



The UK App Economy: 2023

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INTRODUCTION

What is the future of the U.K. App Economy? According to the Progressive Policy Institute's latest estimate, the United Kingdom App Economy includes 667,000 jobs.

None of these jobs existed 15 years ago, when Apple first opened the App Store on July 10, 2008, in the middle of the global financial crisis.² Android Market (which later became Google Play) was announced by Google shortly after.³ These app stores created a new route through which software developers could write programs for smartphones. These mobile applications — called “apps” — could then be distributed to the rapidly growing number of smartphone users around the world.

The jobs generated by the app stores became an important part of the recovery from the financial crisis of 2008-2009, the subsequent economic expansion and the response to the pandemic. More than that, app development became a key route by which young people can develop tech skills and became an integral part of the digital economy.

This report describes some important aspects of the U.K. App Economy. We also give some examples of App Economy jobs and skills development.

METHODOLOGY AND FRAMEWORK

For the past 10 years, PPI has done a series of reports on the App Economy around the world.⁴ The most recent one we did for European countries was the *Europe App Economy Update 2021*.⁵

For this report, a worker is in the U.K. 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 the 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 public job postings from the Indeed real-time database of UK job postings to estimate the number of core App Economy jobs, combining that with government estimates of the number of information and communications technology (ICT) professionals.⁶ A description of the basic methodology is found in “The App Economy in Europe: Leading Countries and Cities, 2017.”⁷ Then we use a conservative multiplier of indirect and spillover jobs to estimate overall App Economy jobs.⁸

RESULTS

Table 1 shows the results of the latest analysis. As already noted, the U.K. App Economy includes an estimated 667,000 jobs, including a conservative estimate of spillover jobs. This figure is up some 75% since before the pandemic. Most of that gain is being driven by a very large increase in the underlying number of information technology professionals, which is a key input to our estimate (It must be noted that most statistical agencies adopted new forms of occupation classifications across this period that may have affected our estimates).

Table 2 shows our estimates of App Economy jobs by operating system. According to our estimates, the iOS ecosystem includes 517,000 jobs in the United Kingdom as of May 2023. The Android ecosystem includes 534,000 jobs in the United Kingdom as of May 2023. (The two categories sum to more than the total number of App Economy jobs because many app developer jobs are in both ecosystems).

TABLE 1: UNITED KINGDOM: ESTIMATE OF APP ECONOMY JOBS, MAY 2023 (THOUSANDS)

	2023	2019*	PERCENTAGE CHANGE, 2019-2023**
TOTAL APP ECONOMY	667	380	75%

* Revised from published data

** Potentially reflects changes in official occupational categories

Data: Office for National Statistics, Indeed, PPI

TABLE 2: UNITED KINGDOM: ESTIMATE OF APP ECONOMY JOBS BY OPERATING SYSTEM, MAY 2023 (THOUSANDS)

	2023	2019*
TOTAL APP ECONOMY	667	380
IOS ECOSYSTEM	517	307
ANDROID ECOSYSTEM	534	307

* Revised from published data

2023 figures potentially reflect changes in official occupational categories

Data: Office for National Statistics, Indeed, PPI

CONTRIBUTIONS OF THE APP ECONOMY TO GROWTH OF JOBS AND SKILLS IN THE U.K.

Figure 1 compares the number of jobs in the United Kingdom App Economy with the net increase in all jobs since 2008, when the app stores came into existence. This is a legitimate comparison because the number of App Economy jobs in 2008 was zero. We can see from Figure 1 that the total number of jobs in the United Kingdom’s economy increased by roughly 3.4 million since 2008. From that perspective,

the 667,000 United Kingdom app economy jobs account for roughly 20% of the total net gain in jobs over the past 15 years, including the pandemic.

Qualitatively this suggests that the growth of the App Economy has played a significant role in the U.K.’s economic growth over the past 15 years. That makes sense, given how much time people spend on their smartphones using mobile applications. According to the latest report from data.ai, U.K. residents spend 4.2 hours per day

on mobile applications.⁹ That's up from roughly 3.0 in 2019, a roughly 40% increase. With so much consumer time and money being devoted to apps, it's not a surprise that the App Economy is so critical to growth.

But there's another aspect of the App Economy that is often overlooked: The role of mobile app development and the app stores in providing a route into the digital workforce for people who come from varied backgrounds. While much app development is associated with large organizations, it's still easy for individuals and small teams to create new apps that can be accessed nationally or globally through Google Play or the Apple App Store.

In some cases, the new app can be very successful. Or it might languish without downloads, or have moderate success. But no matter what, the mere fact of creating a new app that is widely available through the app stores becomes a mark of skill and experience that opens other doors. Terenze Yuen, CEO of Digital Workroom, a Manchester (U.K.)-based app development firm, notes that the learning curve for entry-level app developers isn't too hard with today's education available. Says Yuen: "I have seen them learning very quickly with the right mentor."

At the same time, the app stores have been investing in improving the skills of local app developers and the quality of apps. Putting together a comprehensive list of app development resources is beyond the scope of this paper. But one example is that developers with iOS apps have opportunities to request one-

on-one online consultations with Apple technical experts.¹⁰ Apple also runs Developer Academies in Italy and several other countries. Google Play Academy provides free online courses for app developers.¹¹ And while not strictly apps-focused, Google offers Startup Accelerators in various locations.

A related issue is the ability of the app stores to open doors for groups that are otherwise underrepresented in the digital economy. For example, official data shows that women make up only 20% of employees in ICT professional occupations in the U.K. (Table 3). That's slightly worse than France and the United States, and slightly better than Germany. We do not have direct evidence of the demographics of app developers, but the app stores accept all apps that meet requirements, without bias. Yuen notes that 40% of the developers at his company Digital Workroom are women. Apple Entrepreneur Camp, an immersive technology lab for underrepresented founders and developers, offers dedicated cohorts for founders and developers who are female and have app-driven businesses.¹²

FIGURE 1: UK APP ECONOMY GROWTH COMPARED TO OVERALL JOB GAINS (2008-2022) (THOUSANDS)

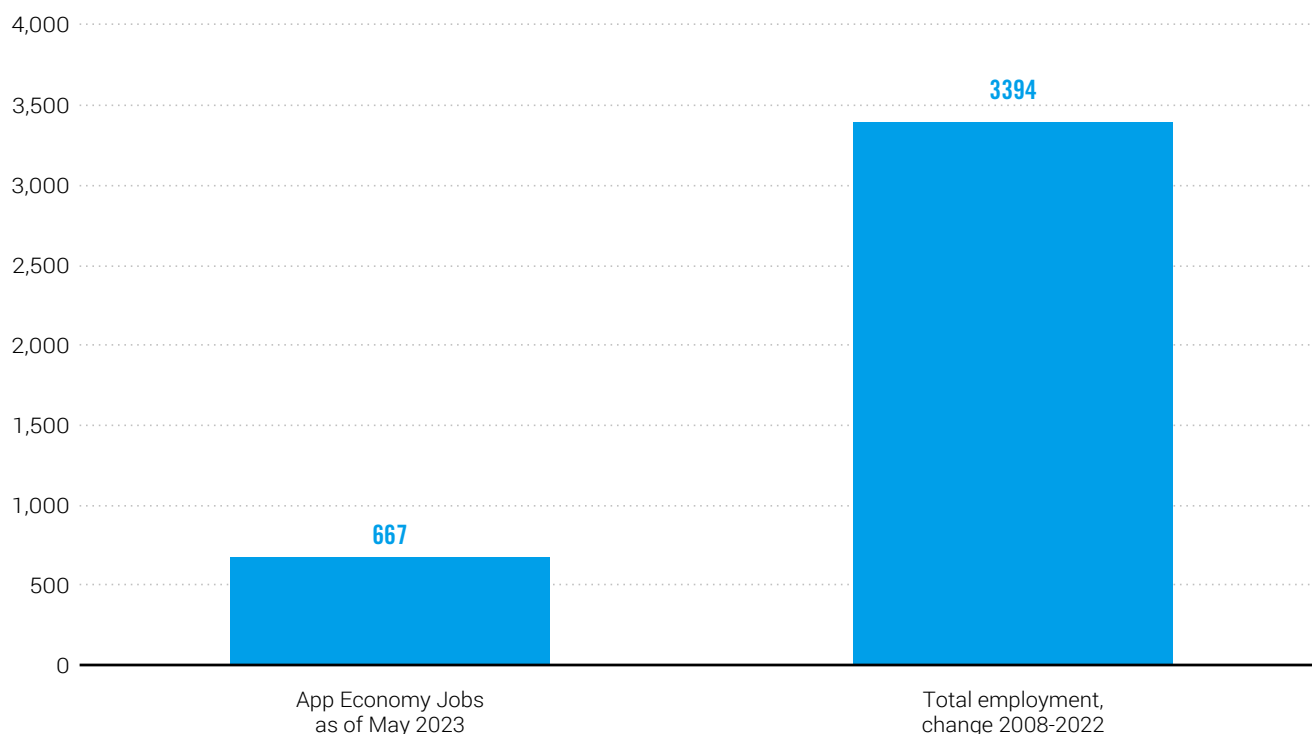


TABLE 3: GENDER IN ICT PROFESSIONAL OCCUPATIONS

	INFORMATION AND COMMUNICATIONS TECHNOLOGY PROFESSIONALS	
	(SHARE OF WOMEN IN OCCUPATION)	YEAR
UNITED STATES	25%	2022
FRANCE	21%	2021
UNITED KINGDOM	20%	2022
GERMANY	18%	2022

Source: Bureau of Labor Statistics (U.S.); International Labour Organization; Office for National Statistics (U.K.); Federal Office of Statistics (Germany); PPI calculations

EXAMPLES OF THE U.K. APP ECONOMY

This section illustrates the variety of App Economy workers in the U.K. economy as of May 2023. Note that the location listed may not reflect remote, hybrid, or flexible work arrangements. For example, on the entertainment/sports side, Naim Audio, a British manufacturer of high-fidelity audio systems, was looking for a Software Engineer-iOS in Salisbury to develop the app that customers use “to control their HiFi systems and discover new music.” Sky Group was looking for a Senior Android Developer to help support its entertainment and sports products. Sky, headquartered in London, is a British media and telecommunications company that is a division of Comcast.

Speaking of sports, Flutter Entertainment, an international sports betting company, was looking for an iOS Software Engineer in Leeds. Bet365 Group, an online betting company, was looking for an iOS Mobile Application Developer in Manchester.

Vypr was looking for an Android Engineer in Manchester. Vypr collects and analyzes consumer buying data for brands, using apps on the smartphone. Hyper, an AR, mapping, and location technologies company focused on wearable devices, is posting for an iOS Developer in London. Advanced Wireless Technology Group (AWTG) was looking for a Senior iOS Engineer in London. AWTG is an end-to-end engineering services and technology solutions provider.

Health care is another area where demand for app economy skills is growing. As of early 2023, Babylon Health, a global digital-first health service provider, was looking for a Software Engineer (Mobile/React Native) in London. Patients are connected with health care professionals through Babylon’s web and mobile applications. In the retail industry, John Lewis Partnership, which owns a department store chain and a grocery chain, was looking for a Senior Android Engineer in London. Ocado Group was looking for a Senior iOS Software Engineer in Hatfield, just north of Greater London. Ocado is a software and robotics business focused on online grocery/e-commerce.

In the financial area, there is an enormous demand for app developers in the U.K. for large financial institutions such as JPMorgan Chase and Lloyd. On a smaller scale, Monzo Bank, an online bank based in the United Kingdom, was looking for a Senior Android Engineer in London. MoneySuperMarket, a British price comparison website specializing in insurance and other financial services, was looking for a Lead Android Developer in London.

CONCLUSION

Fifteen years after the Apple App Store and Google Play first opened, they are still filling an essential role, driving job growth in the United Kingdom, building skills, and opening tech doors to underrepresented groups. Hopefully the next 15 years will bring the same success.

ABOUT THE AUTHOR

Michael Mandel is Chief Economist of the Progressive Policy Institute, and **Jordan Shapiro** is Director of the Innovation Frontier Project.

Notes and References

- 1 With research assistance from Damian Ghigliotty.
- 2 “The App Store Turns 10,” Apple Newsroom, July 5, 2018, <https://www.apple.com/newsroom/2018/07/app-store-turns-10>.
- 3 “Google Play,” Wikipedia, last modified May 16, 2023, https://en.wikipedia.org/wiki/Google_Play#.
- 4 Countries we have published App Economy reports for include the United States, the countries of the European Union, the United Kingdom, Canada, Mexico, Argentina, Brazil, Chile, Japan, Korea, Australia, Vietnam, Thailand, Indonesia, and India. We have analyzed China’s App Economy but not published it because of data issues.
- 5 Michael Mandel, “Europe App Economy Update, 2021,” Progressive Policy Institute, May 25, 2022, <https://www.progressivepolicy.org/blogs/europe-app-economy-update-2021/>.
- 6 Indeed, which bills itself as “the #1 job site in the world,” offers a searchable continually updated database of job postings in the United Kingdom on uk.indeed.com as well as similar databases for more than 60 other countries. For the United Kingdom, the government estimates of information and communications technology professionals are drawn from the Office for National Statistics.
- 7 Michael Mandel and Elliott Long, “The App Economy in Europe: Leading Countries and Cities, 2017,” Progressive Policy Institute, October 2017, https://www.progressivepolicy.org/wp-content/uploads/2017/10/PPI_EuropeAppEconomy_2017_.pdf. Some pandemic-related updates to the European methodology can be found here: <https://www.progressivepolicy.org/blogs/europe-app-economy-update-2021/>
- 8 Based on government data, we make the reasonable assumption that each core App Economy job corresponds to one indirect App Economy job in the same organization. Next, we make the very conservative assumption that each core or indirect App Economy job generates 0.5 spillover jobs in the relevant geographic area.
- 9 “State of Mobile 2022,” data.ai, accessed May 2023, <https://www.data.ai/en/go/state-of-mobile-2022/>.
- 10 “How to Participate in Office Hours,” Apple Developer: Ask Apple, accessed May 2023, <https://developer.apple.com/events/ask-apple/office-hours/>.
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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.

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