ELECTRONIC COMMUNICATIONS MARKET IN TURKEY

Quarterly Market Data Report

2011 1st Quarter

January-February-March

Sectoral Research and Strategies Department

Information Technologies and Communication Authority (ICTA)

May 2011, Ankara, Turkey

İÇİNDEKİLER

FIGURES

TABLES

1 Overall Market Data

This report has been prepared by taking into account the data submitted by operators providing services in Turkish electronic communications market. Data related to first quarter of 2011 (January, February and March) have been examined by comparing the data of previous periods.

1.1 Number of Operators Based on Service and Authorization Types

As of May 18, 2011 the number of authorizations given to operators in electronic communications market is 489. Table 1-1 shows the distribution of authorized operators according to service and authorization types.

Table 1-1 Number of Operators based on Service and Authorization Types

Authorization Type	Services	Number of Operators
Authorization Agreement	Satellite and Cable TV Services	1
Concession Agreement	GSM Services	3
	IMT-2000/UMTS Services	3
	Various Telecommunication Services	1
Authorized by Notification	Satellite Telecommunication Services	21
	Satellite Platform Services	3
	Infrastructure Operation Services	67
	Internet Service Providers	128
	Fixed Telephony Services	107
	Cable TV Services	13
	GMPCS Mobile Telephony Services	4
	Mobile Virtual Network Operator Services	30
Authorized by Rights of Use	GMPCS Mobile Telephony Services	2
	PMR/PAMR Services	62
	Infrastructure Operation Services	7
	Fixed Telephony Services	24
	Directory Information Services	12
	Mobile Virtual Network Operator Services	1
TOTAL		**489**

1.2 Operator Revenues and Profits

There is a continuous increase in total telecommunications services revenue. This increase especially is seen in mobile sector. In Table 1-2, net sales of Turk Telekom and mobile operators have been given. In 2010, total net sales of these operators have reached to approximately 21.2 billion TL, which represents 2.23% increase as compared to 2009.

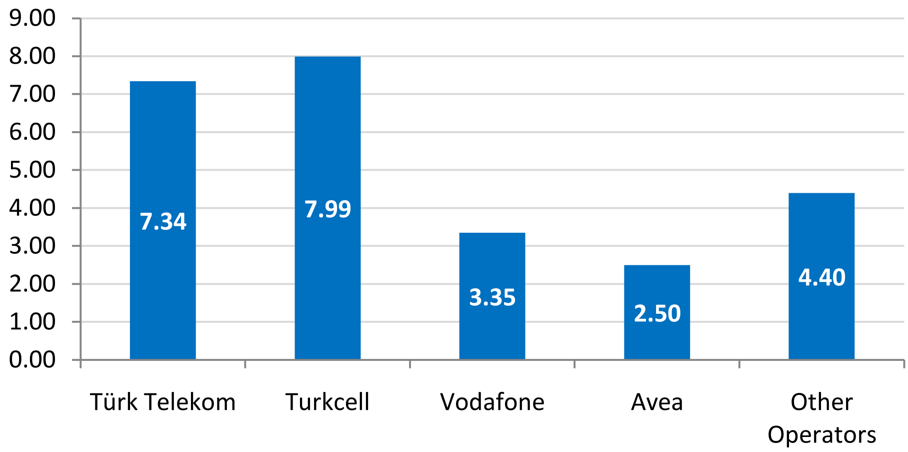
Table 1-2 Annual Net Sales of Türk Telekom and Mobile Operators

Net sales (TL)	2006	2007	2008	2009	2010
T.Telekom	7,103,207,243	7,524,286,818	7,734,891,747	7,700,260,858	7,340,362,030
Turkcell	6,417,661,108	7,483,035,848	7,875,874,606	8,025,025,237	7,991,150,227
Vodafone	1,380,263,980	2,614,000,000	2,778,218,000	2,584,989,000	3,349,822,000
Avea	1,239,577,125	1,655,490,115	1,973,025,289	2,406,805,292	2,497,421,759
TOTAL	**16,140,709,456**	**19,276,812,781**	**20,362,009,642**	**20,717,080,387**	**21,178,756,016**

*****The table is prepared based on the annual income statements of operators.

Figure 1-1 gives the distribution of total telecommunications services as of the end of 2010. Total net sales of operators other than Türk Telekom and mobile operators have been realized as 4.4 billion TL. In Figure 1-2, the percentage distribution of net sales is given. In 2010, Turkcell has taken 31.24%, Türk Telekom has taken 28.70%, Vodafone has taken 13.10% and the other operators have taken 17.20% of total telecommunication services revenue.

Figure 1-1 Distribution of Total Sales, 2010, Billion TL



*The Figure is prepared based on the annual income statements of operators.

Figure 1-2 Share of Operators in Total Sales, %

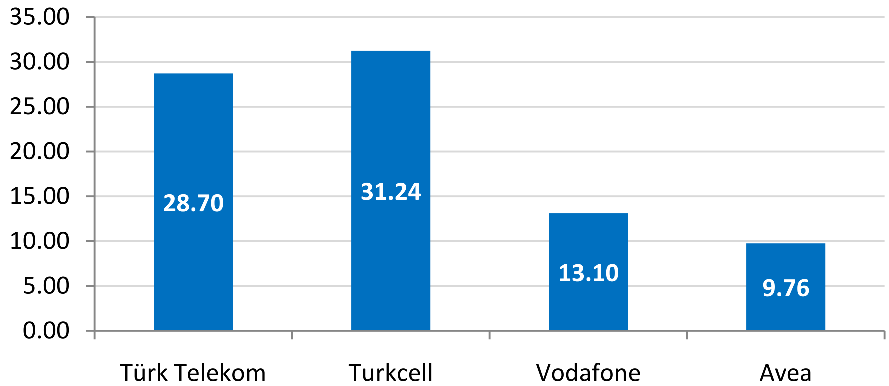


Table 1-3 gives the net sales of Türk Telekom and mobile operators for the first quarter of 2011. For this period, total net sale of Türk Telekom and mobile operators is approximately 5.4 billion TL.

Table 1-3 Net Sales of Türk Telekom and Mobile Operators, 2011 Q1

Net sales (TL)	2011 Q1
T.Telekom	1,847,782,224
Turkcell	1,839,762,745
Vodafone	947,287,000
Avea	702,832,512
TOTAL	**5,337,664,481**

Table 1-4 shows revenue figures of alternative operators as of the first quarter of 2011. For the operators which have authorizations more than one and which are not able to give the revenue for each service, the revenue figure is given in their main operating areas. Other operators' revenue is 1.1 billion TL in the first quarter of 2011, and total telecommunication services revenue for this period has reached to 6.4 billion TL.

Table 1-4 Revenues of Other Operators, 2011 Q1, TL

Operator Type	Income
Internet Service Providers	754,223,296
Fixed Telephony	94,533,735
Infrastructure	112,844,109
Satellite Platform	29,572,111
Satellite Telecommunication	34,284,631
Directory Information	19,536,410
Cable TV	28,651,254
GMPCS	3,589,657
PMR/PMAR	1,529,389
TOTAL	1,078,764,592

Table 1-5 shows the net profits of Türk Telekom and mobile operators from 2006 to 2010. The total net profit of Türk Telekom and mobile operators in 2010 is 3.91 billion TL. Total net profit of the sector has reached to approximately 3.98 billion TL

Table 1-5 Net Profit

Net Profit (TL)	2006	2007	2008	2009	2010
T.Telekom	2,977,494,813	3,158,384,702	2,610,791,956	2,746,613,306	2,956,000,797
Turkcell	1,857,157,839	1,901,863,845	2,777,908,000	2,237,697,000	2,154,605,000
Vodafone	-371,613,230	-559,548,560	-582,206,309	-1,397,657,291	-239,277,770
Avea	-732,172,622	-51,644,380	-514,343,382	-1,240,086,183	-962,938,607
TOTAL	**3,730,866,800**	**4,449,055,607**	**4,292,150,265**	**2,346,566,832**	**3,908,389,420**

* The Table is prepared based on the annual income statements of operators.

1.3 Operator Investments

Table 1-6 shows the annual investment figures of Türk Telekom and mobile operators from 2006 to 2010 and Table 1-7 shows investment figures in the first quarter of 2011. Türk Telekom's investment decreased by 9.51% in 2010 compared to previous year. In 2010 there is a decrease also in mobile operators' investments. Turkcell's investment decreases by 57.25%, Vodafone's investments decreased by 32.99% and Avea's investment decreased by 30.61% in 2010 compared to 2009.

Table 1-6 Total Annual Investment

Investment (TL)	2006	2007	2008	2009	2010
T.Telekom	554,475,627	1,033,192,969	1,375,310,179	1,214,950,018	1,099,376,770
Turkcell	812,968,000	904,261,000	587,380,000	1,823,087,000	779,323,342
Vodafone	502,452,516	380,979,959	446,725,928	1,556,997,971	1,043,320,000
Avea	593,302,533	160,257,254	958,236,891	1,208,795,929	838,780,574
TOTAL	**2,463,198,676**	**2,478,691,182**	**3,367,652,998**	**5,803,830,918**	**3,760,800,686**

Table 1-7 shows the quarterly investment figures for Türk Telekom and mobile operators. The total investment of Türk Telekom and mobile operators is about 746 million TL for this period.

Table 1-7 Total Quarterly Investment

Investment (TL)	2011-1
T.Telekom	112,541,139
Turkcell	94,361,622
Vodafone	359,089,000
Avea	179,769,169
TOTAL	**745,760,930**

Table 1-8 shows investment amount of other operators for the first quarter of 2011. Other operators realize 999 million TL investments in this period. Investment/Revenue ratio of other operators is 92.6% for this quarter.

Table 1-8 Investments of Other Operators, TL

	2011-1
Other Operators	999,052,277

Table 1-9 gives some financial indicators[1] of Türk Telekom and mobile operators for the first quarter of 2011. In the first quarter, EBITDA margin is positive for all operators.

Table 1-9 Financial Indicators of Türk Telekom and Mobile Operators, 2011 Q1

	Türk Telekom	Avea	Vodafone	Turkcell
EBITDA -% (earnings before interest, taxes, depreciation and amortization/operating revenue)	53.5	9.91	10.15	29.35
EBIT -% (earnings before interest and taxes / operating revenue)	42.7	-12.93	-5.35	19.58

* The values are in conforming to standards of Capital Markets Board of Turkey. On request of Vodafone, the values for EBITDA will be published biannually since Vodafone International publishes those indicators biannually. The value for ROCE will be published annually.

1.4 Total Traffic

Figure 1-3 and Figure 1-4 show the total volume of traffic generated by fixed and mobile operators and the distribution of this traffic respectively. From 2004 to 2007 the total traffic volume has a steady trend, and then from 2008 it is begin to increase. On the other hand, in these years while mobile traffic is increasing, the fixed traffic is decreasing. In 2010, total traffic volume

[1] Return on Capital Employed (ROCE) is a measure of the returns that an operator realizes from the capital it uses. The ratio can represents the efficiency with which capital is being used to produce revenue. ROCE is used both to compare the performance of different businesses and to assess whether a business generates sufficient returns to pay for its cost of capital. EBITDA measures the core income that a company earns before it covers its debt payments and pays its income taxes. EBITDA can provide a more accurate cash flow picture in industries where substantial non-cash depreciation and amortization expenses might otherwise distort earnings. Earnings before interest and taxes (EBIT), also known as operating income and operating profit, is a term used to describe a company's earnings. To calculate EBIT, basic expenses (e.g., the cost of goods sold, selling and administrative expenses) are subtracted from revenues. Profit is later obtained by subtracting interest and taxes from the result. (Cullen International, 2007, Supply of Services in Monitoring of South East Europe – Telecommunications Services Sector and Related Aspects.)

exceeds 149.4 billion minutes by increasing 12.9% as compared to previous year. Mobile traffic accounts for approximately 84% of total traffic.

Figure 1-3 Annual Call Traffic Volume, Billion Minutes

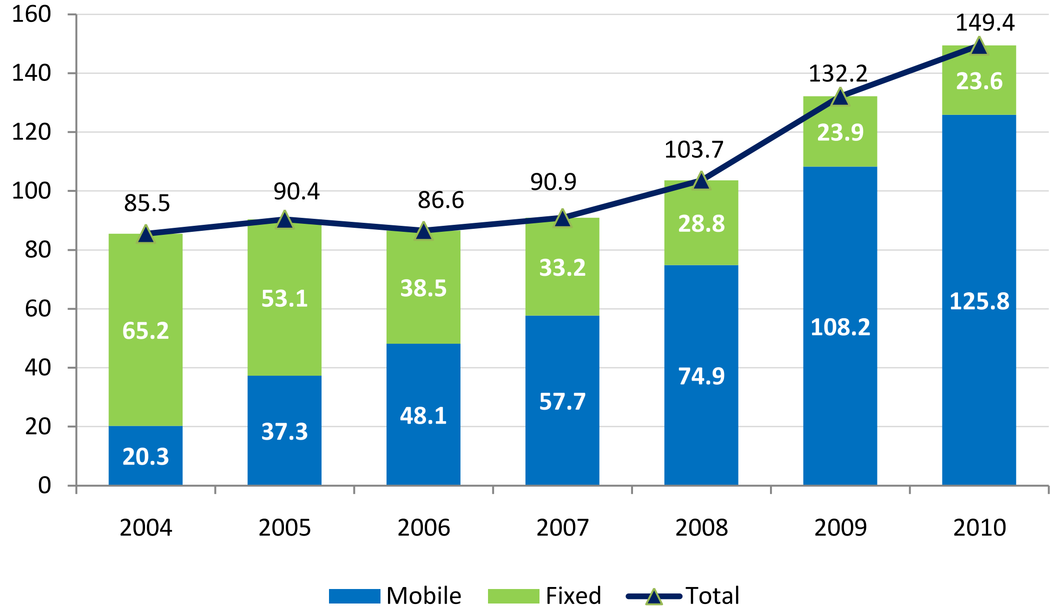
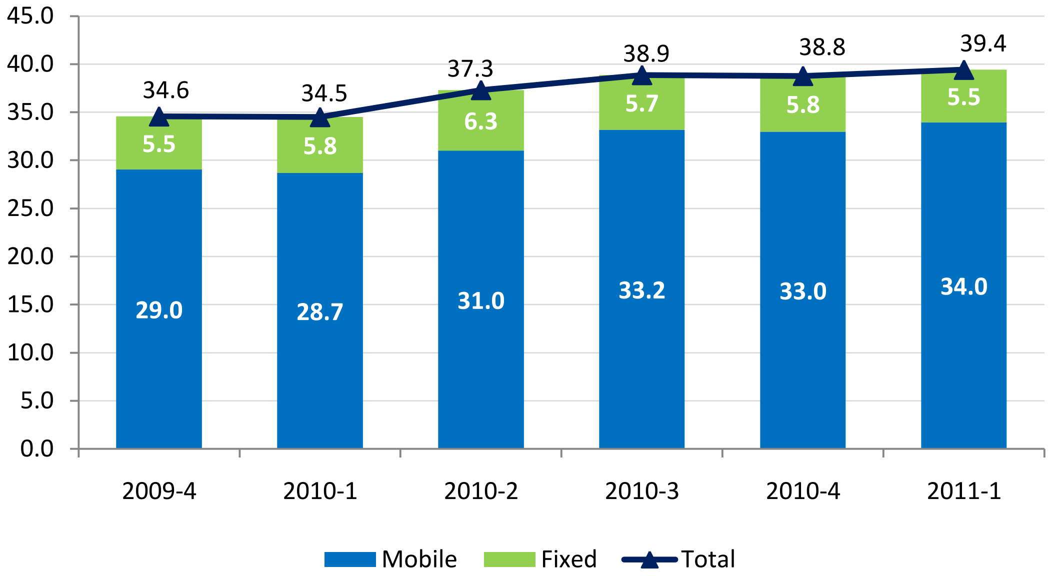


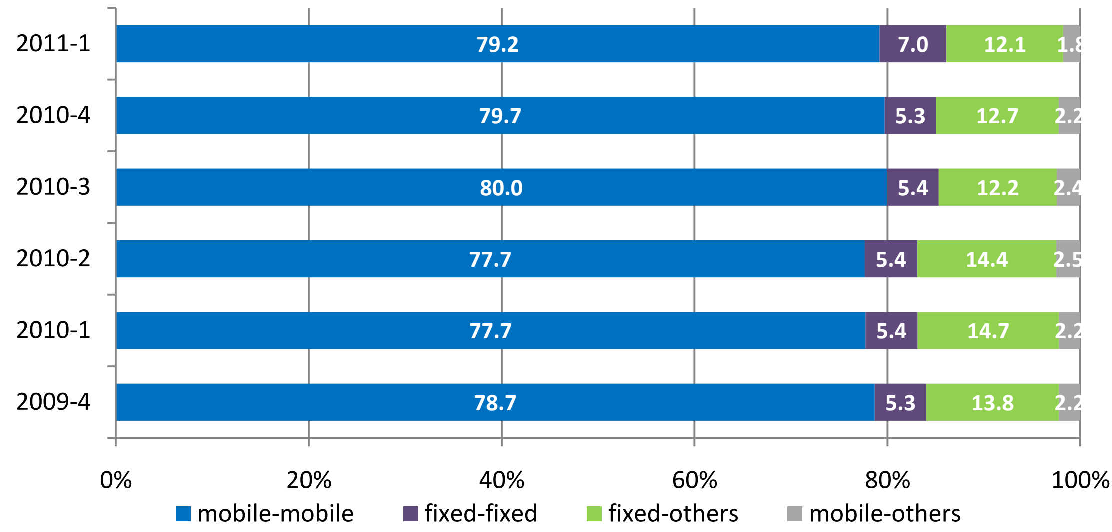
Figure 1-4 demonstrates quarterly fixed and mobile traffic volumes from the end of 2009. In the first quarter of 2011, mobile traffic volume is 33.95 billion minutes and fixed traffic volume is 5.47 billion minutes. As compared to previous quarter, mobile traffic volume increases by 2.94% and fixed call traffic volume decreases by 5.69%. While the total traffic volume is 38.78 billion minutes in the last quarter of 2010, it is 39.42 billion minutes in the first quarter of 2011.

Figure 1-4 Quarterly Traffic Volumes, Billion Minutes



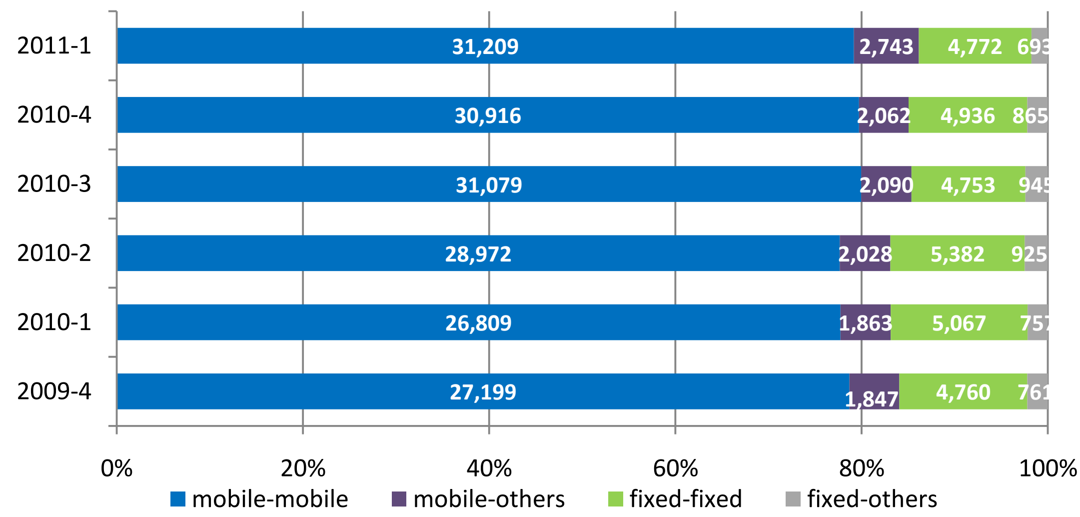
In Figure 1-5 and Figure 1-6, the quarterly distribution of total traffic generated by fixed and mobile operators in Turkey according to the direction of traffic has been given. As seen in Figure 1-5, the biggest part of traffic (79.2%) is mobile to mobile outgoing traffic. This traffic consists of calls in the own networks of the mobile operators and calls to other mobile operators. When total traffic volume is compared quarterly, it is seen that while mobile to mobile traffic decreases in the first quarter of 2011 as compared to previous quarter, the share of mobile to other operators increases.

Figure 1-5 Traffic Distribution, %



In the first quarter of 2011, while mobile to mobile traffic volume increases by 16.41% as compared to the same quarter of previous year, fixed to fixed traffic volume decreases approximately by 5.82%. When it is compared to previous quarter, mobile to mobile traffic volume increases by 0.95% and fixed to fixed traffic volume decreases by 3.3%.

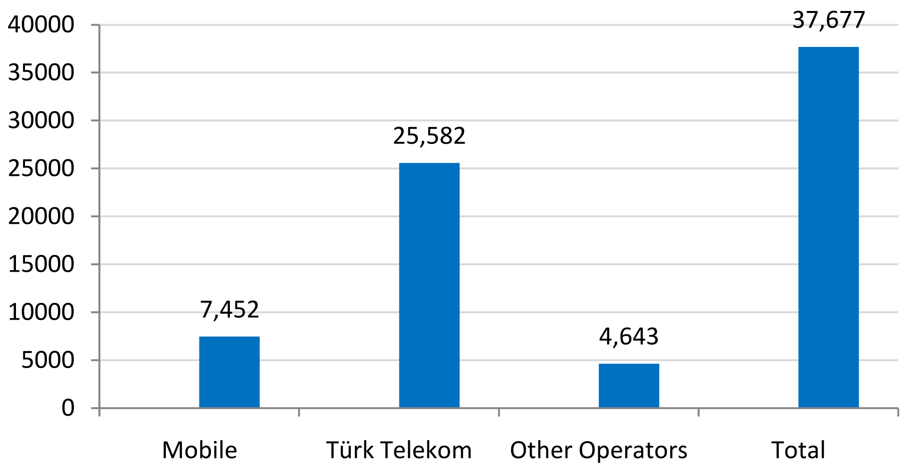
Figure 1-6 Traffic Distribution, Million Minutes



1.5 Employment

Figure 1-7 shows employment numbers of Türk Telekom, mobile operators and alternative operators as of the first quarter of 2011. There are 25,582 employees in Türk Telekom, 7452 in mobile operators and 4643 in other operators.

Figure 1-7 Employment, 2011 Q1



Distribution of employment by operator type is given in Figure 1-8. 67.90% of total sector employees are working in Türk Telekom, 19.78% in mobile sector and 12.32% in other service areas.

Figure 1-8 Distribution of Employment, 2011 Q1, %

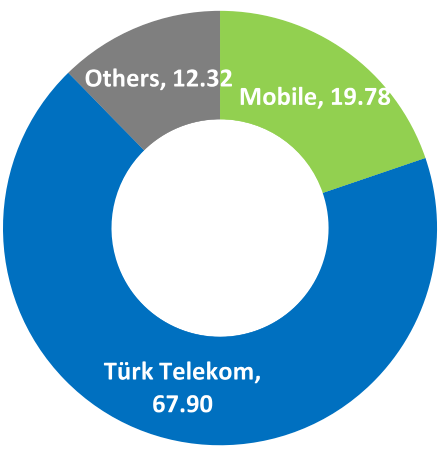


Figure 1-9 shows the educational breakdown of employment as of the first quarter of 2011. The highest portion of employees have bachelor's degree (31.9%) and the second highest portion have high school degree.

Figure 1-9 Educational Breakdown of Employment, 2011 Q1

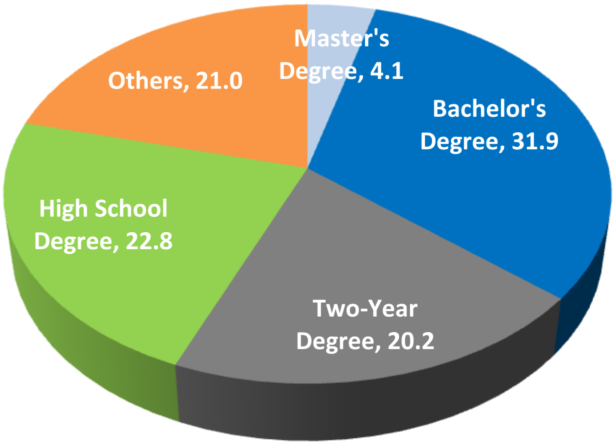
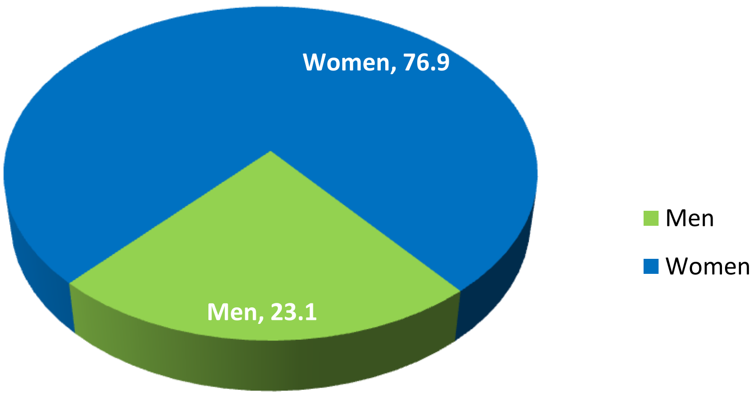


Figure 1-10 shows the breakdown of the employees according to gender. As of the first quarter of 2011, 76.9% of employees are men and 23.1% of employees are women.

Figure 1-10 Gender Breakdown of Employment, 2011 Q1

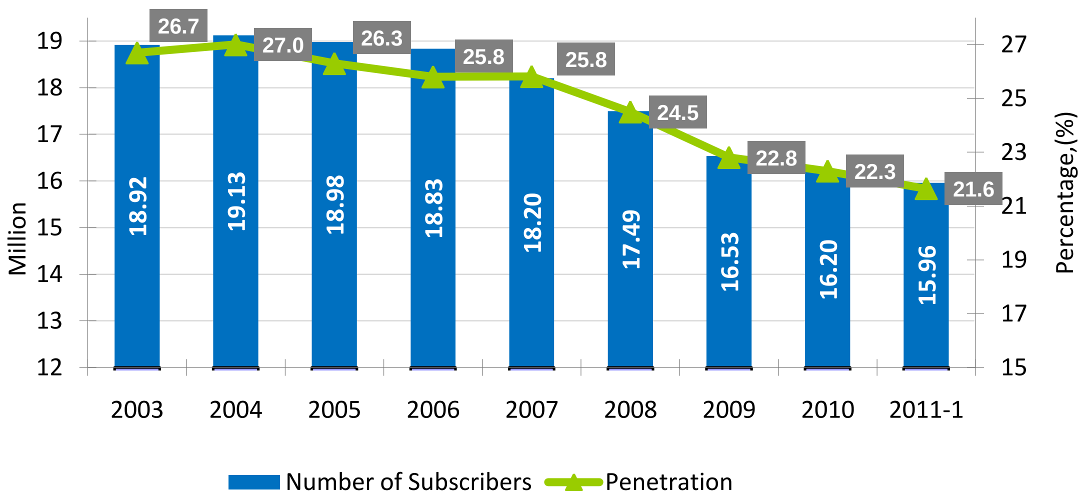


2 Fixed Market Data

2.1 Number of Subscribers

Fixed telephony penetration has a decreasing trend due to the increasing mobile telephony usage. As of the end of March 2011, there are 15.96 million fixed telephony subscribers and penetration level is 21.6% (Figure 2-1). On the other hand, considering the fact that average household size is around 3.97 in Turkey, it can be concluded that fixed line services reach to significant proportion of Turkish citizens.

Figure 2-1 Fixed-Line Subscribers and Penetration



The number of users of alternative fixed telephony service providers (FTSP) is given in Table 2-1. In the first quarter of 2011, the number of call by call type users is 557,424 and the number of pre-selection type users is 178,339. The number of users calling with these operators by using other methods is 265,911.

Table 2-1 Number of Users of FTS Providers, 2011 Q1

Method	Number of Users
Pre-selection	178,339
Call by call	557,424
Other access methods	265,911
TOTAL	**1,001,674**

Table 2-2 gives the market shares of alternative FTS providers according to total number of users. Millenicom is the first, Turknet, Superonline, Koçnet and Vodafone Alternatif follows it.

Table 2-2 Market Shares of FTS Operators according to Number of Users, 2011 Q1

Alternative Operators	Market Share (%)
Millenicom Telekomünikasyon	43.80
Turknet İletişim	22.84
Tellcom (Superonline)	16.95
Koç.Net	14.37
Borusan (Vodafone Alternatif)	0.86
Mega Uluslararası	0.35
Gisad Telekom	0.31
TTNet	0.16
Doğan İletişim	0.09
Fırat Telekom	0.08
Others	0.20

FTS providers are also giving call services to users with pre-paid cards. In the first quarter of 2011, total pre-paid cards sold is 3,238,215 and the market shares of FTS providers according to the total number of cards sold is given in Table 2-3.

Table 2-3 Market Shares of FTS Providers according to Number of Pre-Paid Cards sold, 2011 Q1

Alternative Operator	Market Share (%)
Koç.Net	27.48
Mega Uluslararası	17.40
Millenicom Telekomünikasyon	16.22
Global İletişim	14.69
İkon İletişim	13.01
İpc Telekom	10.87
Others	0.33

2.2 Revenues in Fixed Market

Figure 2-2 shows the distribution of annual revenues of Türk Telekom in fixed market. While the share of PSTN revenues in 2005 composes of 80.1% of total revenues, its share decreases to 60.5% in 2010. Access revenues are 6.7% of total revenues in 2005, its share increases to 27.1% in 2010. The share of leased line revenues is 6.9% of total fixed revenues in 2010 while the share of other revenues including interconnection, local loop unbundling, international settlement and telex-teletex revenues is 5.5% of total fixed revenues.

Figure 2-2 Breakdown of Annual Fixed Revenues, %

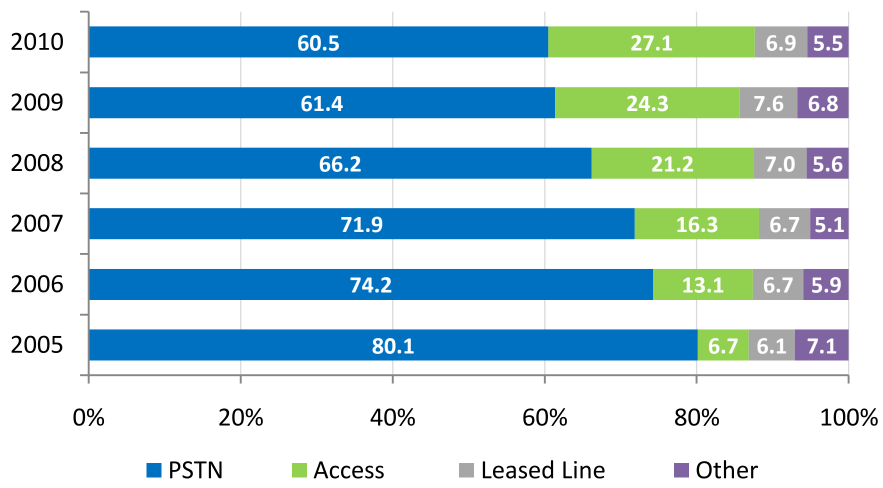
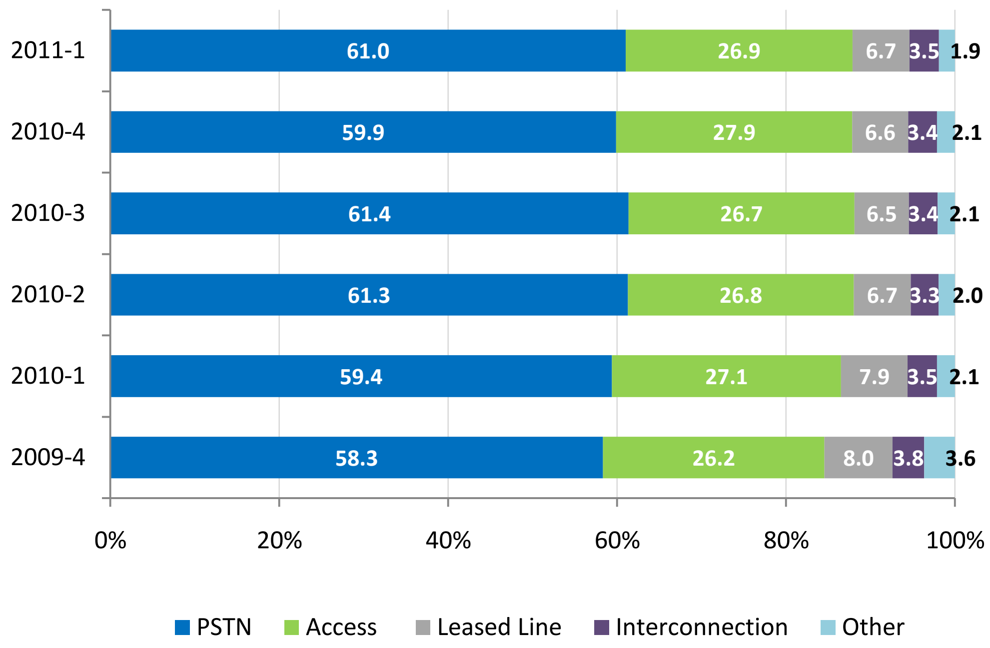


Figure 2-3 gives quarterly breakdown of fixed revenues from the last quarter of 2009. PSTN revenues consisting of 59.4% of total revenues in the same quarter of previous year constitute 61% in the first quarter of 2011. Access revenues -the other important item- constitute 27.1% in the first quarter of 2010 and 26.9% in the first quarter of 2011. Leased line revenues are 6.7% of total revenues and interconnection revenues are 3.5% in the first quarter of 2011.

Figure 2-3 Breakdown of Quarterly Fixed Revenues, %



2.3 Fixed Call Revenues

In the first quarter of 2011, fixed call revenues are (gross) 1344 billion TL and increase 14.2% as compared to the same period of previous year and increase 2.9% as compared to previous period. (Figure 2-5)

Figure 2-4 Fixed Call Revenues, Million TL

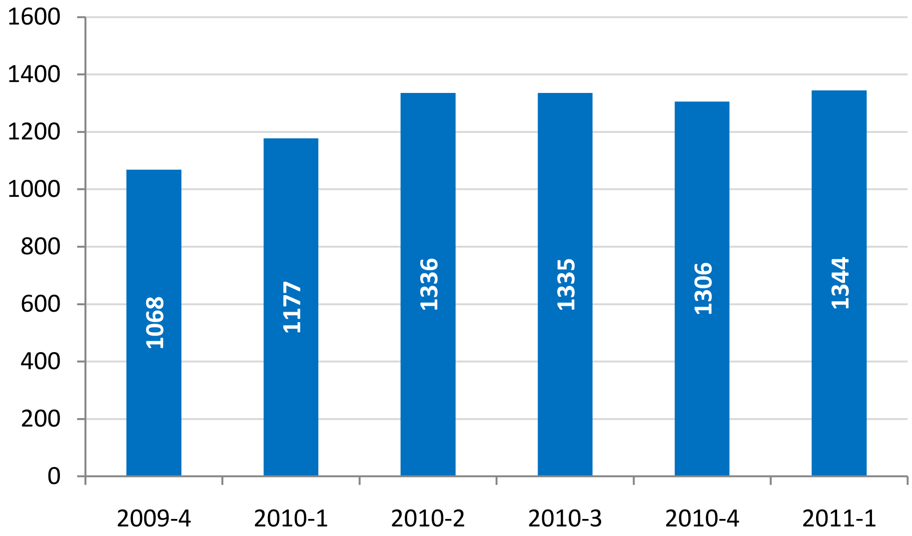


Table 2-4 shows total revenues and total number of users of FTS providers as of the first quarter of 2011. About 1 million users make their calls by using alternative FTS operators and quarterly revenues of these operators are 94.5 million TL.

Table 2-4 FTS Services, 2011 Q1

Number of Users	Number of Pre-Paid Cards Sold	Revenue, TL
1,001,674	3,238,215	94,533,735

Figure 2-5 shows the market shares by taking into account the total revenues of FTS providers and the related service revenues of Türk Telekom.[2] The share of FTS operators based on related service revenues is 14% in the first quarter of 2010 and 15% in the first quarter of 2011.

Figure 2-5 Market Shares based on Related Service Revenues, %

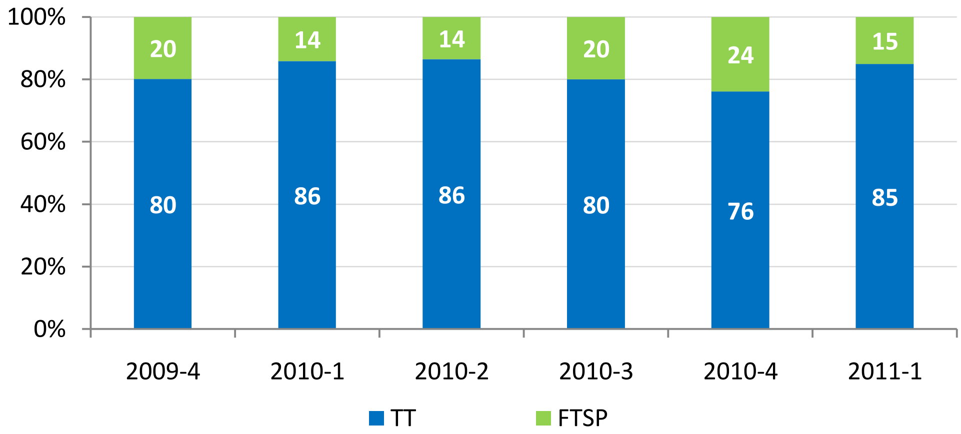


Figure 2-6 gives the market shares of FTS providers and Türk Telekom by taking into account total revenues of FTS providers and total telephony revenues of Türk Telekom.[3] According to these revenues, the share of FTS providers and Türk Telekom is 7% and 93% respectively in the first quarter of 2010. The market shares do not change in the first quarter of 2011.

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[2] Figure 2-5 is calculated by taking into account quarterly revenues of FTS providers and intercity, international and mobile call revenues of Turk Telekom for the same periods. Moreover, since local calls are also open to FTS providers, from the third quarter of 2009, the local revenues are added to the related revenues of Turk Telekom.

[3] It includes local, intercity, international and mobile call revenues and revenues generated from connection, transfer and fixed charges of Turk Telekom. On the other hand, until the first quarter of 2010, FTS providers which are giving services other than fixed telephony could not give the revenues by service type. From 2010, the fixed telephony service revenues of FTS operators can be acquired approximately.

Figure 2-6 Market Shares based on Telephony Services Revenues, %

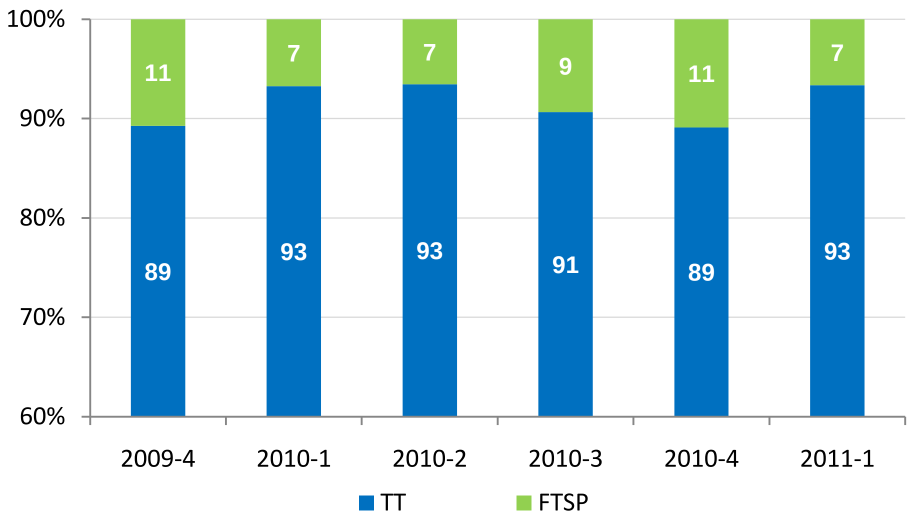


Table 2-5 gives some financial indicators of Türk Telekom. As of the first quarter of 2011, Türk Telekom's EBITDA and EBIT margins are 53.5% and 42.7% respectively.

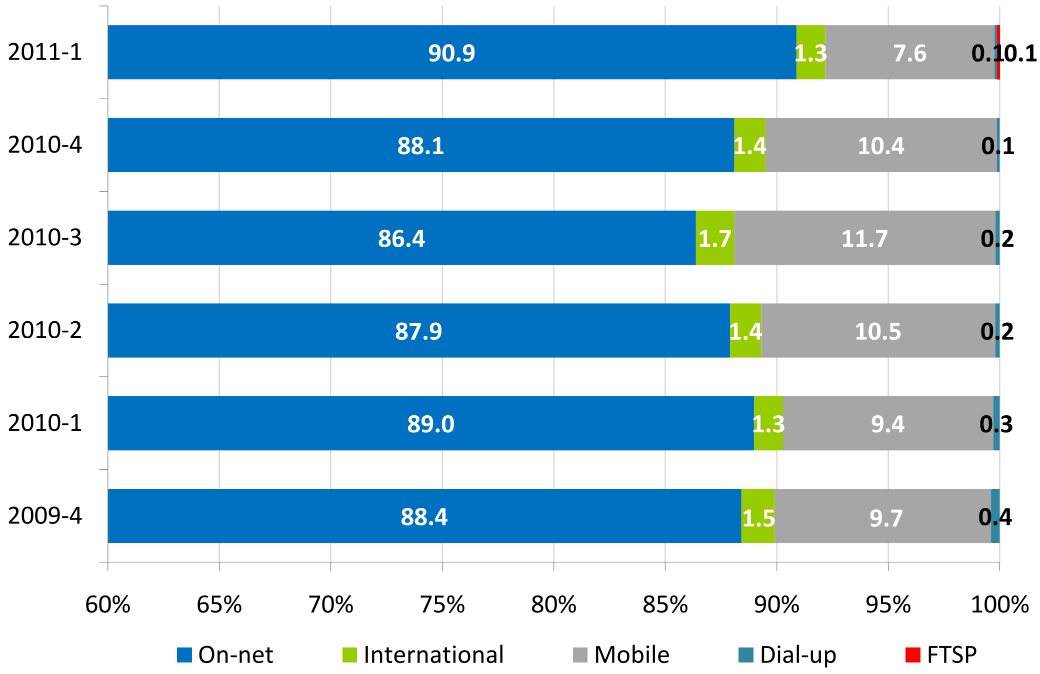
Table 2-5 Financial Indicators of Türk Telekom

	2011 Q1
EBITDA (%)	53.5
EBIT (%)	42.7

2.4 Traffic Volume in Fixed Market

Figure 2-7 and Table 2-6 give the volume and breakdown of fixed telephony traffic. Figure 2-7 shows that while on-net traffic is 89% of total traffic in the same period of previous year, it increases to 90.9% in the first quarter of 2011. On the other hand, the traffic to mobile network accounts for 10.4% for the previous quarter and accounts for 7.6% for the first quarter of 2011.

Figure 2-7 Breakdown of Türk Telekom's Traffic, %



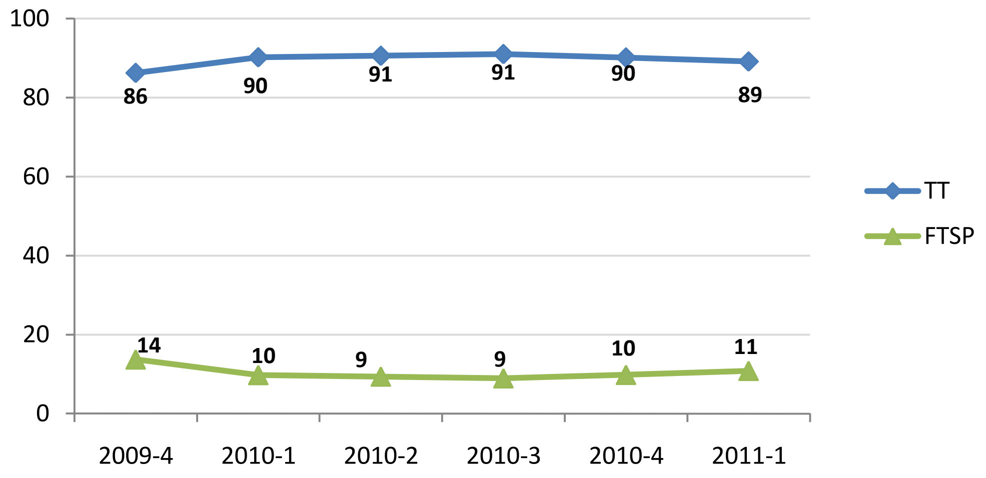
While voice traffic of Türk Telekom is 5.44 billion minutes in the first quarter of 2010, it decreases to 4.91 billion minutes by diminishing 9.72%. As it is compared to the last quarter of 2010, Türk Telekom's total traffic decreases by 6.37%.

Table 2-6 Breakdown of Türk Telekom's Traffic, Million Minutes

Breakdown of Traffic	2009-4	2010-1	2010-2	2010-3	2010-4	2011-1
On-net	4618	4841	5108	4478	4621	4463
International	79	70	81	89	73	64
Mobile	507	513	610	608	544	373
Dial-up	20	16	12	10	7	6
FTS	-	-	-	-	-	6
Total	**5224**	**5440**	**5811**	**5185**	**5245**	**4911**

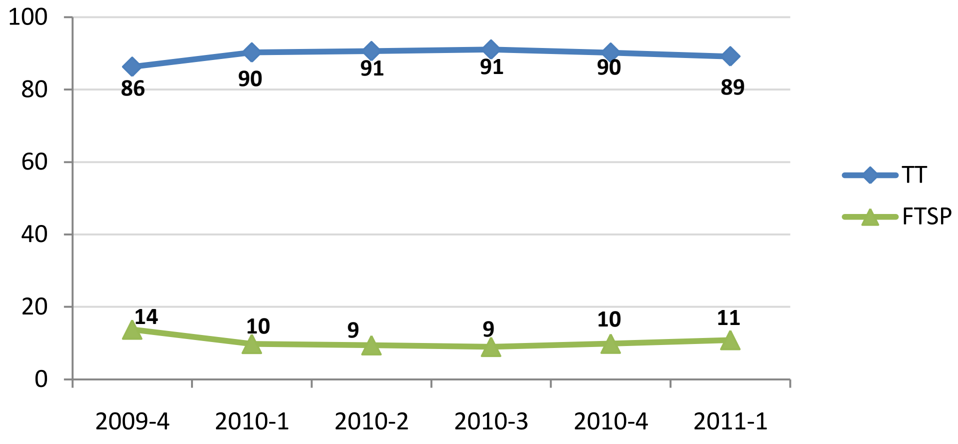
Trend in market shares of Türk Telekom and other fixed telephony operators based on local call traffics for 2010 and first quarter of 2011 is shown in Figure 2-8 below. Other fixed telephony operators have increased their market share in local calls from 4.9% in the last quarter of 2010 to 5.4% in the first quarter of 2011. Meanwhile, Türk Telekom's market share has fallen slightly from 95.1% to 94.6% during the same period.

Figure 2-8 Local Call Origination Traffic Market Shares, %



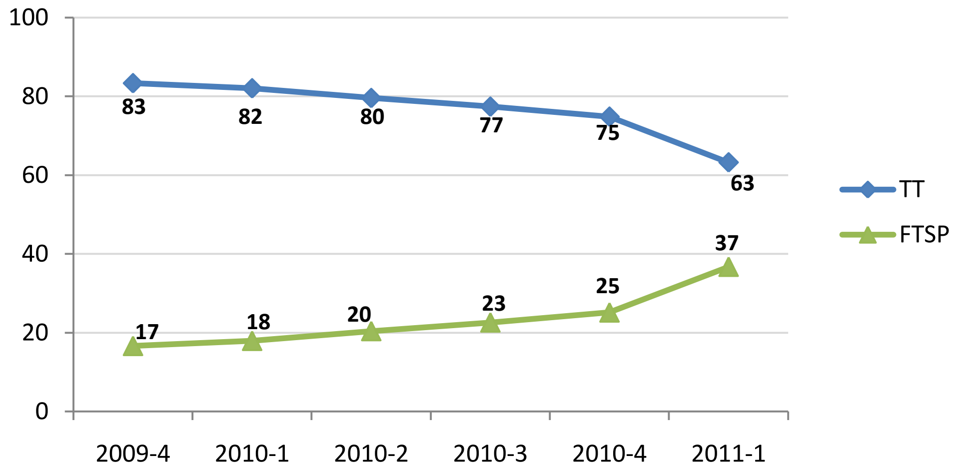
Market shares of Türk Telekom and other fixed telephony operators for intercity calls are compared in Figure 2-9. As of the first quarter of 2011, Türk Telekom's market share in intercity calls is 89% whereas other fixed telephony operators have 11% share.

Figure 2-9 Intercity Call Origination Traffic Market Shares, %



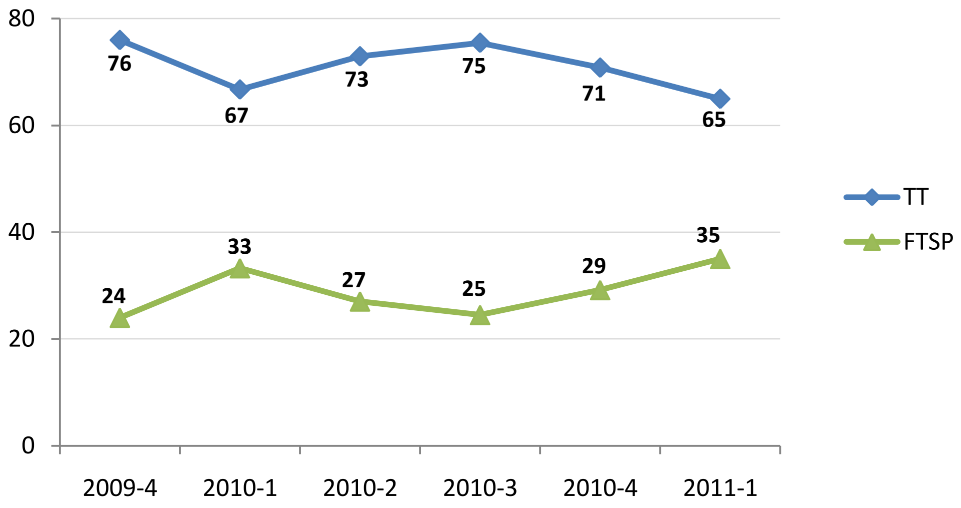
Market shares of Türk Telekom and other fixed telephony operators based on fixed-to-mobile (F2M) calls are compared in Figure 2-10. Türk Telekom's share in F2M calls has fallen from 82% in the first quarter of 2010 to 63% in the first quarter of 2011. Meanwhile other fixed telephony operators have increased their market share from 18% to 37% during the same period.

Figure 2-10 F2M Call Traffic Market Shares, %



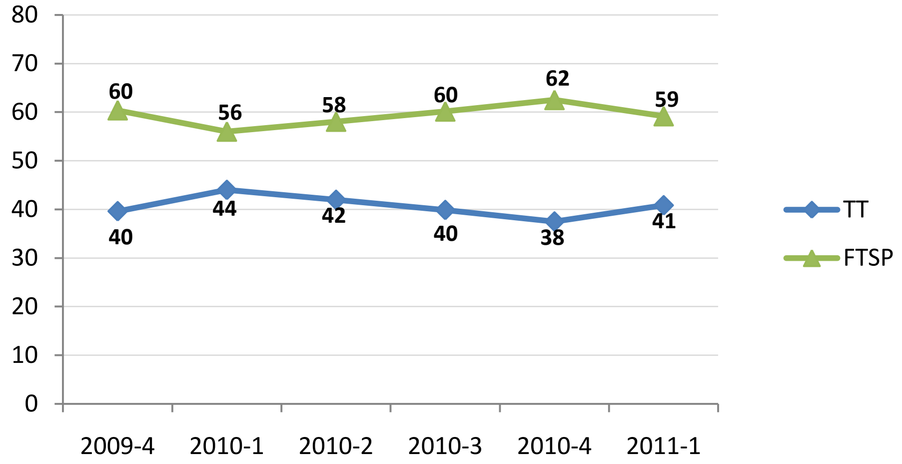
International outgoing call origination market shares of Türk Telekom and other fixed telephony operators are compared in Figure 2-11. Türk Telekom's 67% market share in the first quarter of 2010 has fallen to 65% as of the first quarter of 2011. Meanwhile, other fixed telephony operators' market share has grown from 33% to 35% during the same period.

Figure 2-11 International (Outgoing) Call Origination Market Shares, %



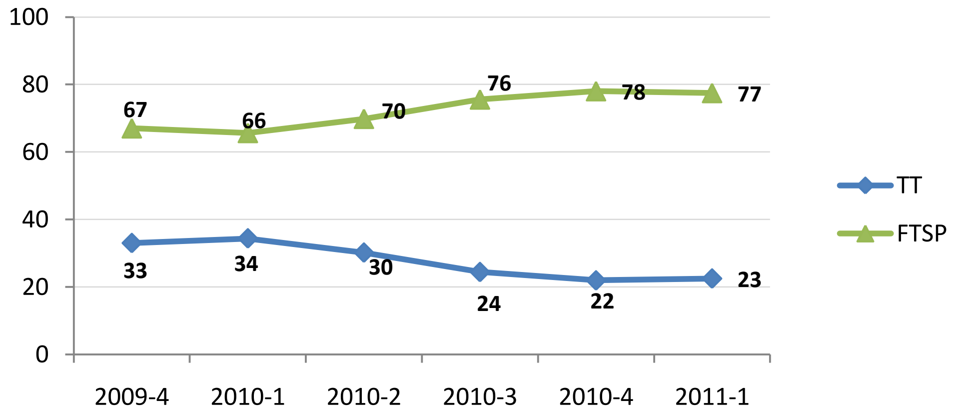
Market shares of Türk Telekom and other fixed telephony operators in international incoming calls terminated in fixed networks are compared in Figure 2-12. The figure shows that Türk Telekom's share in this sub-market has fallen from 44% in the first quarter of 2010 to 41% as of the first quarter of 2011. On the other hand alternative fixed telephony operators have increased their market share from 56% to 59% during the same period.

Figure 2-12 International Incoming Calls (terminated in fixed) Market Shares, %



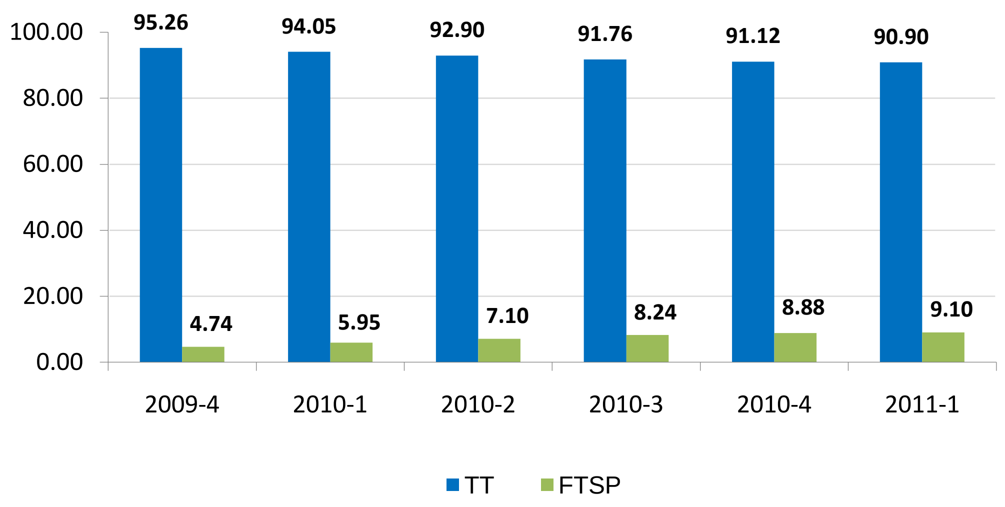
Market shares of Türk Telekom and other fixed telephony operators in international incoming calls terminated in mobile networks are compared in Figure 2-13. Türk Telekom's share in this sub-market has fallen from 34% in the first quarter of 2010 to 23% as of the first quarter of 2011. On the other hand alternative fixed telephony operators have increased their market share from 66% to 76% during the same period.

Figure 2-13 International Incoming Calls (terminated in mobile) Market Shares, %



Market shares of Türk Telekom and other fixed telephony operators for traffic originated from fixed networks are compared in Figure 2-14. The Figure shows that Türk Telekom's share in call origination market has decreased from 94.05% to 90.9% during the last 12 months. Meanwhile, alternative operators have increased their total share from 5.95% to 9.1% during the same period.

Figure 2-14 Call Origination Market Shares from Fixed Networks, %



2.5 Short Numbers

The most frequently called short numbers from fixed lines and average call durations for these numbers are listed in Table 2-7. The most frequently called number from fixed lines is 163 (Telekom Bill Enquiry). Other frequently called numbers during the same period are 11818 (AssisTT Directory Services), 121 (Telephone Fault-tech Support), 186 (Electric Fault-tech Support) and 11811 (TT Directory Services).

Table 2-7 Most Called Short Numbers from Fixed Lines, 2011 Q1

Short Number	Average Duration (sec.)
163	51.73
11818	82.58
121	58.21
186	65.90
11811	67.75

2.6 Most Frequently Communicated Countries from Türk Telekom

Table 2-8 lists the most frequently communicated countries for the first quarter of 2011. Germany is the most frequently communicated country for both sent and received traffic. England, Bulgaria, Turkmenistan and USA are among the other most called countries. Italy, Saudi Arabia, Belgium and the Netherlands are other countries where Turkey received most traffic from.

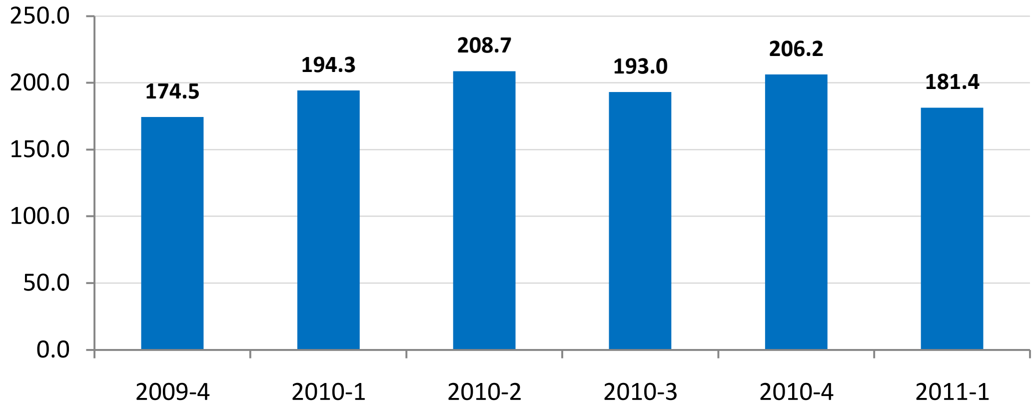
Table 2-8 Most Frequently Communicated Countries from Türk Telekom

Most Traffic Sent to	Most Traffic Received From
Germany	Germany
England	Italy
Bulgaria	Saudi Arabia
Turkmenistan	Belgium
USA	Netherlands

2.7 Minutes of Monthly Usage (MoU)

Figure 2-15 represents fixed telephony subscribers' minutes of monthly usage for the last six quarters. As of the first quarter of 2011, MoU for fixed subscribers is 181.4 minutes which represents 6.6% decrease compared to the first quarter of 2010 and also 12% decrease compared to previous quarter.

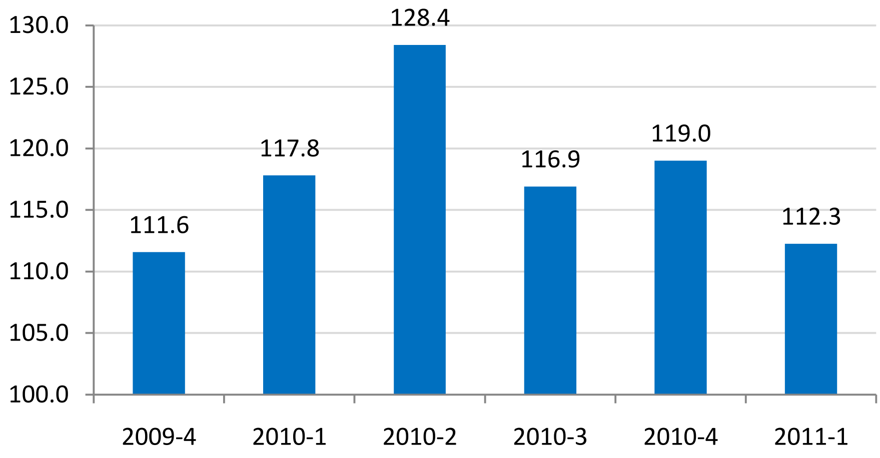
Figure 2-15 Fixed MoU, Minutes



2.8 Average Call Origination Traffic per Subscriber

Average call origination traffic per subscriber in fixed telephony networks is given in Figure 2-16. Average call origination traffic per subscriber in the first quarter of 2010 was 128.4 minutes whereas this figure has decreased to 112.3 minutes as of the first quarter of 2011.

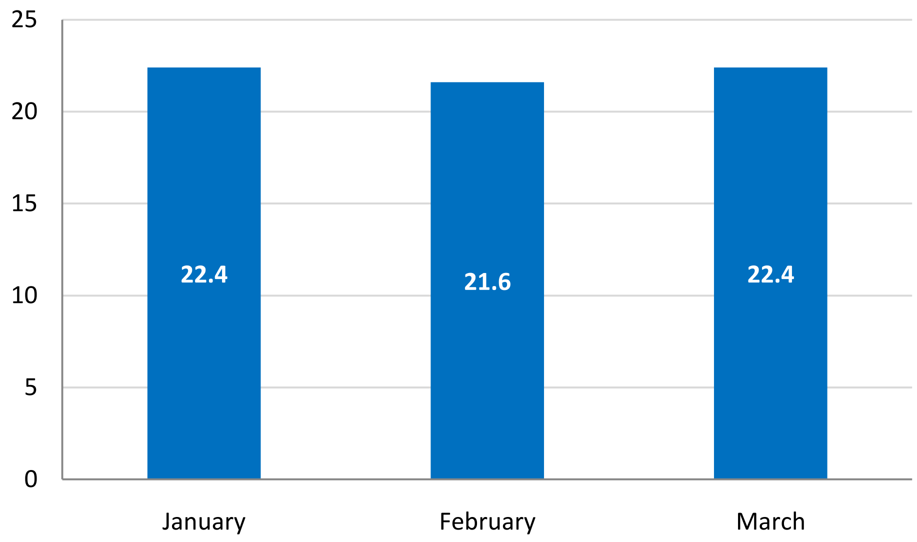
Figure 2-16 Average Call Origination per Fixed Subscriber, Minutes



2.9 Average Revenue per User (ARPU)

Figure 2-17 shows Türk Telekom’s ARPU for voice services for the first quarter of 2011. Türk Telekom’s ARPU has been steady and has only shown a slight floatation around 22,4TL.

Figure 2-17 ARPU, 2011, TL



2.10 Fixed Number Portability

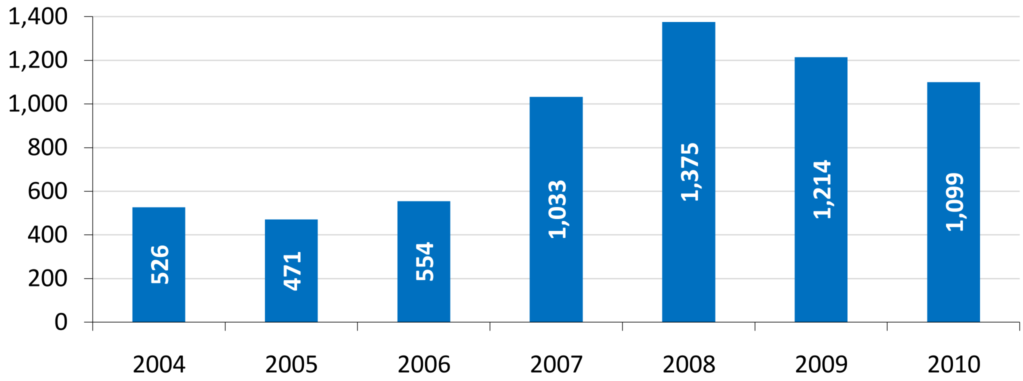
As of March 2011, 42,764 fixed numbers have been ported to other operators. As of 31 March 2011, Türk Telekom’s net loss is 39,132 subscribers. Meanwhile, over 55,000 numbers have been ported as of May 2011.

2.11 Investment in Fixed Telephony Market

Trend in investment of Türk Telekom is given in Figure 2-18. The amount of investment especially for the last four years is noteworthy. Annual investment of Türk Telekom has risen from 554 million TL to 1099 million TL during the

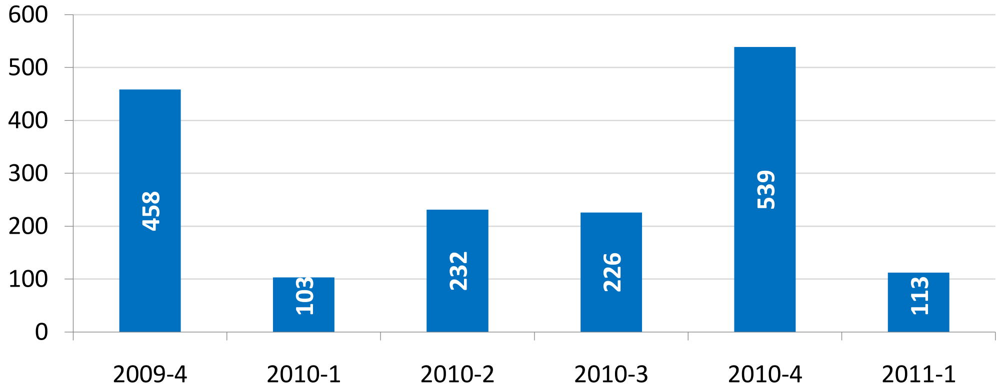
2006-2010 periods which represents a 98.4% increase. However, annual investment in 2010 has decreased slightly (-9.5%) compared to that in previous year.

Figure 2-18 Türk Telekom's Investments, Million TL



Türk Telekom's investments are given on a quarterly basis in Figure 2-19. During the first quarter of 2011 Türk Telekom's investments have been realized as 113 million TL which means 9,7% increase compared to the first quarter of 2010 whereas 79% decrease compared to fourth quarter of 2010.

Figure 2-19 Türk Telekom's Quarterly Investments, Million TL

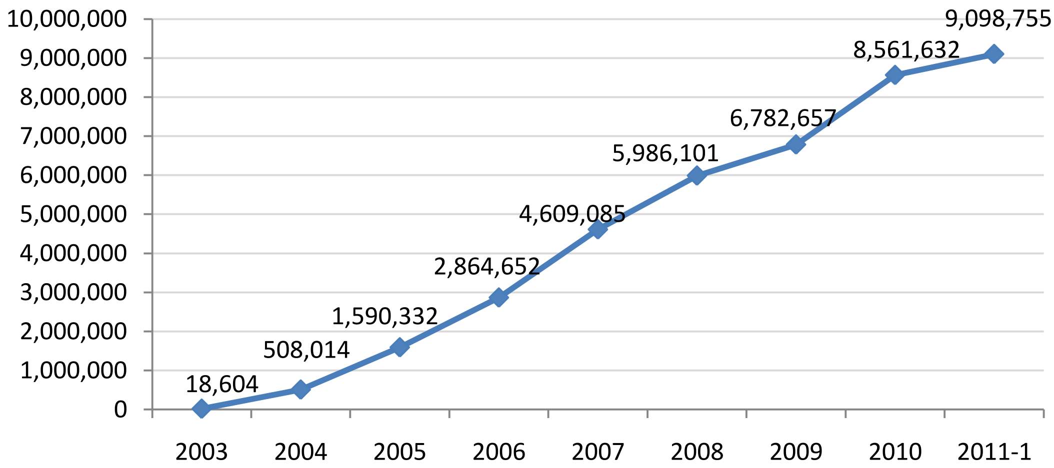


3 Internet and Broadband Data

The most significant advance for the first quarter of 2011 is the continuing increase in the number of mobile broadband internet, fiber internet and cable internet subscribers at an accelerating pace. In addition to this 6% average quarterly increase in the number of DSL subscribers is also noteworthy.

Trend in total number of broadband subscribers is given in Figure 3-1. Number of broadband subscribers has increased from 18,604 to 9.1 million during the 2003-2011 periods which represents 4900% increase.

Figure 3-1 Number of Broadband Internet Subscribers



* Fixed, mobile, cable modem, fiber etc. all means of broadband access are included.

Breakdown of number of Internet subscribers according to means of access and their respective annual increases are given in Table 3-1. Number of internet subscribers in Turkey has reached to 9.2 million as of the first quarter of 2011. Number of internet subscribers has shown a slight 6.1% increase during the first quarter of 2011 compared to previous quarter. This increase is mostly due to the general increasing trend on fiber, cable and especially mobile internet subscriptions. Annual growth rate in the total number of internet subscriptions has increased to 24%.

Table 3-1 Number of Internet Subscriptions

	2010 Q1	2010 Q4	2011 Q1	Quarterly Growth Rate (2010 Q4 – 2011 Q1)	Annual Growth Rate (2010 Q1 – 2011 Q1)
xDSL	6,373,746	6,640,911	6,700,198	0.9%	5.1%
Mobile Internet	640,580	1,448,020	1,862,888	28.7%	190.8%
Cable Internet	181,225	273,908	321,080	17.2%	77.2%
Fiber	71,717	154,059	163,783	6.3%	128.4%
Other	155,590	155,478	156,872	0.9%	0.8%
TOTAL	**7,422,858**	**8,672,376**	**9,204,821**	**6.1%**	**24.0%**

The breakdown of "other" means of internet subscriptions is given in Table 3-2. As of the first quarter of 2011, there are 15,371 ISDN subscribers, 10,892 satellite internet subscribers, 8,461 PLC subscribers in Turkey. In addition, despite the continuing decrease, there are over 100,000 dial-up internet subscribers as of the first quarter of 2011.

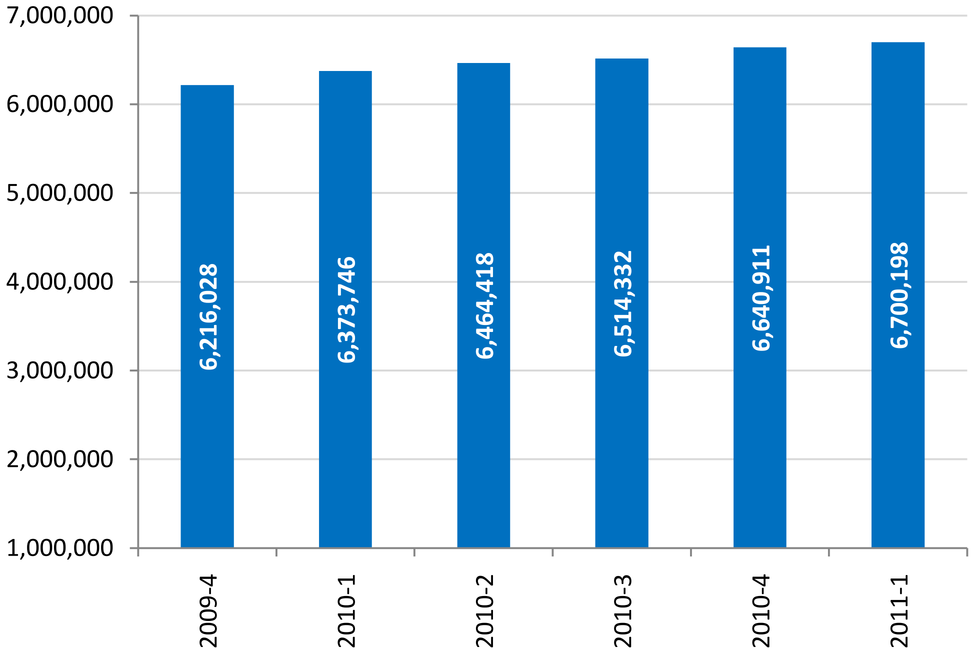
Table 3-2 Breakdown of Other Means of Internet

	2010 Q1	2010 Q4	2011 Q1
Dial Up	124.121	110.744	106.066
ISDN BA and PA	14.237	16.556	15.371
Satellite Communications	9.477	10.416	10.892
Metro Ethernet	3.648	4.123	4.902
Leased Lines	1.182	825	551
Broadband Internet over Power Lines (PLC, BPL)	662	10.914	8.461
Frame Relay	306	228	215
VPN Internet	139	145	146
ATM Internet	74	86	64
Other	1.744	1.441	523
Wireless hot spots*	-	-	8.287
TOTAL	**155.590**	**155.478**	**156.872**

* Number of Wireless hot spot has been requested from operators since 2011.

Progress in xDSL subscribers is given in Figure 3-2 on a quarterly basis. Number of xDSL subscribers has surpassed 6.7 million; however the quarterly growth of 1% is way behind the previous quarter's growth rate which was 6.1%. Share of ADSL technology within the xDSL is 99.8% whereas there is also G.SHDSL and VDSL technologies available in the market.

Figure 3-2 xDSL Subscriber Number



Market shares of internet service providers are given in Table 3-3. TTNet is the leading provider whereas Superonline, Doğan Telekom, Koç.Net and Millenicom are main alternative operators to TTNet.

Table 3-3 ISP Market Shares, 2011 Q1

Operator	%
TTNet	87.39
Superonline (Tellcom)	4.01
Doğan Telekom	3.78
Koç.Net	2.03
Millenicom	1.24
Turknet	0.86
İşnet	0.43
Metronet	0.12
Global İletişim	0.03
Grid Telekom	0.02
Others	0.09

* Cable modem internet and mobile internet are excluded. All other means of internet access are included.

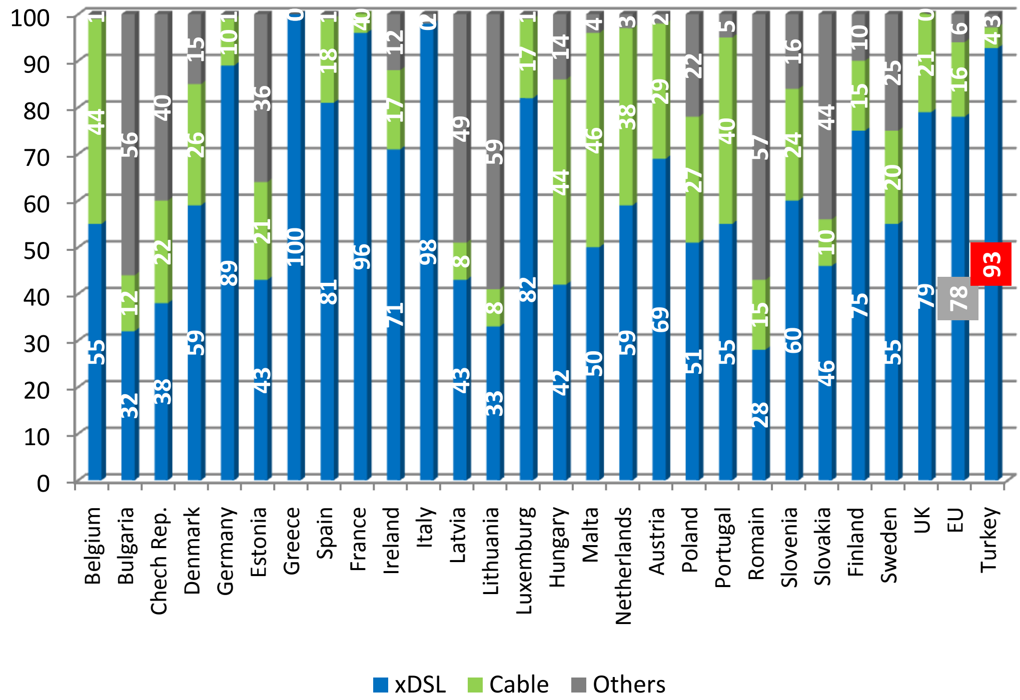
As of the first quarter of 2011, there are 49 undertakings actively operating in the internet services market. Quarterly gross revenue of all ISP's is provided in Table 3-4. Total revenue of ISP's in the first quarter of 2011 is 754 million TL.

Table 3-4 Size of ISP Market, 2011 Q1

Revenue, TL
754.223.296

The breakdown of internet access means (excluding mobile internet) in Turkey and Europe is given in Figure 3-3. As of the first quarter of 2011, 93% of broadband subscribers use xDSL technologies in Turkey whereas this ratio is 78% for EU in July 2010. Share of cable modem technology in EU is 16 percent as of July 2010. On the other hand cable modem technology's share in Turkey is 4% as of first quarter of 2011.

Figure 3-3 Breakdown of Internet Access Means in Turkey and EU Countries, %



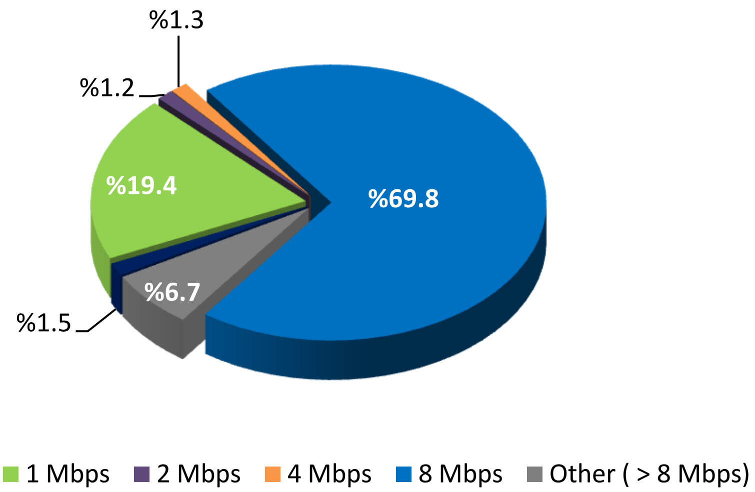
*Source: ComReg 2010 Q3 Market Data Report.
** Data for EU countries refers to July 2010 figures whereas data for Turkey refers to March 2011 figures. Mobile internet is excluded.

3G services in Turkey started in July 2009 and it has almost been two years since then. Data regarding the 3G operators show that, number of mobile broadband internet subscribers is increasing at an accelerating pace. Number of 3G mobile internet subscribers increased by 29% in the first quarter of 2011 and reached to 1,862,888. Total usage in this period has also increased by 28% compared to previous quarter and reached to 5460 TByte.

On the other hand total usage (data transferred) in fixed broadband internet services reached to almost 365,000 TByte in the first quarter of 2011. 88% of data transferred refers to “data downloaded” by users and 12% of data transferred refers to “data uploaded” by users.

Shares of different access speeds regarding fixed broadband internet are given in Figure 3-4. Accordingly, 70% of fixed broadband internet subscribers prefer 8 Mbps connection. Compared to previous quarter's data, migration from 1 Mbps connection to 8 Mbps connection is noteworthy. As of the first quarter of 2011, 19% of fixed broadband subscribers use 1 Mbps internet connection.

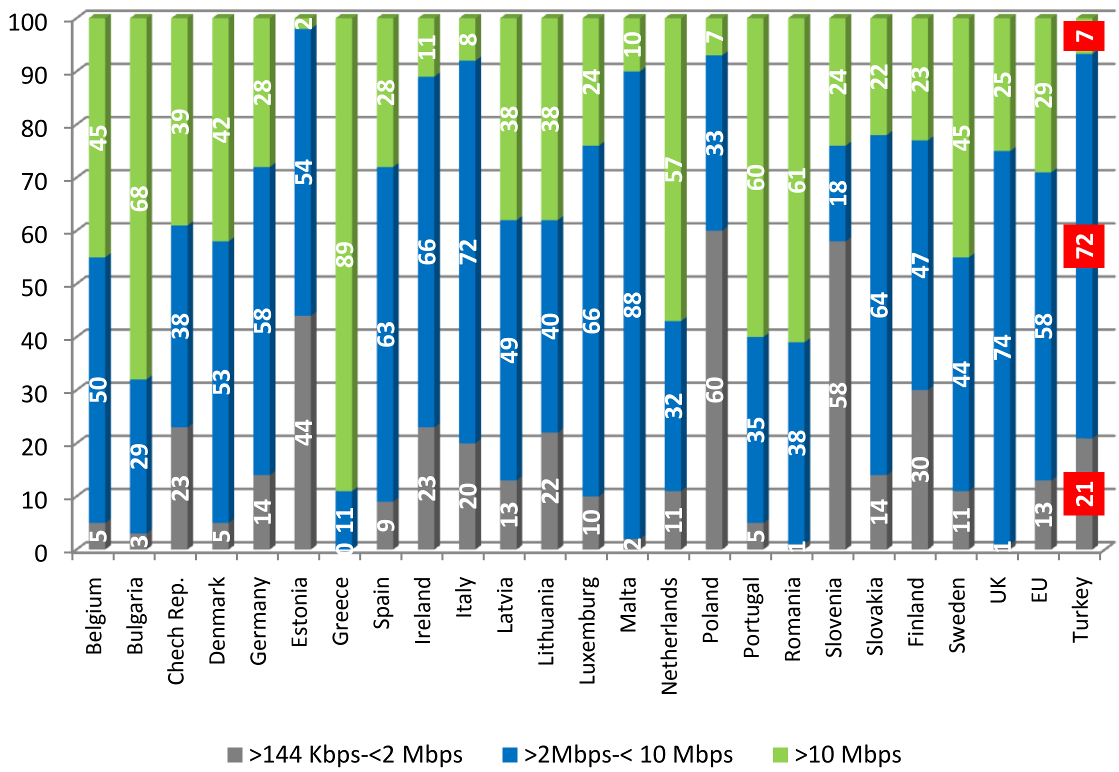
Figure 3-4 Shares of Fixed Broadband Subscriptions according to Connection Speeds, 2011 Q1



According to data of the first quarter of 2011, 95% of fixed broadband subscriptions come from individual customers whereas the remaining 5% come from corporate customers.

Shares of subscriptions according to connections speed in Turkey and EU countries are compared in Figure 3-5. Connections having speeds at between 2 Mbps and 10 Mbps constitutes 58% of all subscriptions in EU average whereas these connections constitute 72% of all subscriptions in Turkey. On the other hand, broadband connections having speeds at more than 10 Mbps have 29% percent share in all broadband connections in EU whereas this figure is 7% for Turkey.

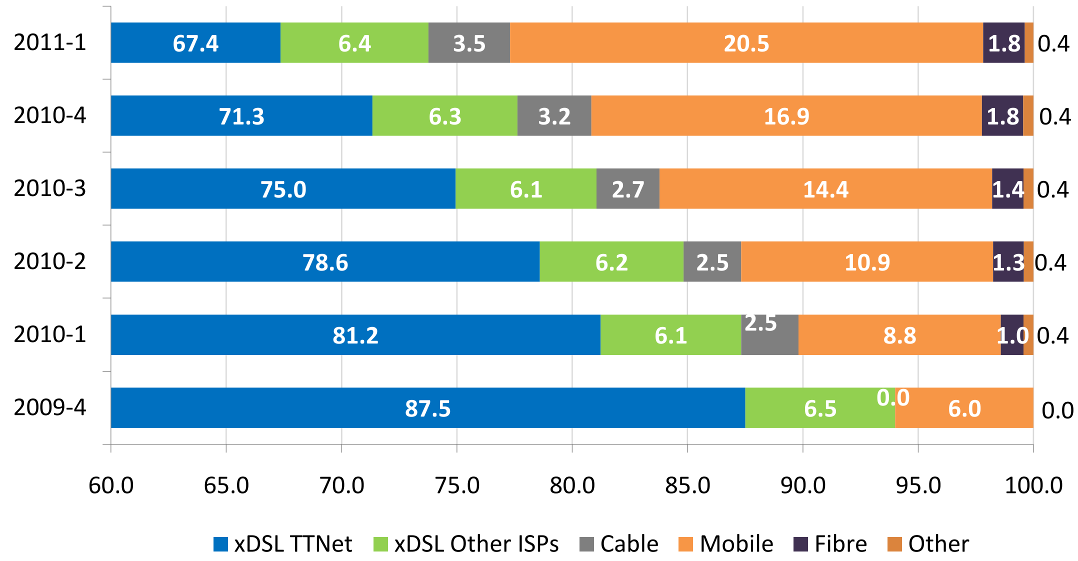
Figure 3-5 Shares of Fixed Broadband Subscriptions according to Connection Speeds in EU and Turkey, %



*Source: ComReg 2010 Q3 Market Data report.
** Data for EU countries refers to July 2010 figures whereas data for Turkey refers to March 2011 figures.

Breakdown of broadband connections based on types of operators is given in Figure 3-6. As of the first quarter of 2011, alternative fixed broadband operators' share in all broadband connections is 6.4%. On the other hand, TTNet's market share decreased to 67%. The decreasing trend in TTNet's share in all broadband connections is mostly due to progress in fiber and mobile broadband. Mobile broadband's advance has continued in the first quarter of 2011 and reached to 20.5% share. In addition, cable modem's share has increased to 3.5% and fiber's share has increased to 1.8% as well.

Figure 3-6 Breakdown of Broadband Connections Based on Operators, %



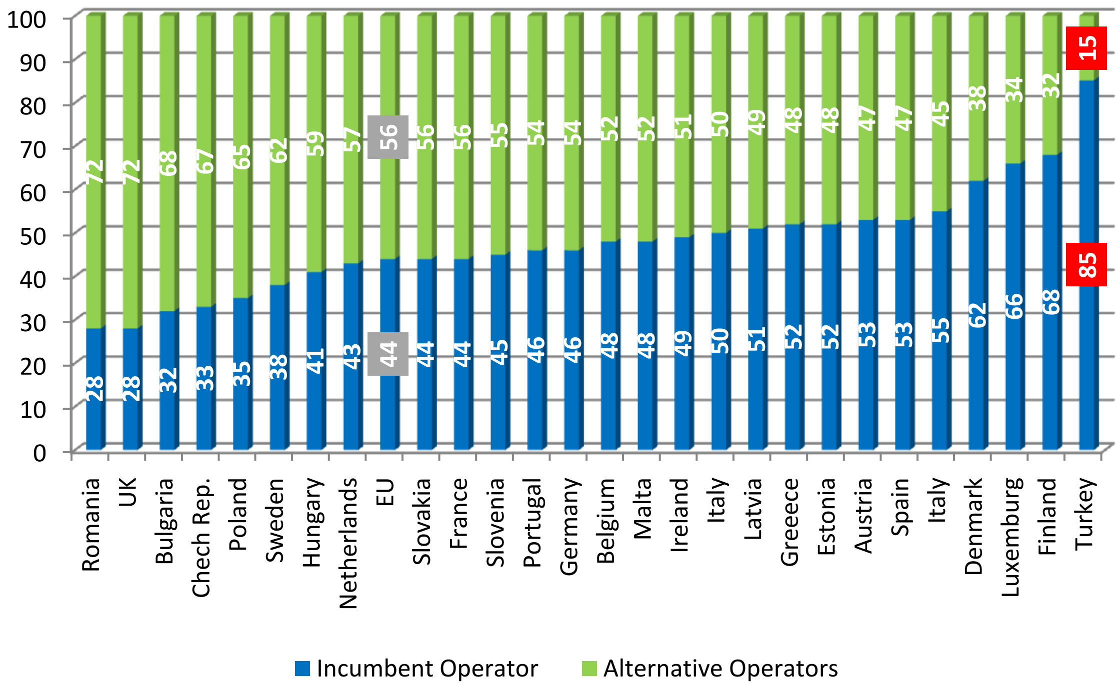
Alternative operators provide services via resale, bitstream access and Local Loop Unbundling (LLU) methods. As of March 2011, there are 10,055 LLU lines connected to alternative operators. 642 of these lines are provided via "full access" and the remaining 9,413 are provided via "shared access". This data implies that the number of full access lines has increased slightly whereas the number of shared lines has decreased in the first quarter of 2011. In addition there are 56,439 lines assigned to alternative operators for resale[4] purposes.

Market shares of incumbent and alternative operators in retail fixed broadband internet market for Turkey and EU countries are compared in Figure 3-7. According to EU average 44% of broadband market share belongs to incumbent operator, whereas incumbent's market share is 85% in Turkey. The figure shows that, UK and Romania are the countries in which incumbents have the least market share. On the other hand despite the

[4] Including ADSL, G.SHDSL and VDSL.

downward trend, incumbent operator's market share in Turkey is way above the EU-average.

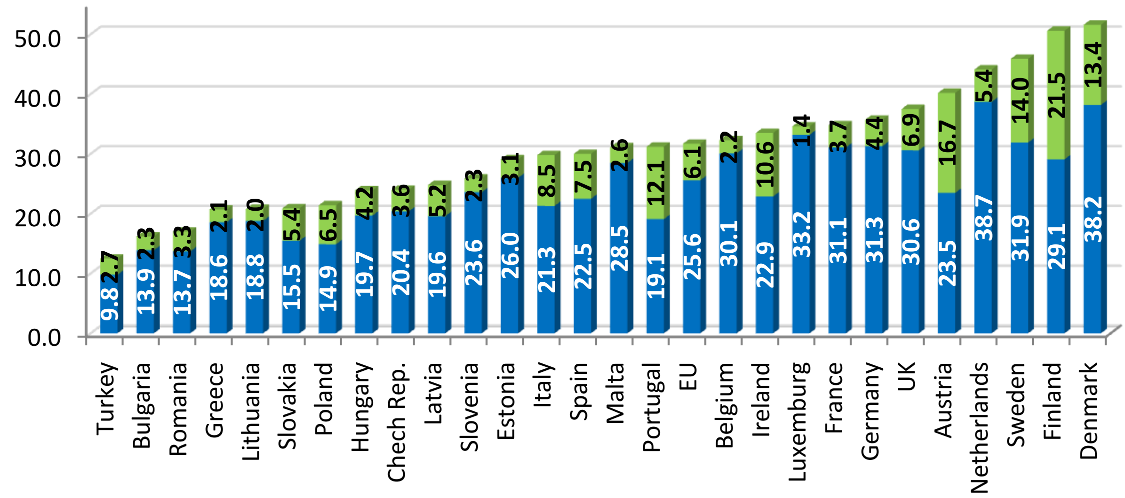
Figure 3-7 Market Shares of Incumbent and Alternative Operators in Retail Fixed Broadband Internet Market for Turkey and EU Countries, %



*Source: ComReg 2010 Q3 Market Data report.
** Data for EU countries refers to July 2010 figures whereas data for Turkey refers to March 2011 figures.

Broadband penetration rates in EU countries and Turkey based on population are given in Figure 3-8. Broadband penetration rate based on population in Turkey is 9.8% whereas EU average is 25.6%. In addition mobile broadband penetration rate for Turkey is 2.7% percent whereas EU-average is 6.1%. Denmark with 51.6% penetration rate is the leading country in EU with respect to broadband subscriptions. On the other hand, for making a healthy comparison, an alternative method of comparison based on households is given below.

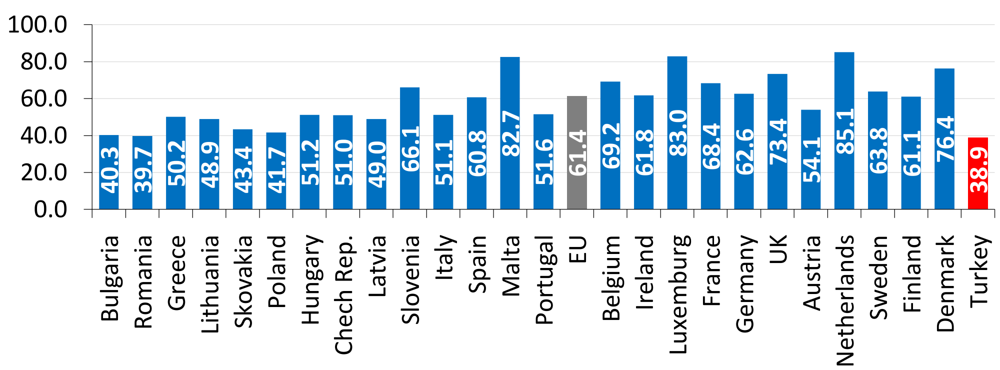
Figure 3-8 Fixed and Mobile Broadband Penetration Rates based on Population, %



*Source: ComReg 2010 Q3 Market Data report.
** Data for EU countries refers to July 2010 figures whereas data for Turkey refers to March 2011 figures.

Fixed broadband penetration rates based on number of households are compared in Figure 3-9. Accordingly, fixed broadband penetration based on households in EU-average is 61.4%. On the other hand fixed broadband penetration based on households in Turkey is 38.9%

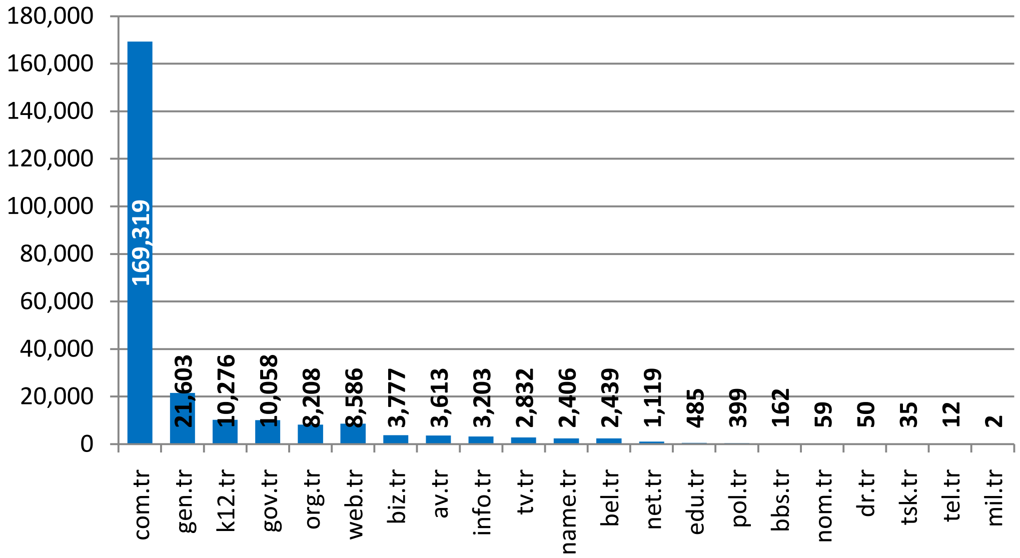
Figure 3-9 Fixed Broadband Penetration Rates based on Households, %



*Source: ComReg 2010 Q3 Market Data Report, Eurostat average household data, 2009. Average size of household in Turkey is 3.97. Average household size in EU is 2.4.
** Data for EU countries is as of July 2010 whereas data for Turkey is as of March 2011.

Distribution of ".tr" domain names is given in Figure 3-10. As of the first quarter of 2011, there are 248,643 ".tr" domain names in "Nic.tr". Of all the ".tr" domain names, 68.1% belong to "com.tr", 8.7% belong to "gen.tr", 4.1% belong to "k12.tr" and 4% belong to "gov.tr" domain names.

Figure 3-10 Breakdown of ".tr" Domain Names, 2011 Q1



77% of the web sites under these domain names are currently accessible (active) whereas 23% are inaccessible. (Figure 3-11)

Figure 3-11 Status of Accessibility

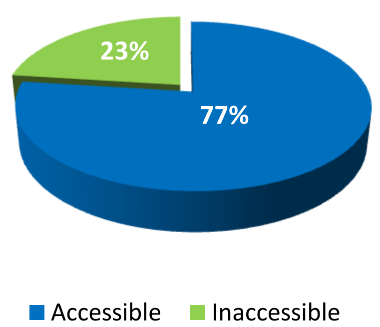
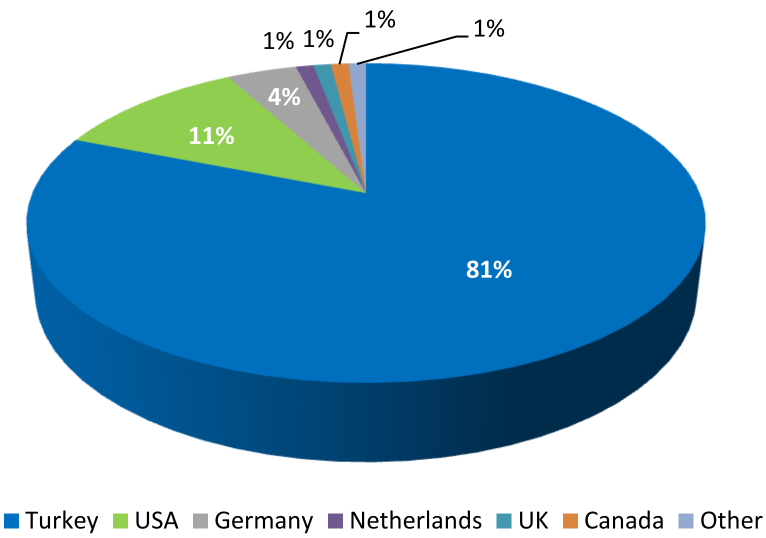


Figure 3-12 implies that 81% of web sites under these domain names are hosted in Turkey, 11% are in USA, 4% are in Germany, 1% are in the Netherlands, 1% are in the UK and 1% are in Canada.

Figure 3-12 Countries of Hosts Based on IPs

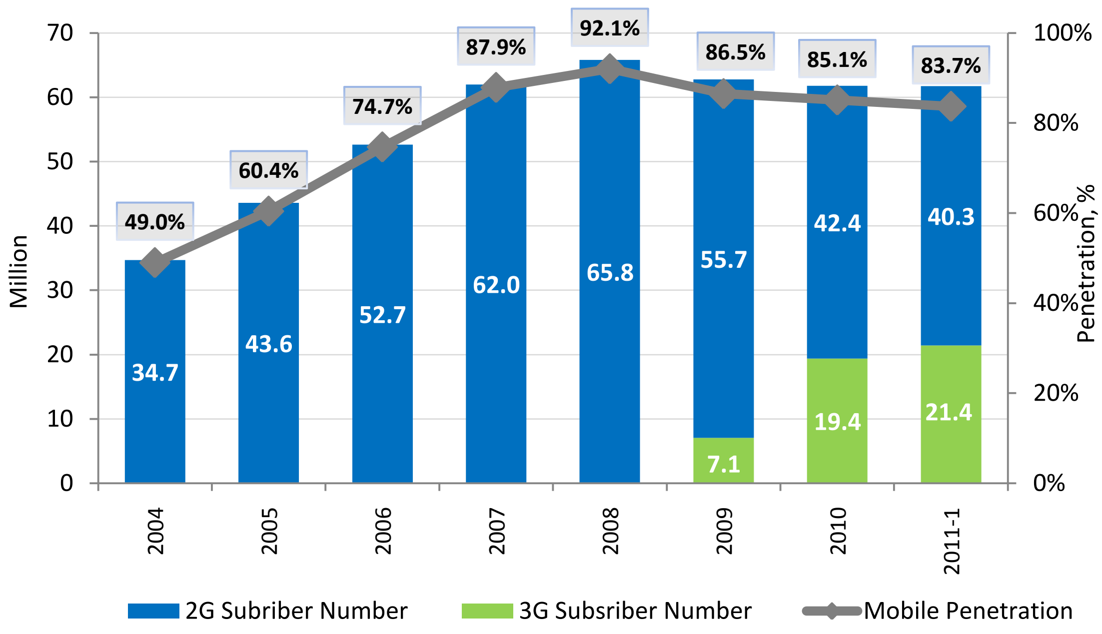


4 Mobile Market Data

4.1. Subscriber Number and Penetration

As of March 2011, there are 61.7 million mobile subscribers corresponding 84%[5] penetration rate. The trend that reflects increase for number of mobile subscribers and penetration rate previously has become stable since the beginning of 2009. It may be explained by cancelation of second mobile subscriptions due to the introduction of number portability and introduction of flat rate tariffs. 3G services started on July, 2009 and the number of 3G subscribers has reached at 21.4 million as of the end of March, 2011. Figure 4-1 compares the numbers of 2G and 3G mobile subscribers and penetration rates by years.

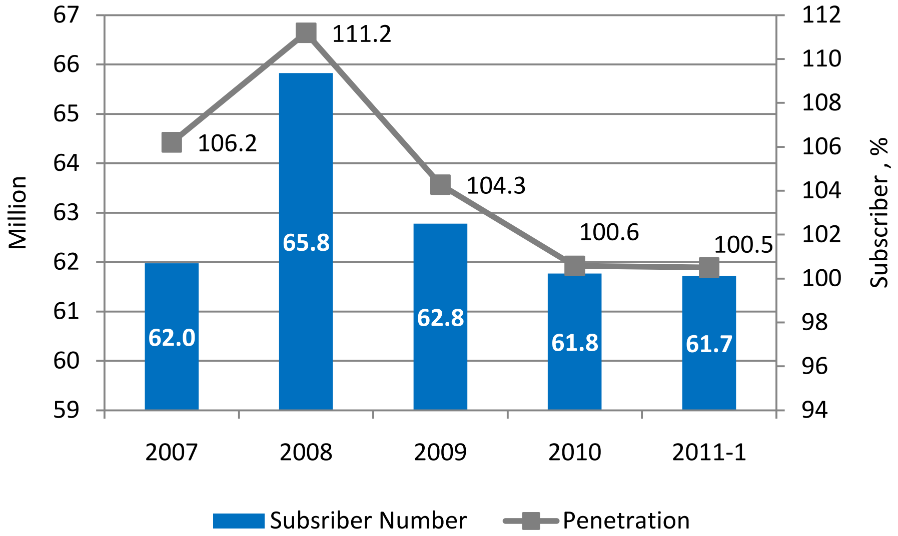
Figure 4-1 Mobile Subscriber Number and Penetration Rate



[5] The population of Turkey was equal to 72,561,312 at the end of 2009 and it was equal to 73,722,988 at the end of 2010. To calculate the penetration rate for first quarter of 2011, latter figure is used.

Figure 4-2 shows penetration rate for population over 9 years old assuming mobile phones can be used by at least 9 years old.[6] In this case, it seems that penetration rate exceeds 100%.

Figure 4-2 Mobile Subscriber Number and Penetration Rates based on Population excluding 0-9 Years Old



Several indicators related with 3G can be seen from **Hata! Başvuru kaynağı bulunamadı.**. The number of 3G subscribers increases from 19.4 million in the last quarter of 2010 to 21.4 million in the first quarter of 2011. Meanwhile, the number of subscriptions for mobile internet increases from 1,448,020 to 1,862,888. Also, in this period, total mobile internet usage is equal to 5,460 TByte.

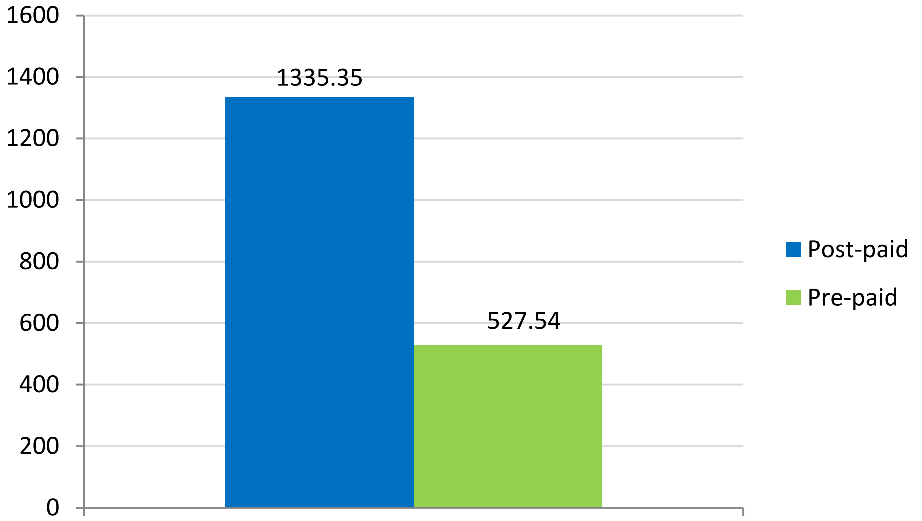
Table 4-1 Data on 3G Users

	2010 Q1	2010 Q4	2011 Q1
Number of 3G Subscribers	8,717,769	19,407,264	21,441,318
Number of Mobile Internet Subscribers	640,580	1,448,020	1,862,888
Mobile Internet Usage, Gbyte	2,105,643	4,387,315	5,590,910

[6] According to Turkish Statistical Institute, the population of at least 9 years old was equal 58,355,523 in 2007, 59,200,710 in 2008, 60,204,344 in 2009 and 61,413,147 in 2010.

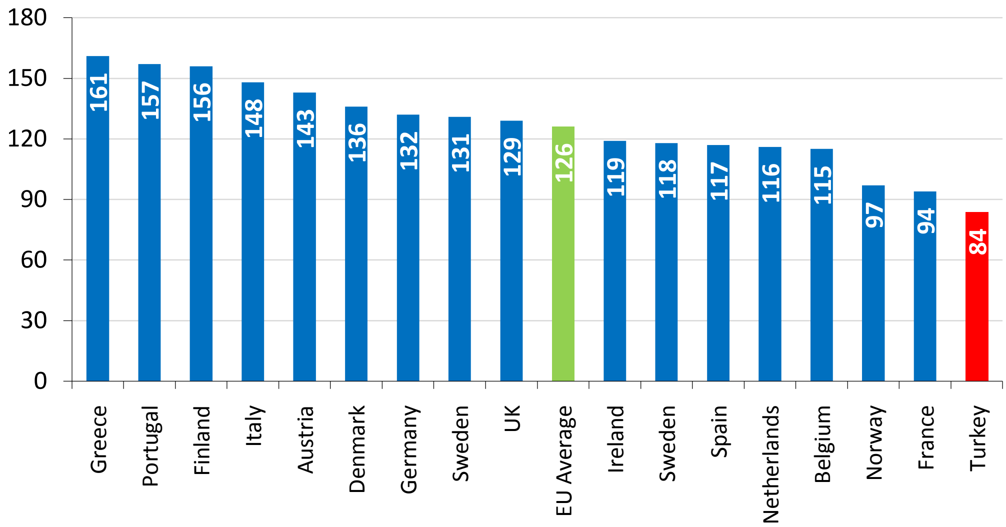
Figure 4-3 shows the number of mobile broadband internet subscriptions. As of the first quarter of 2011, the number of post-paid mobile broadband internet subscribers is 1,335,351 and the number of pre-paid mobile broadband internet subscribers is 527,537.

Figure 4-3 Post-Paid and Pre-Paid Mobile Broadband Internet Subscriptions, 2011 Q1, Thousands



The mobile penetration rates for Turkey and several European countries are compared at Figure 4-4. Countries having highest penetration rates are Greece, Portugal, Finland, Italy, Austria, Denmark, Germany, Sweden and UK in descending order at the end of June 2010. The European average for mobile telephony penetration is 126% while it is equal to 84% for Turkey as of the end of March, 2011.

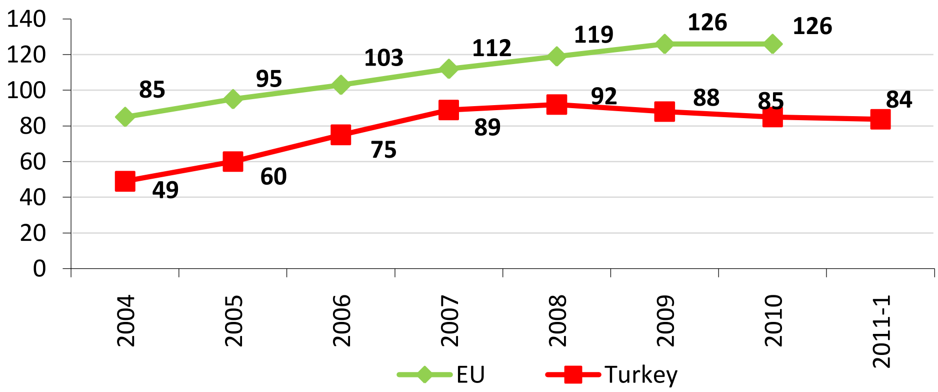
Figure 4-4 Mobile Penetration Rate for Turkey and Selected European Countries, %



*Source: Comreg, 2010 Q2 Market Data Report
**The data for EU countries are belonging to June 2010 and the data for Turkey is belonging to March 2011.

Figure 4-5 shows the change in mobile penetration rates for Turkey and EU. Mobile penetration rate for EU has an increasing trend since 2004. In particular, it has increased from 85% in 2004 to 126% in 2010. For Turkey, mobile penetration rate has increased from 49% in 2004 to 85% in 2010.

Figure 4-5 Mobile Penetration Rate for Turkey and EU, %



*Source: Comreg, 2010 Q2 Market Data Report
**The data for EU countries are belonging to June 2010 and the data for Turkey is belonging to March 2011.

4.2. Mobile Subscriber Profile

Distribution of number of mobile telephony subscriptions as pre-paid and post-paid subscription is given in Figure 4-6. As of the first quarter of 2011, 67% of mobile subscribers are using pre-paid tariff schemas. The share of post-paid mobile subscribers rises from 26.2 % to 32.7% during the last year.

Figure 4-6 Profile of Pre-Paid and Post-Paid Mobile Subscriptions, %

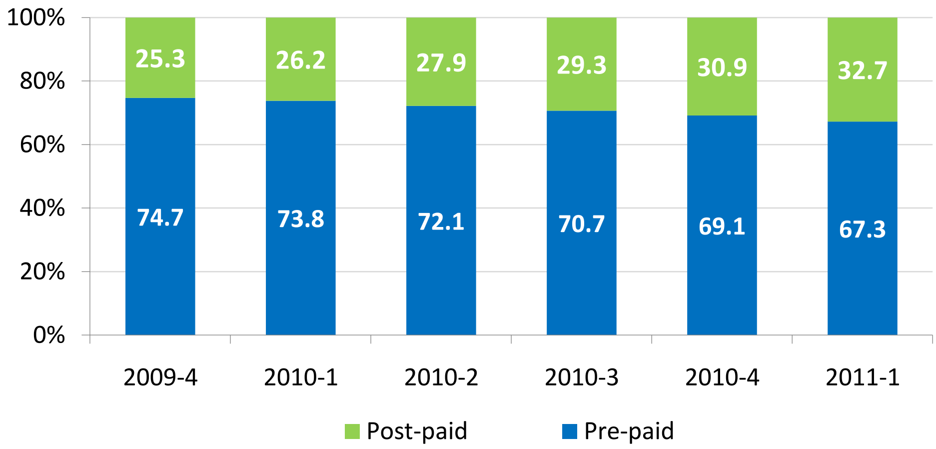
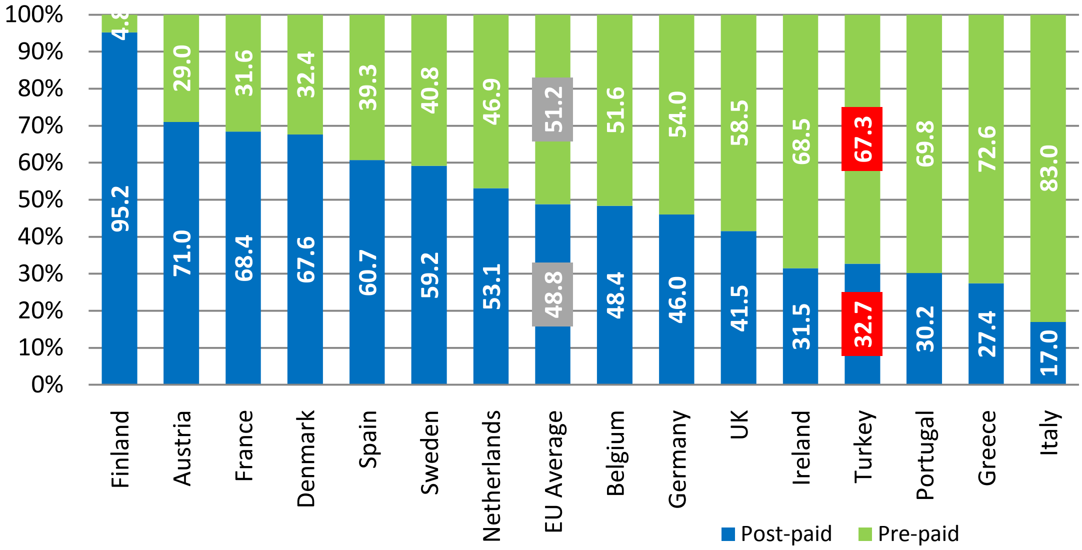


Figure 4-7 compares the profiles of mobile telephony subscriptions for Turkey and selected European countries. Average mobile subscriber profile for EU is composed of 51% pre-paid and 49% post-paid customers. The share of post-paid subscribers in Turkey is lower than EU average. However, it rises steadily.

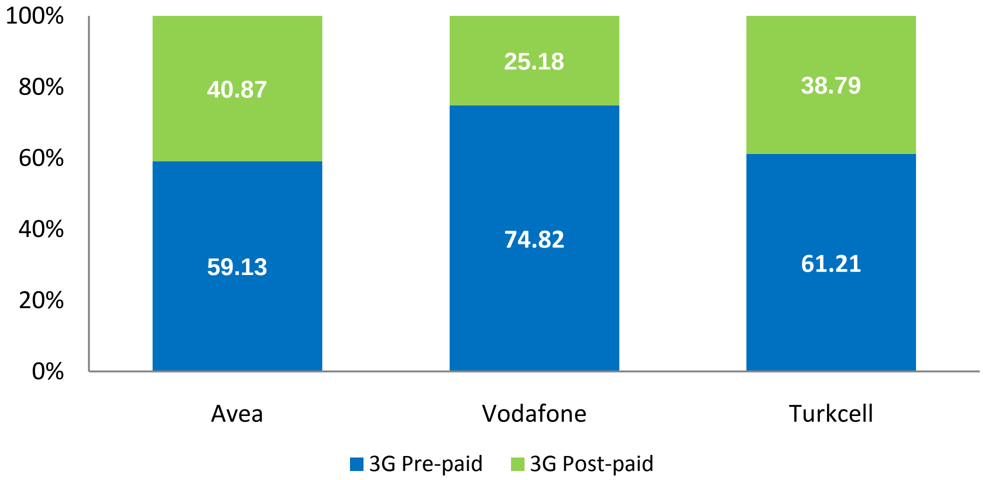
Figure 4-7 Profile of Pre-Paid and Post-Paid Mobile Subscribers for Selected European Countries, %



*Source: Comreg, 2009 Q4 Market Data Report
** The data for EU countries are belonging to December 2009 and the data for Turkey is belonging to March 2011.

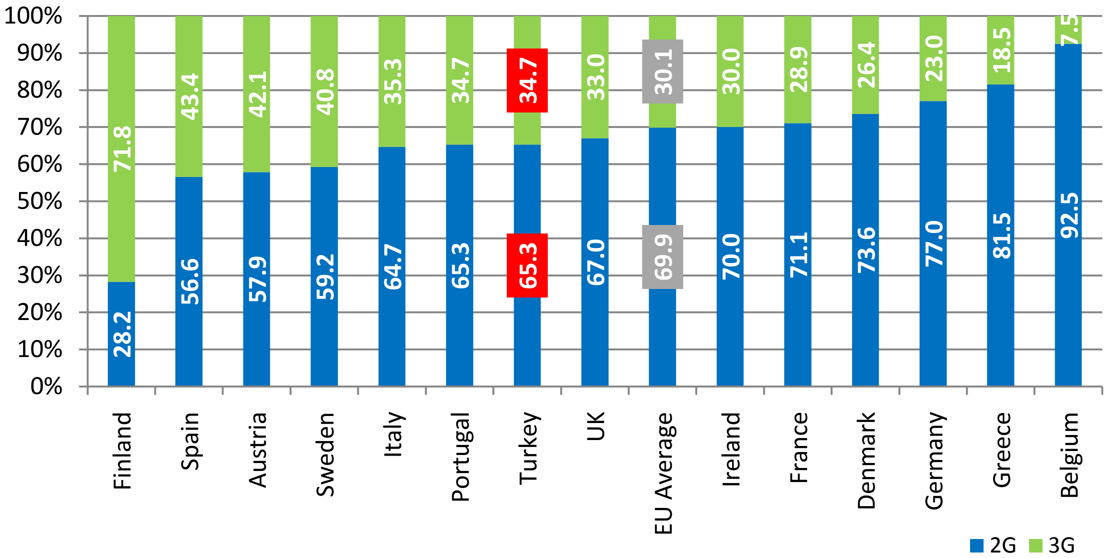
Figure 4-8 shows the shares of pre-paid and post-paid 3G subscribers for mobile operators. In the first quarter of 2011, the share of pre-paid 3G customers is 74.82% for Vodafone, 59.13% for Avea and 61.21% for Turkcell.

Figure 4-8 Profile of Pre-Paid and Post-Paid 3G Subscriptions, %



The proportions of 2G and 3G mobile subscribers are compared for Turkey and selected European countries in Figure 4-9. The proportion of 3G subscribers in Turkey is 35% which exceeds the EU average rate of 30.1%.

Figure 4-9 Profiles of 2G-3G Subscriptions for Selected European Countries, %



*Source: Comreg, 2009 Q4 Market Data Report
** The data for EU countries are belonging to December 2009 and the data for Turkey is belonging to March 2011.

Figure 4-10 shows the number of mobile subscribers on a quarterly basis. While the numbers of subscribers of Avea and Vodafone has increased 1.72% and 0.96% respectively in the first quarter of 2011 with respect to previous quarter, the number of subscribers of Turkcell has declined 1.25%.

Figure 4-10 Total Number of Mobile Subscriptions, Millions

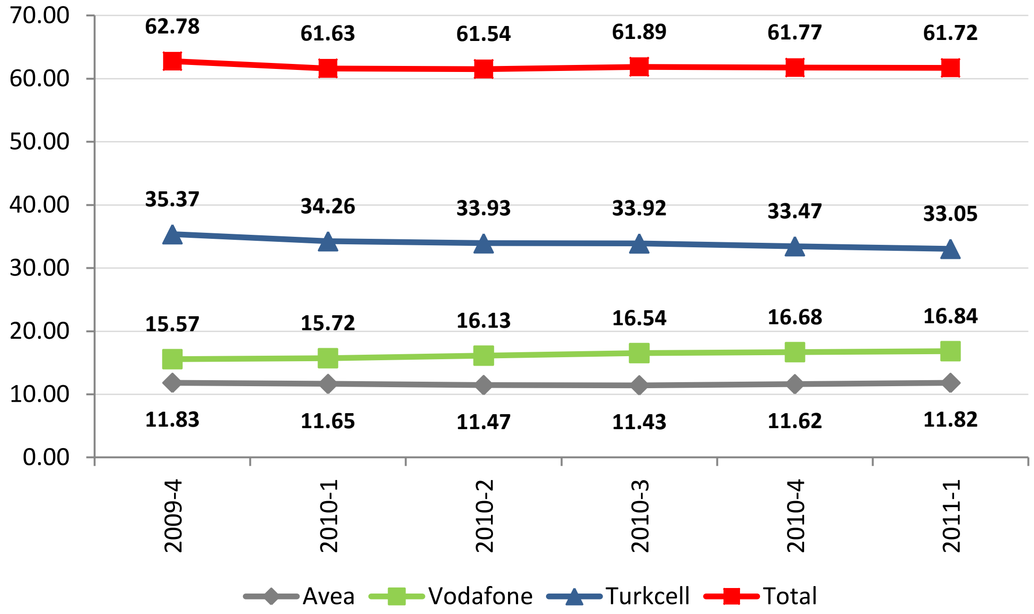


Figure 4-11 illustrates the total mobile numbers ported quarterly basis. Total amount of ported mobile numbers is 27.3 million at the end of March, 2011. In the first quarter of 2011, the volume of ported numbers has increased by 8.16% to almost 3.5 million with respect to previous quarter. The cumulative amount of mobile numbers ported has reached to 28.6 million as of the end of May, 2011.

Figure 4-11 Total Mobile Numbers Ported

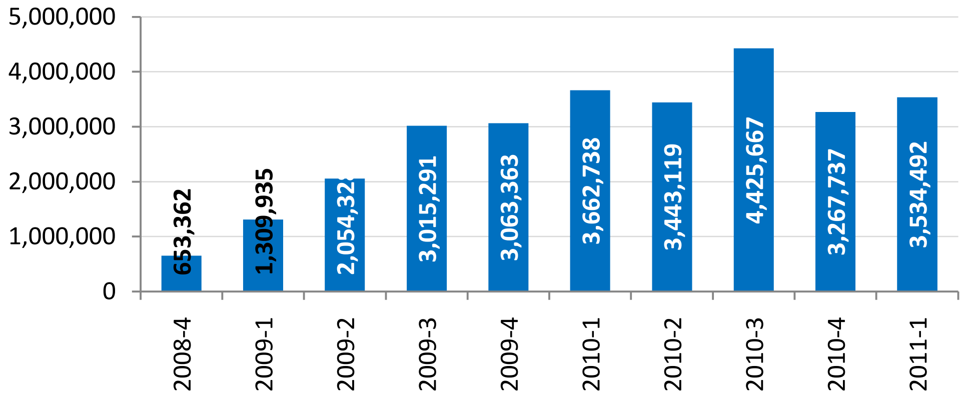


Figure 4-12 illustrates market shares based on the number of subscribers. For the first quarter of 2011, Turkcell has 53.55%, Vodafone has 27.29% and Avea has 19.15% market share.

Figure 4-12 Market Shares according to Number of Subscribers, %

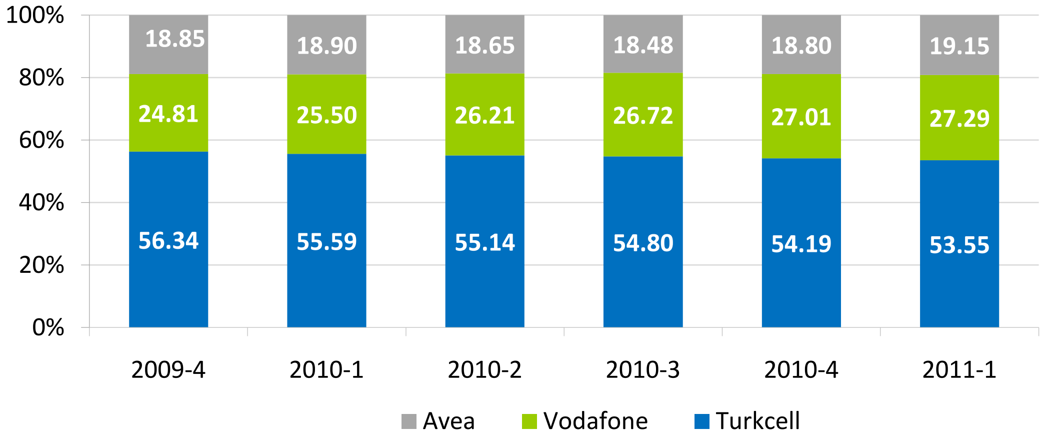


Figure 4-13 shows churn rates calculated for mobile operators in January, February and March, 2011. Churn rate[7] is a common indicator used to depict competitive position of mobile operators in the market. As of March, 2011, the churn rates of Turkcell, Vodafone and Avea are 3.34%, 4.12% and 4.57% respectively.

[7] Churn rate is used to measure the amount of subscribers left from the operator. It is calculated as dividing the number of customers left from the operator to average number of customers of the operator in a certain period of time. Especially, it is used for sectors where the size of subscription mass is important. Also, it is calculated as monthly, quarterly and yearly basis. If the churn rate is greater than the growth rate of new subscribers, then it implies declining trend in the total number of subscribers. In other words, an increase in churn rate means a decline in competitiveness for an operator. However, regulations might have effects on churn rate such as mobile number portability. Once such a regulation is in place, the threshold amounts for competitiveness might change.

Figure 4-13 Churn Rates of Mobile Operators, %

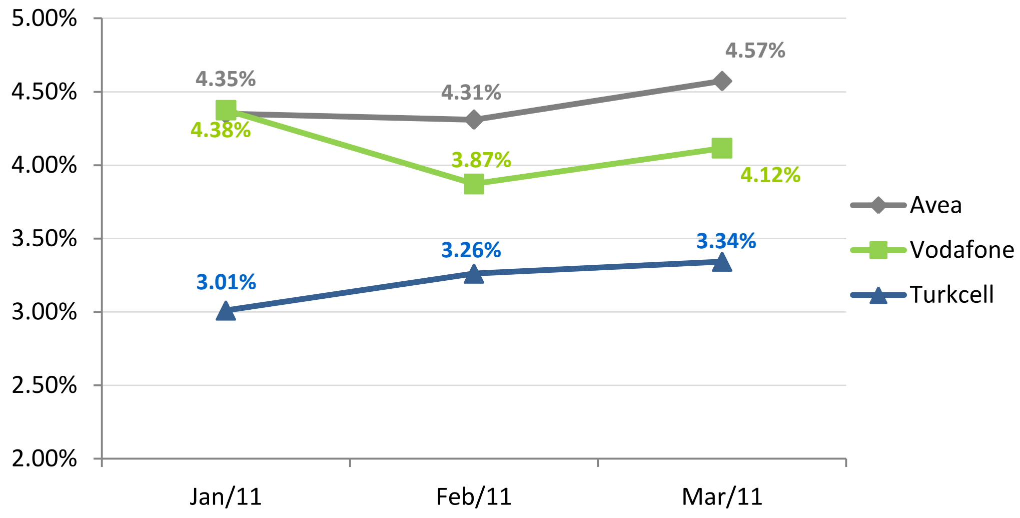
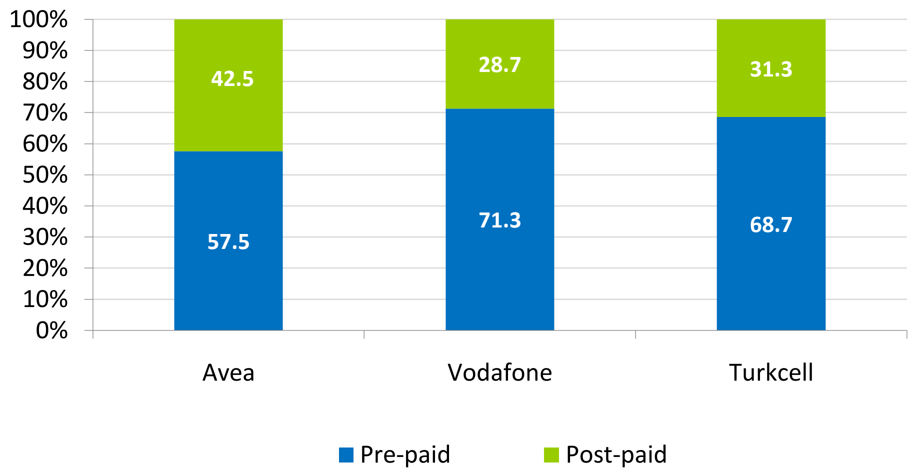


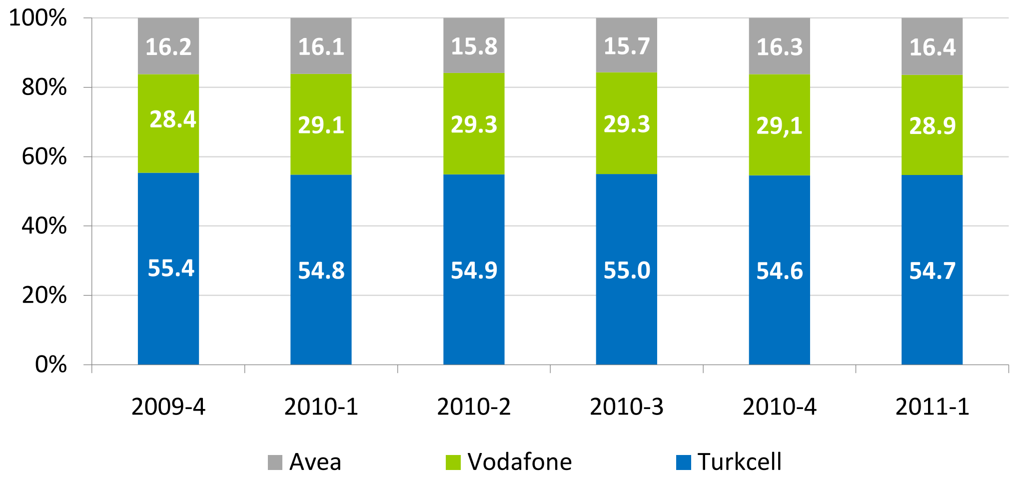
Figure 4-14 shows the profile of pre-paid and post-paid subscribers (2G+3G) at operator level. Number of pre-paid subscribers constitutes 71.3% of all subscriber basis of Vodafone. The same ratio is 68.7% for Turkcell and 57.5% for Avea.

Figure 4-14 Profile of Pre-Paid/Post-Paid Subscribers at Operator Level, %



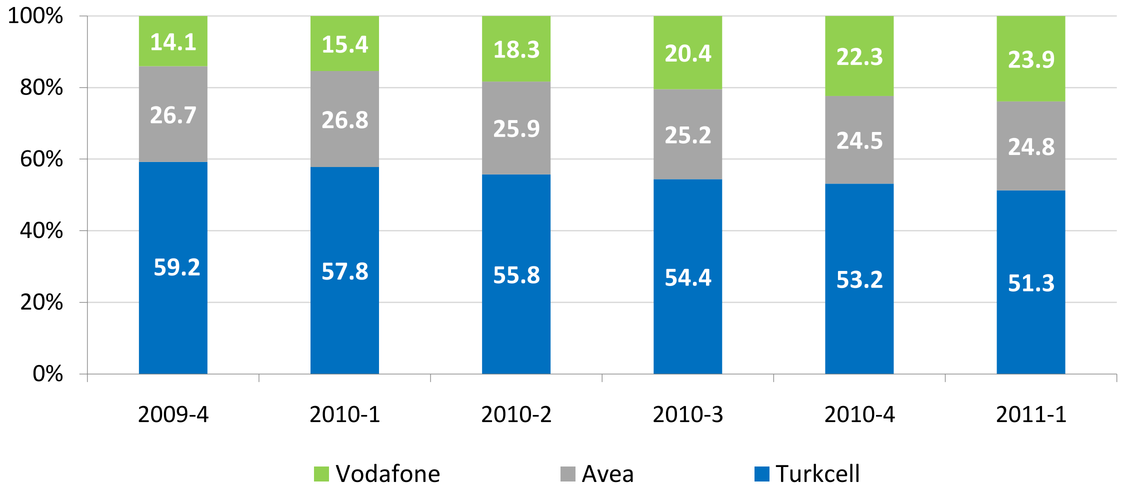
Figures at below (Figure 4-15 and Figure 4-16) illustrate market shares of operators according to pre-paid and post-paid subscriber numbers. Figure 4-15 examines the distribution of pre-paid subscribers from the last quarter of 2009 to the first quarter of 2011 at operator level. As of the first quarter of 2011, market share of Turkcell for pre-paid subscribers is 54.7%. This share is 28.9% for Vodafone and 16.4% for Avea.

Figure 4-15 Market Shares for Pre-Paid Mobile Subscribers, %



The market shares for post-paid subscribers are 51.3% for Turkcell, 24.8% for Avea and 23.9% for Vodafone (Figure 4-16).

Figure 4-16 Market Shares for Post-Paid Mobile Subscribers, %



4.3. Mobile Traffic Volume

In the first quarter of 2011, mobile traffic[8] is 33.95 billion minutes. Mobile traffic has increased 2.94% compared with previous quarter and increased 18.42% compared with the same quarter of previous year. Turkcell's traffic has increased 0.25%, Avea's traffic increased 6.81% and Vodafone's traffic increased 4.5% compared with the previous quarter. As compared with same quarter of previous year, Turkcell's traffic has increased 23.29%, Vodafone's traffic increased 20.3% and Avea's traffic increased 7.4% for Avea. (Figure 4-17=

[8] Total mobile traffic for an operator is calculated by adding off-net traffic to on-net traffic.

Figure 4-17 Quarterly Mobile Traffic, Billion Minutes

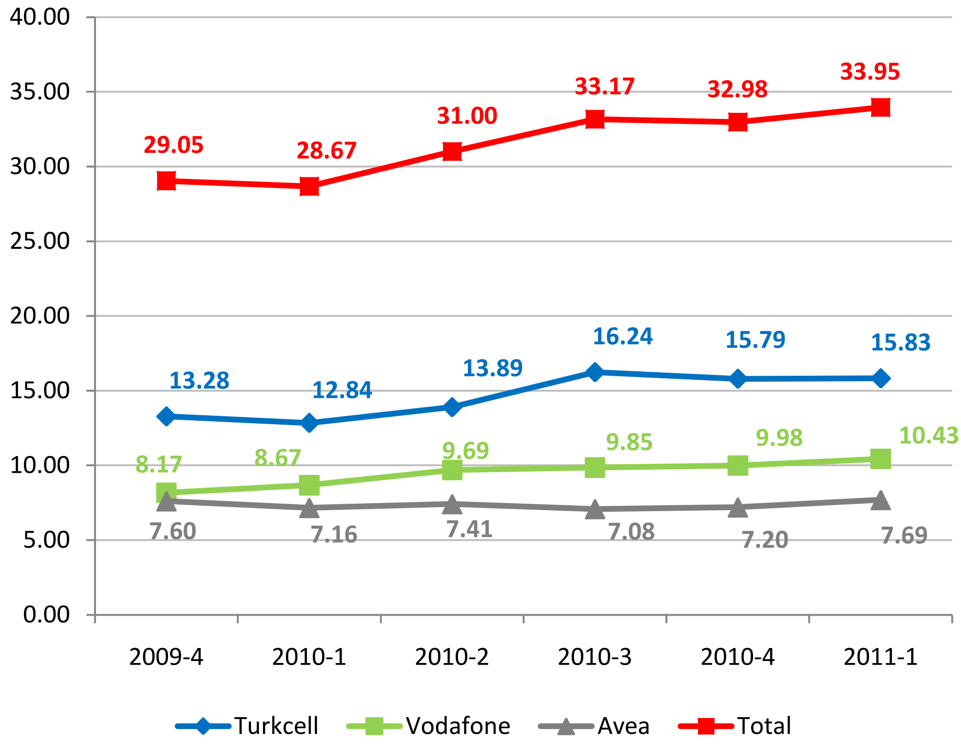


Figure 4-18 shows quarterly market shares of mobile operators based on traffic. Compared with the same quarter of previous year, the market share of Avea has decreased from 24.97% to 22.65%. The market share of Vodafone has increased from 30.24% to 30.73% and the market share of Turkcell has increased from 44.78% to 46.61%. Compared with previous period, the market share of Turkcell has decreased from 47.9% to 46.61%. The market share of Avea has increased from 21.82% to 22.65% and the market share of Vodafone has increased from 30.28% to 30.73%.

Figure 4-18 Market Shares according to Traffic Volume, %

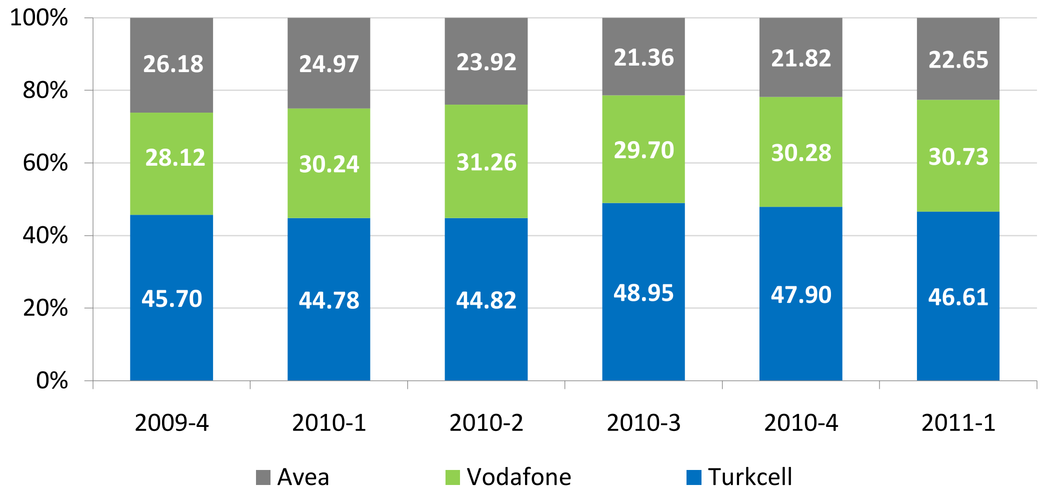
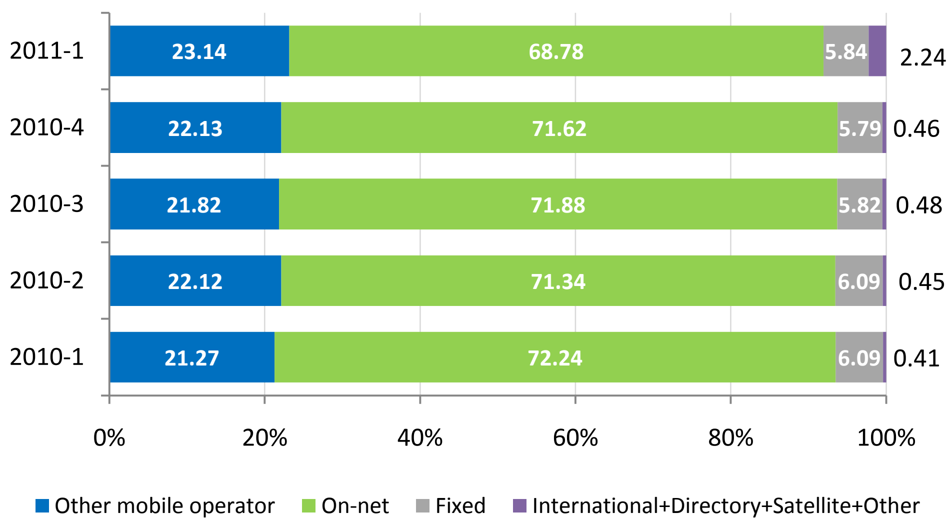


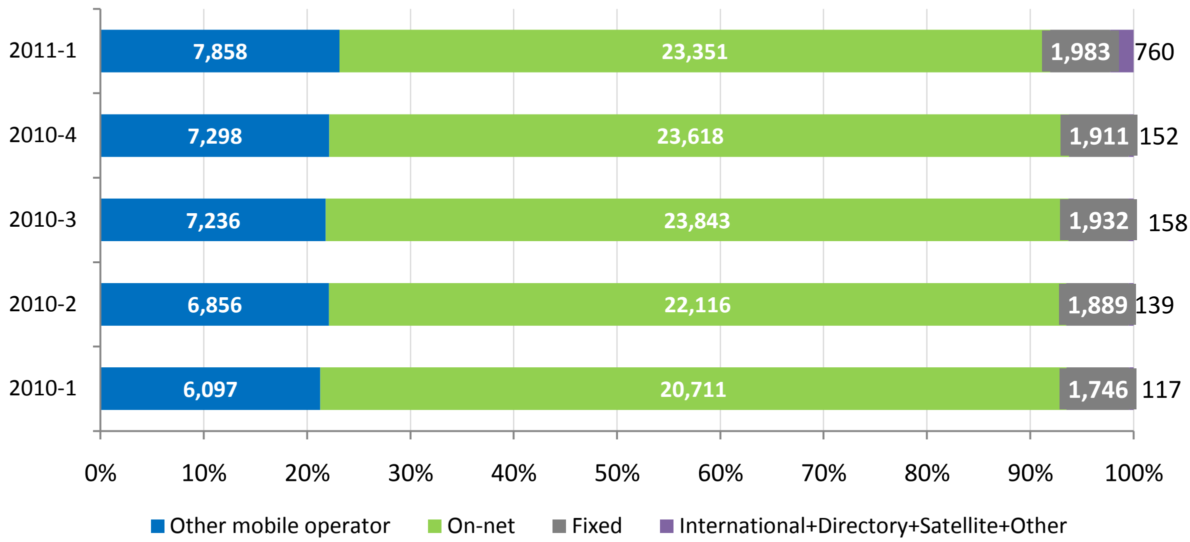
Figure 4-19 and Figure 4-20 illustrate the breakdown of mobile traffic based on call types. On-net traffic (68.78%) constitutes major part of total mobile traffic. The traffic going to other mobile operators is 23.14% of total mobile traffic.

Figure 4-19 Breakdown of Mobile Traffic, %



On-net mobile traffic volume decreases by 1.13% to 23,351 million minutes in the first quarter of 2011 while the traffic going to other mobile operators increases by 7.67% to 7,858 million minutes as compared to previous quarter.

Figure 4-20 Breakdown of Mobile Traffic, Million Minutes



4.4. Most Frequently Communicated Countries from Mobile Operators

Table 4-2 lists the most frequently communicated countries for the first quarter of 2011. Germany is the most frequently communicated country for both sent and received traffic. Bulgaria, United Kingdom, France and Azerbaijan are among the other most called countries. Saudi Arabia, United Kingdom, Austria and Netherlands are other countries where Turkey received most traffic from.

Table 4-2 Most Frequently Communicated Countries from Mobile Networks, 2011 Q1

Most Traffic Sent to	Most Traffic Received From
Germany	Germany
Bulgaria	Saudi Arabia
United Kingdom	United Kingdom
France	Austria
Azerbaijan	Netherlands

4.5. Short Numbers

The most frequently called short numbers from Avea and average call durations for these numbers are listed in Table 4-3. The most frequently called number from Avea is 112 (Emergency Service). Other frequently called numbers during the same period are 18880 (BN Telekom Directory Services), 155 (Police Assistance), 11818 (AssisTT Directory Services) and 121 (Telephone Fault-tech Support). The average call duration for 112 is 32 seconds, while it is between 80 and 90 seconds for call to directory services.

Table 4-3 AVEA, Most Called Short Numbers, 2011 Q1

Short Number	Average Call Duration (sec)
112	32.6
11880	88.8
155	51.1
11818	83.7
121	78.7

The most frequently called short numbers from Vodafone and average call durations for these numbers are listed in Table 4-4. The most frequently called number from Vodafone is 112 (Emergency Service). Other frequently called numbers during the same period are 18880 (BN Telekom Directory Services), 155 (Police Assistance), 186 (Electric Fault-tech Support) and 11818 (AssisTT Directory Services). The average call duration for 112 is 24 seconds, while it is 90 seconds for calls to directory inquiry services.

Table 4-4 VODAFONE, Most Called Short Numbers, 2011 Q1

Short Number	Average Call Duration (sec)
112	23.93
11880	88.19
155	51.03
186	65.21
11818	86.17

The most frequently called short numbers from Turkcell and average call durations for these numbers are listed in Table 4-5. The most frequently called number from Turkcell is 112 (Emergency Service). Other frequently called numbers during the same period are 18880 (BN Telekom Directory Services), 155 (Police Assistance), 144 (Social Assistance) and 186 (Electric Fault-tech Support). The average call duration for 112 is 24 seconds, while it is 90 seconds for calls to directory inquiry services.

Table 4-5 TURKCELL, Most Called Short Numbers, 2011 Q1

Short Number	Average Call Duration (sec)
112	22,62
11880	90,03
155	49,16
144	144,24
186	67,05

4.6. SMS and MMS

Figure 4-21 shows the number of mobile SMS and mobile MMS on quarterly basis. While the number of MMS is low, the number of SMS shows an increasing trend with the exception of last quarter of 2010. In fact, while the number of SMS has increased by 12.79% to 40.2 billion; the number of MMS is around 21 million for the first quarter of 2011.

Figure 4-21 Mobile SMS and Mobile MMS, Millions

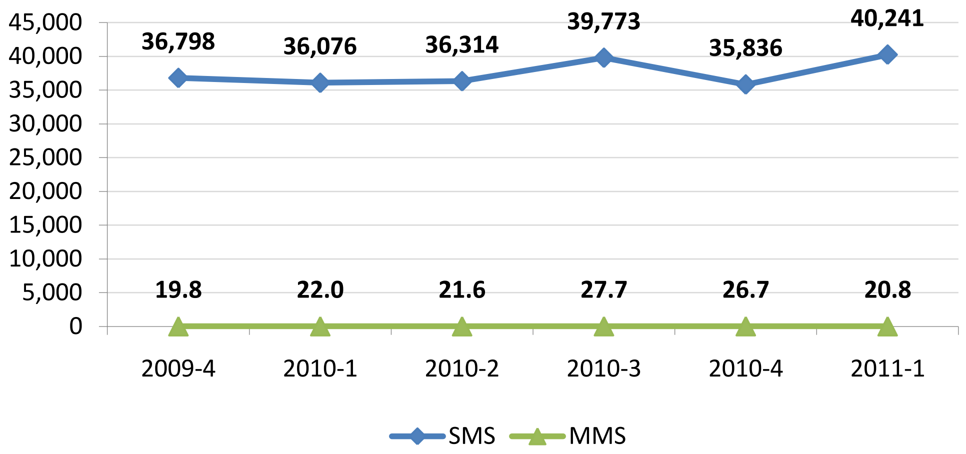
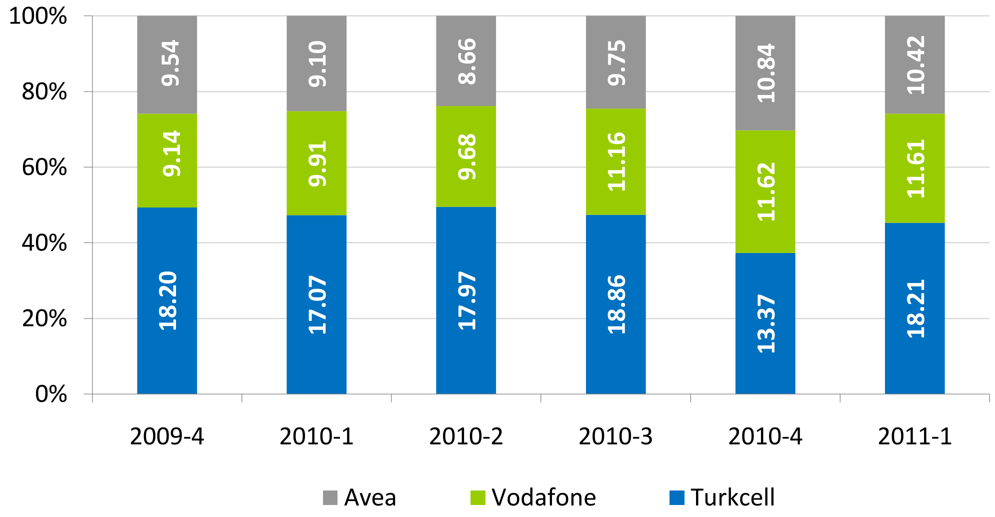


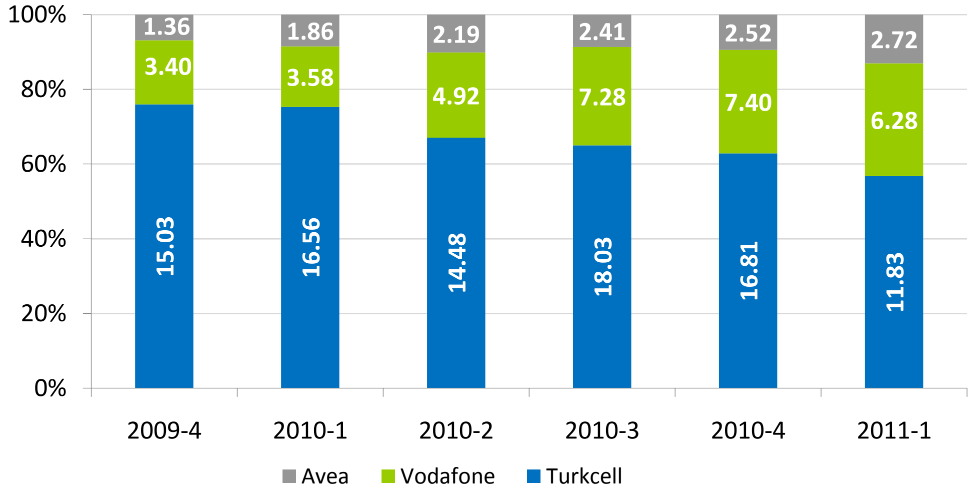
Figure 4-22 illustrates the numbers of SMS sent by customers at operator level. In the first quarter of 2011, data imply 36.2% increase for Turkcell, 3.87% decrease for Avea and 0.09% decrease for Vodafone with respect to previous quarter.

Figure 4-22 Mobile SMS at Operator Level, Billions



On the other hand, the number of MMS sent by customers has decreased 22.1% to 20.8 million in the first quarter of 2011. For the first quarter of 2011, Turkcell’s MMS number decreases 29.63%, Vodafone’s MMS number decreases 15.14% and Avea’s MMS number increases 7.93% (Figure 4-23).

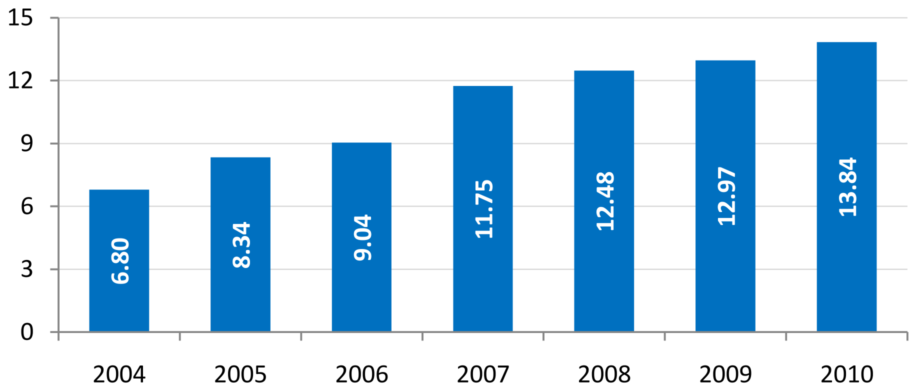
Figure 4-23 Mobile MMS at Operator Level, Millions



4.7. Mobile Revenue

Figure 4-24 illustrates mobile telecommunications service revenue since 2004. In 2010, it has increased by 6.71% with respect to the previous year and reached to 13.84 billion TL

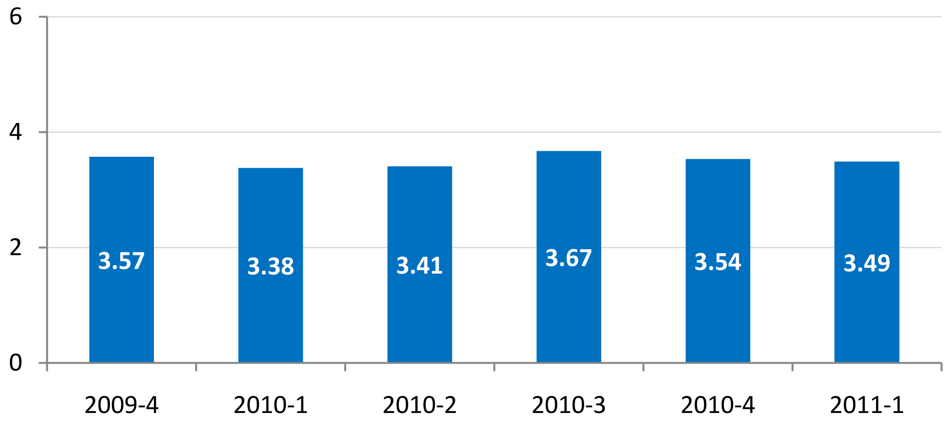
Figure 4-24 Mobile Telecommunications Service Revenue, Billions TL



* The values are calculated by using net sales revenue in income statements of mobile operators.

Figure 4-25 shows mobile revenue on quarterly basis starting from the last quarter of 2009. As of the first quarter of 2011, mobile telecommunications service revenue is about 3.49 billion TL.

Figure 4-25 Quarterly Mobile Telecommunications Service Revenue, Billions TL



* The values are calculated by using information at quarterly basis provided by mobile operators. They are not finalized.

Several financial indicators for mobile operators are given in Figure 4-6. EBITDA margins for Avea, Vodafone and Turkcell are 9.91%, 10.15% and 29.35% respectively.

Table 4-6 Financial Indicators of Mobile Operators, 2011 Q1

	Avea	Vodafone	Turkcell
EBITDA Margin,%	9.91	10.15	29.35
EBIT Margin,%	-12.93	-5.35	19.58

* The values are in conforming to standards of Capital Markets Board of Turkey. On request of Vodafone, the values for EBITDA will be published biannually since Vodafone International publishes those indicators biannually. The value for ROCE will be published annually.

Figure 4-26 shows market shares of mobile operators according to revenue on quarterly basis. As of the first quarter of 2011, the market share of Turkcell is 52.72%, the market share of Vodafone is 27.14% and the market share of Avea is 20.14%. Compared with the same period of previous year, the market share of Turkcell has decreased 6.92 percentage points. In the same period, the market share of Avea has increased 0.99 percentage points and the market share of Vodafone has increased 5.93 percentage points.

Figure 4-26 Market Shares according to Revenue, %

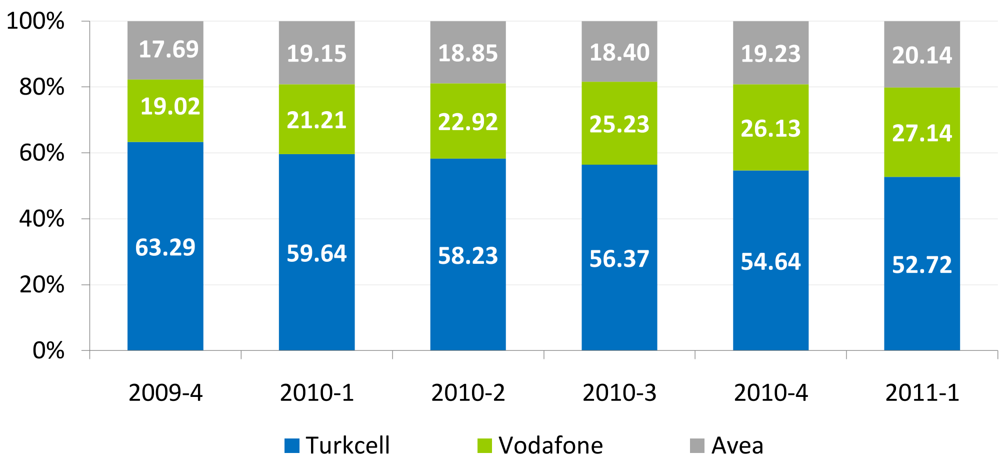


Figure 4-27 illustrates the breakdown of mobile revenue by service types. While voice revenue constituted 81% of mobile revenue in 2008, its share dropped to 78% in 2010. On the other hand, data revenue constituted 1.26% of mobile revenue in 2008, its share increased to 4.36%. The share of SMS and MMS revenues in total mobile revenue was 10% in 2010.

Figure 4-27 Breakdown of Mobile Revenue, %

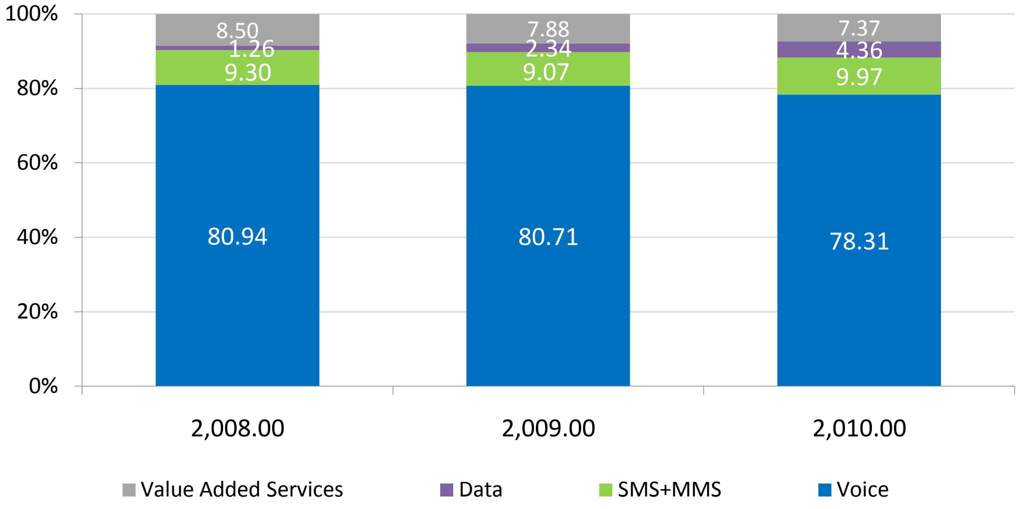
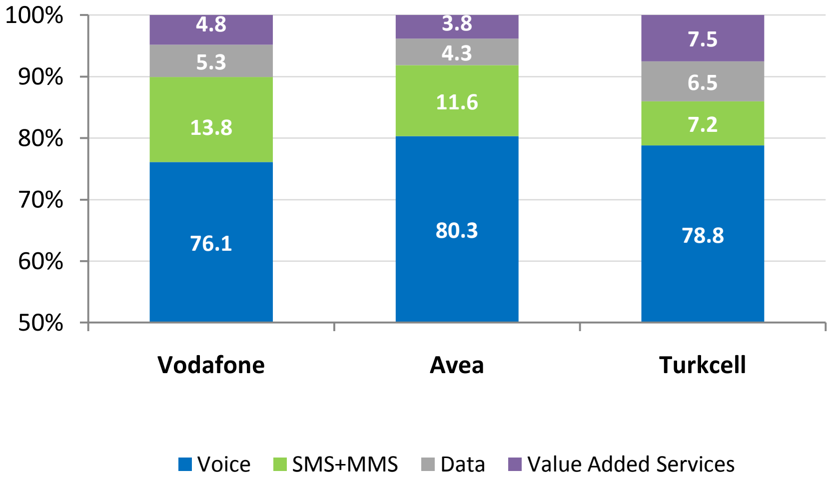


Figure 4-28 shows breakdown of mobile revenue at operator level. The share of voice revenues in overall revenue is 80.3% for Avea, 78.8% for Turkcell and 76.1% for Vodafone. The share of SMS and MMS revenues in overall revenue is 7.2% for Turkcell, 13.8% for Vodafone and 11.6% for Avea. Finally, the share of data revenue in total revenue is 6.5% for Turkcell, 5.3% for Vodafone and 4.3% for Avea.

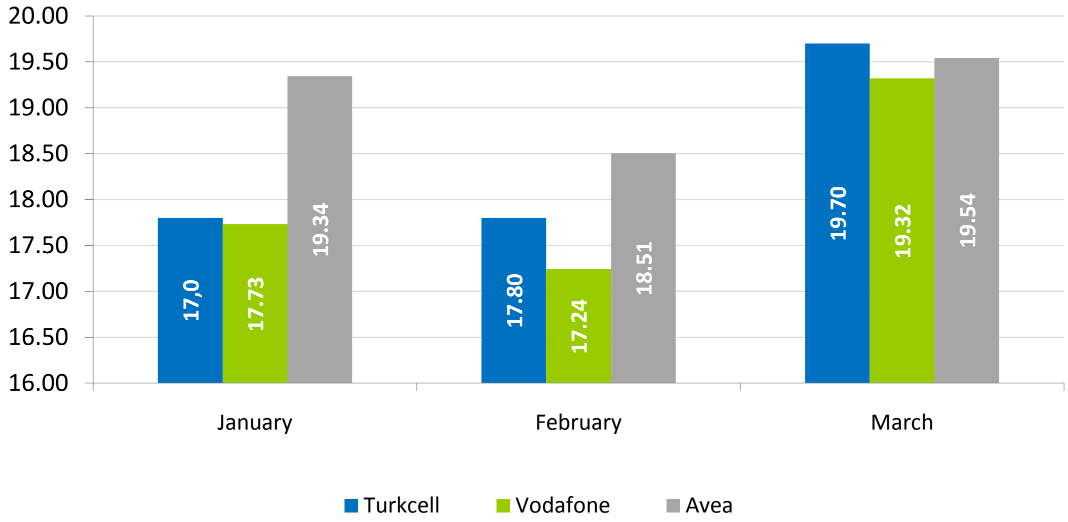
Figure 4-28 Breakdown of Mobile Revenue at Operator Level, 2011 Q1, %



4.8. Average Revenue per User (ARPU)

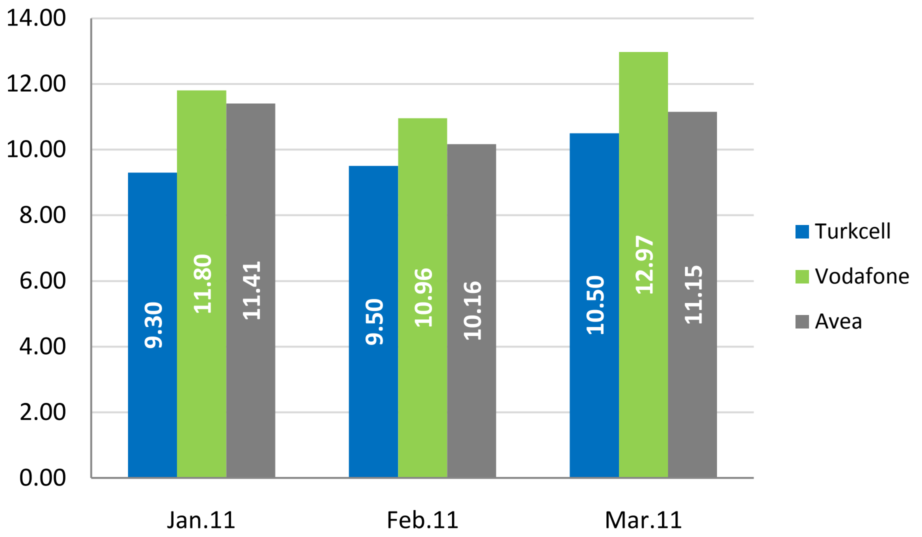
Average Revenue per User is one of the most important indicators that show tariff and usage levels in the sector. Operators' ARPU levels as of the first quarter of 2011 are given in Figure 4-29. As of March 2011, Turkcell's ARPU is 19.70 TL, Vodafone's ARPU is 19.32 TL and Avea's ARPU is 19.54 TL.

Figure 4-29 Mobile ARPU, TL



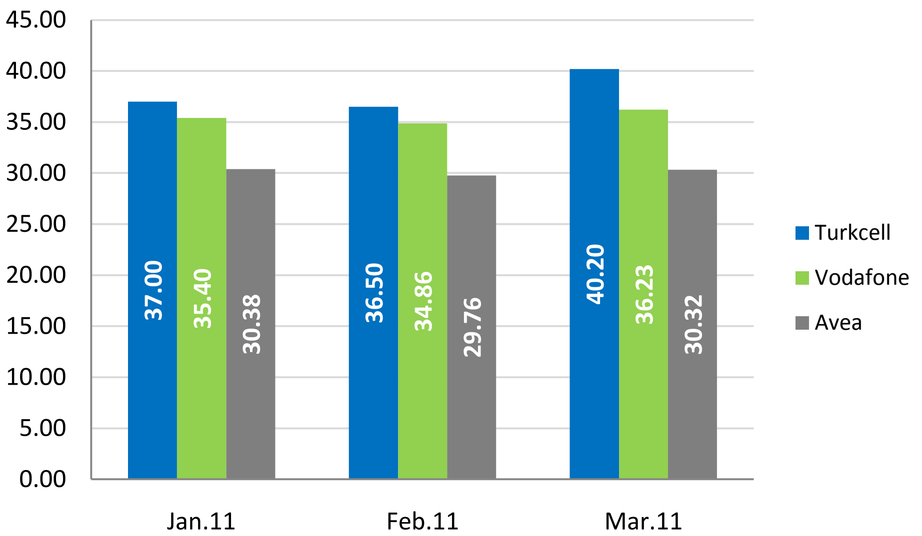
Operators' ARPU figures in the prepaid category for the first quarter of 2011 are given in Figure 4-30. Turkcell's pre-paid ARPU is 10.50 TL, Vodafone's pre-paid ARPU is 12.97 TL and Avea's pre-paid ARPU is 11.15 TL as of March 2011.

Figure 4-30 Pre-Paid Mobile ARPU, TL



In Figure 4-31, operators' post paid ARPU values are given for the first quarter of 2011. As of March 2011, Turkcell's post-paid ARPU is 40.20 TL, Vodafone's post-paid ARPU is 36.23 TL and Avea's post-paid ARPU is 30.32 TL.

Figure 4-31 Post-paid Mobile ARPU, TL



4.9. Monthly Usage (MoU)

MoU is among the most important and widespread indicators to measure mobile communication usage levels. It is defined as the average talk time per subscriber on a monthly basis. Operators MoU values for the first quarter of 2011 are given in Table 4-7. Turkcell's MoU is 206.1 minutes, Vodafone's MoU is 294.8 minutes and Avea's MoU is 316.9 as of March 2011.

Table 4-7 MoU values of Mobile Operators, Minute

	Turkcell	Avea	Vodafone
January	192.8	272.3	257.7
February	178.5	251.8	245.5
March	206.1	316.9	294.8

Table 4-8 compares MoU of some EU countries and Turkey. Turkey with MoU of 229.4 stays above England, Spain, Italy, Portugal and Germany.

Table 4-8 EU MoU Comparison

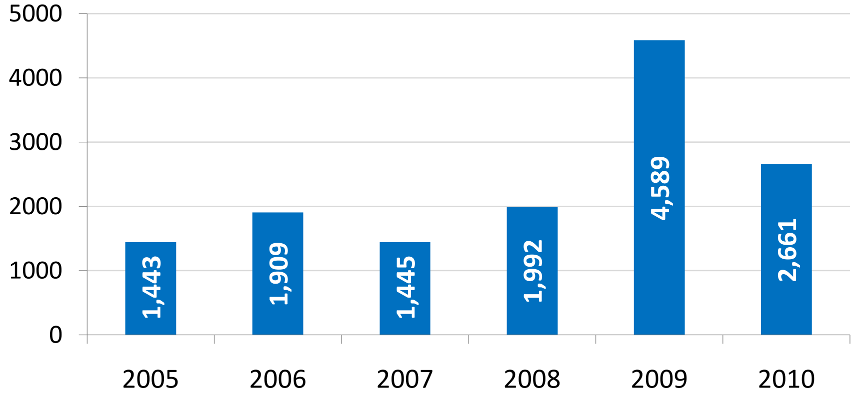
Country	MoU (minutes)
France	248,8
Ireland	248,7
Turkey	**229,4**
England	179,7
Spain	158,2
Italy	137,8
Portugal	129,8
Germany	110,4

*Source: Comreg, 2010 Q2 Market Data Report
** The data for EU countries are belonging to December 2009 and the data for Turkey is belonging to March 2011.

4.10. Investment in Mobile Sector

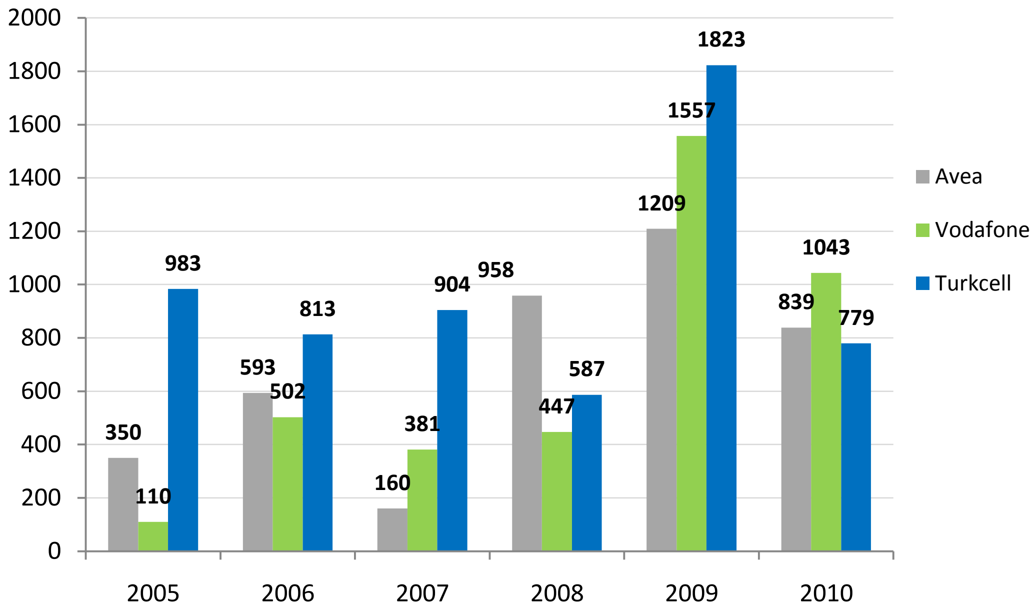
Annual investments of mobile operators between 2004- 2010 are given in Figure 4-32. 2009 is remarkable in that the biggest investment with the figure of 4589 million TL had been made in this year and there was an increase of %132 compared to 2008. Investment amount has reached to 2661 million TL in 2010.

Figure 4-32 Annual Mobile Investment, Million TL



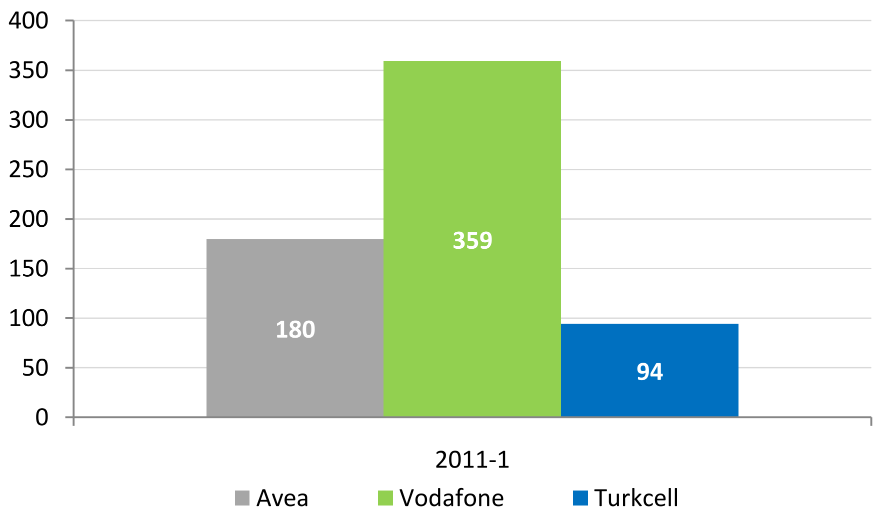
Each of mobile operator's annual investment figures are given in Figure 4-33. There was an increasing trend of investment levels for all operators in 2009 as compared to 2008. In 2010, Vodafone's investment was 1043 million TL, Avea's investment was 839 million TL and Turkcell's investment was 779 million TL.

Figure 4-33 Annual Mobile Investment at Operator Level, Million TL



Mobile operator's investment amounts for the first quarter of 2011 are given in Figure 4-34. In this quarter, Vodafone's investment is 359 million TL, Avea's investment is 180 million TL and Turkcell's investment is 94 million TL.

Figure 4-34 Quarterly Mobile Investment, Million TL



4 Other Services

4.1. Infrastructure Services

There exist 67 operators having authorization of “Infrastructure Operation Services” via “notification” and 7 operators via “right of use” as of May 2011. Total length of fiber optic cables belong to the alternative operators are given in the Table 5-1 as of the first quarter of 2011. The fiber length data in the Table 5-1 includes both the operators’ individual infrastructure and also the backbone and access networks leased from other operators. The alternative operators have a length of 41,495 km fiber optic cable in total as of the first quarter of 2011. The incumbent operator Türk Telekom has a length of 126,518 km fiber optic network as of the end of 2010.

Table 4-1 Fiber Optic Networks of Alternative Operators, 2011 Q1

Total Length owned by individually	Total Length by leased	Total Length of Backbone	Total Length of Access	Total Length in General (km)
32,685	8,810	35,867	5,628	41,495

Market shares of the infrastructure operators with respect to number of subscribers as of the first quarter of 2011 are given in Table 5-2. Metronet is the operator having the largest market share and Vodafone Alternatif, Telnet, Koçnet, İşnet, T-Systems, Equant İstanbul and Superonline follow it.

Table 4-2 Market Shares of Infrastructure Operators based on Subscriber Numbers, 2011 Q1

Operators	Market Share (%)
Metronet	38.88
Vodafone Alternatif	17.52
Telnet	12.33
Koçnet	7.99
İşnet	7.00
T-Systems	4.57
Equant İstanbul	4.11
Superonline (Tellcom)	3.29
Vodafone Altyapı	1.10
Turknet	0.69
Others	2.52

Total number of subscribers of the infrastructure operators is 21,761 as of the first quarter of 2011 and total revenue related to the infrastructure operations is about 113 million TL. (Table 5-3)

Table 4-3 Subscribers and Revenue of Infrastructure Services, 2011 Q1

Number of Subscribers	Total Revenue, TL
21,761	112,844,109

4.2. Cable TV Services

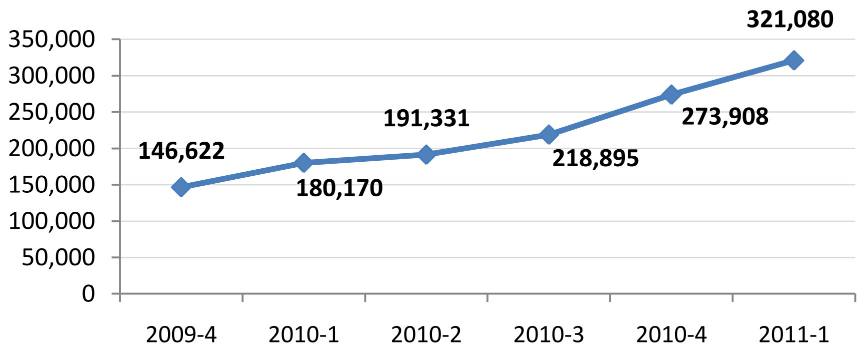
Although 12 operators have been authorized in order to provide cable TV services, only TURKSAT is active in this field on a broad area. TTNet, the other operator having this type of authorization, provides IPTV services. TURKSAT, providing cable broadcasting services under the clauses of its Authorization Agreement, has 1,259,523 cable TV subscribers as of first quarter of 2011 and has 266,819 digital cable TV subscribers getting services under the brand name of “teledünya”. There exist 188 subscribers benefiting from cable telephony services. There have been 11,164 subscribers of IPTV services of TTNet as of the first quarter of 2011 (Table 5-4).

Table 4-4 Cable TV Services, 2011 Q1

Cable TV subscribers	Cable internet subscribers	Cable telephony subscribers	IPTV subscribers	Revenue TL
1,259,523	321,080	188	11,164	28,651,254

Development of cable internet subscribers is given in Figure 5-1. Number of cable internet subscribers has reached to 321,080 by increasing 17.2% compared to previous quarter.

Figure 4-1 Number of Cable Internet Subscribers



4.3. Satellite Communications Services

The operators which have been authorized via notification in the field of satellite communications services provide services like international internet connections, video conferences, and point to point international satellite data lines to 10,892 subscribers using satellite earth stations.

The subscriber and three-month revenue values of these operators and market shares with respect to their subscriber number are given in Table 5-5 and Table 5-6 respectively. Total revenue generated from satellite communication services is 34.3 million TL for the first quarter of 2011.

Table 4-5 Satellite Communications Services, 2011 Q1

Subscribers	Revenue, TL
10,892	34,284,631

Türksat has the largest market share (52.74%) in this field. İşnet, Deksarnet Telekom and BT Telekom follow it. (Table 5-6)

Table 4-6 Market Shares of Satellite Communication Operators based on Subscriber Numbers, 2011 Q1

Operator	Share (%)
Türksat	52.74
İşnet	24.04
Deksarnet Telekom	14.43
BT Telekom	6.11
Other	2.68

4.4. Satellite Platform Services

There exist two active operators having the authorization of Satellite Platform Services. Number of subscribers and three-month revenue values for these services and market shares of those operators with respect to their subscriber numbers are given in Table 5-7 and Table 5-8 respectively. Total number of subscribers is 3,529,624 and the revenue has a value of approximately 29.6 million TL for the first quarter of 2011.

Table 4-7 Satellite Platform Services, 2011 Q1

Subscribers	Revenue, TL
3.529.624	29.572.111

In this field, Digiturk has a market share of 65.05% and D-Smart has a market share of 34.95% according to their subscriber numbers.

Table 4-8 Market Shares of Satellite Platform Operators based on Subscriber Numbers, 2011 Q1

Operator	Share (%)
Digitürk (Digital Platform)	65.05
D-Smart (Doğan TV)	34.95

4.5. GMPCS Services

Three operators provide actively GMPCS mobile telephony services as of the first quarter of 2011. Total number of subscribers is 2,971 and three-month revenue is approximately 3.6 million TL as of the first quarter of 2011 (Table 5-9).

Table 4-9 GMPCS Services, 2011 Q1

Subscribers	Revenue, TL
2.971	3.589.657

4.6. Directory Information Services

There are 12 operators having the authorization of Directory Information Services and 7 of them are actively providing services. Those operators have received 15,443,066 calls with total call duration of 20,487,699 minutes in the first quarter of 2011. Since enquiry by number has not been initiated yet, all calls in this period included only enquiries by name. Total 35,026,158 enquiries made in the period resulted in 14,888,862 individual numbers and 20,137,296 business (institutional) numbers. Quarterly revenue generated is about 19.5 million TL (Table 5-10).

Table 4-10 Directory Information Services, 2011 Q1

Number of Calls	Call Duration (Minutes)	Number of Enquiries by Name	Individual Numbers Enquired	Business Numbers Enquired	Revenue, TL
15,443,066	20,487,699	35,026,158	14,888,862	20,137,296	19,536,410

Table 5-11 shows market shares with respect to number of calls and average call duration of the Directory Information Services providers. The largest market share belongs to BN Telekom with a rate of 64.38% and AssisTT, Infoline, Vastech, Rehberlik Hizmetleri Servisi and Mega follow it.

Table 4-11 Market Shares of Directory Information Operators based on Number of Calls, 2011 Q1

Operator	Share %	Average call duration (min.)
BN Telekom (11880 - 11810 -11844)	64.38	1.45
AssisTT (11818-11820)	27.34	1.05
Infoline (11824)	2.88	0.85
Vastech (11833)	2.84	1.18
Rehberlik Hizmetleri Servisi (11819-11850)	2.31	1.86
Mega (11881-11883)	0.25	1.10

4.7. PMR/PAMR Services

62 PMR/PAMR operators have been authorized via right of use to provide personal and public mobile radio services. Number of subscribers, number of users and revenues of those operators active in this field are given in Table 5-12. This segment of the sector has 1341 subscribers and 28,392 users. Revenue generated from these services is 1.5 million TL in the first quarter of 2011.

Table 4-12 PMR/PAMR Services, Q1 2011

Number of Subscribers	Number of Users	Revenue TL
1341	28,392	1,529,389

5 CONCLUSION

The recent developments in Turkish Electronic Communication Services Market for the first quarter of 2011 can be summarized as follows:

- ✓ Number of authorizations given to operators in electronic communications market is 489.
- ✓ Total net sale of Türk Telekom and mobile operators is approximately 5.34 billion TL.
- ✓ Alternative operators' revenue is 1.1 billion TL and total telecommunications service revenue has reached to 6.4 billion TL.
- ✓ Total investment of Türk Telekom and mobile operators is about 746 million TL.
- ✓ Other (alternative) operators realize 999 million TL investments. Investment / revenue ratio of other operators is 92.6%.
- ✓ EBITDA margin is positive for Türk Telekom and mobile operators.
- ✓ Mobile traffic volume is 33.95 billion minutes and fixed traffic volume is 5.47 billion minutes. A significant part (79.2%) of traffic is mobile to mobile outgoing traffic.
- ✓ There are 25,582 employees in Türk Telekom, 7,452 employees in mobile operators and 4,643 employees in other operators.
- ✓ 67.9% of total employees are working in Türk Telekom, 19.78% in mobile sector and 12.32% in other service areas.

- ✓ The highest portion of employees has a bachelor’s degree (31.9%) and the second highest portion has high school degree.
- ✓ 76.9% of employees are men and 23.1% of employees are women.
- ✓ There are 15.96 million fixed telephony subscribers and penetration level is 21.6%. On the other hand, considering the fact that average household size is around 3.97 in Turkey, it can be concluded that fixed line services reach to significant proportion of Turkish citizens.
- ✓ Number of call by call type users is 557,424 and number of pre-selection type users is 178,339. Number of users calling with alternative operators by using other methods is 265,911. Total number of pre-paid cards sold by these operators is 3,238,215.
- ✓ PSTN revenues are 61% of total fixed revenue, access revenues are 26.9%, leased line revenues are 6.7% and interconnection revenues are 3.5%.
- ✓ Fixed call revenues is (gross) 1344 million TL.
- ✓ About 1 million users make their calls by using alternative FTS operators and quarterly revenues of these operators are 94.5 million TL.
- ✓ Share of FTS operators based on related service revenues is 15%.
- ✓ FTS operators have a market share of 5.4% while Türk Telekom has a market share of 94.6% with respect to the local call traffics.
- ✓ Market shares of FTS operators and Türk Telekom in inter-city calls are 11% and 89% respectively.

- ✓ FTS operators have a share of 37% while Türk Telekom’s share is 63% in calls going to mobile.
- ✓ Market shares of Türk Telekom and FTS operators in international calls are 65% and 35% respectively.
- ✓ Türk Telekom has a share of 41% and FTS operators have a share of 59% in international incoming calls terminated on the fixed network.
- ✓ Shares of FTS operators and Türk Telekom in international incoming calls terminated on the mobile networks are 77% and 23% respectively.
- ✓ FTS operators have a share of 9.1% while Türk Telekom has a share of 90.5% in total call traffic originated from fixed networks.
- ✓ The most frequently called short number from Türk Telekom is 163 (Telekom Bill Enquiry).
- ✓ Germany is the most frequently communicated country from Türk Telekom.
- ✓ MoU for fixed subscribers is 181.4 minutes.
- ✓ Average call origination traffic per fixed subscriber is about 112.3 minutes.
- ✓ Türk Telekom’s ARPU for voice services is 22.4 TL as of March 2011.
- ✓ Over 55,000 fixed numbers have been ported as of May 2011.
- ✓ Number of broadband internet subscribers has reached to 9.1 million.
- ✓ Quarterly gross revenue of all ISPs is 754 million TL.

- ✓ 93% of broadband subscribers use xDSL technologies in Turkey whereas this ratio is 78% for EU in July 2010. Share of cable modem technology in EU is 16% as of July 2010. On the other hand cable modem technology’s share in Turkey is 4% as of the first quarter of 2011.

- ✓ Number of mobile broadband subscribers is 1,862,888 and total usage is 5.460 TByte.

- ✓ Nearly 70% of fixed broadband users in Turkey prefer subscription types up to 8 Mbps download speeds.

- ✓ Connections having speeds at between 2Mbps and 10 Mbps constitutes 58% of all subscriptions in EU average whereas these connections constitute 72% of all subscriptions in Turkey. On the other hand, broadband connections having speeds at more than 10 Mbps have 29% share in all broadband connections in EU whereas this figure is 7% for Turkey.

- ✓ According to EU Average 44% of broadband market share belong to incumbent operator, whereas incumbent’s market share is 85% in Turkey.

- ✓ Fixed broadband penetration rate based on population in Turkey is 9.8% whereas EU average is 25.6%. Mobile broadband penetration rate for Turkey is 2.7% whereas EU average is 6.1%. Fixed broadband penetration based on households in EU-average is 61.4%. On the other hand fixed broadband penetration based on households in Turkey is 38.9%.

- ✓ There are 248,643 ".tr" domain names in "Nic.tr". Of all the ".tr" domain names, 68.1% belong to "com.tr", 8.7% belong to "gen.tr", 4.1% belong to "k12.tr" and 4% belong to "gov.tr"

- ✓ There are 61.7 million mobile subscribers corresponding 84% penetration rate.

- ✓ Number of 3G subscribers has reached to 21.4 million.

- ✓ Mobile penetration ratio exceeds 100% if we exclude 0-9 year's old population.

- ✓ Number of post-paid mobile broadband subscribers is 1,335,351 and number of pre-paid mobile broadband subscribers is 527,537.

- ✓ Nearly 67% of total mobile subscribers are in the pre paid category.

- ✓ While 30% of mobile users have 3G subscriptions in EU, this figure reaches to % 35 in Turkey.

- ✓ Over 28.6 million people have ported their mobile numbers as of May 2011.

- ✓ Turkcell has 53.55%, Vodafone has 27.29% and Avea has 19.15% market share according to subscriber numbers.

- ✓ Churn rates are 3.34% for Turkcell, 4.12% for Vodafone and 4.57% for Avea as of March 2011.

- ✓ Mobile traffic has reached to 33.95 billion minutes. 68.78% of this traffic is on-net traffic. 23.14% of this traffic is traffic going to other mobile operators.

- ✓ Germany is the most frequently communicated country for both sent and received traffic in mobile networks.

- ✓ Most frequently called short number from each mobile operator is 112 (Emergency Service).

- ✓ Number of SMS is 40.2 billion and number of MMS is nearly 21 million.

- ✓ Voice revenues make up 80.3% of Avea's mobile revenue, 78.8% of Turkcell's revenue and 76.1% of Vodafone's revenue. SMS+MMS revenues make up 7.2% of Turkcell's revenue and corresponding figures are 11.6% for Avea and 13.8% for Vodafone. Data service revenues make up 6.5% of Turkcell's revenue and corresponding figures are 4.3% for Avea and 5.3% for Vodafone.

- ✓ Average revenue per user is 19.70 TL for Turkcell, 19.32 TL for Vodafone and 19.54 TL for Avea.

- ✓ Turkcell's MoU is 206.1 minutes, Vodafone's MoU is 294.8 minutes and Avea's MoU is 316.9.

- ✓ Turkey with MoU of 229.4 minutes stays above England, Spain, Italy, Portugal and Germany.

- ✓ Alternative operators' have a length of 41,495 km fiber optic cable as of the first quarter of 2011. The incumbent operator Türk Telekom has 126,518 km fiber optic network as of the end of 2010.

- ✓ Number of subscribers of infrastructure operators is 21,761 and the related quarterly revenue is nearly 113 million TL.

- ✓ TURKSAT, providing cable broadcasting services under the clauses of its Authorization Agreement, has 1,259,523 cable TV subscribers and has 266,819 digital cable TV subscribers getting services under the brand name of “teledünya”. There exist 188 subscribers benefiting from cable telephony services.

- ✓ Number of cable internet subscribers is 321,080.
- ✓ Satellite communication operators provide services to 10,892 subscribers and revenue generated from this service is approximately 34.3 million TL.
- ✓ Subscriber number in satellite platform services is 3,529,624 and corresponding revenue is approximately 29.6 million TL.
- ✓ Subscriber number in GMPCS mobile telephony services is 2971 and corresponding revenue is approximately 3.6 million TL.
- ✓ Number of calls for directory services is 15,443,066 and the corresponding call time is 20,487,699 minutes. Related revenue is approximately 19.5 million TL.
- ✓ Number of subscribers in PMR/PAMR services is 1341, number of users is 28,393 and corresponding revenue is approximately 1.5 million TL.