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The App Economy in Turkey

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INTRODUCTION

What is the future of the global App Economy? The average person already spends hours each day on mobile applications, connecting with friends and relatives, watching news and entertainment, playing games, and doing daily tasks such as shopping and banking. People will use apps to interact with their cars, to connect with their health care. Artificial intelligence, low latency and high bandwidth 5G connections, virtual/mixed reality, intensive data processing, and on-device machine learning will give rise to entire new categories of mobile applications. Individuals and businesses will become ever-more dependent on mobile apps for their daily lives.

For Turkey, the evolving App Economy is a potent source of future jobs since developing, updating, maintaining and securing mobile apps is becoming even more important. Turkey already has 112,000 App Economy jobs, according to PPI's new estimate (presented in this paper).

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.[1] Android Market (which later became Google Play) was announced by Google shortly after.[2] 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 global economic expansion. More than that, app development and the app stores became a key route by which young people can develop tech skills and became an integral part of the global digital economy.

In this paper we estimate the number of App Economy jobs for Turkey, as of August 2023. We calculate the size of the iOS and Android ecosystems for Turkey. We compare Turkey's App Economy to other peer countries.

METHODOLOGY AND SUMMARY

For the past ten years, PPI has done a series of reports on the App Economy around the world.[3] For this report, a Turkish 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.

To estimate the number of core App Economy jobs in each country, we combine multiple sources of information in a systematic process, including the number of current public job postings for jobs that use App Economy skills.[4] We use data from International Labour Organization, combined with other sources to construct a consistent set of estimates of the number of information and communications technology (ICT) professionals in each country.[5] Then we use a conservative multiplier of indirect and spillover jobs to estimate overall App Economy jobs.[6] (A more detailed description of the basic methodology is found in "The App Economy in Europe: Leading Countries and Cities, 2017" and "The App Economy in India.")[7]

RESULTS

Using our methodology, we estimate that Turkey has 112,000 App Economy jobs as of October 2023. Our methodology also allows us to break down App Economy jobs by mobile operating system. We find that the iOS ecosystem in Turkey has 87,000 jobs as of October 2023. The Android ecosystem has 89,000 jobs. (We note that the iOS and Android estimates sum to more than the total, because jobs can belong to both ecosystems).

TABLE 1: TURKEY'S APP ECONOMY, 2023

	THOUSANDS OF JOBS
TOTAL APP ECONOMY	112
IOS ECOSYSTEM	87
ANDROID ECOSYSTEM	89

Data: PPI, Indeed, Eurostat
iOS and Android jobs add to more than total, because many jobs are in both ecosystems

GLOBAL COMPARISONS

Table 2 shows how the Turkish App Economy compares to selected other countries in Europe, South America, and Asia. We note that the number of App Economy jobs in Turkey is somewhat smaller than our 2023 estimates for major European countries such as Italy, Sweden, and Spain. App Economy employment in Brazil and South Korea is considerably larger, however.

TABLE 2. HOW THE TURKISH APP ECONOMY MEASURES UP GLOBALLY

	APP ECONOMY JOBS (THOUSANDS)	YEAR
TURKEY	112	2023
BELGIUM	66	2023
ITALY	144	2023
SWEDEN	163	2023
SPAIN	185	2023
BRAZIL	428	2023
SOUTH KOREA	516	2022

Data: PPI analysis

CONCLUSION

Turkey is well-placed to take advantage of the next wave of global App Economy growth. There will be increasing demand for people who can create, maintain, and support increasingly sophisticated apps that use the capabilities of 5G networks and AI-enabled devices being built around the world. App Economy skills are a powerful gateway to the digital future.

References

1   "The App Store Turns 10," Apple Newsroom, July 5, 2018, https://www.apple.com/newsroom/2018/07/app-store-turns-10/

2   "Google Play," Wikipedia, accessed November 2023, https://en.wikipedia.org/wiki/Google_Play

3   Countries 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.

4   For Turkey, we use the corresponding public database from Indeed.com, found at tr.indeed.com. Indeed, which bills itself as "the #1 job site in the world," offers a searchable continually updated database of job postings for more than 60 countries. Because of its global scope, it makes it easier to compare countries.

5   In addition to ILO data on ICT professionals and national statistical agencies, we use data from Github (https://octoverse.github.com/2022/global-tech-talent) and Stack Overflow (https://survey.stackoverflow.co/2023/#developer-profile-key-territories).

6   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.

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/. Our 2019 report in "The App Economy in India" adds further methodological details: https://www.progressivepolicy.org/wp-content/uploads/2019/09/PPI_IndianAppEconomy_V3-1.pdf.

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