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LIBERALIZATION AND DEVELOPMENT OF COMPETITION IN TURKISH TELECOMMUNICATIONS SECTOR

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ABSTRACT

Turkish telecommunications sector was liberalized in 2005 and began to be regulated by independent authorities. This paper presents the data on developments on the Turkish telecommunications sector and analyzes the development of competition and regulation after the liberalization of the market. The paper comments on the competitiveness level of the fixed line market as well as isp markets and mobile communication market and Türk Telekom, the role in this process. Lastly, some comments on the investment on the infrastructure after the privatization is made.

Keywords: Liberalization, Turkish telecommunications sector, regulation, competition
Jel codes : L96, L99, F12

TÜRK TELEKOMÜNİKASYON SEKTÖRÜNDE ÖZELLEŞTİRME VE REKABETİN GELİŞMESİ

ÖZ

2005 yılında özelleştirilen telekomünikasyon sektörü Telekomünikasyon Kurumu olarak kurulan ve daha sonra Bilgi Teknolojileri ve İletişim Kurumu olarak değiştirilen bağımsız bir denetleme kuruluşu tarafından denetlenmeye başlamıştır. Bu makalede, Türk telekomünikasyon sektöründeki rekabet ve denetlenme ile ilgili gelişmelerle yer verilmiş ve bununla ilgili veriler ortaya konulmuştur. Sabit hat, internet servis sağlayıcısı ve mobil piyasalardaki rekabet düzeyi ve Türk Telekom'un piyasadaki rolü ve altyapı yatırımları ile ilgili yorumlara yer verilmiştir.

Anahtar Kelime: Özelleştirme, Türk telekomünikasyon sektörü, denetlenme, rekabet
Jel Kodu: L96, L99, F12

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1. INTRODUCTION

Among telecommunications firms that provide telephony and internet services Turk Telekom is the biggest. It owns its own infrastructure and provides wholesale sales to other internet service providers and fixed line phone service providers. This paper aims to investigate the development of competition in the Turkish telecommunications sector after liberalization of the sector.

2. LIBERALIZATION OF TELECOMMUNICATIONS MARKET AND REGULATION

The approach to telecommunication industries until 1990s was that they were natural monopolies and services of these industries should be provided by only one firm. The development of new technologies and advances in the theory of industrial organization changed this approach(Aybar et.al., 2001).

Group of Basic Telecommunications which was formed within World Trade Organization helped countries liberate their telecommunications sector in developing and developed countries. WTO's Basic Telecommunications Agreement was signed by 42 countries who were committed to reform their telecommunications sector(Aybar et.al., 2001). Between 1980 and 2000 concerning the telecommunication operators of 167 countries the ratio of private ownership increased to 42 percent .

3. TURKISH CASE

State owned Turkish telecommunications company PTT, Posts Telegraph and Telephone was divided into PTT and Turk Telekom in 1994. Formerly state owned Turk Telekom was privatized at 2005 and %55 of its shares were sold to Saudi Oger Joint venture Group. State control over Turk Telekom has ended at this date. Today %30 of its shares belongs to Under secretariat of Treasury and %15 are offered to public. Before privatization Cable TV was separated from Turk Telekom. Today state controls the Cable TV infrastructure in Turkey.

In 1998 Turk Telekom acquired the Mobile GSM 1800 mobile phone management license and afterwards founded Aycell Telecommunications and Marketing, a mobile connection service company. At 2004 Aycell and Avea GSM operators were united under Avea brand. Today Turk Telekom owns %89 the shares of Avea. At 2016 Avea and TTNNet brands which were already operating under Turk Telekom announced to continue their operations under Turk Telekom brand.

4. COMPETITION IN TELECOMMUNICATION MARKETS

The studies show that introduction of competition to the market should not lag behind privatization in the market (Bağdadioğlu and Çetinkaya, 2007). Also early establishment of a regulatory body leads to increased telecommunications investment and telephone penetration rate. In Turkey, Information Communication Technologies Authority was founded in 2000 as Communications Authority(CA) and its name was changed and became Information Communication Technologies Authority(ICTA) in 2008.

There is a relationship between competitiveness in the market and the performance of the industry; competition leads to increased productivity and quality and lower prices (Boylaud and Nicoletti,2000).

Among several approaches EU practices privatization without liberalization meaning the ownership of the network does not change but competition is introduced to the market (Bağdadioğlu and Çetinkaya,2007).

In the Turkish case there wasn't enough efforts to increase the competitiveness in the industry in the beginning. Authorities were late to open the international, long distance and local call market to competition; competition to Turkish market was first introduced at 2004, licenses were given for long distance phone services at this date. As of 2009 local call market was opened to competition and other operators were given licenses to

operate in the local call market.

As of 2008 Turkish market was the most concentrated market among OECD countries with competitors of Turk Telekom having a total market share of 9 percent. Similarly among the broadband internet providers among more than 70 isp's Turk Telekom's share was 95 percent. In Turkey, even after privatization fixed line penetration rate stayed below new members of EU.

5. NETWORK EXTERNALITIES

In industries where network effects are observed incumbent firms are more advantageous due to their installed base of customers. In that case a firm with a higher market share in the beginning will be advantageous over his competitors.

In the Turkish case of fixed line services, market had a chance to tip towards Turk Telekom capturing the market. The newly introduced competition in the local and long distance markets and international calls seemed to have no effect in increasing the competition in the market. From 2008 until today it seems like there isn't any improvement in terms of market competitiveness at fixed line services(See figure 1).

Evidence shows that first mover advantages exist in the mobile telecommunications market. There is a negative relationship between number of operators in a market and followers success in the long run (Muck and Heimeshoff,2012). In the mobile market, the firms Aria and Aycell leaving the market immediately after they enter the market showed that the market tipped towards Turkcell. The reason was strong network effects in mobile market (Atiyas and Dogan, 2007).

Several studies found evidence for strong network effects in mobile industry. But empirical studies in the Turkish market points that mobile consumers are more likely to be affected by the choice of the people in their region (Haucap et. al.).

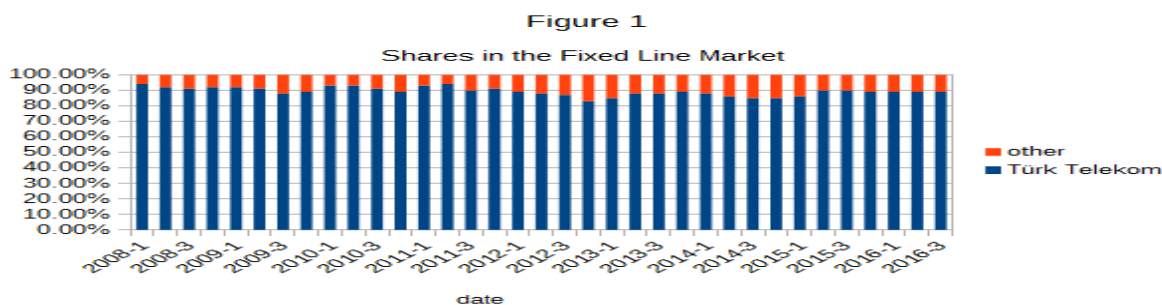
Turk Telekom entered the mobile market via acquiring Avea at 2004 then using its established position in the fixed line and internet market was able to increase Avea's market share and sustained its presence in the mobile market. This was a success in a market where winner takes all. Turk Telekom's established base of customers via advertisements ect. and its monopoly power in other markets may have helped acquire enough base of customers for Avea to take off in the mobile market. It can be concluded that Turk Telekom acquired a substantial share in the mobile market via brand stretching.

The vertical integration between the fixed line brand of Turk Telekom and mobile brand of Avea and TTNNet in the isp market also arises questions of antitrust. At 2014 a case was filed against Turk Telekom to Competition Board claiming that Turk Telekom vertically integrated in the 3 markets and established a new organization scheme accordingly by the competitor firms. But this case was rejected by the Competition Board.

6. COMPETITION IN FIXED LINE SERVICES

Mobile call traffic has increased over years while fixed line traffic decreased. There is a substitution from fixed line communication to mobile communication. At 2015 mobile traffic accounted for 95 percent of total calls. At 2009 this rate was 81 percent. In Turkey fixed line penetration rate decreased over years. At 2004 penetration rate was 27 percent and this rate fell to 24.5 at 2008, 22.3 percent penetration rate at 2010 fell to 14.1 at 2016.

According to fixed line revenues Turk Telekom as of 2016 has a market share of 89 percent while alternative fixed line service providers have 11 percent. Though figure 1 points to a concentrated fixed line market this may be misleading because of the change in the source of revenues.



According to the number of subscribers in fixed line market TNet has a 55 percent market share where the following 8 service providers with highest market share has 39 percent as of 2016.

The dispersion between can be explained with Turk Telekom's source of revenues. Turk Telekom in 2009 61.4 percent of revenues came from PSTN and 24.3 from connection services. 2015 this rates changed to 34.8 percent from PSTN and 47.9 percent from connection services.

7. INTERNATIONAL, LONG DISTANCE AND LOCAL CALLS

Turk Telekom until 2003 was the only provider of fixed line services. At 2003 licenses for international and long distance calls were at 2009 licenses for local calls were given. Today local fixed line market is the least competitive market due to late liberalization. As of 2016 local calls initiated from Turk Telekom accounts to 83.6 percent of total calls whereas this rate is 16.4 for alternative fixed line service providers. Competition was introduced to international and long distance markets before local call market at 2003 and this allowed some time for competition in these markets to develop. Long distance calls initiated from Turk Telekom account to 52.5 percent while alternative providers this rate is 47.5. Long distance calls initiated from Turk Telekom used to be 92 percent in 2007. International calls initiated by Turk Telekom subscribers account to 57.6 percent while this rate is 42.4 percent for alternative service providers. International calls initiated from Turk Telekom used to be 84 percent in 2007.

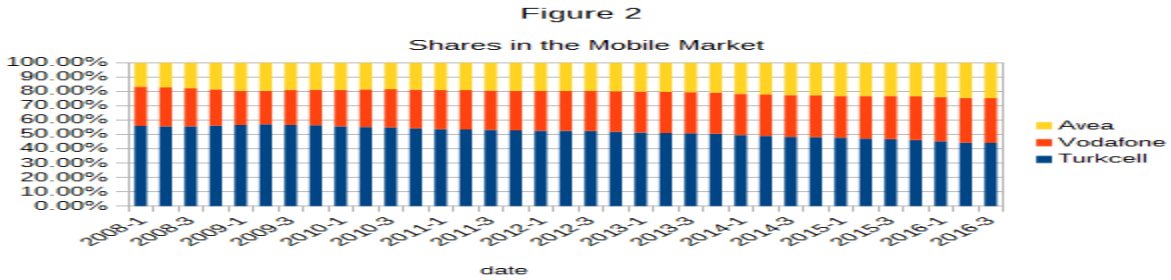
8. COMPETITION IN MOBILE COMMUNICATIONS SERVICES

Mobile communication is one of the leading means of communication in Turkey. As of 2016 Turkish average monthly usage of mobile services is 436 minutes per month which is far above EU average of 257 minutes.

As of 2016 mobile penetration rate is realized as 94.6 percent. When we exclude ages 0-9 the rate is 107. It used to be 111.2 in 2008. And at 2004 it used to be 49 percent. The decrease may be due to subscribers cancelling their second mobile line because call rates between mobile service providers -interconnection rates- declined.

In the beginning Aria and Aycell were not able to capture enough market share. It may be because they did not complete roaming agreements with Turkcell and Telsim (Evcı et. al.,2004).

From 2008 until 2016 the share of Turkcell has steadily decreased whereas the market shares of Vodafone and Avea have increased. The entry of Turk Telekom into mobile communications market increased the competition in the market. While the market used to be a duopoly with Turkcell steadily increasing its market share now market is divided somehow equally among the three companies. As of 2016 Turkcell has a market share of 44 percent Vodafone 31.3 percent and Avea 24.7 percent. This rate used to be 56 percent for Turkcell 27 percent for Vodafone and 17 percent for Avea.



If Turk Telekom extend its market power to mobile industry to capture its present share is a question.

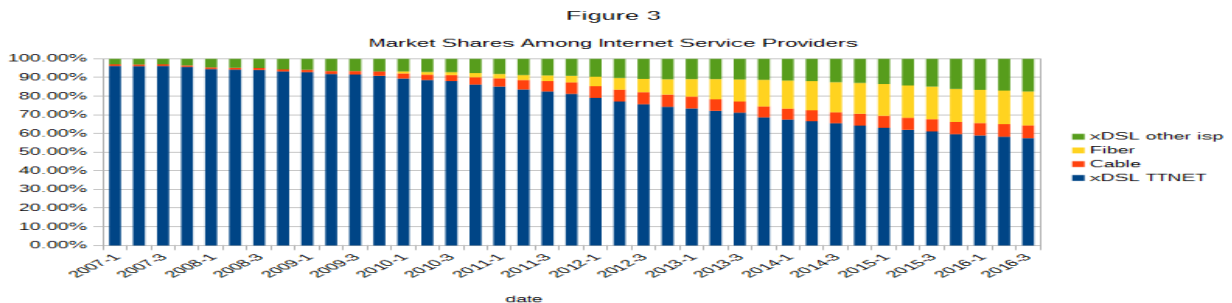
9. COMPETITION AMONG INTERNET SERVICE PROVIDERS

Internet penetration rate increased from 7.6 percent in 2008 to 75.1 percent in 2016. 82.1 percent of internet users have mobile internet connections and 17.9 percent connect through fixed line -xDSL fiber or cable internet.-

As of 2009 in EU privatized isp's share was 46 percent whereas in Turkey it was 93 percent.

In Turkey broadband penetration rate at 2009 used to be 8.5 percent whereas EU average was 22.9 percent. Taking into account the number of households the penetration rate becomes 37 percent for Turkey and 55 percent EU average.

After the internet market opened to competition Turk Telekom's xDSL internet ports were opened up to alternative service providers and isps began to buy xDSL as wholesale from Turk Telekom and resale it to public. The share of TTNNet xDSL service decreased steadily from 2008 to 2016. The decrease in TTNNet could partially be explained by the increase in competitors share. The remaining part is due to the increase in demand for Cable Internet and Fiber Optic provision. The trend is towards a more competitive market. As of 2016 TTNNet xDSL service has 57.1 percent of the market where alternative xDSL providers have 17.4 of the market share. 6.8 percent of internet service is provided by cable internet service providers and 18 percent by fiber internet providers. The share of TTNNet in the xDSL market is 76.6 whereas alternative providers have a share of 23.4 when fiber and cable services are excluded. TTNets share in the xDSL market used to be 96.2 percent in 2007 and alternative service providers share used to be 2.9 But if the current level of competitiveness is enough or not is a question to be asked.



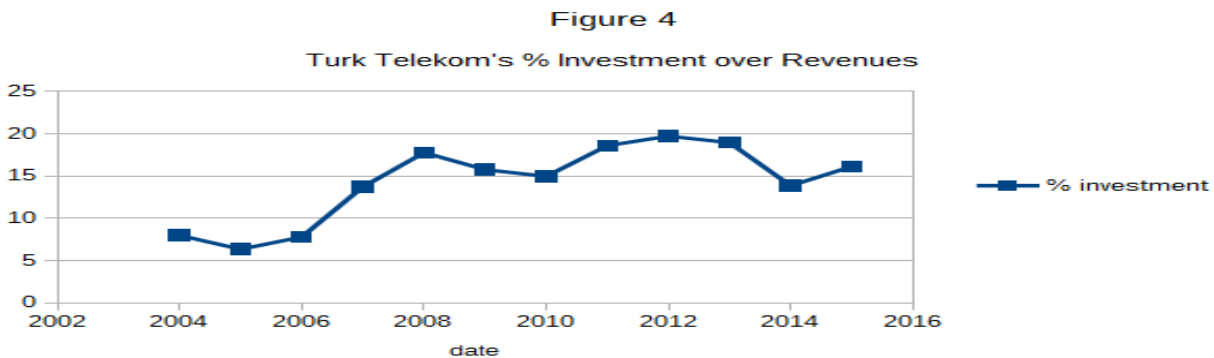
In terms of competition in fiber provision, Turk Telekom has a fiber network of 222.727km whereas alternative service providers have network of 61317 km length. The total length of network used to be 9216 km in 2008.

Compared to EU averages Turkish penetration rate lags behind for xDSL cable and fiber internet. While the EU average penetration rate for xDSL 13.3 for cable internet 9.3 and for fiber it is 5.6. For Turkey penetration rates are 9.6 for xDSL, 0.9 for cable and 2.3 for fiber.

10. REGULATION AND INVESTMENT IN THE INFRASTRUCTURE

Telecommunications sector is regulated by regulatory body either determining the fees the entrant firms get access to incumbent firm's infrastructure or restricting the prices of the incumbent. Types of the former case include long run incremental cost regulation and fully distributed costs and latter includes price cap regulation and yardstick regulation(Kwoka, 2009). Regulation by ICTA includes price cap regulation where the incumbent firm(or the firm with substantial market power) should prove that he has based its prices on its costs. Whereas in the Turkish case the incumbent firm can charge any interconnection fee to the entrant except the case where ICTA imposes the incumbent to base its connection fees on its costs.

The monopoly position of Turk Telekom had its impact on prices, quality of service and investment in infrastructure. At 2001 investment percentage of Turk Telekom to infrastructure was 11.9 where it was 23 percent in the EU. Regarding the pricing of the service Turkish customers paid higher prices than the EU average according to 2002 data and the quality of the service was worse (Akdemir et. al.,2003).



At 2009 the ratio of investment over revenues of privatized service provider was higher for Turkey with 17.8 compared to the EU average of 13.5. As can be seen from figure 4, Turk Telekom's investment to infrastructure also increased by time.

CONCLUSION

Similar to utilities like electricity service, in the telecommunications sector privatizations were practiced worldwide. Similar to EU, Turkey also practiced privatization without liberalization. The foundation of ICTA was an important step in this process. Even after privatization fixed line penetration rate in Turkey did not increase due to substitution to mobile communications from fixed line. Through the mobile internet connections, increasing penetration rate in the mobile market also increased the internet penetration rate substantially. Also, competitiveness in the fixed line market stayed behind. The fixed line and mobile markets seemed to be

concentrated due to network effects, but lately competitiveness level seems to be increasing. In the mobile market, the three firms are sharing the market after Türk Telekom extended its market power in the fixed line market through capturing the Avea brand.

The change in the source of revenues of Türk Telekom in the fixed line market points to increasing competition. The least competitive market among the fixed line market is the one which is liberalized the latest, that is the local call market. Today, though Türk Telekom is ahead of other telecommunications operators, it is debatable if it will continue to be the biggest firm in the sector.

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