

The Role of EU Rules in non-EU Countries

Turkey: TurkNet Case Study

ECTA Regulatory Conference December 10, 2019

Goals of a Regulatory Framework

- Encourage Market entry
- Stimulate Investment
- Promote Innovation
- Better “deal” for customers
- Consumer Choice and Competition

The EU (as championed by ECTA) has been somewhat unique in underlining the importance of competition not only in providing consumer choice, but as a key instrument for driving the other objectives.

The investment ladder has been a key approach to facilitating market entry

What happened in Turkey

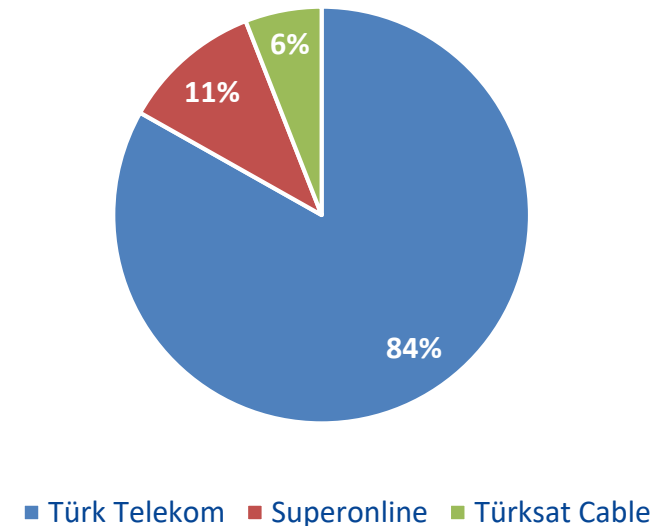
Regulation

- Until 2009_old (1997) EU Framework
- From 2009_newer (2003) EU Framework
- Infrastructure monopoly until 2006

Market

- Lots of market entry into service based competition
- Rights of way along intercity highway, trains, electricity lines, etc. not given to new entrants or auctioned to single highest bidder
- Digging permissions & rights of way in cities regulated at municipal level and problematic
- Infrastructure duopoly/oligopoly, little infrastructure competition (cable is state-owned)
- Aside from 1 FTTX player, almost all Alt Operator's subscribers in BSA

Wholesale Fixed Market

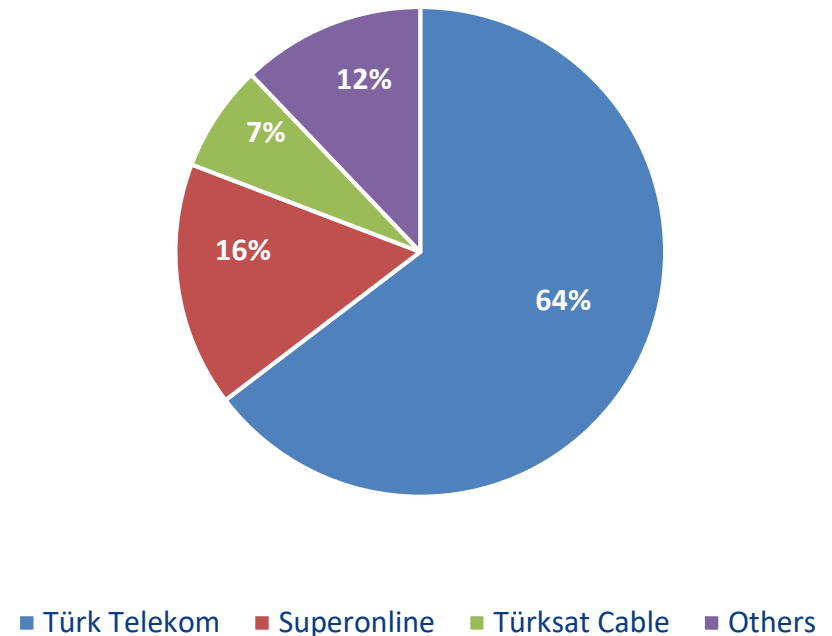


Commercial results / market impact

Infrastructure Oligopoly results in

- Incumbent retains high market share (top 3 87% market share)
- Low bandwidth on average (below 20 Mb/s)
- Products all similar, upload speeds are low (typ. 1-3, max 5-10 Mb/s)
- Until Jan 2019, restrictive Fair Usage Quota (well below avg usage) prevalent (~90% of packages), eliminated through regulatory decree

Retail Fixed Market



Turknet Case Study: History

(Ancient) History

- Operating since 1996 (originally a dial-up ISP)
- Active in lobbying for establishment of a Regulatory Authority
- One of the first ISP's to obtain an internet license

Climbing the Investment Ladder

- First operator in TR to negotiate BitStream Access and offer BSA based broadband (only resell available before)
- One of first to establish microwave and then fiber cross border link (Bulgaria)
- First (and currently) only Local Loop Unbundler
- Built city fiber networks in 10+ cities around the LLU business case, initially using municipal RoW and duct sharing, one of first to use incumbent duct sharing.

Turknet Case Study: Market and Consumer Impact

High Speed, High Bandwidth

- Netflix #1/#2. Valve Steam #2 (Behind cable, faster than Fttx prvdrs)

Market growth mainly coming from entry level pckgs (4 Mb/s subsidized pckg), Turknet one of largest sellers of v.fast broadband (>30 Mb/s)

Only provider to offer high Upload >10 Mb/s (critical for content creation, YouTubers, twitch, etc.) on consumer packages.

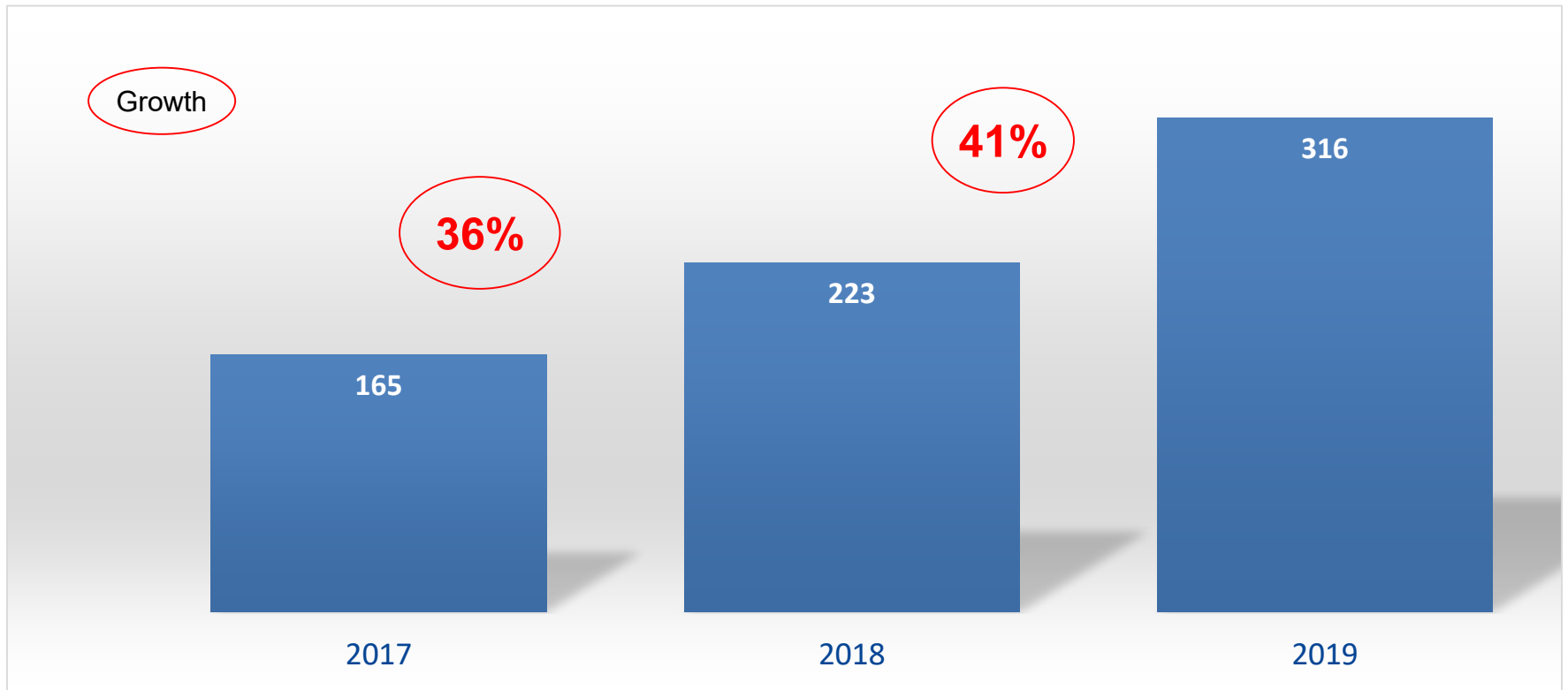
First to offer true unlimited at consumer prices, well before regulation

First to offer across the board no-commitment offer

First to offer end-to-end digital experience (Online subscription), Simple & transparent offer.

Turknet Case Study: Market & Consumer response

TurkNet Subscriber Growth (K)



Turknet Case Study: Market & Consumer response

← → ↻ <https://ispspeedindex.netflix.com/country/turkey/> ☆ | Paused

NETFLIX

HOW WE CALCULATE THE RANKINGS ▾

Enter country/region 🔍

TURKEY

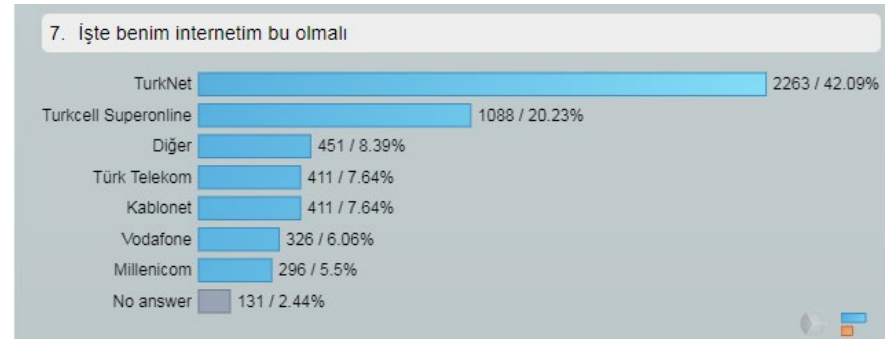
The Netflix ISP Speed Index is a measure of prime time Netflix performance on particular ISPs (internet service providers) around the globe, and not a measure of overall performance for other services/data that may travel across the specific ISP network.

ISP LEADERBOARD - JANUARY 2019

RANK	ISP	SPEED Mbps	PREVIOUS Mbps	RANK CHANGE	TYPE				
					Fiber	Cable	DSL	Satellite	Wireless
1	Turknet	3.30	3.45						
2	Turkcell Superonline	3.26	3.27	+1					
3	Vodafone	3.24	3.10	+1					
4	Tüksat Kablo	3.12	3.39	-2					
5	D Smart	2.70	2.69	+1					
6	Türk Telekom	2.33	2.95	-1					

Capital Dergisi (Business magazine)
2018/2019 Most loved brands

TELEKOMÜNİKASYON	
1	Turkcell
2	Vodafone
3	Türk Telekom / TürkNet



Turknet Case Study: What's Next FTTP

Leveraging

- City fiber networks
- density maps of current subs (indicative of market demand)

To build out FTTP access to urban brownfield areas with no current Fiber offering (at best cable and/or FTTC)

High Speed Leader (Download and Upload)

Simplicity, Transparency, Digital

Strong growth

FWA (5G?) Many of Europe's newer 3/4G players emerged from fixed line

What's Next: EECC and Turkey

Even within the EU, countries move at different speeds, have differing conditions

Before considering removing a step on the investment ladder, important to consider whether opportunity to climb higher has really been provided. Removal in one country is not necessarily a relevant precedent for another country

- Duct Sharing remains problematic
- LLU implementation occurred very late, No coordination on NGN rollout
- Building entry is not regulated (only new buildings completing in 20/21 and beyond regulated)
- Rights of way along intercity natural routes not given
- Digging permission & rights of way in cities regulated municipal level and problematic
- Operators are vertically integrated. No wholesale only player in the market

NRA(ICTA) should consider local conditions above all in applying the code/framework and not blindly follow



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