afr.com/companies/financial-services/afterpay-global-users-surpass-11-million-20201028-p56983>
- 7 <https://www.pocketcasts.com/>
- 8 <https://play.google.com/store/apps/details?id=com.buzzhives.android.triplanner&hl=en&gl=US>



---

The Progressive Policy Institute is a catalyst for policy innovation and political reform based in Washington, D.C. Its mission is to create radically pragmatic ideas for moving America beyond ideological and partisan deadlock.

Founded in 1989, PPI started as the intellectual home of the New Democrats and earned a reputation as President Bill Clinton's "idea mill." Many of its mold-breaking ideas have been translated into public policy and law and have influenced international efforts to modernize progressive politics.

Today, PPI is developing fresh proposals for stimulating U.S. economic innovation and growth; equipping all Americans with the skills and assets that social mobility in the knowledge economy requires; modernizing an overly bureaucratic and centralized public sector; and defending liberal democracy in a dangerous world.

---

© 2021  
**PROGRESSIVE POLICY INSTITUTE**  
**ALL RIGHTS RESERVED.**

---

**PROGRESSIVE POLICY INSTITUTE**  
1200 New Hampshire Ave NW,  
Suite 575  
Washington, DC 20036

---

**Tel 202.525.3926**  
**Fax 202.525.3941**

---

**[info@ppionline.org](mailto:info@ppionline.org)**  
**[progressivepolicy.org](http://progressivepolicy.org)**