

A photograph of three young people, two men and one woman, standing outdoors and looking at a smartphone held by the man in the center. They are all smiling and appear to be engaged in a conversation. The man on the left is wearing a light-colored jacket, the man in the center is wearing a grey sweater, and the woman on the right is wearing a white sweater and blue jeans. The background is a blurred urban setting with a brick wall and a street light.

GSMA

South Korea's regulation on network traffic management

September 2026



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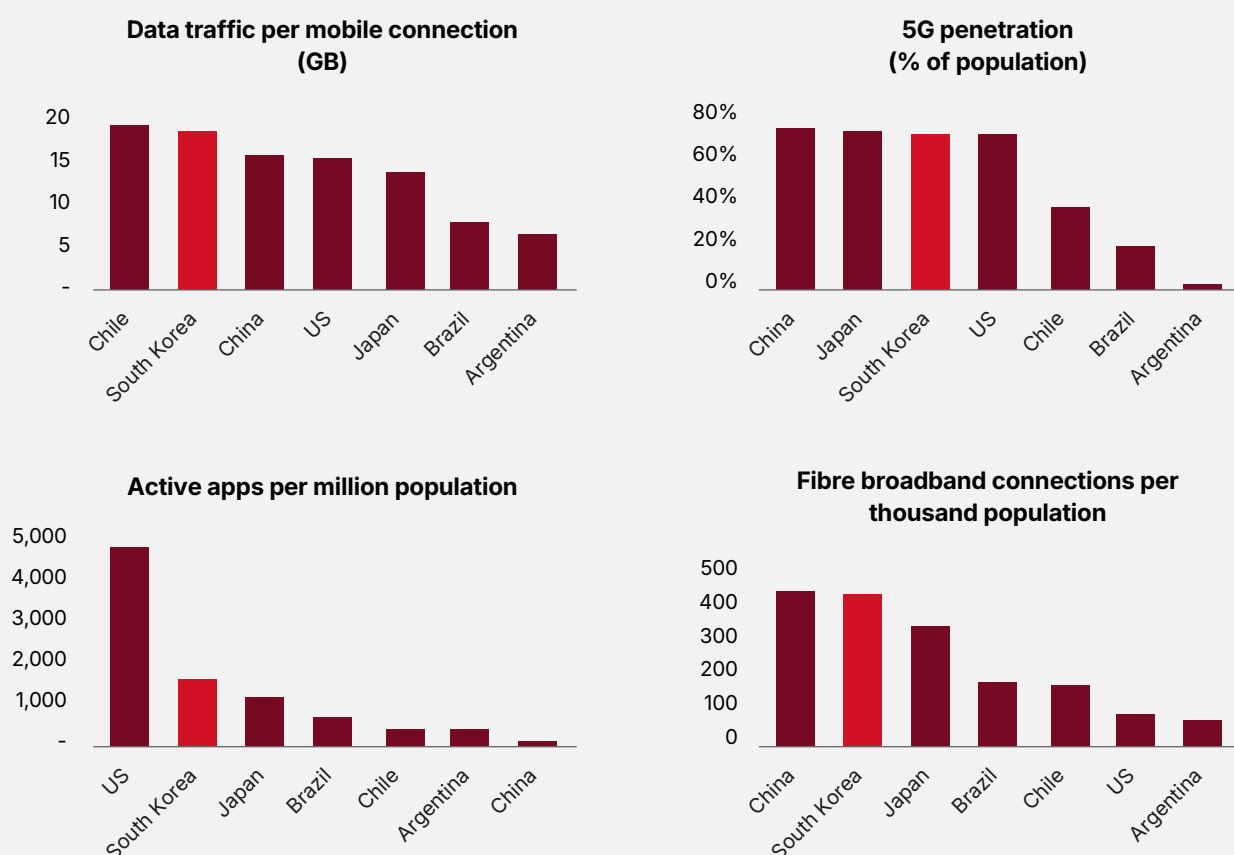
South Korea's regulation on network traffic management

South Korea is a connectivity leader: it scores as a top performer across various metrics relating to network quality and intensity of use. However, the country attracted international attention in 2016 when it moved to a new model of governing interconnections between the largest network operators (mobile and fixed).¹ Nearly 10 years since, the regulation model still attracts attention and commentary. We revisit the case of South Korea and examine the real-world impacts regulation had using data on key consumer indicators and how the country has fared against peers.

Figure 1

South Korea is a global leader in connectivity

2024 data



Source: GSMA Intelligence, Ookla and Appfigures

1. A dispute between Netflix and SK Broadband in South Korea: Who should pay the network usage fees?, Kim, J. and Lee, H., 2025

How regulation changed: interconnection rules and obligations on CAPs

The 2016 change to interconnection rules aimed to provide a way to recover the cost of adding network capacity to handle increasingly asymmetric traffic driven by applications such as video streaming, as internet service providers (ISPs) faced disproportionate costs for handling inbound data without compensation. The regulatory change has been often misreported as imposing a sending party network pays (SPNP) rule that forces content and application providers (CAPs) to pay for each gigabyte of data sent via ISPs' networks. However, the regulation only concerned how traffic asymmetry is settled between the largest Tier 1 operators. This meant that agreements between ISPs and cloud providers/CAPs operating content delivery networks (CDNs) were still voluntary and negotiated. The regulation could, in practice, indirectly affect these agreements because any traffic flowing from a CAP's CDN through an ISP's network to another ISP's network (transit) would need to be settled. Operators that provided transit sought to recover the cost of these settlements from CAPs and attempted to renegotiate the voluntary agreements and payments for network use.

While local CAPs and ISPs rapidly adjusted to the regulatory change by renegotiating commercial terms, two global CAPs – Meta and Netflix – challenged the regulations in court. This also led to temporary rerouting of traffic outside of South Korea, with a temporary impact on network quality uniquely as a result of the CAPs' decisions. Both Netflix and Meta eventually settled out of court and signed commercial agreements with Korean ISPs involving paid peering or traffic delivery arrangements and commitments to network optimisation and local caching to reduce congestion.

In 2020, partly as a response to the temporary rerouting that occurred, a new rule was introduced to shift some of the quality-of-service (QoS) obligations onto large traffic generators, requiring them to maintain stability of service quality during congestion times and requiring notifications to ISPs on changes to routing that could be detrimental to the quality of network experience. The regulation aims to prevent similar impacts on regular users in cases of disagreements between ISPs and CAPs.

As of 2025, the high-profile disputes about payments for traffic delivery had been resolved, with ISPs and large traffic generators operating under commercial and mutually agreed terms for traffic exchange. Importantly, these agreements extend the incentives to optimise network traffic generation to CAPs, potentially improving the efficiency of resource network utilisation.

How has South Korea performed since these changes?

Examining the evidence on the long-term impacts of the interconnection regulations (since 2016) and the service-stability obligations (since 2020), we find that South Korea performs similarly in internet innovation metrics and infrastructure quality compared to a control group of similar countries.²

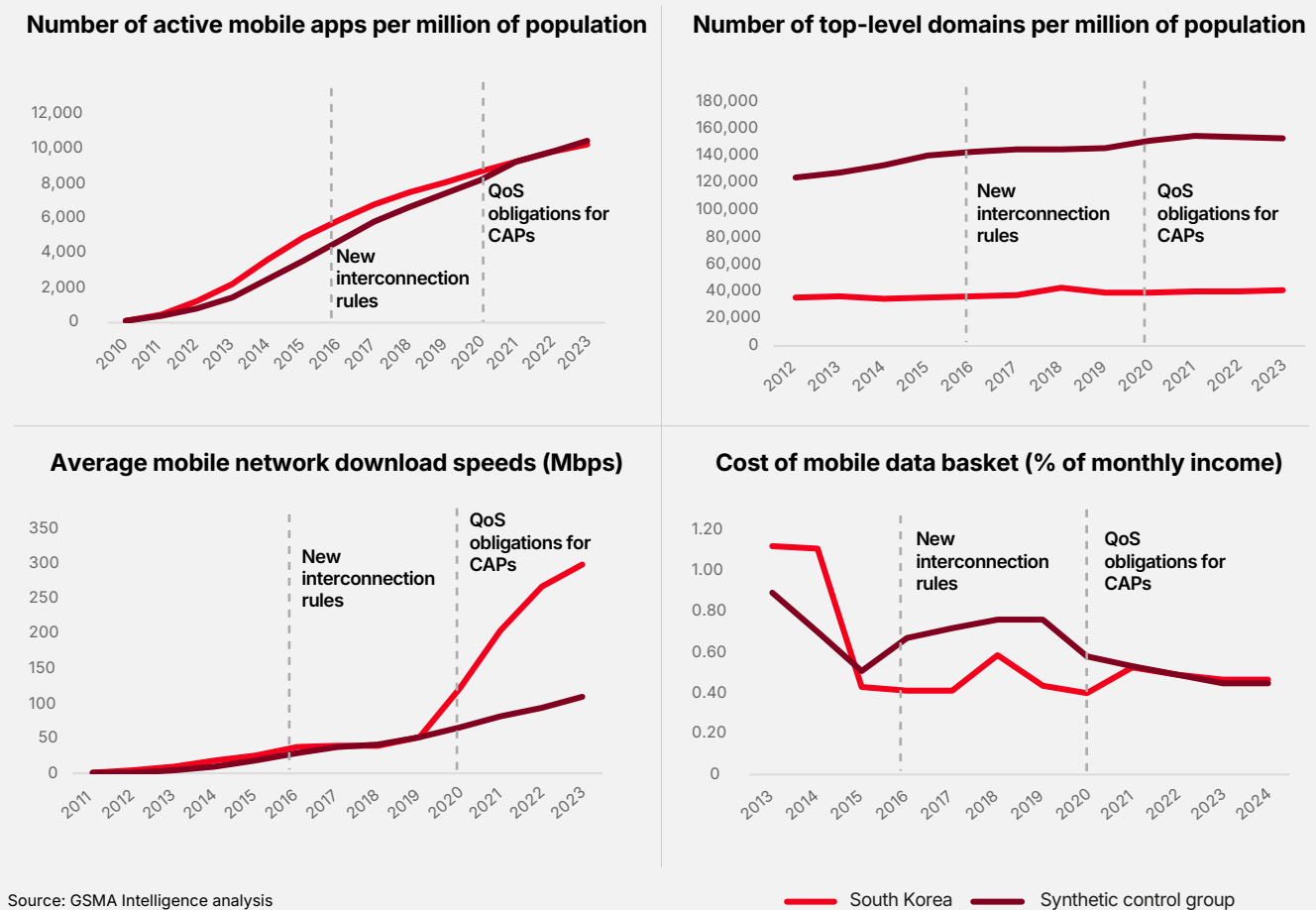
Trends in the number of active mobile apps and the number of top-level domains per million of population are similar to those observed in the peer group. While South Korea generally has a lower number of domains registered per unit of population, this stems from the lower popularity of domains and different registration rules (Japan is another example with a similar number of domains per capita).

We also find that owing to operators' large investments and a rapid 5G rollout, mobile network speeds in South Korea have grown much faster than those of the benchmark group. Additionally, the cost of mobile services in the country has followed a similar reduction to that of the benchmark countries.

2. See the methodology note for details on how the benchmark of countries is constructed

Figure 2

Impact of regulatory changes in South Korea



These findings counter the narrative that changes to interconnection rates have led to negative outcomes for consumers.^{3,4,5} The quality of infrastructure in South Korea and network experience have kept up with or exceeded the rates of improvement in peer countries. While it is possible that transit and interconnection charges in South Korea can be higher than in other countries, this does not translate into negative effects for consumers. Rather, the costs could serve as an incentive to use networks efficiently by CAPs while providing adequate incentives for ISPs to invest in access networks.

Contrary to critical literature suggesting that South Korea's 2016 interconnection reforms and subsequent service-stability rules have harmed network efficiency, openness and innovation, we find no such effect. While any analysis can focus only on proxy measures of how successful networks are at generating wider benefits, the results show no evidence of regulations altering key consumer outcomes in South Korea when compared to the control group of countries.

3. Internet Impact Brief: South Korea's Interconnection Rules", Internet Society, 2022

4. "Implications of IP interconnection regulation on South Korea's digital ambition", Analysys Mason, August 2025

5. Myths Surrounding Network Usage Fees: South Korea, CCIA, 2023

South Korea remains a global connectivity leader with top-tier network quality and usage intensity. After initial adjustments and the resolution of disputes (including initial court rulings and out-of-court settlements with Netflix and Meta), commercial agreements have enabled cost recovery for infrastructure while incentivising traffic optimisation and local caching. Long-term evidence shows innovation metrics (i.e. number of apps and domains) tracking those of peer countries, significantly faster mobile speed growth and comparable declines in service costs (i.e. mobile data prices). Temporary quality issues stemmed from CAPs' bargaining tactics (rerouting), not the regulations themselves, which later included safeguards to protect end users. The 2020 regulations were introduced precisely in response to these tactics and included safeguards to protect end users, which as a result made networks more resilient. Overall, the framework appears to have supported sustained infrastructure and consumer experience improvements, which have matched or, in some cases, exceeded the pace of progress in peer countries.

Methodology note

Our analysis focused on the 2010–2024 period (depending on the availability of data). To estimate the impact of changes to interconnection policy, we relied on the creation of a synthetic control group that was constructed by creating a fictional country as a weighted combination of countries similar to South Korea.

The following proxies for consumer outcomes were used:

- average mobile network download speeds (Ookla® Speedtest Intelligence®)
- locally-developed apps per million of population (Appfigures and IMF WEO October 2023)
- mobile data-only basket price (ITU)
- top-level domains per million population (ZookNIC, 2025, and IMF WEO October 2023).

The synthetic control group make-up and weights are based on a nested two-level optimisation algorithm.⁶ Matching and weights were performed based on the following variables: rural population share (World Bank); constant GDP per capita and total GDP in USD, population and unemployment rate (IMF WEO 2023); and the Herfindahl–Hirschman index for mobile market concentration (GSMA Intelligence).

The weights used in the creation of synthetic control groups are presented below. Weights vary due to differences in the length of series available for the pre-treatment (pre-2016) period, on which the weights have been estimated. In some instances, countries could not be included due to insufficient data.

6. SYNTH: Stata module to implement Synthetic Control Methods for Comparative Case Studies, Abadie, Diamond and Hainmueller, 2011

Table A1:
Synthetic control group weights

	Apps per million of population	Mobile data basket price	Mobile download speeds	Top-level domains per million of population
Belgium	0	0	0	0.078
China	0	0.116	0.129	0.132
Germany	0	0	0	0
UK	0	0	0	—*
Spain	0	0	0	0
France	0	0	0	0
Israel	0.142	—**	0	0
Italy	0	0	0	0
Japan	0.425	0.038	0	0
Netherlands	0	0.692	0.775	0.648
Poland	0.321	0.154	0.096	0.143
Singapore	0.112	0	0	0
Sweden	0	0	0	0
US	0	0	0	0

* Data for UK top-level domains per million was missing for the study period.

** ITU series on mobile data basket price in Israel starts in 2015, providing insufficient number of pre-treatment observations for the country to be included.

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