GSMA

Spectrum Pricing in the 5G Era: Türkiye

This report presents an overview of spectrum pricing in Türkiye and its implications for the development of next-generation mobile networks. As the demand for mobile data accelerates, spectrum policy will play a decisive role in determining whether Türkiye can keep pace with international connectivity standards or fall behind.

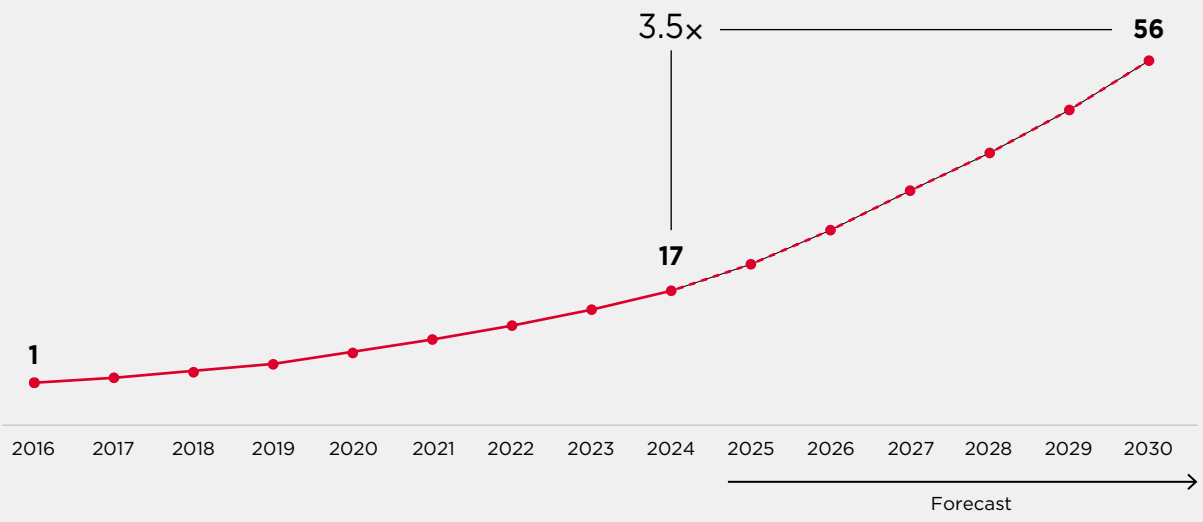
Forecasts from GSMA Intelligence indicate that monthly mobile data usage per connection in Türkiye is expected to rise from 17 GB in 2024 to nearly 56 GB by 2030. This rapid growth requires substantial network investment, particularly in 5G infrastructure. However, the financial context for mobile operators has become increasingly challenging. Average monthly revenue per user (ARPU) has declined steadily, falling from $9.0 in 2016 to $6.6 in 2024, due to inflation, currency devaluation, and intense competitive pressure.

Within this environment, the cost and structure of spectrum access have emerged as key policy levers with significant implications for both investment and affordability.

1. A challenging environment for investments

By 2030, mobile data usage per user is expected to rise from 17 GB to nearly 56 GB per month in Türkiye. Spectrum is needed to cater for this exponential growth in demand.

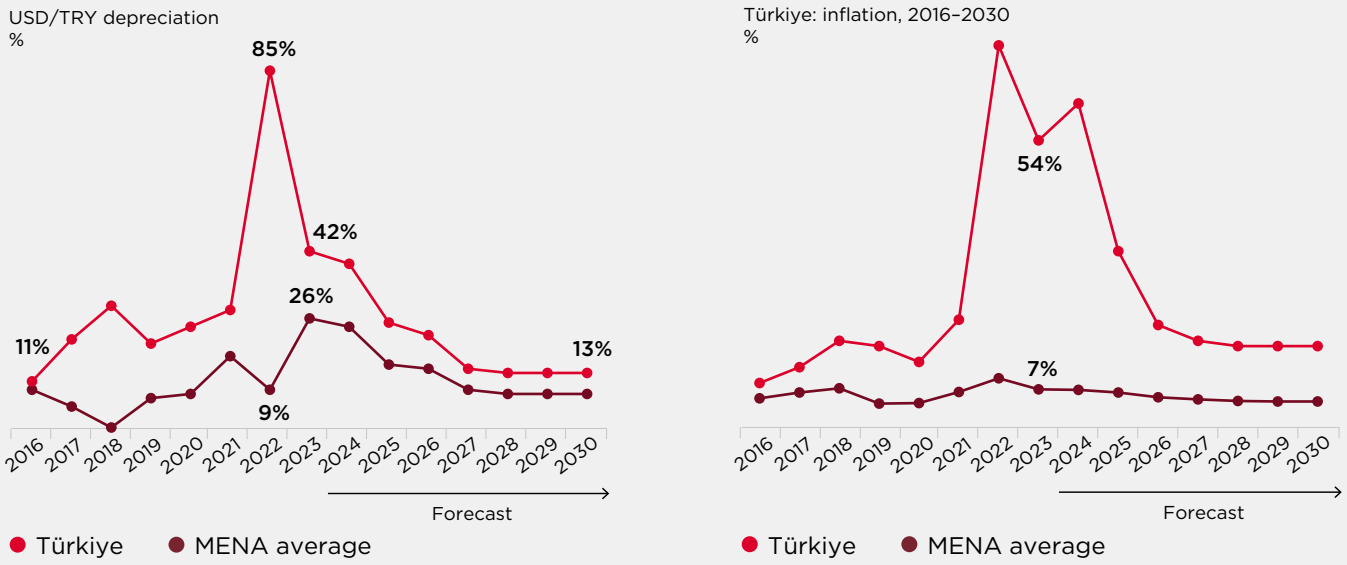
Figure 1:
Mobile data traffic in Türkiye, 2016–2030 (GB per connection per month)



Source: GSMA Intelligence

Yet the financial picture for mobile operators is challenging. ARPU dropped from $9.0 in 2016 to just $6.6 in 2024, squeezed by inflation and currency devaluation. Operators face steep investment requirements with limited revenue potential, undermining the 5G business case.

Figure 2:
Macroeconomy: Exchange rate (USD/TRY) and inflation



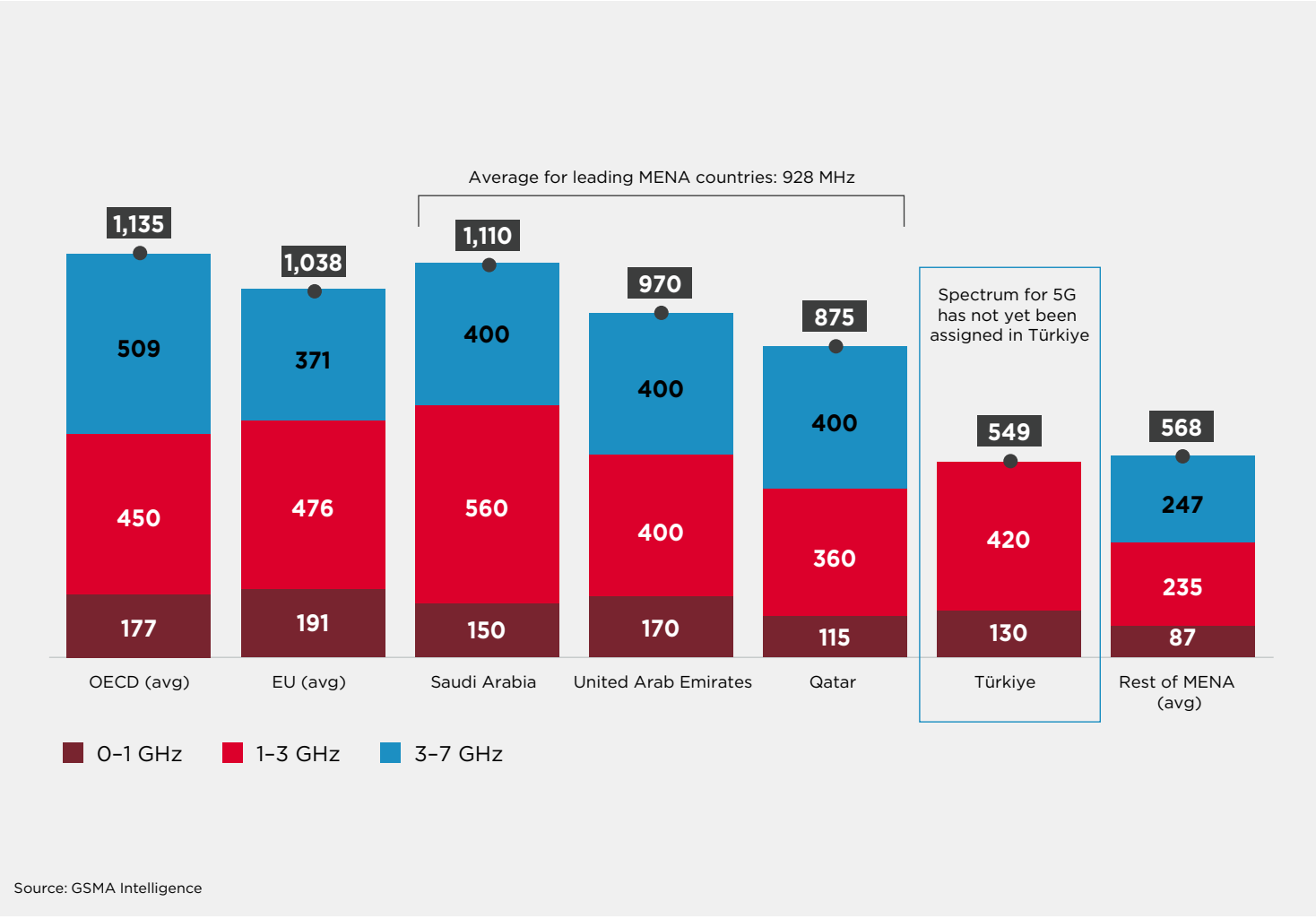
Source: IMF - World Bank

2. Delays in spectrum assignment

The volume and timing of spectrum assignments have a direct bearing on 5G readiness. Türkiye has yet to release a significant proportion of the spectrum needed to deliver next-generation networks.

Comparable markets, such as Saudi Arabia and the United Arab Emirates, have made considerably more spectrum available, often under more investment-oriented conditions. The absence of timely spectrum release in Türkiye has introduced further uncertainty, delaying the commercial launch of 5G services.

Figure 3:
Total spectrum holdings excluding mmWave (MHz), 2024

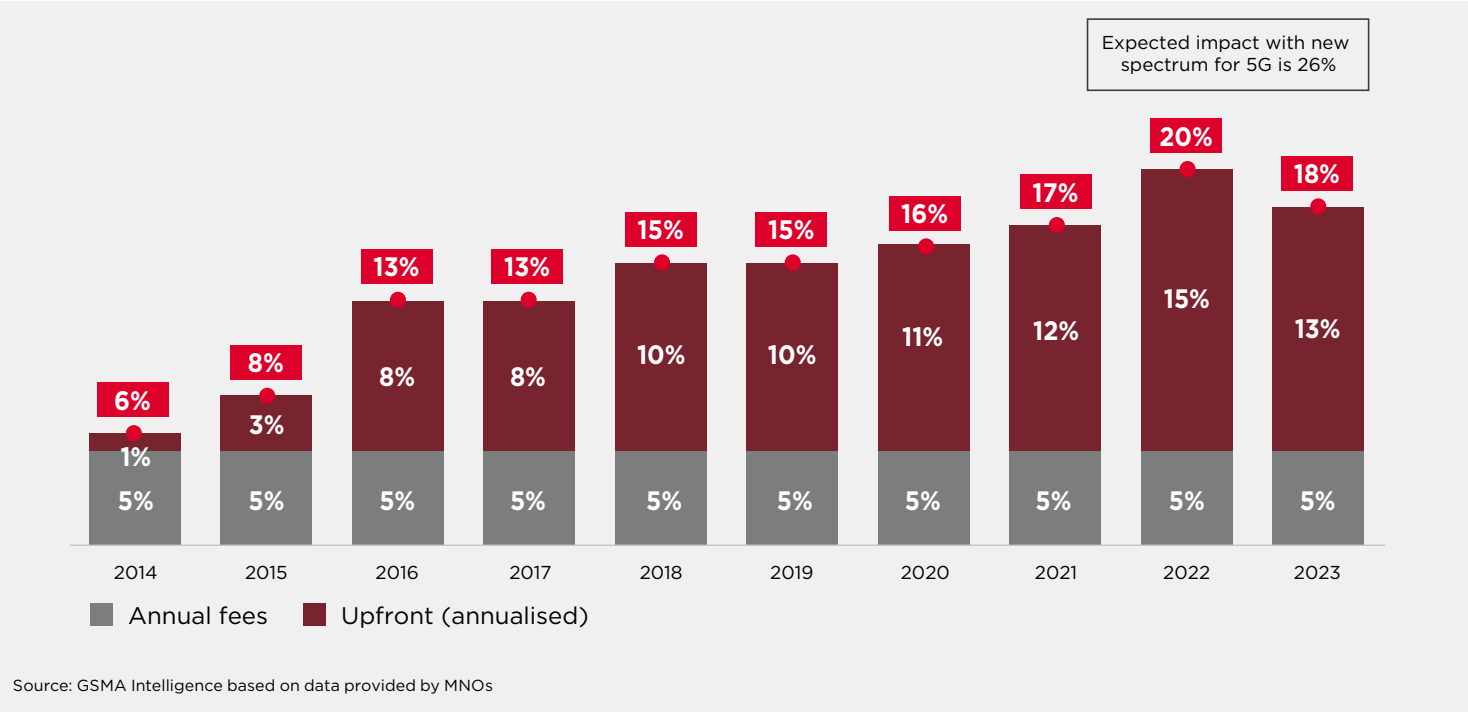


Source: GSMA Intelligence

3. High spectrum prices

Türkiye's spectrum costs, when measured as a share of operator revenues, are nearly three times higher now than 10 years ago. Add sector-specific taxes such as the Treasury Share and Universal Service Fund, and operators are paying over 33% of their revenues to the government.

Figure 4:
Cost of spectrum as a percentage of recurring revenues (CPRR), 2014–2023

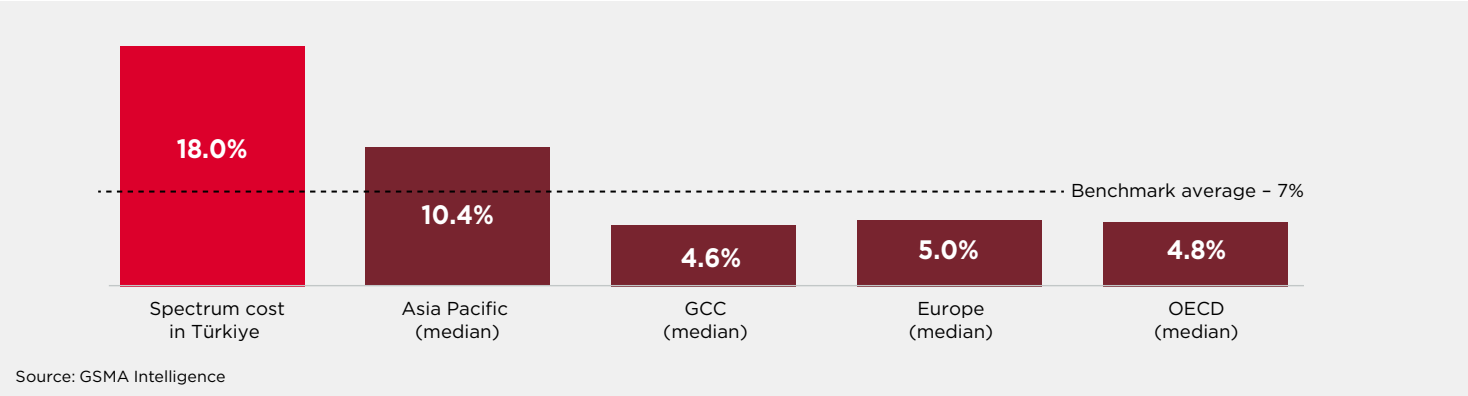


Source: GSMA Intelligence based on data provided by MNOs

Global trends point clearly towards an approach to pricing that helps drive, rather than hinder, investments. Between 2018 and 2023, global average spectrum prices fell, reflecting this broader shift in policy emphasis from short-term fiscal returns to long-term economic and social benefits.

Some governments have introduced incentive-based frameworks, reducing reserve prices and offering licence obligations in exchange for broader coverage or network quality targets.

Figure 5:
CPRR in comparable markets in 2023 (percentage of revenues)



Source: GSMA Intelligence

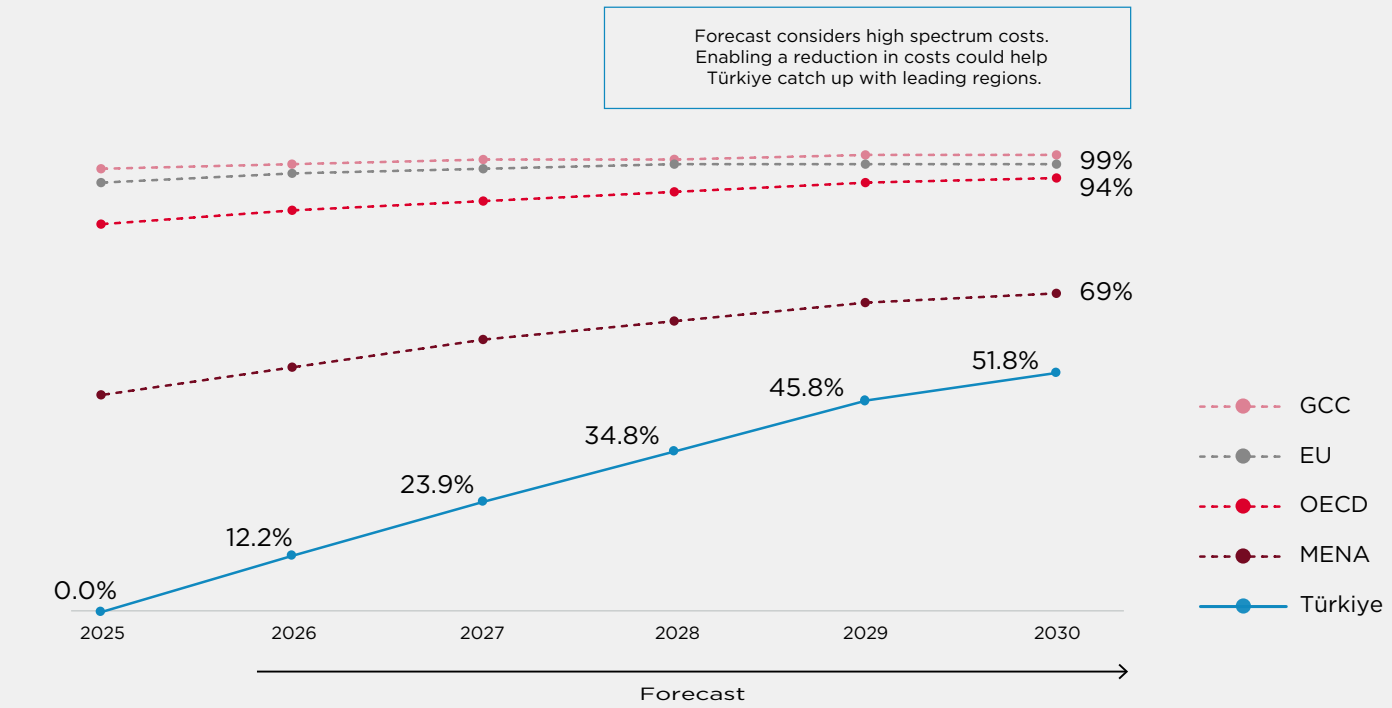
The right spectrum price and availability can be a tool to support inclusion, as a high spectrum cost has a direct relationship to lower coverage and speeds, leading to reduced adoption and affordability.

4. Recommendations for reform

Türkiye stands at a critical juncture in its digital development. The country's spectrum pricing and assignment policies will significantly influence its ability to deploy 5G at scale, narrow the digital divide, and sustain mobile sector growth.

Without reform, current spectrum costs may continue to inhibit investment and delay technological progress. By adopting a more balanced and future-focused spectrum strategy, Türkiye can unlock the full economic and social benefits of next-generation connectivity.

Figure 6:
5G coverage (percentage of population)



Source: GSMA Intelligence

Recommendations:

In light of the evidence and Türkiye's current market dynamics, the GSMA recommends the following policy adjustments:

1. **Align spectrum pricing with local market conditions**, ensuring affordability and long-term investment viability.
2. **Reduce reserve prices and annual fees**, particularly in mid-band frequencies needed for 5G.
3. **Introduce greater predictability and transparency** in spectrum renewal frameworks.
4. **Explore incentive-based licensing models,** linking spectrum access to investment and coverage targets.

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