Telecommunications markets indicators in the Kingdom of Bahrain

March 2010

هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority

Contents

Introduction

The collection, analysis and dissemination of accurate and timely market information significantly enhances the design of effective, proportional and efficient market regulation.

Unless specified, the analysis presented in this Report is based on data collected from licensed operators by TRA.

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This is the third Telecommunications Markets Indicators Report. This report covers a large range of telecommunications services indicators, such as the number of subscribers, penetration rates, calls usage and telecommunications revenues.

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Services offered by active operators

Operator Name	National Fixed	International Calls	Mobile	Internet	Leased line	Other data service[1]
2Connect	✓	✓		✓	✓	✓
Batelco	✓	✓	✓	✓	✓	✓
BT Solutions LTD					✓	✓
Business Communication Networks		✓				
Etisalcom	✓	✓		✓	✓	✓
Fakhro IT Services		✓				
Kalaam Telecom	✓	✓		✓	✓	
Kulacom Communications S.P.C.	✓	✓		✓	✓	✓
Light Speed	✓	✓		✓	✓	
Mena Telecom	✓	✓		✓		✓
Northstar		✓		✓		
Nuetel Communications	✓	✓		✓		
Orbit				✓		
Viacloud		✓				
Zain (Bahrain)	✓	✓	✓	✓		
Ascentech Telecom		✓				
EQUANT EGN BV						✓
Rawabi Telecommunications & Software	✓	✓		✓	✓	✓
Total	**10**	**15**	**2**	**12**	**8**	**8**

[1] For example, National frame relay service, International managed leased line services and International MPLS/IPVPN service.

Main telecommunications indicators

Indicator	2005	2006	2007	2008	Q2 2009	Compound Annual Growth Rate - CAGR
Population[1]	888,824	960,425	1,039,297	1,106,509	1,169,853	
Number of households[2]	113,441	116,533	158,823	167,079	176,092	
Fixed line services						
Number of fixed lines	193,520	194,196	203,541	220,386	229,767	4%
Fixed line penetration	22%	20%	20%	20%	20%	
Number of residential fixed lines	121,918	122,343	116,951	130,121	138,009	3%
Percentage of households which have a fixed line	n/a	n/a	74%	78%	78%	
Mobile services						
Prepaid subscribers	635,277	756,268	923,702	1,210,163	1,150,764	16%
Postpaid subscribers	131,826	151,165	192,277	230,619	232,461	15%
Total mobile subscribers	767,103	907,433	1,115,979	1,440,782	1,383,225	16%
Mobile penetration as a % of total population	86%	94%	107%	130%	118%	
Internet services						
Dial-up subscribers	28,867	21,466	6,425	4,508	3,884	-39%
Broadband subscribers	21,432	38,628	73,563	109,994	135,213	58%
Total Internet subscribers	50,299	60,094	79,988	114,502	139,097	29%
Internet penetration	6%	6%	8%	10%	12%	19%
Broadband penetration	2%	4%	7%	10%	12%	55%
Number of residential fixed broadband subscribers	18,764	34,858	62,699	85,419	109,295	55%
Percentage of households that have fixed broadband	17%	30%	39%	51%	62%	

Notes:
1- The population head count is sourced from the Central Informatics Organization. Q2 2009 population is based on TRA estimation.
2- The Central Informatics Organization has not yet revised the number of households; therefore TRA has extrapolated the number of households for the year 2007, 2008 and Q2 2009 based on 2006 data for its own analysis.
3- The number of subscribers refers to the end of the year and the number of minutes represents the cumulative minutes during the year.

Fixed telephony services

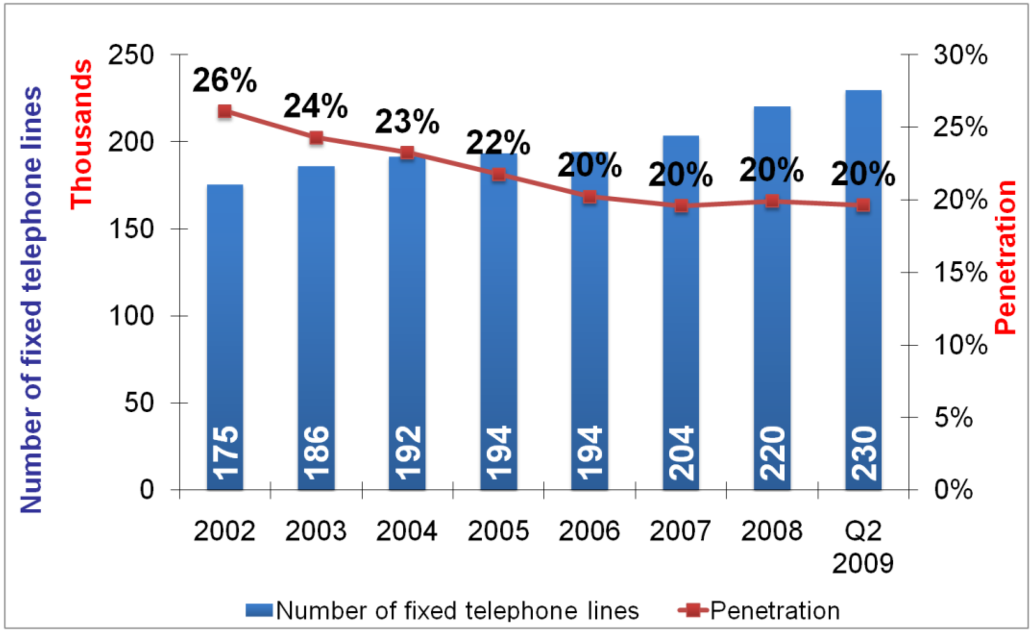
- By the end of Q2 2009, there were about 230,000 fixed lines compared to 220,000 in 2008.
- Fixed telephony lines consist of 204,000 PSTN and 26,000 wireless lines.
- The number of fixed lines grew by 4% between 2008 and Q2 2009 due to the growth of fixed wireless.
- Although the number of telephony lines is increasing, fixed lines penetration is increasing only slightly. This is due to the rapid increase in the population.

Number of fixed telephony lines

Number of fixed telephone lines (in Thousands)	2002	2003	2004	2005	2006	2007	2008	Q2 2009
Fixed PSTN	175,446	185,756	191,553	193,520	194,196	202,469	206,301	203,964
Fixed Wireless						1,072	14,085	25,803
Total	175,446	185,756	191,553	193,520	194,196	203,541	220,386	229,767

Source: TRA analysis

Growth in the number of fixed telephony lines



Source: TRA analysis

Fixed line outgoing minutes

- **Fixed telephony traffic increased by 3% between Q2 2008 and Q2 2009.**

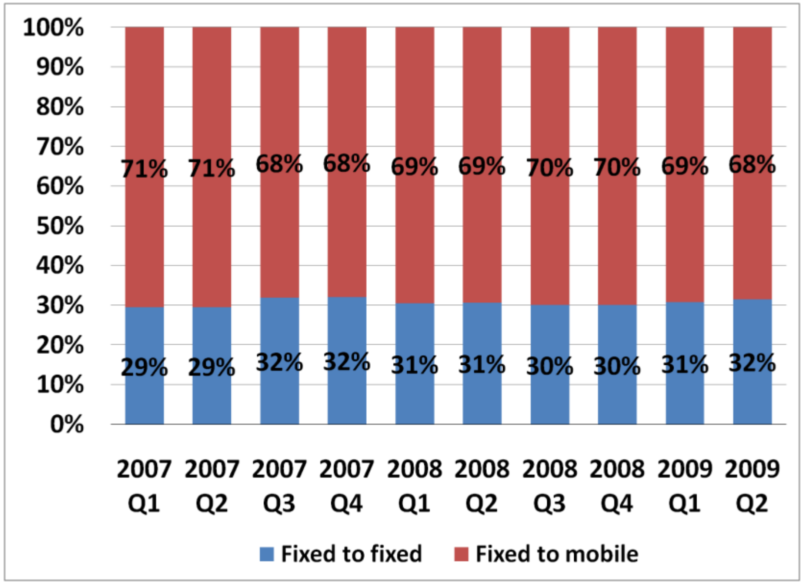
Fixed lines outgoing minutes (volume)

Fixed telephony traffic (in millions)		Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008	Q4 2008	Q1 2009	Q2 2009	Q2 08 - Q2 09 Growth rate	Q2 07 - Q2 09 CAGR
National outgoing minutes to fixed		70	73	77.3	78.4	78.1	83.6	72.5	75.3	77.6	81.5	-3%	6%
National outgoing minutes to mobile		167.6	174.4	165.4	166	178	189.2	169.4	175.3	174.7	177.2	-6%	1%
International outgoing minutes	IDD	n/a	n/a	12.25	11.74	12.48	12.64	10.305	8.85	11.6	11.6	-8%	
	CPS	n/a	n/a	1.3	1.34	1.4	1.5	1.4	1.4	1.4	1.8	20%	
	PPCC	n/a	n/a	11.9	12.5	11.88	10.2	12.9	15.2	30.1	33.5	228%	
Total				**268.2**	**270**	**281.9**	**297.1**	**266.5**	**276.1**	**295.4**	**305.6**	**3%**	

Source: TRA analysis

- **About 70% of national traffic originated from fixed lines are fixed-to-mobile calls.**

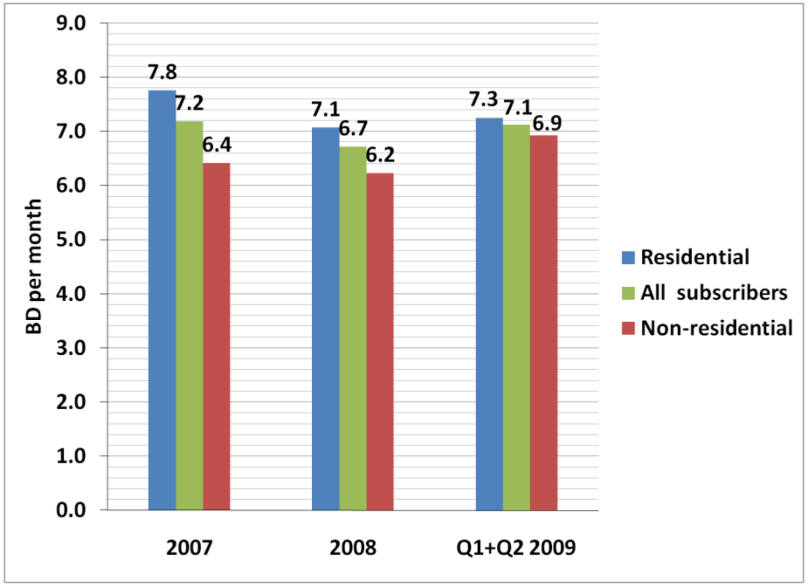
Proportion of fixed national calls (Minutes)



Source: TRA analysis

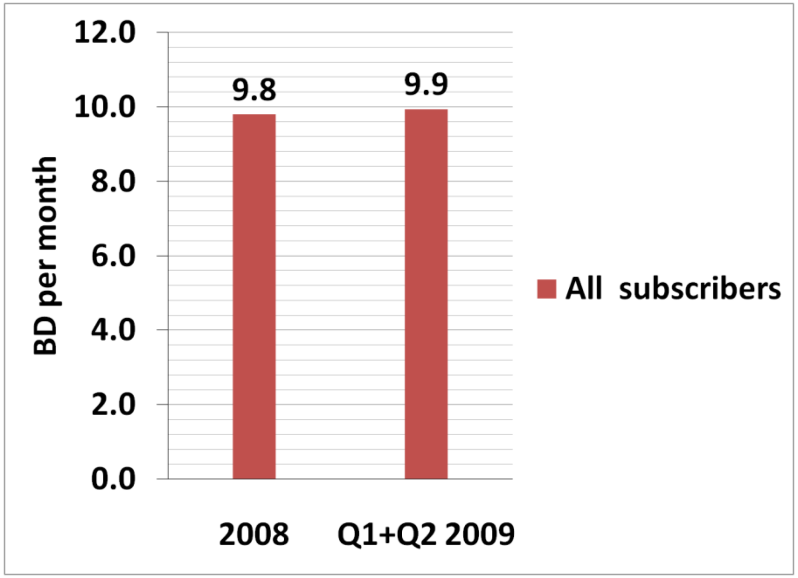
Average revenue per fixed line user (ARPU)

Average revenue per user (excluding international calls revenues)



Source: TRA analysis

Average revenue per user (including international calls revenues)



Source: TRA analysis

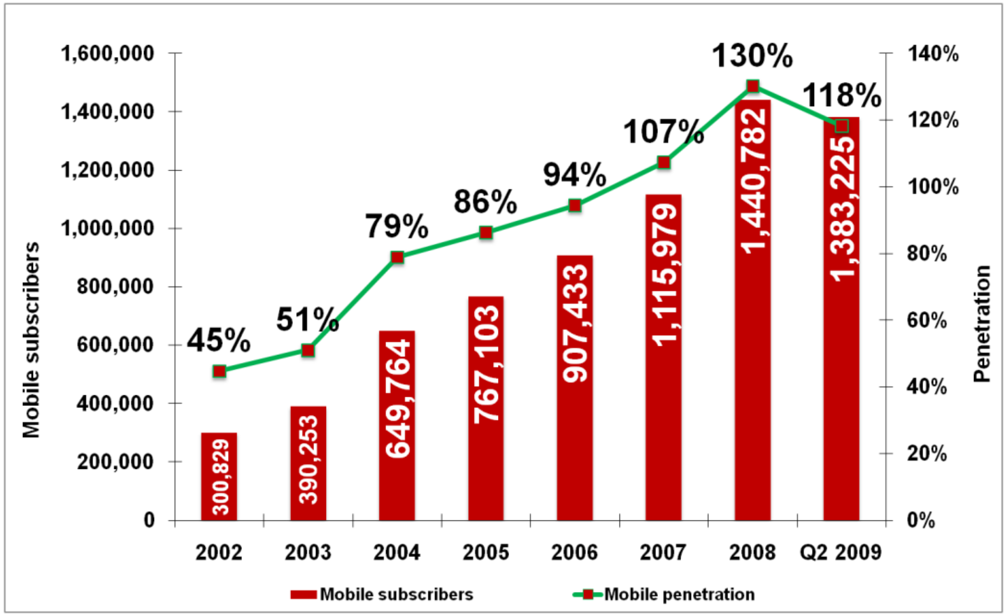
Note:
-Fixed lines revenues includes usage, monthly rental and line connections revenues.
-All subscribers ARPU's are weighted averages.

Mobile services

➢At the end of Q2 2009 there were about 1.4 million mobile subscribers in Bahrain.

➢In Q2 2009 mobile penetration in Bahrain was 118%.

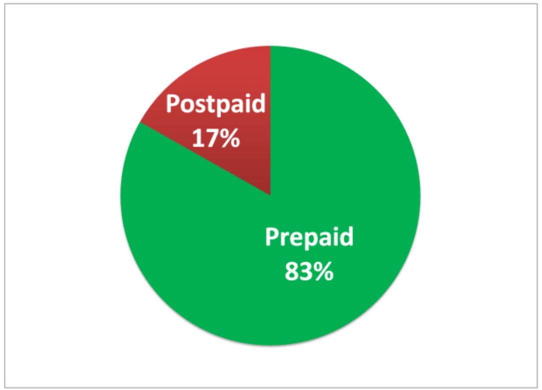
Growth in the number of mobile subscribers



Source: TRA analysis

➢The mobile market in Bahrain is predominantly prepaid. Prepaid subscribers represented 83% of mobile subscribers at the end of Q2 2009.

Proportion of prepaid and postpaid subscribers – Q2 2009



Source: TRA analysis

Note: the drop in the number of mobile subscribers in Q2 2009 is due to prepaid SIM card registration and compliance by Batelco with the ITU active prepaid subscribers' definition.

Mobile traffic

Mobile outgoing minutes (volume)

Mobile traffic (in millions)		2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2009 Q1	2009 Q2	Q2 08 - Q2 09 Growth rate	Q2 07 -Q2 09 CAGR
Mobile outgoing minutes (National)	From Prepaid	212.1	224.3	213	252.2	249.2	270	266.9	295.2	290.7	307.4	14%	17%
	From Postpaid	142.6	156.4	177.9	194.3	178.9	191.9	178.9	203.2	204.9	219	14%	18%
International outgoing minutes	International Direct Dial	n/a	n/a	48.1	75.1	98.5	133.1	129.7	119.2	123	117.2	-12%	
	PPCC	n/a	n/a	81.8	87.9	75.6	77.9	108.1	110	155.3	184.5	137%	
Total				**520.8**	**609.5**	**602.2**	**672.9**	**683.6**	**727.6**	**773.9**	**828.1**	**23%**	

Source: TRA analysis

- Most of the mobile traffic originates from prepaid subscribers.
- Total mobile outgoing minutes grew by 23% between Q2 2008 and Q2 2009.

Roaming traffic (in millions)	2007 Q3	2007 Q4	2008 Q2	2008 Q3	2008 Q4	2009 Q1	2009 Q2	Growth Q2 2008 - Q2 2009
Outbound[1]	11.6	9.2	10.6	14.0	16.9	16.7	18.6	75%
Inbound[2]	15.6	17.2	19.1	19.9	21.4	21.7	18.4	-4%
Total	**27.2**	**26.4**	**29.7**	**33.9**	**38.3**	**38.4**	**37.0**	25%

Source: TRA analysis

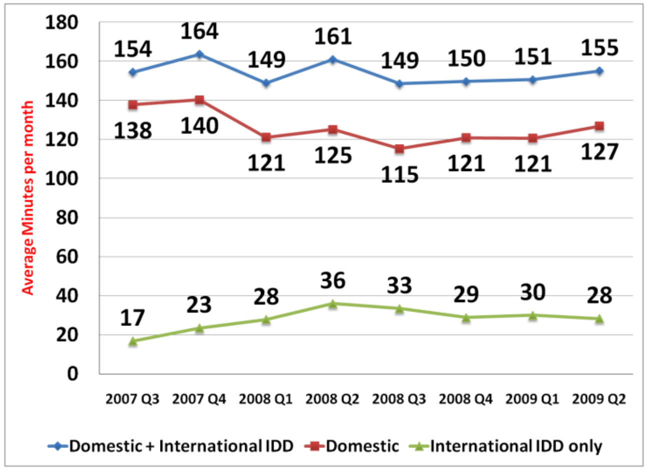
- Outbound roaming traffic increased by 75% between Q2 2008 and Q2 2009.
- Inbound roaming traffic decreased by 4% between Q2 2008 and Q2 2009.

[1] Outbound traffic: Total number of roaming minutes made by own mobile subscribers to make and receive calls when outside the country (outside home network), e.g., when traveling abroad

[2] Inbound traffic: Total number of minutes made by visiting (foreign) subscribers when making and receiving calls within Bahrain.

Mobile traffic (Minutes and SMS)

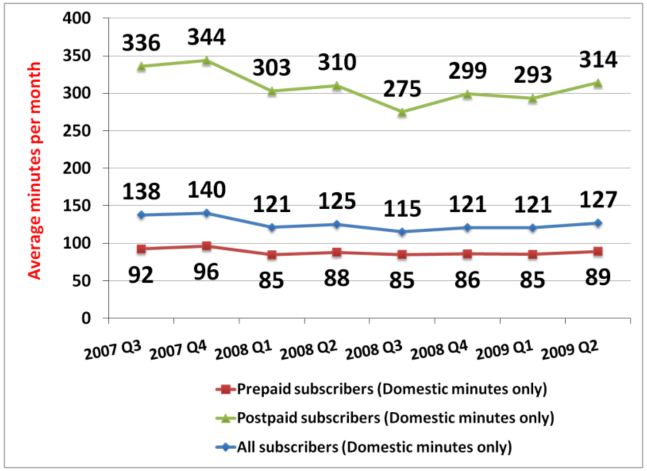
Average monthly outgoing minutes per subscriber (Domestic and International traffic)



Source: TRA analysis

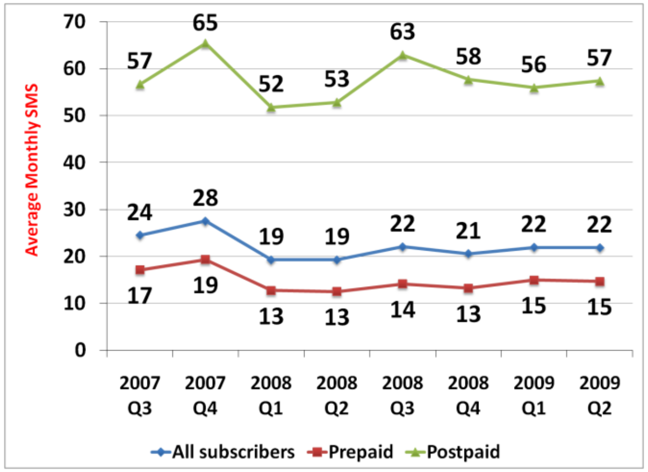
Note: International traffic are IDD traffic only.

Average monthly outgoing minutes per subscriber (Domestic traffic only)



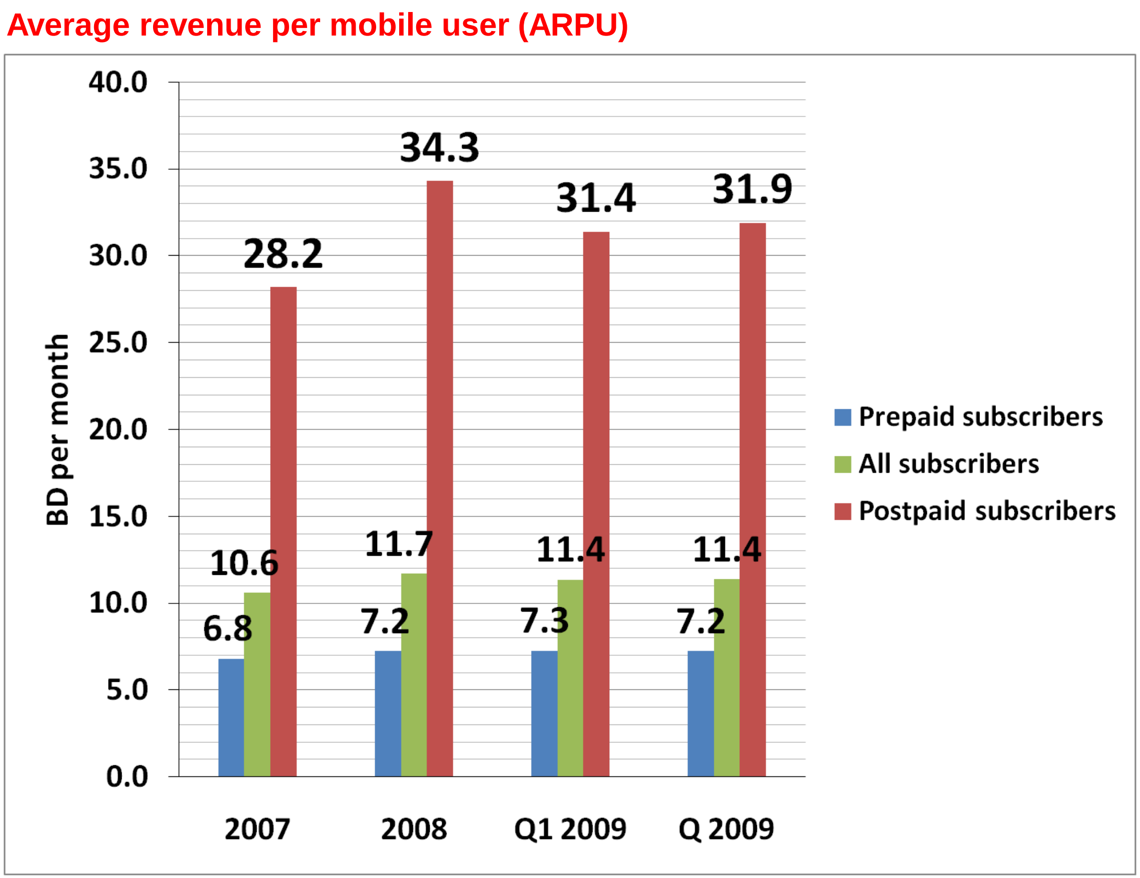
Source: TRA analysis

Average monthly outgoing SMS



Source: TRA analysis

Average revenue per mobile user (ARPU)

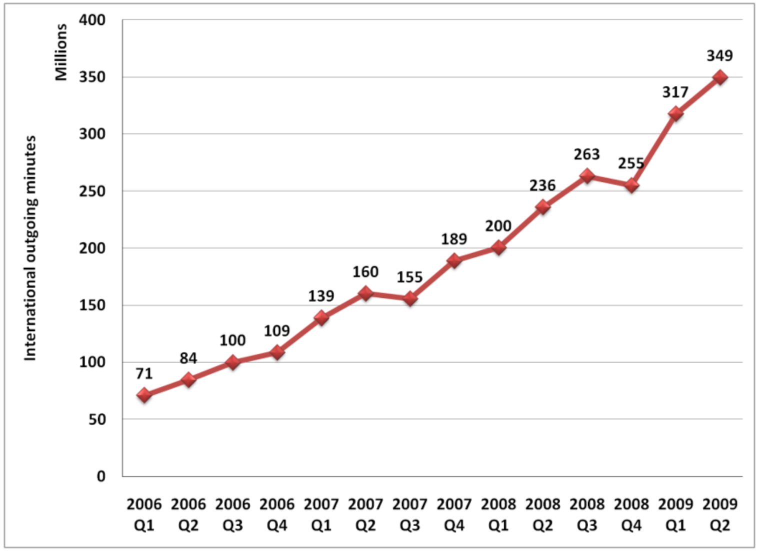


Source: TRA analysis

Note:
-Revenues including connection charges, usage charges (including international direct dial usage) and inbound revenue.
-All subscribers ARPU's are weighted averages.

International Outgoing minutes

Growth in the international outgoing minutes



Source: TRA analysis

International outgoing minutes

Minutes (in million)[1]	2005	2006	2007	2008	Q1 2009	Q2 2009	CAGR 2005 - 2008
GCC	70.00	93.10	109.00	106.00	36.20	39.20	15%
Zone 2	95.00	167.00	400.00	686.50	227.30	251.10	93%
Zone 3	30.00	40.30	59.00	53.00	19.60	21.30	21%
Zone 4	45.30	63.00	74.10	108.30	34.30	37.80	34%
Total	**240.30**	**363.40**	**642.10**	**953.80**	**317.40**	**349.40**	58%

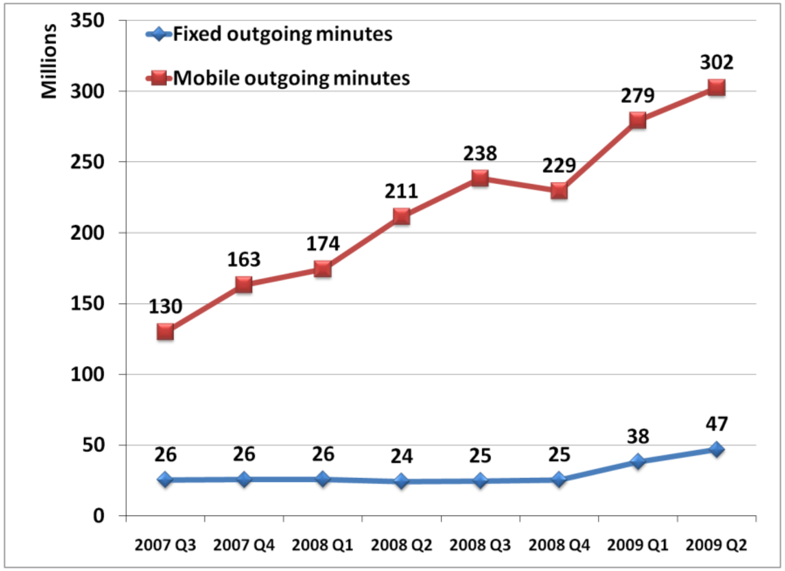
Source: TRA analysis

International traffic is still growing rapidly. Between Q2 2008 and Q2 2009, international traffic grew by 50%.

[1] GCC countries: Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.
Zone 2: Calls to South Asian countries (Bangladesh, India, Pakistan, the Philippines and Sri Lanka).
Zone 3: Calls to other major destinations (Australia, Canada, France, Germany, Greece, Italy, Iran, New Zealand, Thailand, UK, USA and Yemen).
Zone 4: Calls to all other international destinations .

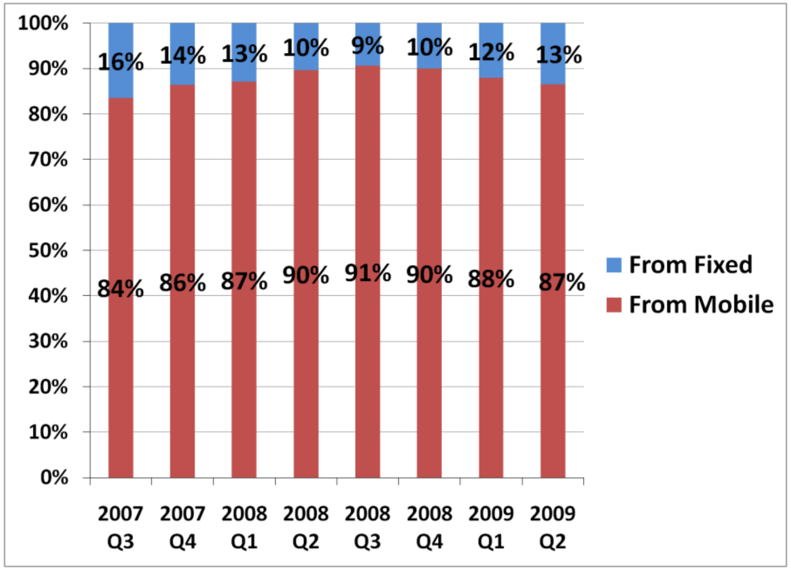
International Outgoing minutes

International outgoing minutes originated on mobile[1] grew by 43% between Q2 2008 and Q2 2009.



Source: TRA analysis

International outgoing minutes originated on mobile represents 87% of the total international outgoing minutes in Q2 2009.

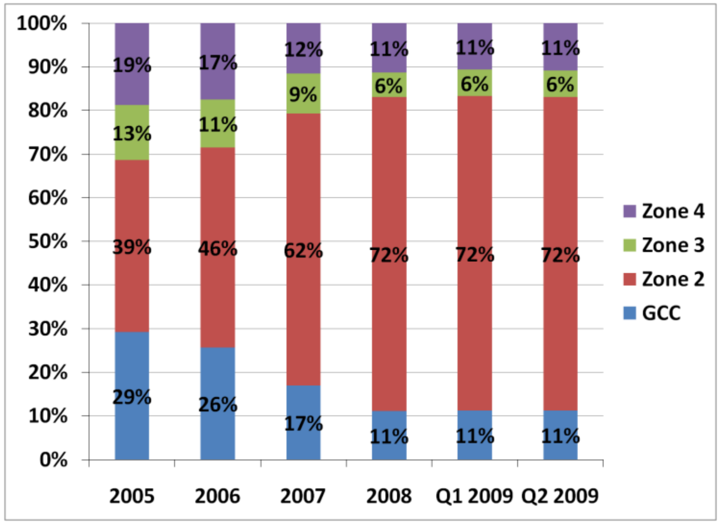


Source: TRA analysis

[1] Traffic originated from mobile including IDD and PPCC traffic. Traffic originated from fixed including IDD, CPS and PPCC traffic.

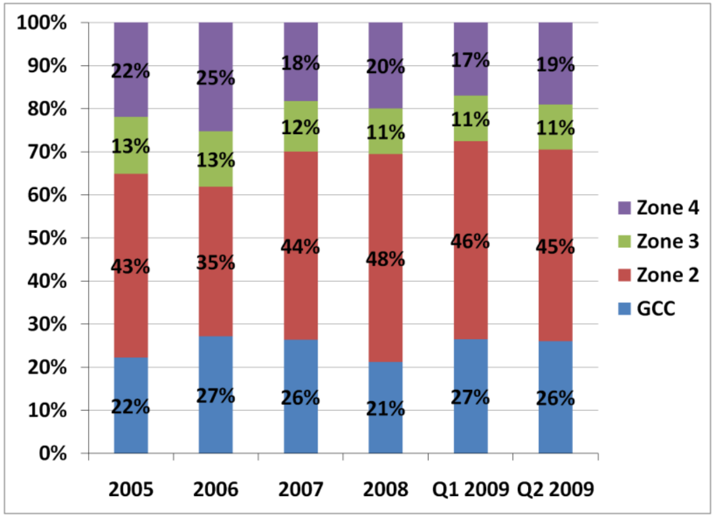
International traffic Vs. revenues

About 72% of international calls (traffics) are made to South Asian countries in Q2 2009



Source: TRA analysis

About 45% of international calls (revenues) are generated from South Asian countries in Q2 2009



Source: TRA analysis

International Calls revenues

➢Revenues originated from calls to zone 2 represent 45% of the total revenues in Q2 2009.

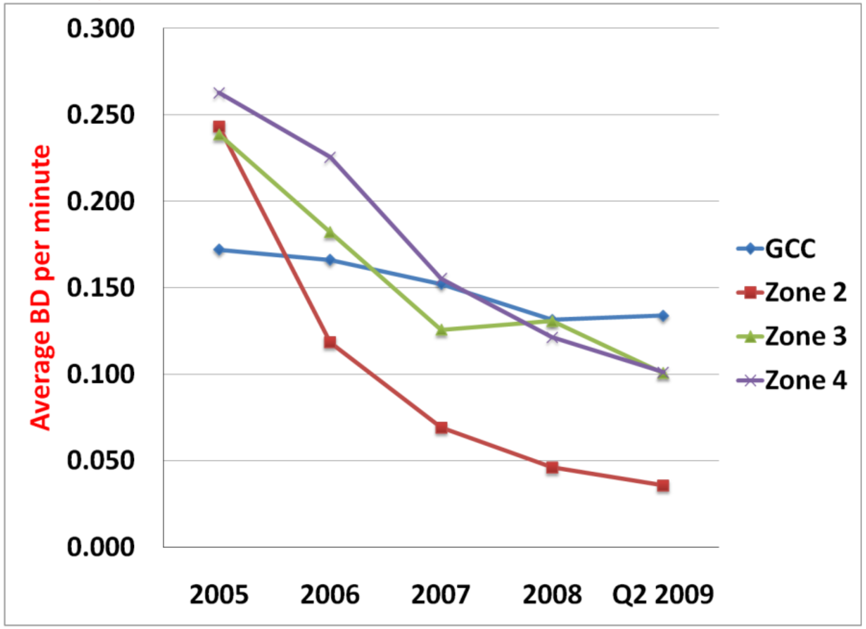
International calls revenues

Revenues (in million)	2005	2006	2007	2008	Q1 2009	Q2 2009
GCC	12.10	15.40	16.60	13.90	5.30	5.20
Zone 2	23.20	19.70	27.60	31.60	9.20	8.90
Zone 3	7.20	7.30	7.40	6.90	2.10	2.10
Zone 4	11.90	14.30	11.50	13.10	3.40	3.80
Total	**54.40**	**56.70**	**63.10**	**65.50**	**20.00**	**20.00**

Source: TRA analysis

➢The average revenue per minute for zone 2 is the smallest. It has declined from about 240 fils in 2005 to about 36 fils in Q2 2009.

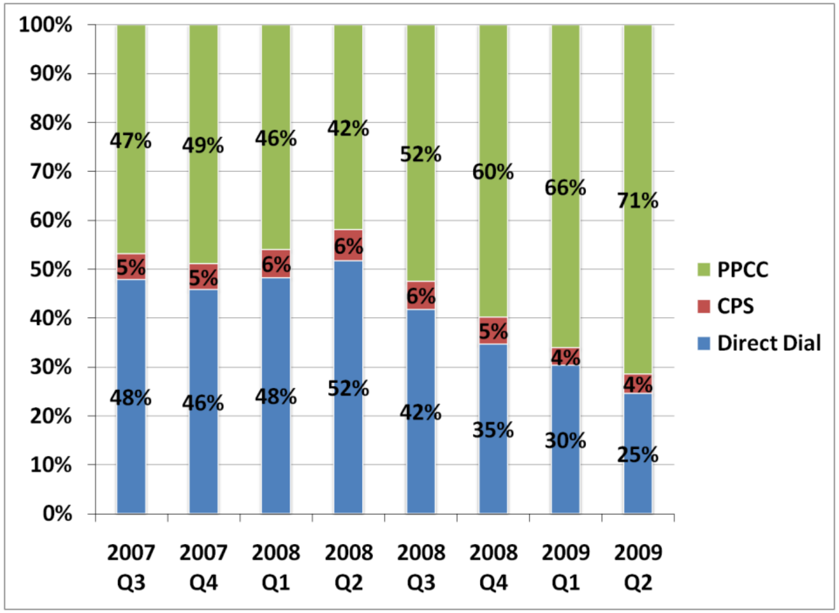
Average revenue per minute by zone



Source: TRA analysis

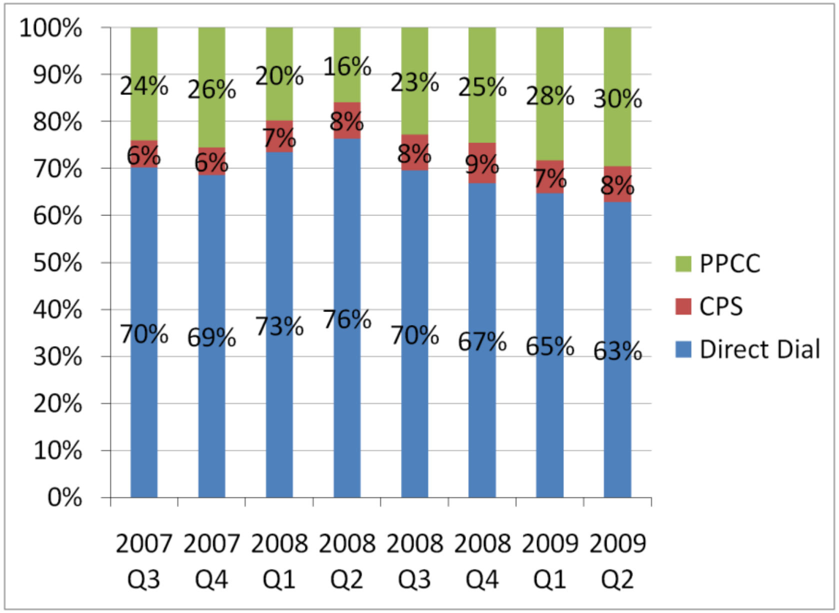
Distribution of international minutes/revenues by access type - Fixed telephony

Distribution of international **minutes** originated from fixed by access type



Source: TRA analysis

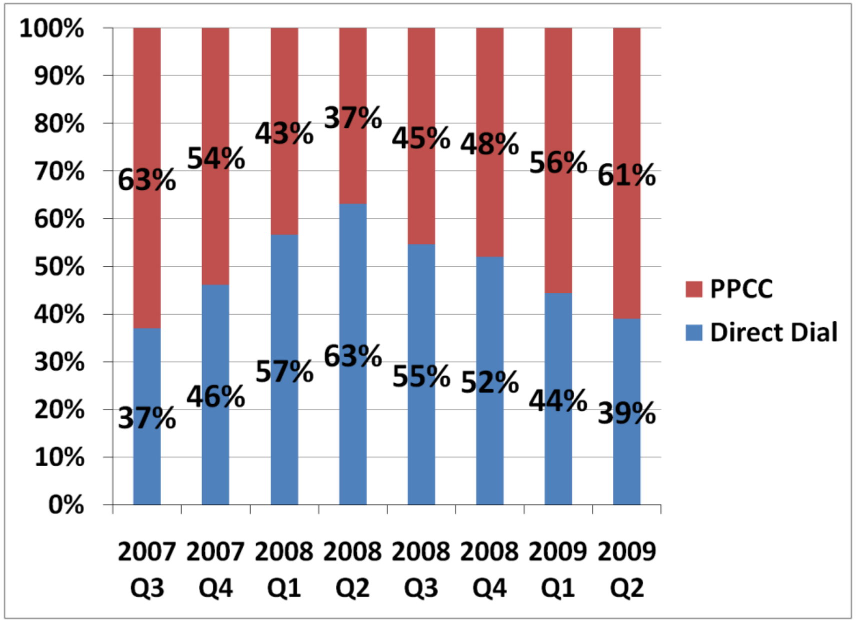
Distribution of international **revenues** originated from fixed by access type



Source: TRA analysis

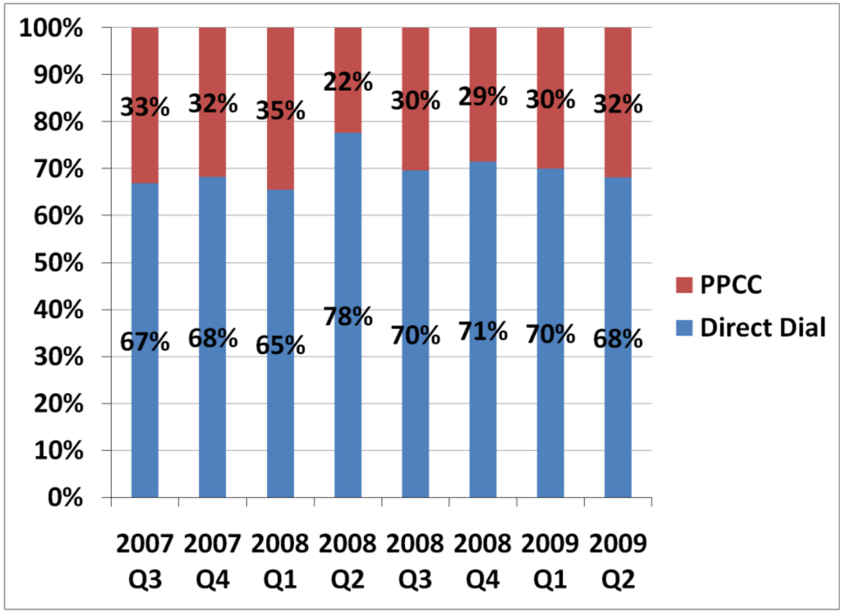
Distribution of international minutes/revenues by access type - Mobile

Distribution of international **minutes** originated from mobile by access type



Source: TRA analysis

Distribution of international **revenues** originated from mobile by access type

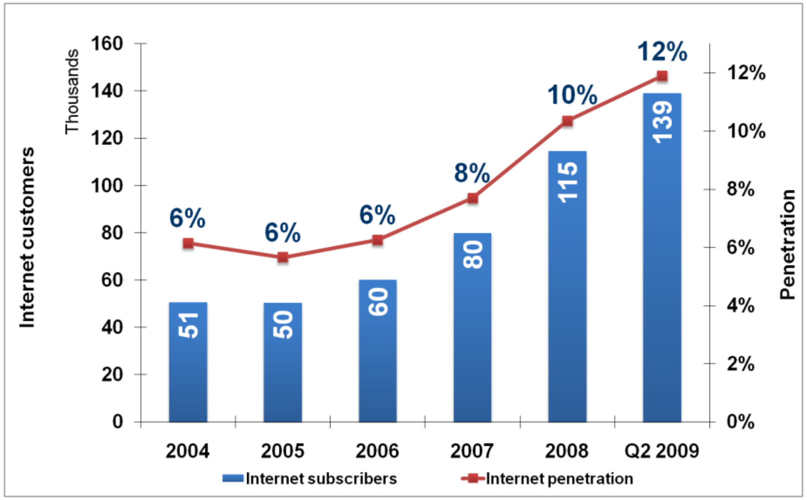


Source: TRA analysis

Internet subscribers

- At the end of Q2 2009 there were about 139,000 internet subscribers, of which 97% were broadband subscribers and 3% were dial-up subscribers.
- The number of broadband subscribers increased by 23% between 2008 and Q2 2009.
- About 62% of households have fixed broadband.

Internet subscribers



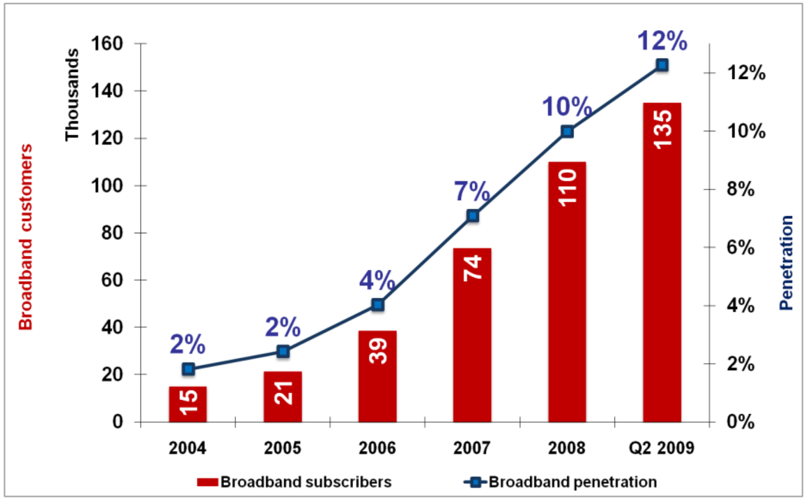
Source: TRA analysis

Internet subscribers

	2004	2005	2006	2007	2008	Q2 2009	08 – Q2 09 Growth
Broadband subscribers	14,956	21,432	38,628	73,563	109,994	135,213	23%
Dial up	35,665	28,867	21,466	6,425	4,508	3,884	-14%
Total	**50,621**	**50,299**	**60,094**	**79,988**	**114,502**	**139,097**	**21%**

Source: TRA analysis

Broadband subscribers

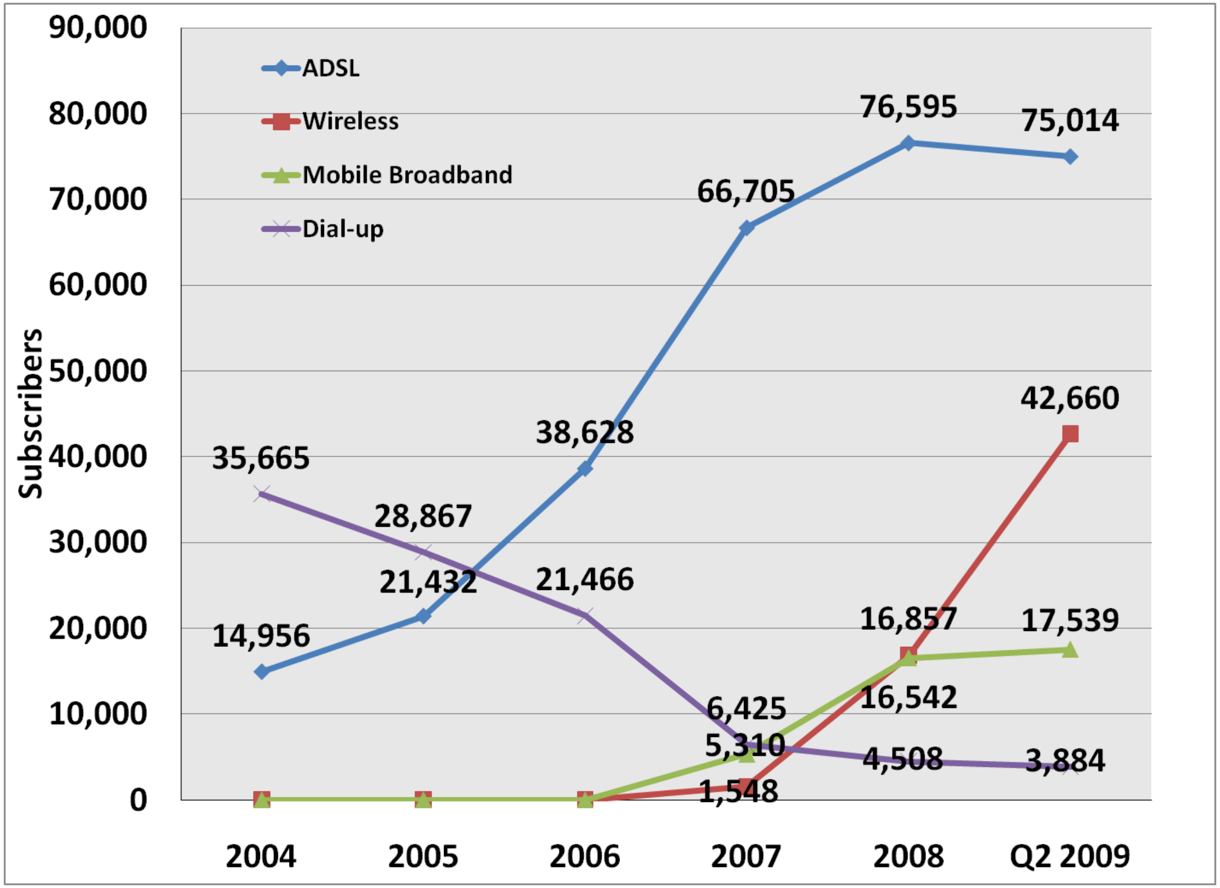


Source: TRA analysis

Note: Number of broadband subscribers include mobile broadband subscribers

Internet subscribers

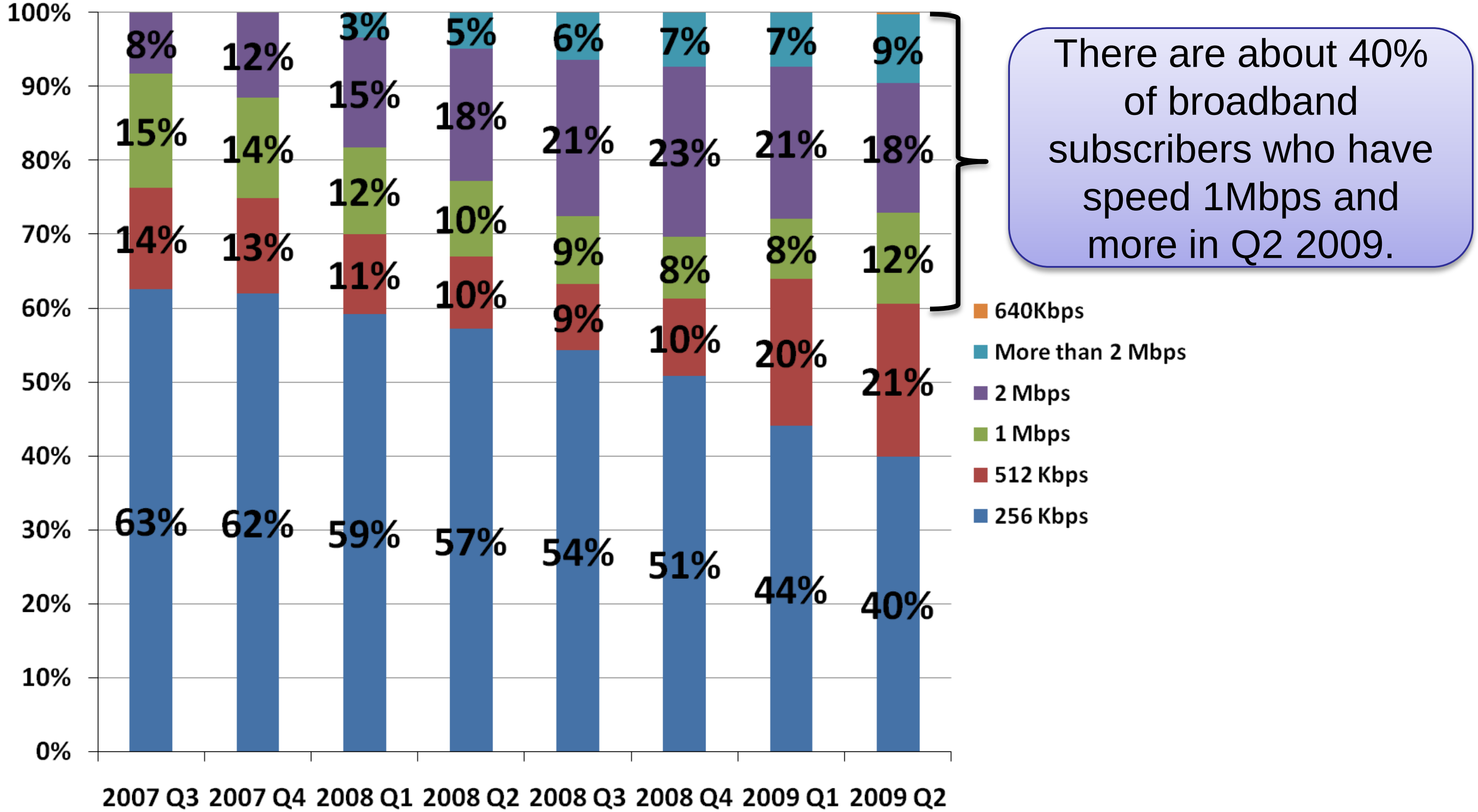
Internet subscribers by access type



Source: TRA analysis

At the end of Q2 2009 there were 75,014 ADSL, 42,660 wireless broadband, 17,539 mobile broadband and 3,884 dial-up subscribers.

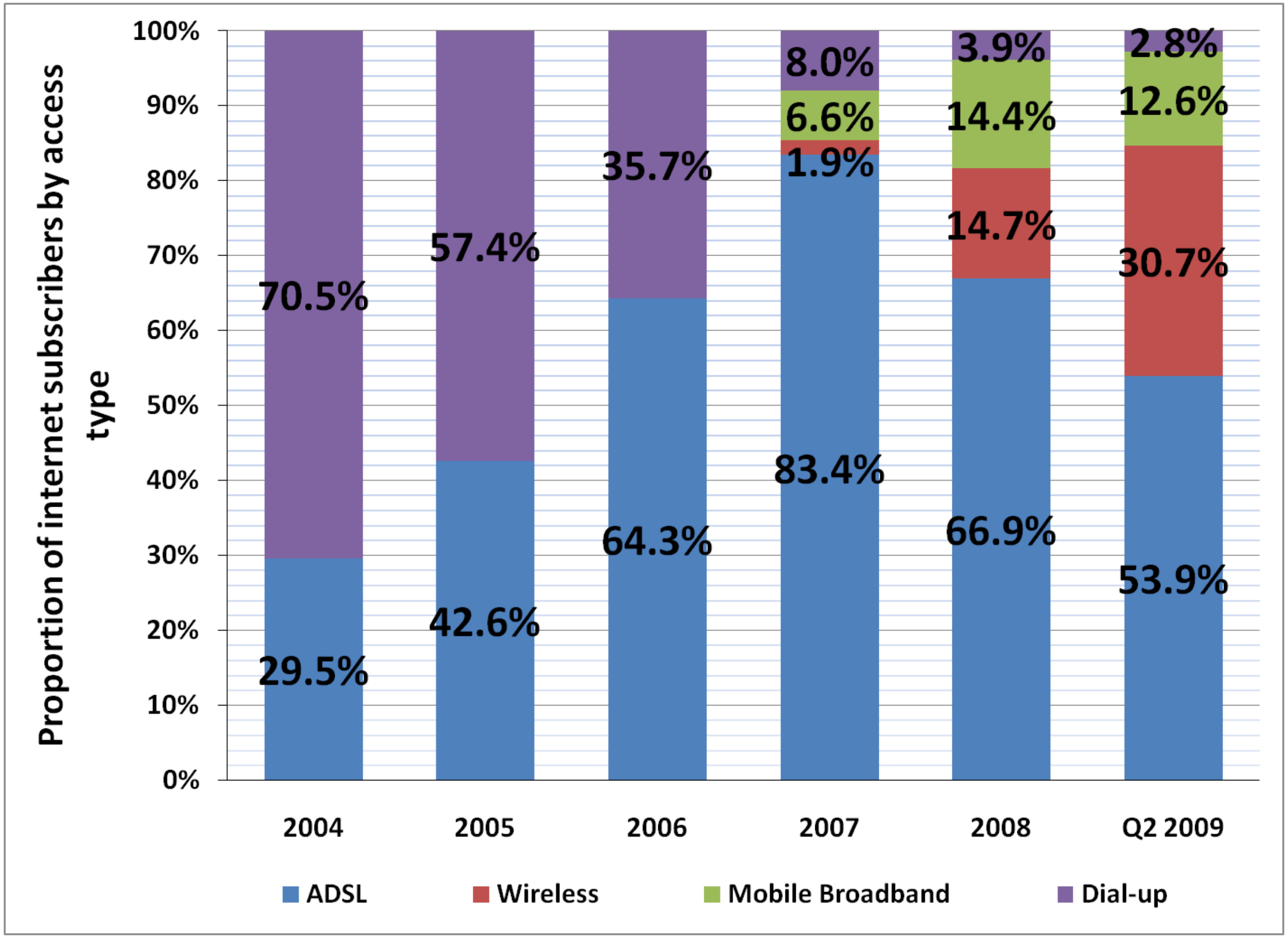
Proportion of broadband subscribers by access speed



Source: TRA analysis

Internet subscribers by access type

Proportion of internet subscribers by access type



Source: TRA analysis

Leased lines and data services

Number of domestic leased lines

Leased line speed	2007	2008	Q2 2009
x < 64 kbps and less	227	365	288
64 kbps ≤ x < 512 kbps	508	1163	1136
512 kbps ≤ x < 1024 kbps	140	181	254
1024 kbps ≤ x < 2048 kbps	104	149	177
2 Mbps ≤ x < 45 Mbps	124	496	623
45 Mbps ≤ x < 155 Mbps	2	27	38
x ≥ 622 Mbps	0	3	4
Total	**1105**	**2384**	**2520**

Source: TRA analysis

International leased lines

Destinations	Speed	2007	2008	2009 Q2
Zone 1	Analogue and Speeds lower than 64Kbps	0	29	29
	x < 1 Mbps	133	146	149
	1Mbps ≤ x < 2 Mbps	6	4	13
	2 Mbps ≤ x < 45 Mbps	44	56	66
	45 Mbps ≤ x < 155 Mbps	7	10	11
	155 Mbps ≤ x < 622 Mbps	0	0	5
	x ≥ 622 Mbps	3	1	1
	Total	**193**	**246**	**274**
Zone 2	Analogue and Speeds lower than 64Kbps	0	7	7
	x < 1 Mbps	15	14	12
	1Mbps ≤ x < 2 Mbps	1	2	2
	2 Mbps ≤ x < 45 Mbps	0	2	10
	45 Mbps ≤ x < 155 Mbps	1	0	0
	155 Mbps ≤ x < 622 Mbps	0	0	1
	Total	**17**	**25**	**32**
Zone 3	Analogue and Speeds lower than 64Kbps	0	1	1
	x < 1 Mbps	20	18	22
	1Mbps ≤ x < 2 Mbps	1	0	0
	2 Mbps ≤ x < 45 Mbps	12	9	11
	45 Mbps ≤ x < 155 Mbps	3	2	2
	155 Mbps ≤ x < 622 Mbps	0	0	4
	x ≥ 622 Mbps	2	3	5
	Total	**38**	**33**	**45**
	Grand total	**248**	**304**	**351**

Source: TRA analysis

Zone 1: GCC countries;
Zone 2: rest of the Middle East, Turkey, Cyprus, Greece, India, Pakistan, South Africa; and
Zone 3: Continental USA, Canada, Europe, South East Asia

List of Acronyms

ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
BD	Bahraini Dinar
CPS	Carrier Pre-Selection
GCC	Gulf Cooperation Council
IDD	International Direct Dial
ITU	International Telecommunication Union
LAN	Local Area Network
Mb	Megabit
Mbps	Megabit per second
MPLS	Multiprotocol Label Switching
OLO	Other licensed operators
PPCC	Pre-Paid Calling Card
PSTN	Public Switched Telephone Network
SMS	Short Message Service
TRA	Telecommunications Regulatory Authority
VOIP	Voice over Internet Protocol

Definitions of some key indicators

Main (fixed) telephone lines in operation (ITU code 112)	A main line is a (fixed) telephone line connecting the subscriber's terminal equipment to the public switched network and which has a dedicated port in the telephone exchange equipment. This term is synonymous with the term main station or Direct Exchange Line (DEL) that are commonly used in telecommunication documents. It may not be the same as an access line or a subscriber. The number of ISDN channels should be included. Fixed wireless subscribers should also be included.
Prepaid mobile subscribers (based on ITU code 271p)	Total number of mobile cellular subscribers using prepaid cards. These are subscribers that rather than paying a fixed monthly subscription fee, choose to purchase blocks of usage time. Only active prepaid subscribers that have used the system (made or received a call/SMS) within the last 3 months should be included.
Number of dial-up Internet subscribers (based on ITU code 4213d)	Number of Dial-up Internet subscribers. Dial-up is a connection to the Internet via a modem and telephone line, which requires that the modem dial a phone number when Internet access is needed. Only active subscribers that have used the system within the last 3 months should be included.
Number of fixed broadband Internet subscribers (ITU code 4213tfb)	Total broadband Internet subscribers refers to those subscribers who pay for high-speed access to the public Internet (a TCP/IP connection), at speeds equal to, or greater than, 256 kbit/s, in one or both directions. This total is measured irrespective of the method of payment. It excludes subscribers with access to data communications (including the Internet) via mobile cellular networks.
Other fixed broadband Internet subscribers (ITU code 4213ob)	Internet subscribers using other fixed broadband technologies to access the Internet (other than DSL, cable modem and leased lines). This includes technologies such as satellite broadband Internet, Fibre-to-the-home Internet access, Ethernet LANs, fixed wireless access, Wireless Local Area Network, WiMax etc. Speeds should be equal to, or greater than, 256 kbit/s, in one or both directions. It would exclude users of temporary broadband access (e.g., roaming between PWLAN hotspots), and those with Internet access via mobile cellular networks.
Mobile broadband (Number of cellular mobile subscribers with access to data communications at broadband speeds, ITU 271mb)	Number of subscribers to cellular mobile networks with access to data communications (e.g. the Internet) at broadband speeds (here defined as greater than or equal to 256 kbit/s in one or both directions)* such as WCDMA, HSDPA, CDMA2000 1xEV-DO, CDMA 200 1xEV-DV etc.