

Telecoms Price Benchmarking for Arab Countries

Report from the Benchmarking Study
commissioned by
Telecommunications Regulatory Authority
Kingdom of Bahrain, Chair of AREGNET

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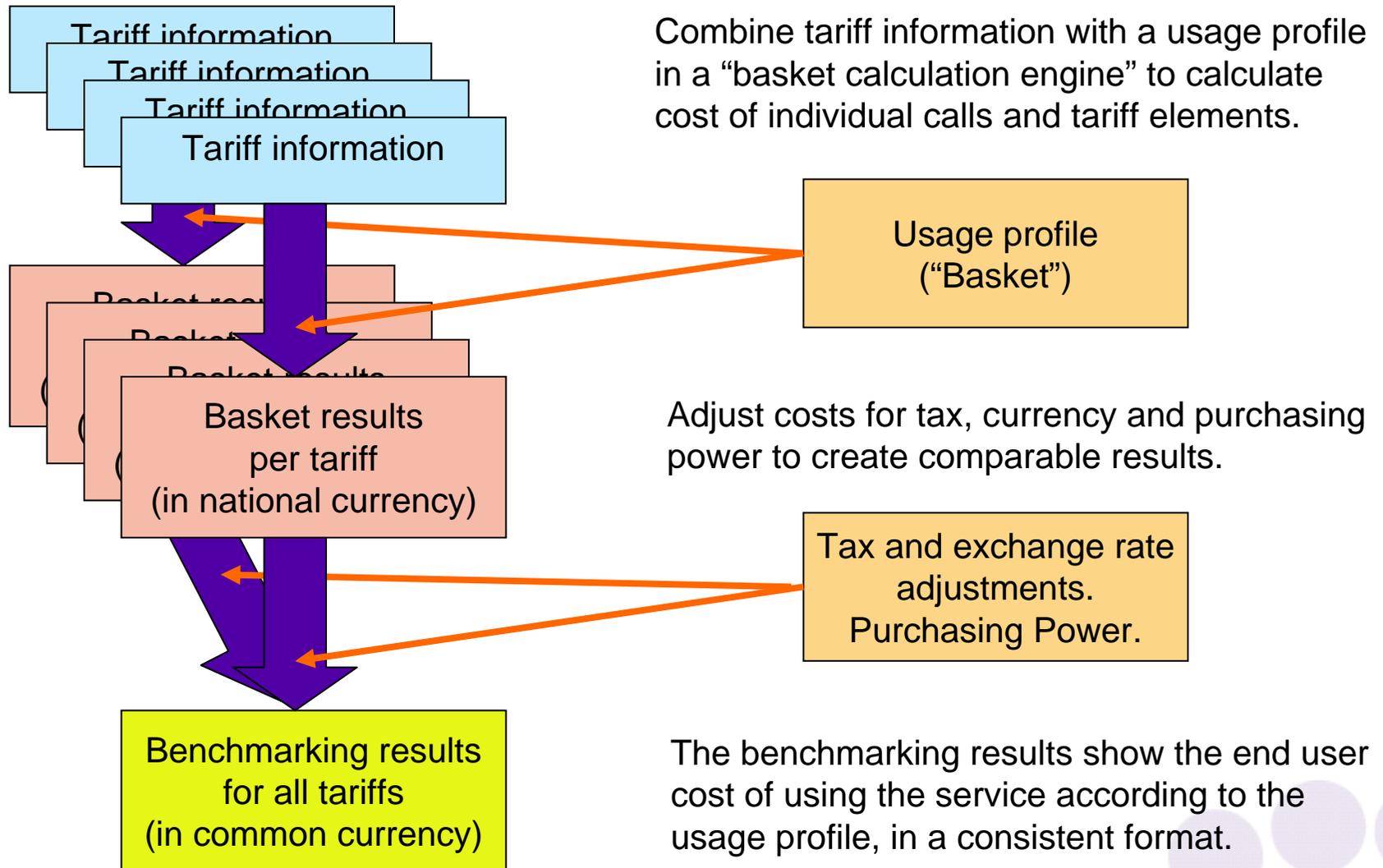
Contents of this report

- Background on this study and the basket concept
- Results from the PSTN basket
- Results from the Mobile basket
- Results from the Leased Line basket
- Results from the Broadband basket
- Results from the call price comparison
- Summary of findings
- Reference information and acronyms

The context

- This benchmarking study was commissioned by TRA Bahrain, Chair of AREGNET
- In an increasingly competitive market it is important for the regulators to be able to show the effects of price changes and changes in regulation. Price benchmarking is an efficient tool for testing and demonstrating such effects, and to explain the price positioning to the general public and other stakeholders.
- This study is intended to fill a gap, as no comprehensive price comparison exists for the Arab countries. This study will allow the Arab countries to compare the price levels within and between the countries, and also to compare with the OECD countries.
- The benchmarking covers the following services:
 - Fixed voice (PSTN) (OECD basket equivalent)
 - Mobile telephony (OECD basket equivalent)
 - Leased Lines (OECD basket equivalent)
 - Broadband ADSL (Teligen basket)
 - Call cost for specific types of calls
- The methodologies for fixed and mobile telephony and leased lines are identical to the OECD Price Benchmarking baskets, with minor changes. A separate document explaining the methodology used in this study is available.
- The data was collected by Teligen from public sources on the Internet.

The “Basket” method for price benchmarking



Fixed voice (PSTN) basket, as defined by the OECD Teligen

- Five different basket definitions:
 - Low usage, medium usage and high usage for residential users
 - SoHo usage (single user) and SME usage (30 users) for business
- The baskets define the volumes and the structure of usage
 - Volume and distribution of calls to different destinations
 - Distribution and duration of calls at different times of day

	Volumes	Call proportions			Call durations (minutes)		
	Total calls per month	Fixed line	Mobile	International	Fixed	Mobile	International
Residential Low	50	76.0%	19.0%	5.0%	3.7 - 7	1.8 - 2.1	5.5 - 7.2
Residential Medium	100	75.0%	23.0%	2.0%	3.7 - 7	1.8 - 2.1	5.5 - 7.2
Residential High	200	65.0%	31.0%	4.0%	3.7 - 7	1.8 - 2.1	5.5 - 7.2
Business Small	150	67.0%	29.0%	4.0%	1.9 - 3.1	1.6 - 1.7	2.9 - 3.9
Business SME	233	72.0%	20.0%	8.0%	1.9 - 3.1	1.6 - 1.7	2.9 - 3.9

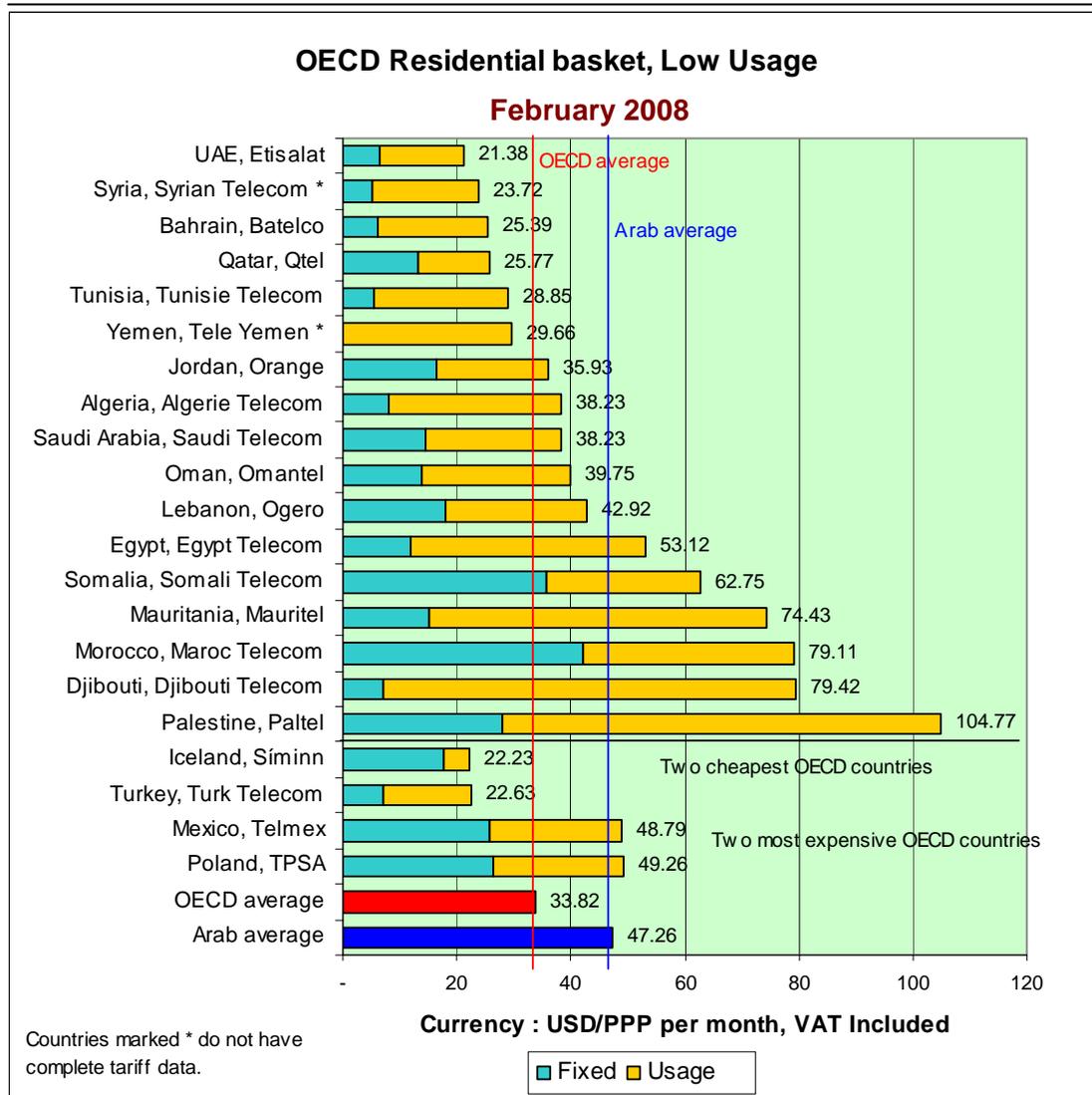
- Tariffs from the incumbent operator in each country
 - Several tariff packages can be covered for each operator
- Tariff information included in basket calculation:
 - Fixed charges for installation and rental
 - Usage charges covering local through to national calls, calls to mobiles, and international calls to other AREGNET countries plus a few other destinations
- The results show the lowest cost option for each operator



- Tariff data was researched from operator websites in the first weeks of January 2008.
 - Additional clarifications have been sought from operators and regulators up until mid February 2008.
 - Regulators have been offered the opportunity to comment on the tariff information in May 2008.
- Due to lack of published data, and lack of feedback, no data is available for:
 - Comoros
 - Iraq
 - Kuwait
 - Libya
 - Sudan
- Part of data is missing for:
 - Syria (no prices for calls to mobile)
 - Yemen (no prices for national calls and fixed line)



Low usage basket results



Most Arab countries have a low fixed cost, and “average to high” usage cost.

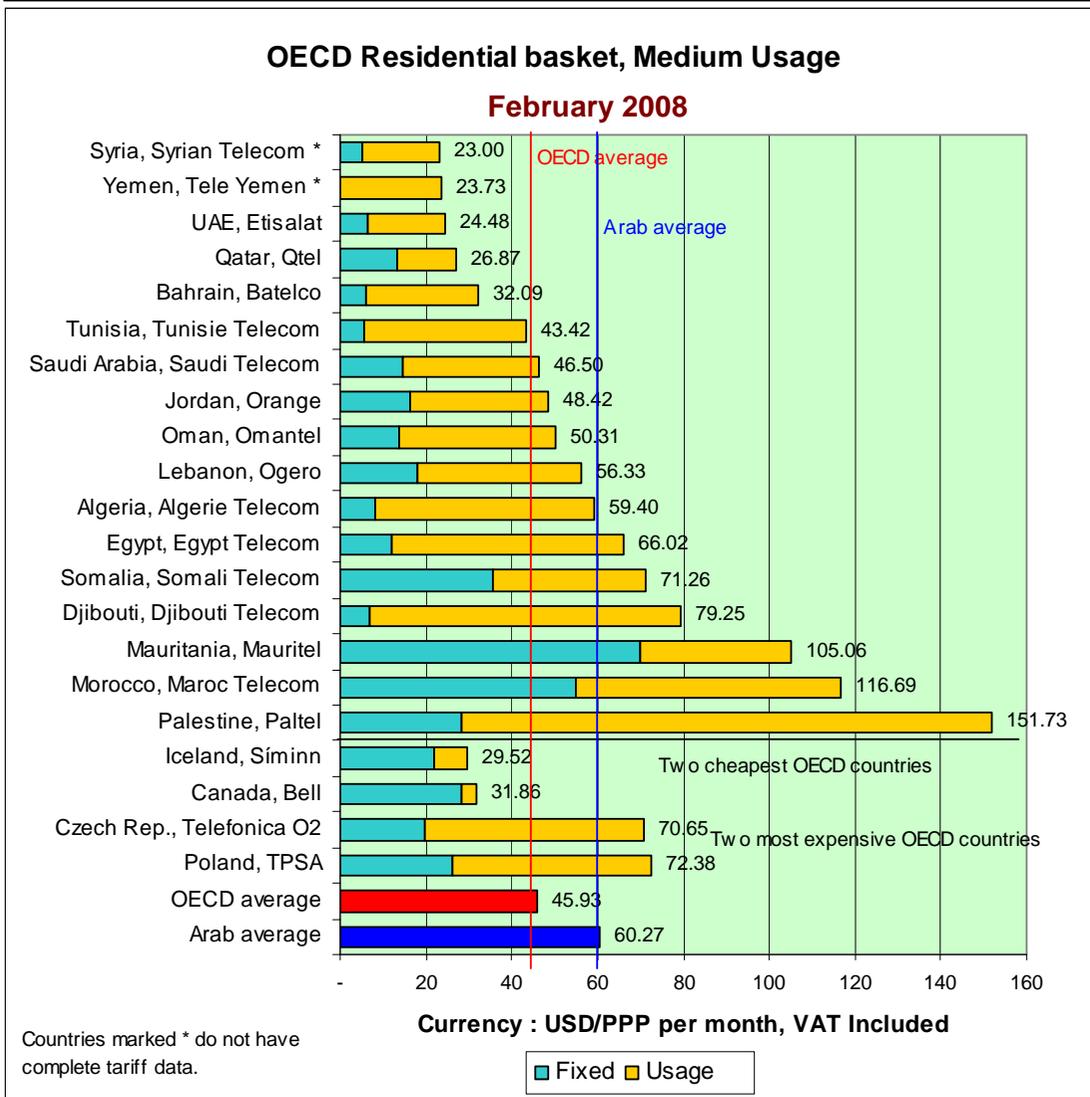
International calls are particularly expensive (see international basket). For Arab countries the international usage is 68% of the total usage, while for the OECD it is 36%.

The relationship between the cost of national fixed line calls and the cost of calls to mobile is close to the similar relationship for OECD countries.



The “average” lines are indications of the simple, un-weighted averages across OECD countries and Arab countries covered in this study

Medium usage basket results



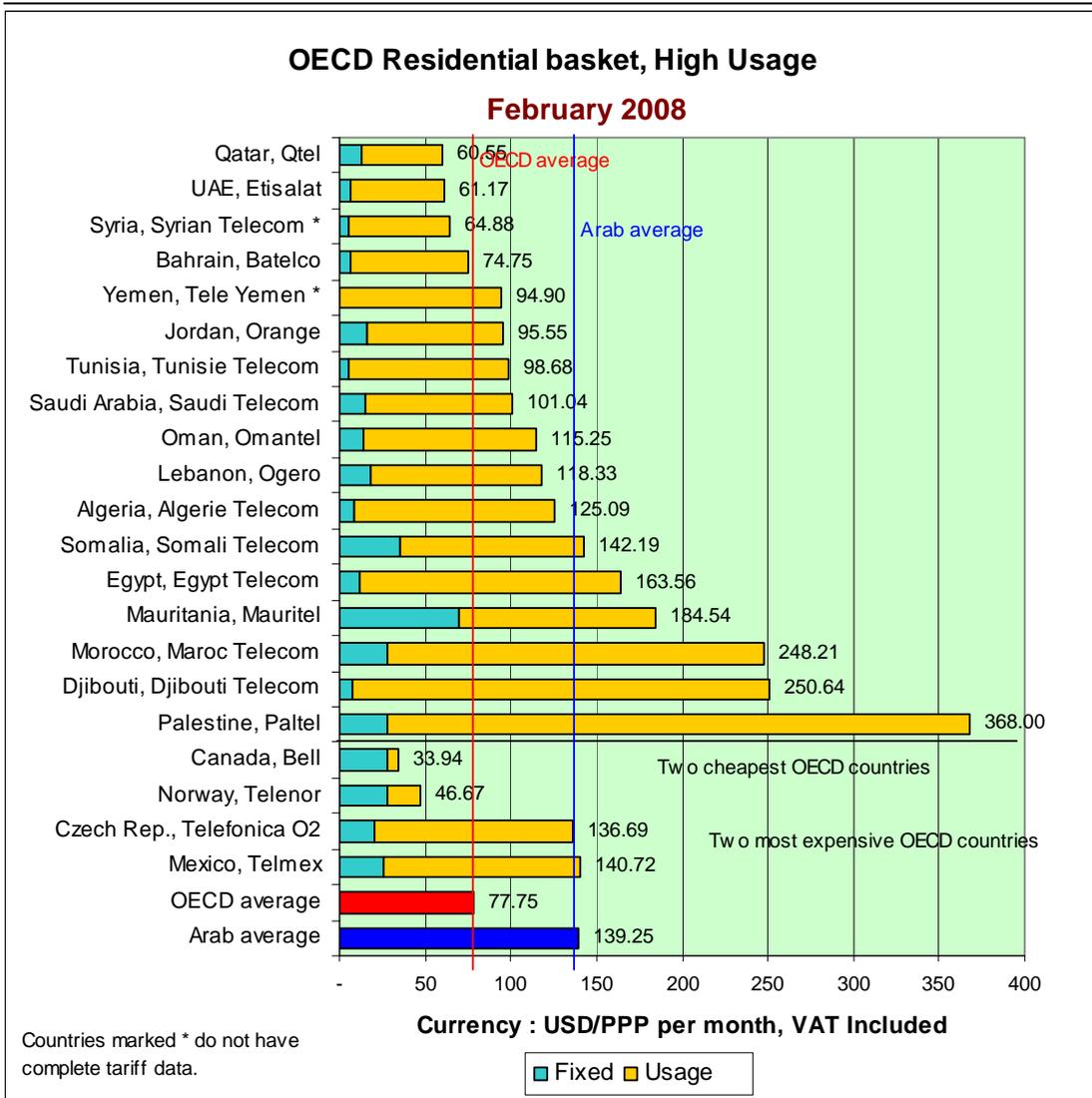
As the Medium basket has relatively less international calls than the Low basket the apparent increase in usage is less than expected. The Arab average increase 27%, while the OECD average is 36% above the Low usage basket.

However, this again is a result of high international call charges.



The “average” lines are indications of the simple, un-weighted averages across OECD countries and Arab countries covered in this study

High usage basket results



With high usage only a few of the Arab countries come below the average OECD cost line.

The low fixed cost will, combined with the relatively high usage cost, create a situation where competing operators may easily attract high volume users. Buying the low cost line from the incumbent operator, and cheaper calls from an indirect provider, may be a tempting alternative when usage is high. This may put the incumbent operator in a difficult position.

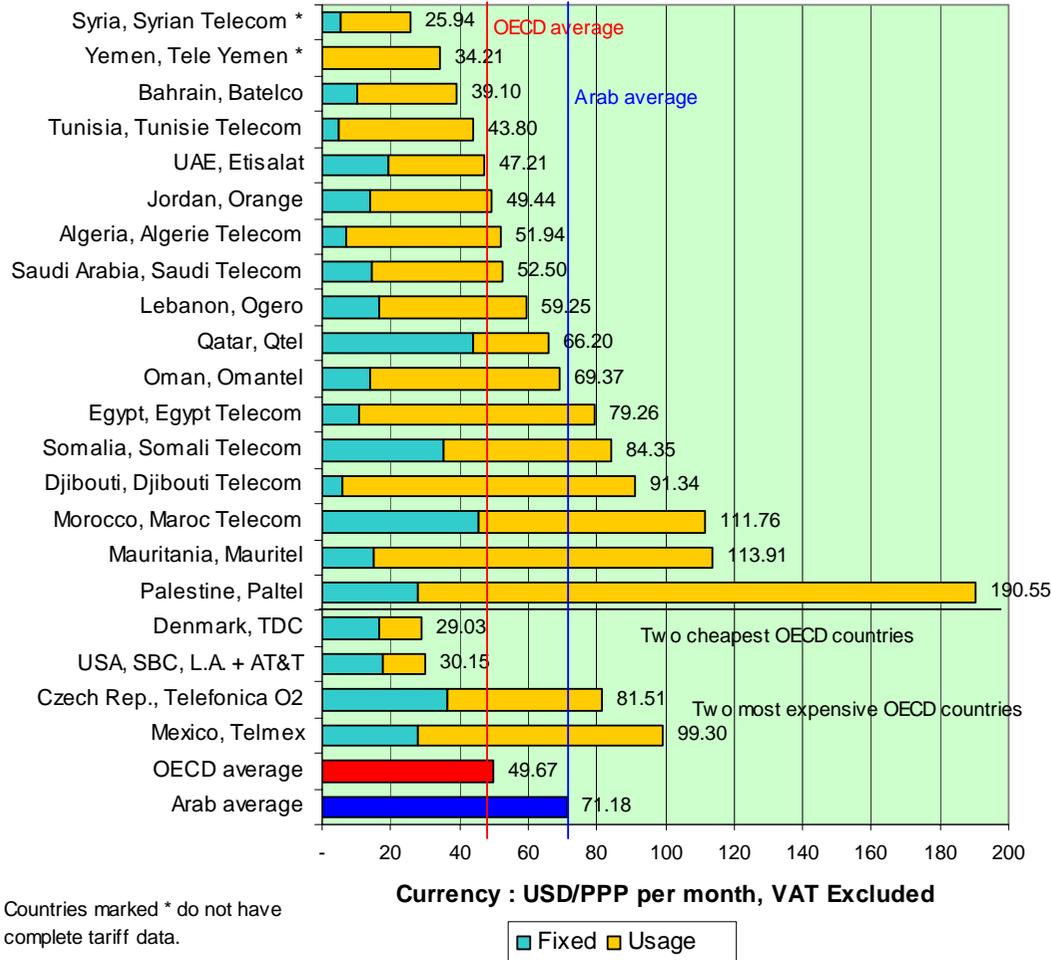


The “average” lines are indications of the simple, un-weighted averages across OECD countries and Arab countries covered in this study

SOHO basket results

OECD Business basket, SOHO

February 2008

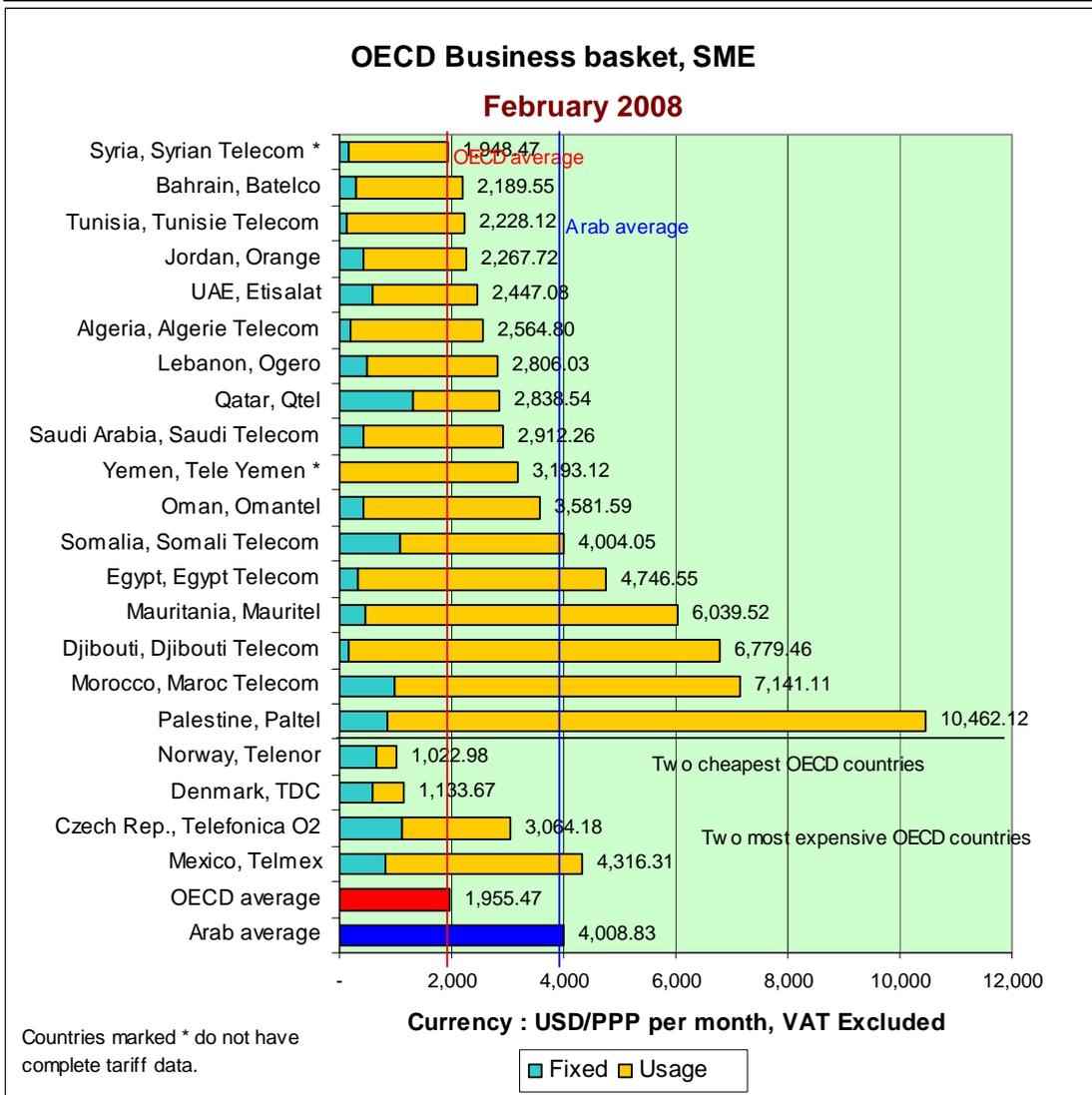


The profile of the “Small Office / Home Office” basket is largely similar to the Medium Residential basket. The main difference is higher overall usage and more international calls.



The “average” lines are indications of the simple, un-weighted averages across OECD countries and Arab countries covered in this study

SME basket results



The SME basket covers 30 lines and 30 users. Usage per user is higher than with the SOHO basket.

Business services in Arab countries are generally more expensive than corresponding services in OECD countries.



The “average” lines are indications of the simple, un-weighted averages across OECD countries and Arab countries covered in this study

International call basket

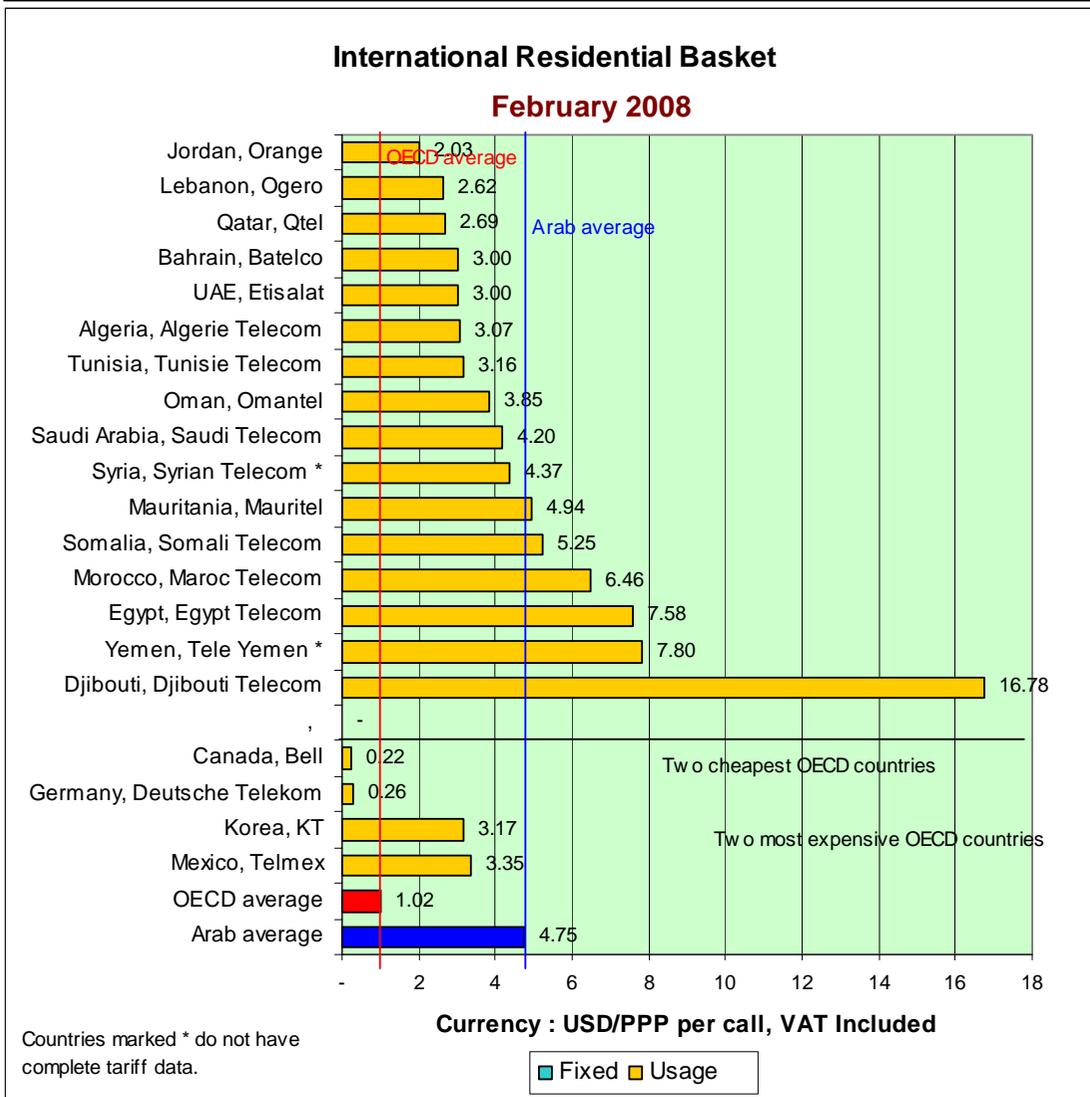
- The international basket gives the weighted average of the cost of **one call**, weighted by:
 - Destination: 22 Arab countries, 4 Western and 4 Eastern countries
 - Time of day: Residential basket with 25% peak time and 75% off-peak time
 - Duration: Peak calls of 3 minutes, off-peak calls of 5 minutes
- The destinations are weighted based on originating and destination countries:

From	To N. Africa	ME West	ME East	E. Africa	Europe	N. America	Asia
North Africa	30%	10%	10%	10%	20%	10%	10%
ME West	10%	35%	10%	5%	20%	15%	5%
ME East	10%	10%	35%	5%	5%	15%	20%
East Africa	10%	10%	20%	30%	10%	10%	10%

North Africa	Algeria	Libya	Mauritania	Morocco	Tunisia			
ME West	Jordan	Lebanon	Palestine	Syria				
ME East	Bahrain	Iraq	Kuwait	Oman	Qatar	Saudi	UAE	Yemen
East Africa	Comoros	Djibouti	Egypt	Somalia	Sudan			
Europe	France	UK	Spain					
N. America	USA							
Asia	India	Phillipines	Japan	Australia				

The same principle is used for international mobile calls

International call basket



International post-paid calls out of the Arab countries are more than twice as expensive than the OECD average, and 20 times more expensive than the “best in class”, on average.



The averages are indications of simple, un-weighted averages.

Observations from PSTN basket results

- The cheapest countries throughout are : (*)
 - UAE, Bahrain, Tunisia, Qatar, Saudi Arabia
 - The exact order of these may vary with usage level
 - This list is based on average ranking across all five baskets, residential and business
- Most of these countries have total costs below or just above the OECD average for all baskets
 - Generally the Arab countries in North Africa are more expensive than the Arab countries in the Middle East.
- The price range for the Arab countries (cheapest to most expensive) is wider than for the OECD countries
 - The cheapest OECD country is below the cheapest Arab country
 - The most expensive Arab country is significantly more expensive than the most expensive OECD country
- Most of the Arab countries have fixed costs well below the OECD countries, causing the usage element to dominate. This makes the overall cost grow quicker with increasing usage, something that will discourage growth in usage.
- Even with significantly lower fixed cost the overall cost of using the service is higher in the Arab countries than in the OECD countries.
- There is a clear lack of rebalancing in most Arab countries, where the usage revenue covers a significant portion of the fixed line cost for the operators.
- International calls are significantly more expensive than in OECD countries



* Countries with missing tariff information are not considered.

Mobile basket , as defined by the OECD

- Three different basket definitions:
 - Low usage, medium usage and high usage
 - The low usage results will include both pre- and post-paid tariff packages
- The baskets define the volumes and the structure of usage
 - Volume and distribution of calls to different destinations
 - Distribution of calls at different times of day

Calls / messages per month	Voice	SMS	MMS
Low usage	30	33	0.67
Medium usage	65	50	0.67
High usage	140	55	1.00

Destinations	Local	National	Mobile On-net	Mobile Off-net	Voice mail	SMS On-net	SMS Off-net
Low usage	15.00%	7.00%	48.00%	22.00%	8.00%	65.00%	35.00%
Medium usage	14.00%	7.00%	48.00%	24.00%	7.00%	65.00%	35.00%
High usage	13.00%	7.00%	47.00%	26.00%	7.00%	65.00%	35.00%

- Call durations are in the range of 1.4 to 1.9 minutes per call
- Tariffs from the two dominant operators in each country
 - Several tariff packages are covered for each operator
- Tariff information covers:
 - Fixed charges for connection and rental
 - Calls to fixed network, on-net and off-net mobile, and international calls to other AREGNET countries plus a few others (see international basket on earlier page)
 - Charges for SMS, MMS and voicemail calls
- The results show the lowest cost option for each operator
- The international data is added to the OECD basket definition for this study.

ToD	Peak	Off-peak	Weekend
Low usage	48.00%	25.00%	27.00%
Medium usage	50.00%	24.00%	26.00%
High usage	60.00%	19.00%	21.00%



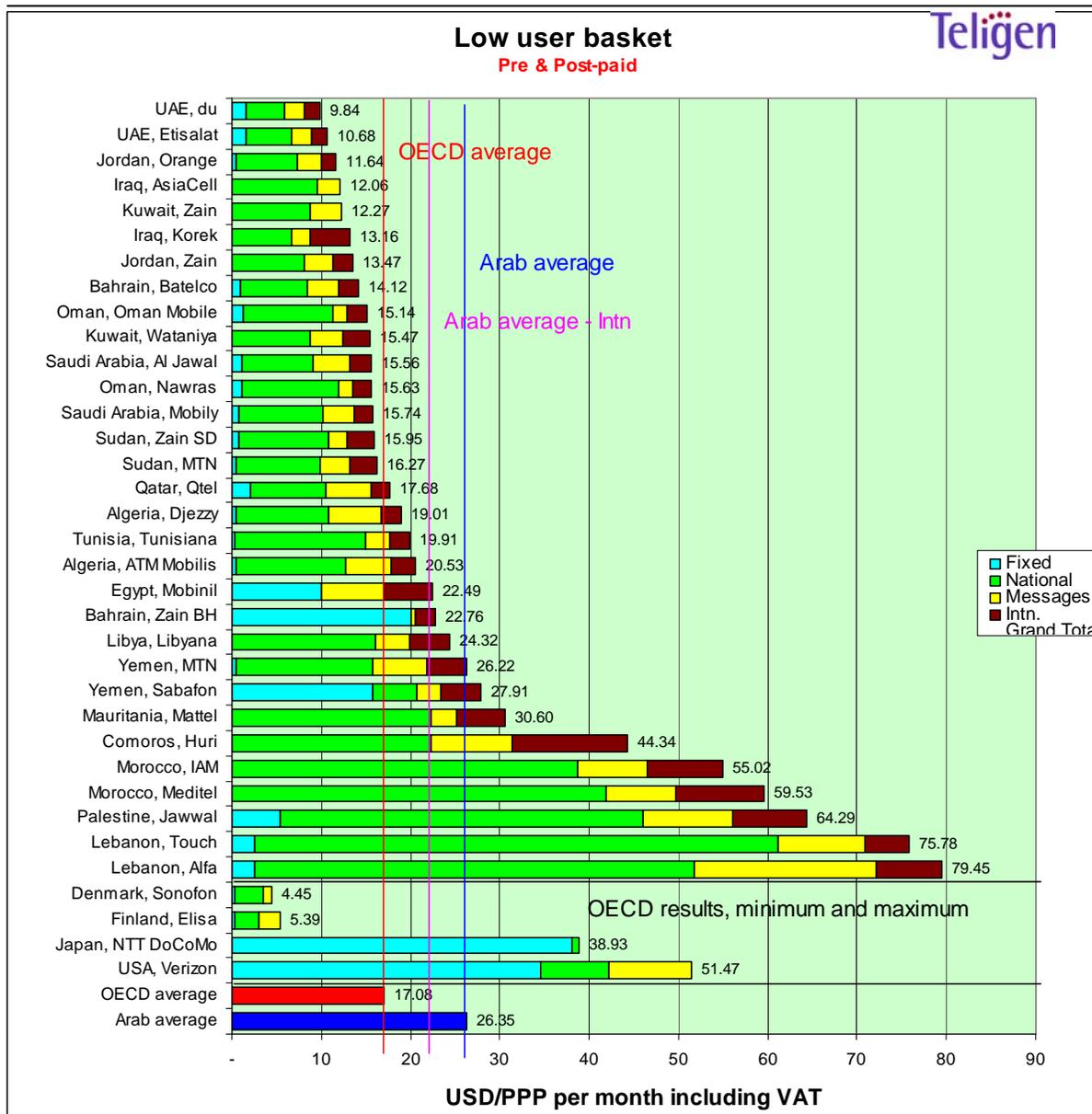
Mobile tariff data issues

- Tariff data was researched from operator websites in the first weeks of January 2008.
 - Additional clarifications have been sought from the operators and regulators up until mid February 2008.
 - Regulators have been offered the opportunity to comment on the tariff information in May 2008.
- No tariff information available for:
 - Djibouti
 - Somalia
 - Syria
 - One operator only for Comoros, Palestine, Qatar(*), Tunisia. Libya and Mauritania
- Part of tariff information missing for:
 - Iraq (International call prices for AsiaCell)
 - Kuwait (international call prices for Zain)
- Otherwise two operators are covered for each country
- A total of 180 tariff packages covered for 31 operators in 19 countries

* There is only one operator in Qatar.



Low usage mobile basket results



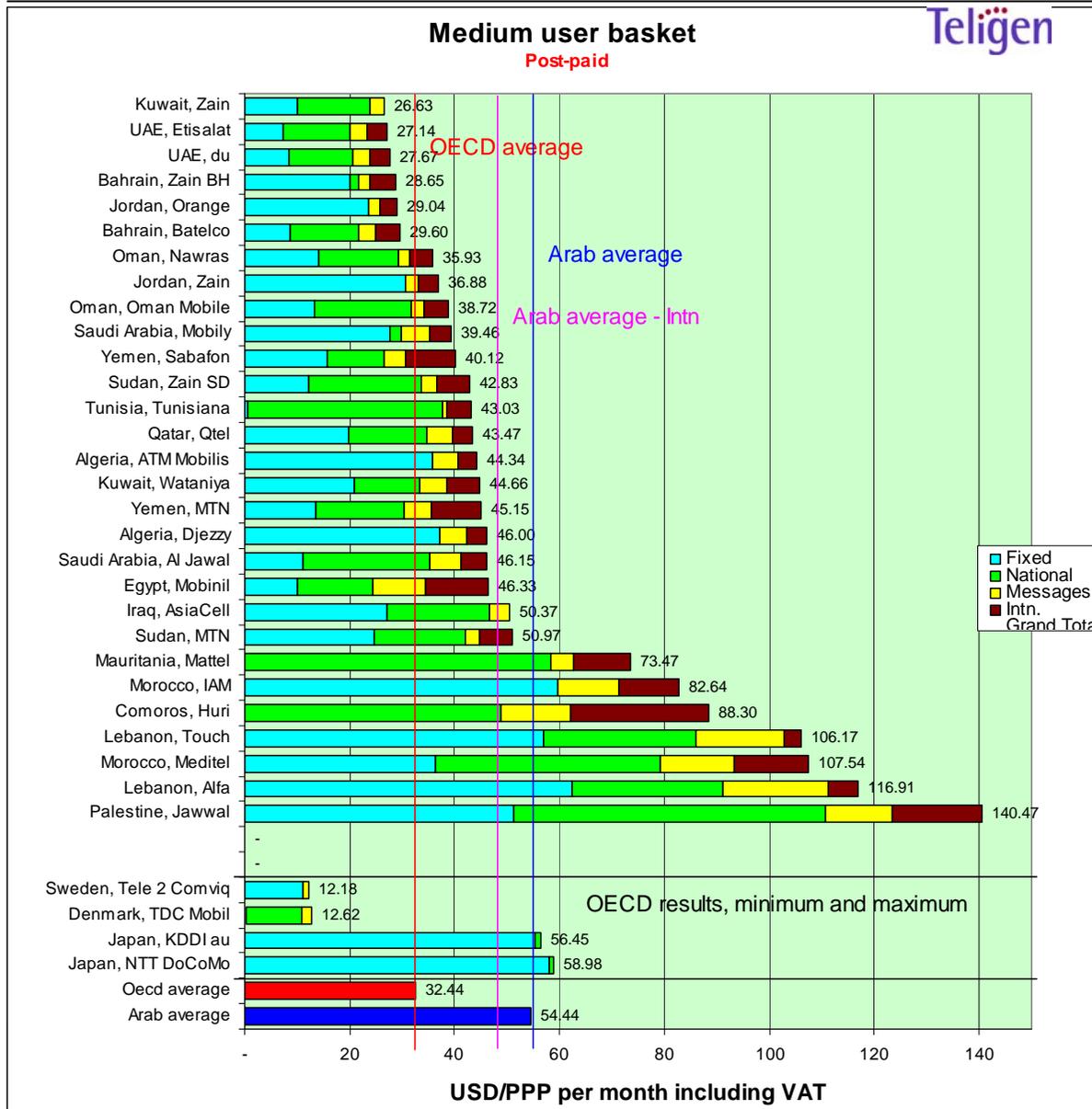
For the Low usage basket both pre- and post-paid tariffs are included. The cheapest option is selected regardless of tariff type.

Most of the tariffs shown in this graph are pre-paid.

The OECD results do not include International calls as these are not part of the OECD basket definitions.



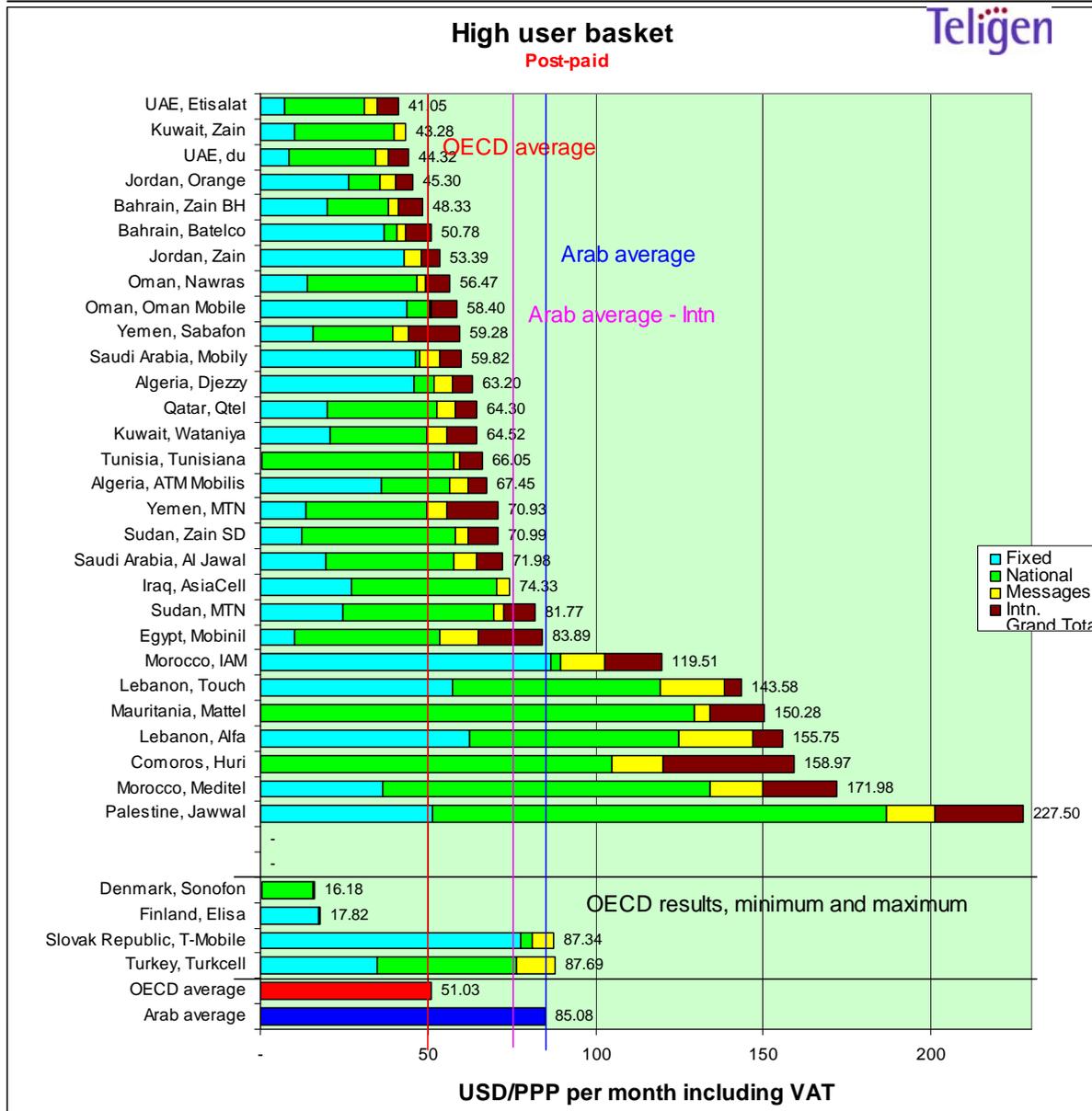
Medium usage mobile basket results



The OECD results do not include International calls as these are not part of the OECD basket definitions.



High usage mobile basket results



The OECD results do not include International calls as these are not part of the OECD basket definitions.



- The cheapest countries throughout are :
 - Bahrain, UAE, Oman, Jordan, Saudi Arabia
 - The exact order of these may vary with usage level
 - These are largely the same countries that have the best PSTN results
- For low usage, with pre-paid packages, about half of the Arab countries have price levels below the OECD average
- For medium to high usage, with post-paid packages, most Arab countries are around or above the OECD average
- The average across Arab countries is 50-60% above the OECD average.

- Except for the five most expensive countries, the Arab countries have rather uniform price levels for mobile services.
- Many operators have very few tariff packages on offer, i.e. do not make any great attempts to capture customers with tailored prices.



Leased Lines basket, as defined by the OECD

- Prices for 64kb/s, 2 Mb/s and 34 Mb/s national circuits
- 6 specific distances are used:
 - 2 km, 20 km, 50 km, 100 km, 200 km and 500 km
- Each distance is weighted in order to calculate a **weighted average price for one circuit**:

Distance (km)	2	20	50	100	200	500
Weight	35%	20%	15%	20%	5%	5%

- The 3 bitrates are calculated and reported separately.
- Where the distances in the basket would go beyond the country borders, the weights of those distances will be attributed to the longest available tariff zone.
 - For example: In Bahrain a 64 kb/s circuit costs BD 140 regardless of distance. The longest possible circuit distance in Bahrain is approximately 50 km. But the weights for 100 km (20%), 200 km (5%) and 500 km (5%) are still applied to this price as the price for the longest possible circuit in order to cover 100%.
 - This may bias the results for small countries with distance-sensitive prices in the sense that a relatively higher proportion of the circuits will be at maximum cost
- For the Arab country price benchmarking two more bitrates are added:
 - 256 kb/s in order to cover a wider range of services relevant for the region, and 155 Mb/s to show the potential for future development.
 - To the extent they are offered in the countries concerned.

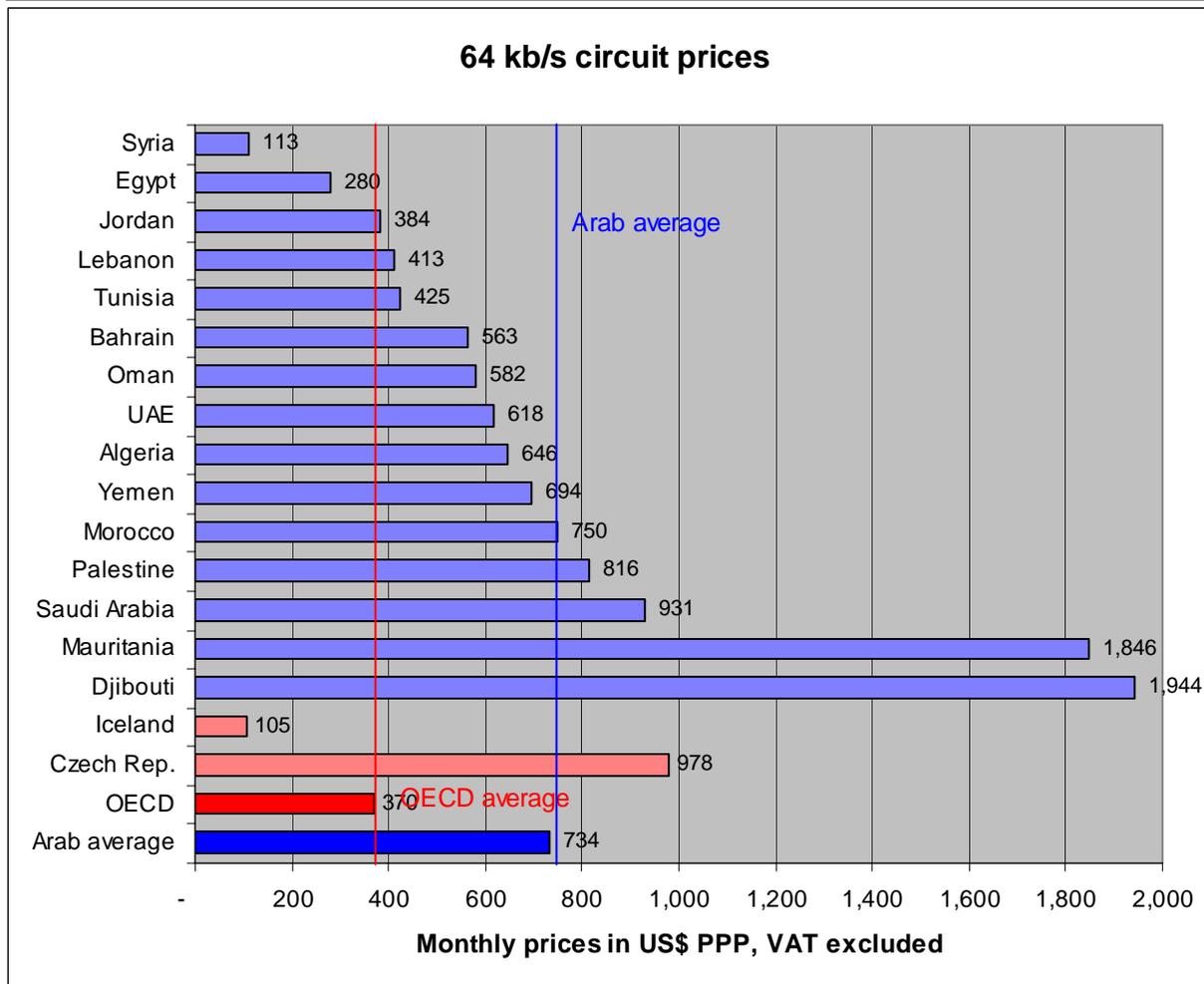


Leased Lines data issues

- Tariff data was researched from operator websites in the first weeks of January 2008.
 - Additional clarifications have been sought from the operators and regulators up until mid February 2008.
 - Regulators have been offered the opportunity to comment on the tariff information in May 2008.
- No price data available for:
 - Comoros
 - Iraq
 - Kuwait
 - Libya
 - Qatar
 - Somalia
 - Sudan
- Other countries may have data missing for specific bitrates



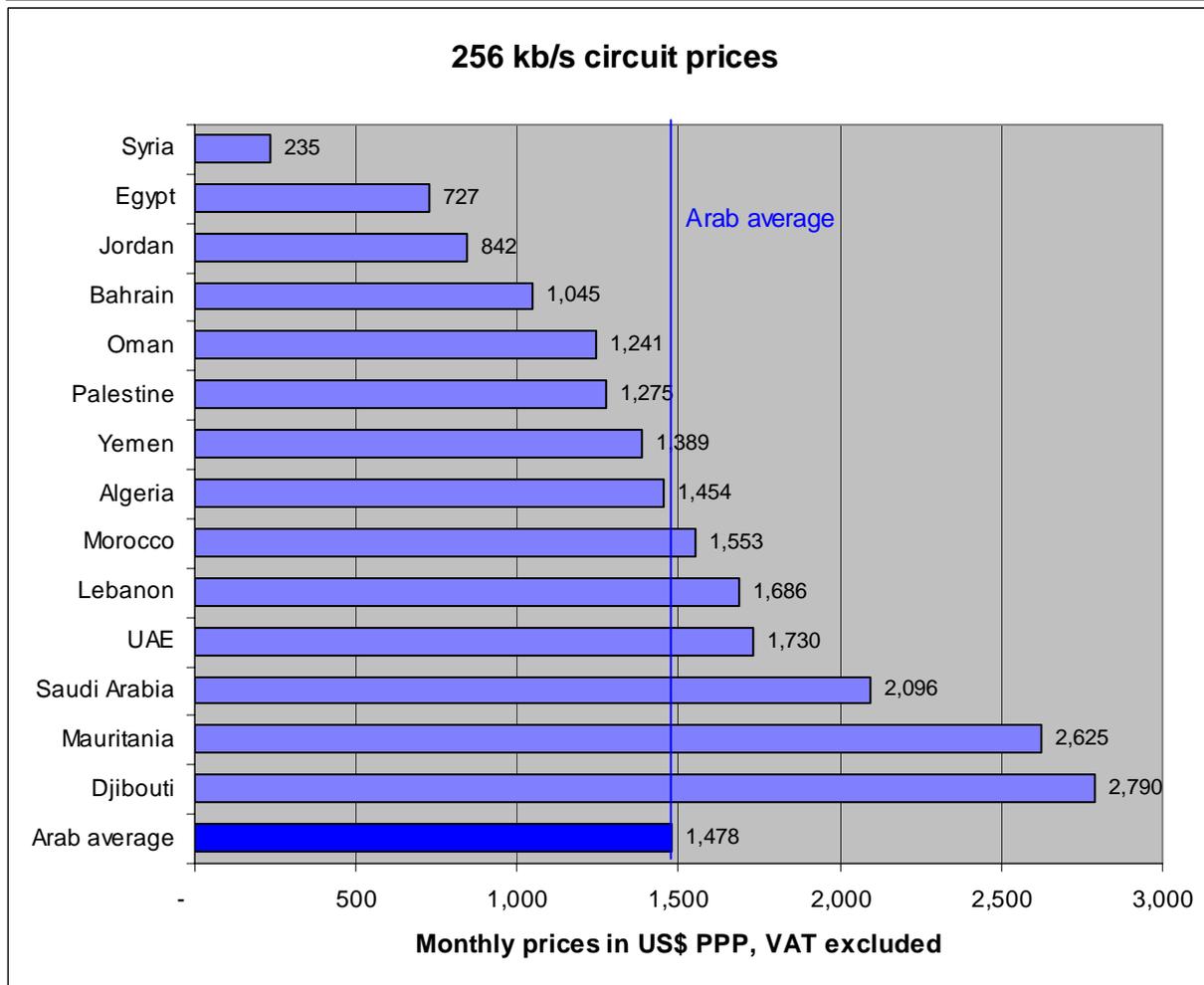
64 kb/s Leased Lines basket results



The OECD data shown represent the lowest and highest prices found in OECD countries, and the average across all 30 OECD countries.



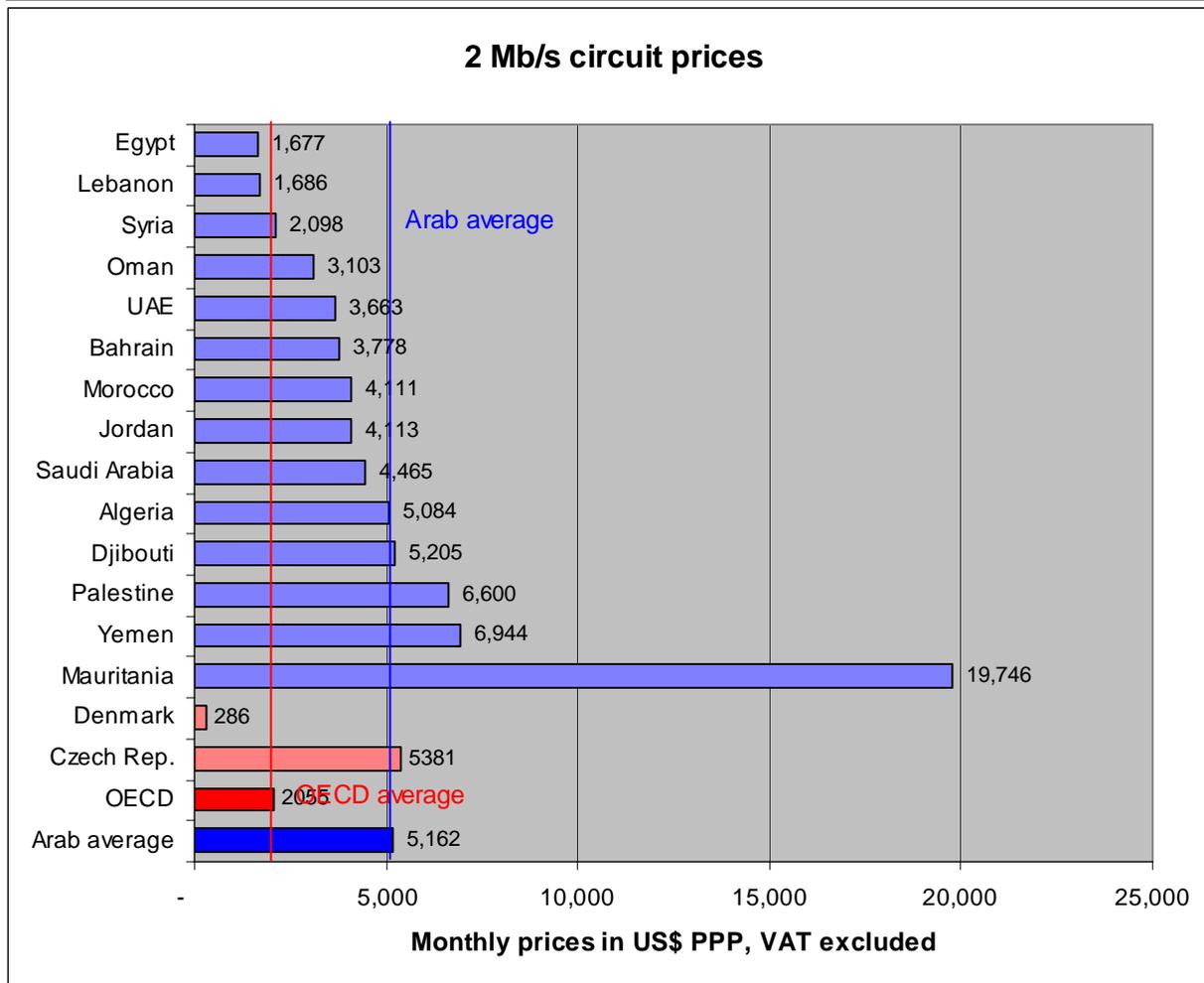
256kb/s Leased Lines basket results



Note: No equivalent OECD data exist.



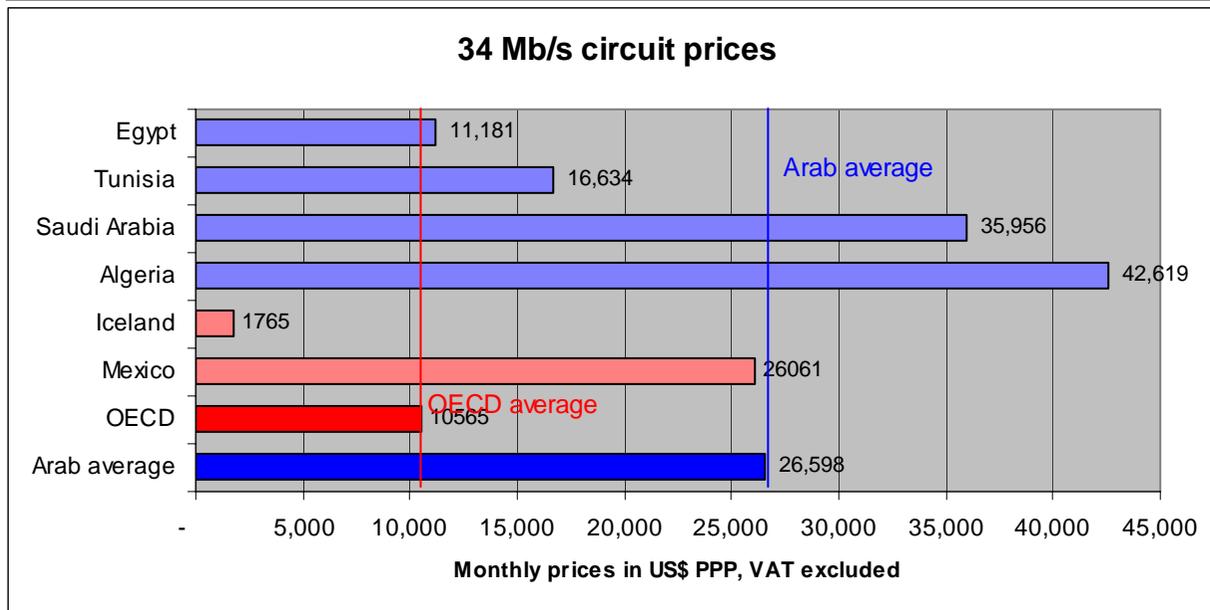
2 Mb/s Leased Lines basket results



The OECD data shown represent the lowest and highest prices found in OECD countries, and the average across all 30 OECD countries.



34 Mb/s Leased Lines basket results

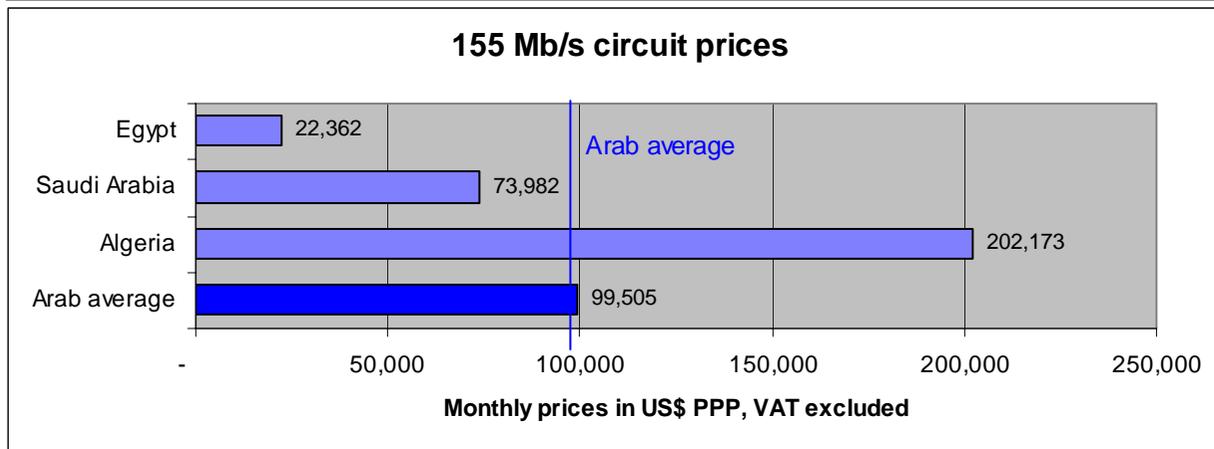


Only a few of the Arab countries publish these prices. The service may still be offered though.

The OECD data shown represent the lowest and highest prices found in OECD countries, and the average across all 30 OECD countries.



155 Mb/s Leased Lines basket results



Only a few of the Arab countries publish these prices. The service may still be offered though.

Note: No equivalent OECD data exist.



- Generally Egypt, Syria and Jordan have the lowest prices for National Leased Lines.
 - Price levels in these countries are below or close to the OECD average
- The majority of the Arab countries have prices below the most expensive OECD country
 - For 64kb/s and 2 Mb/s the prices in Djibouti and Mauritania stands out as very high.
 - For 34 Mb/s the prices in Algeria and Saudi Arabia appear on the high side
- However, most Arab countries are more expensive than the OECD “best-in-class”.
- Many of the Arab countries are quite small in size and this price comparison may give advantage to the tariff structure used in these small countries.
 - i.e. the reality may be worse than shown here.



- Covering ADSL services with the speeds offered by each provider covered
- Costs are presented for low speed (< 1 Mb/s) and medium speed (1-4 Mb/s) services separately.
 - Not all providers may offer services in both categories
 - Not all providers may publish tariffs for both residential and business services
- Total monthly cost calculated based on two usage profiles:
 - Low usage of 1 GB and 10 hours per month, in 20 minute sessions.
 - High usage of 5 GB and 30 hours per month, in 30 minute sessions.
- Only “actual price” results are shown in this report.
 - “Actual price” refers to the monthly cost paid by the customer, as opposed to the “Normalised” price per 1 Mb/s that can also be produced by the benchmarking system
- The European data shown refer to the incumbent ISP ADSL services in 30 European countries
- Tariff data cover the cheapest form of installation, modem cost (if applicable), monthly rental, usage allowances and any usage charges.
- Additional information on speed, web-space, email addresses, penalties with excess usage, and contract term duration is also included in the basic data and presented along with the cost results.
 - To the extent this information is published by the provider
 - Please also see the document on “AREGNET Price Benchmarking Methodology”



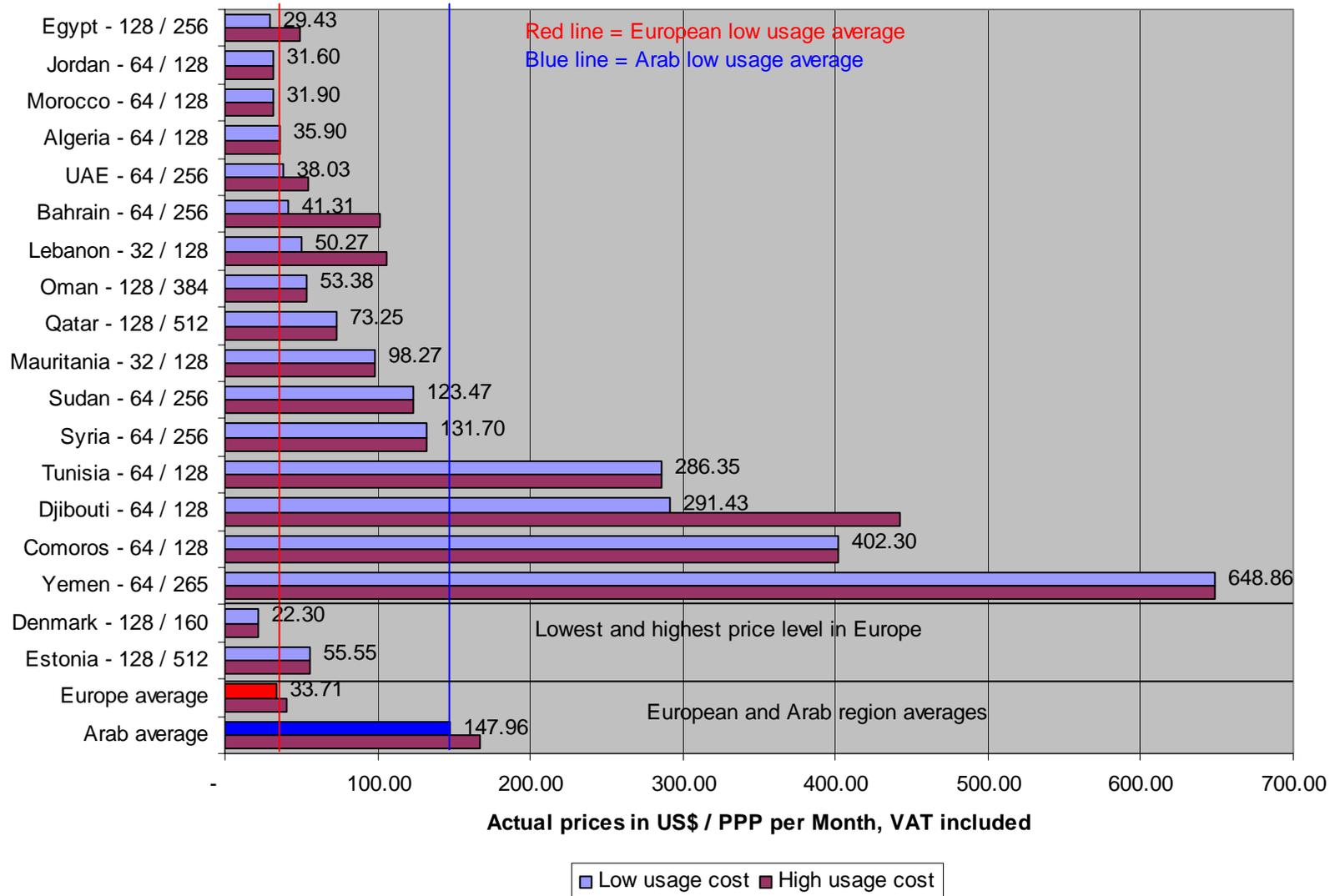
Broadband data issues

- Price data not available for broadband services in:
 - Iraq
 - Kuwait
 - Libya
 - Palestine
 - Saudi Arabia
 - Somalia
- Speed assumptions for upload speed had to be made for:
 - Algeria
 - Comoros
 - Sudan
 - Syria
 - UAE
 - Yemen
- Modem information lacking for Sudan and Tunisia
- Regulators have been offered the opportunity to comment on the tariff information in May 2008.
- The most common speeds in Europe are in the range 1-4 Mb/s, and lower speeds are in some cases not offered at all. There is a clear move towards higher speeds.

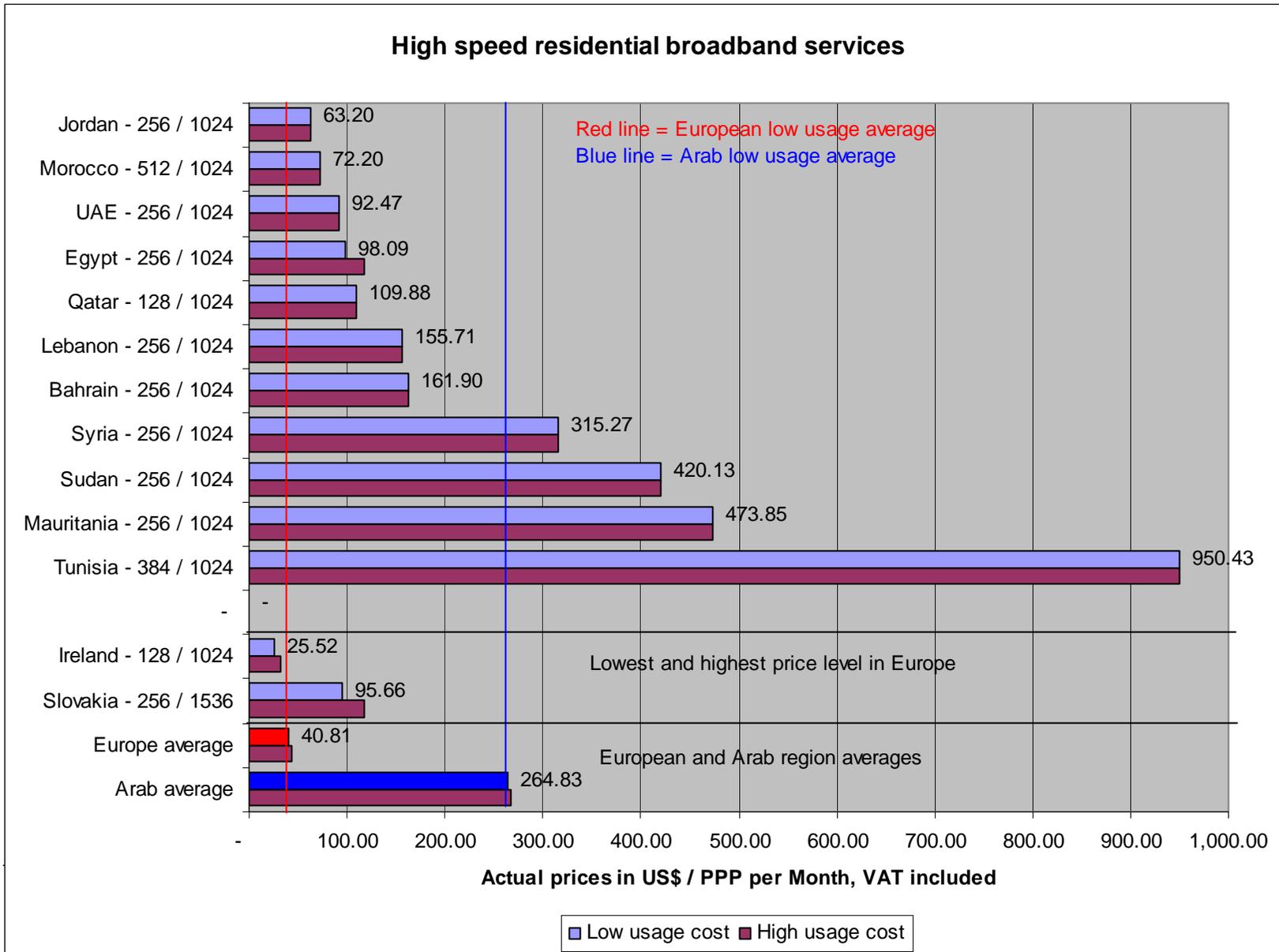


Residential low speed broadband (below 1 Mb/s)

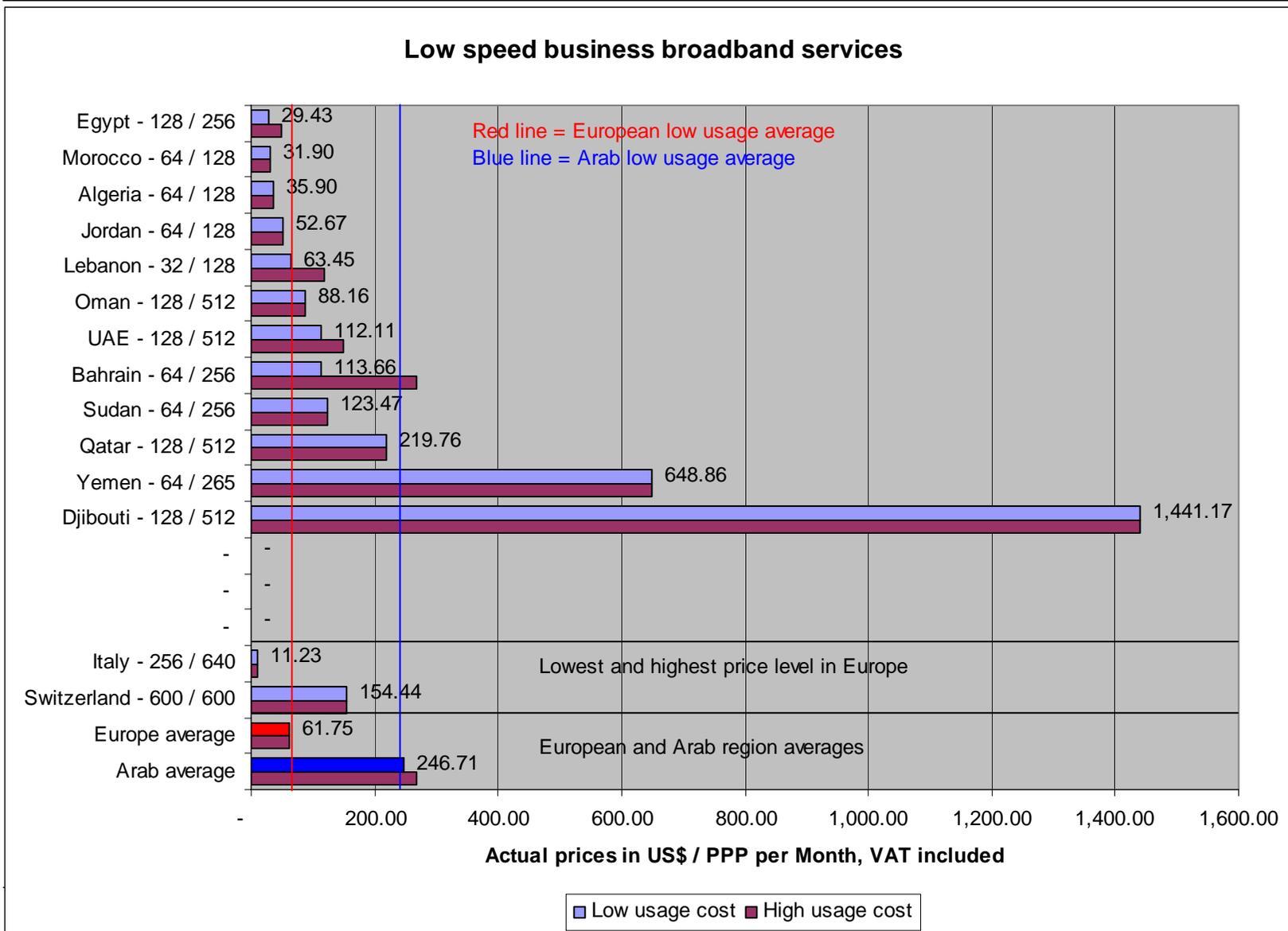
Low speed residential broadband services



Residential high speed broadband (1 – 4 Mb/s)

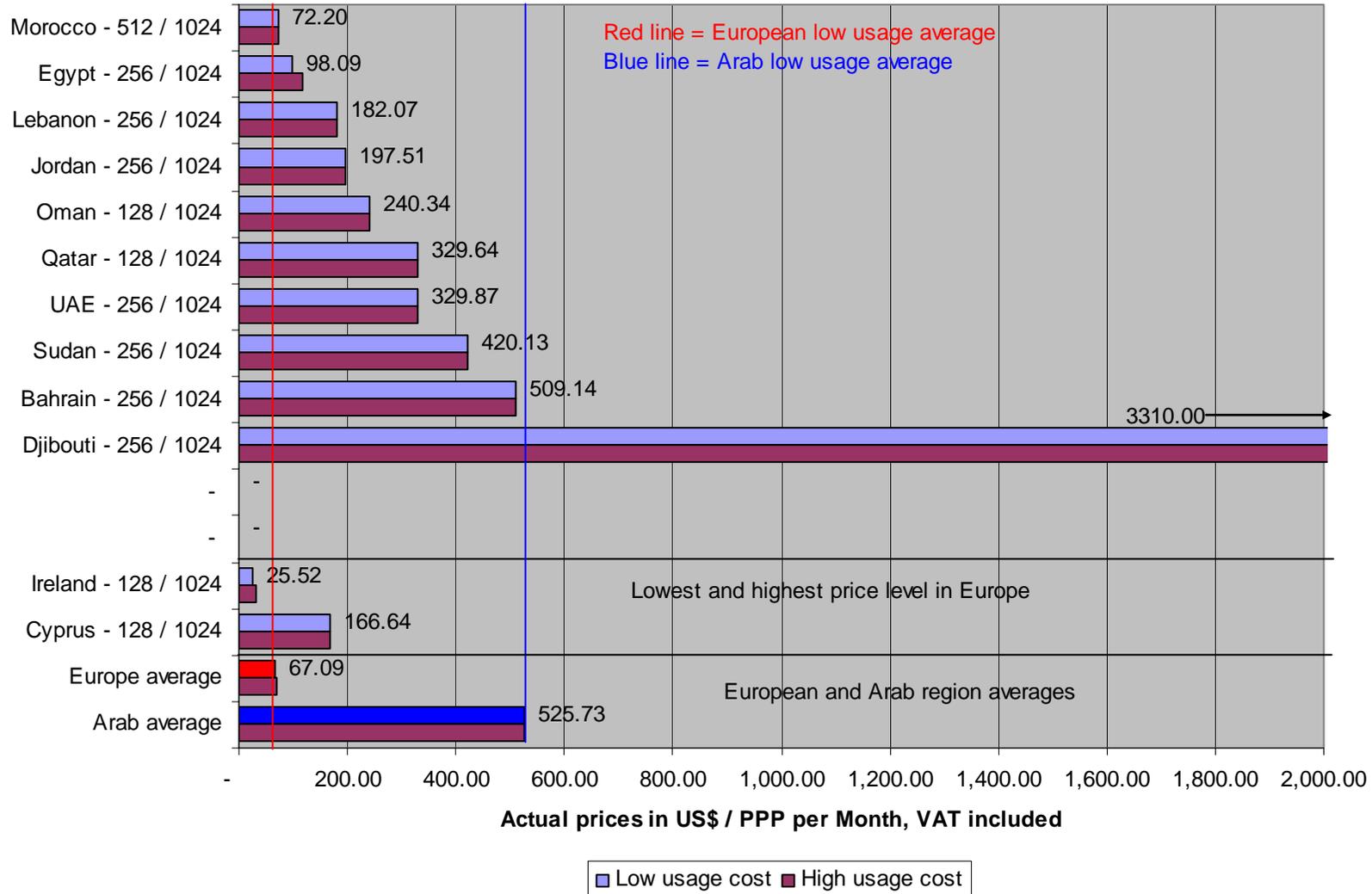


Business low speed broadband (below 1 Mb/s)

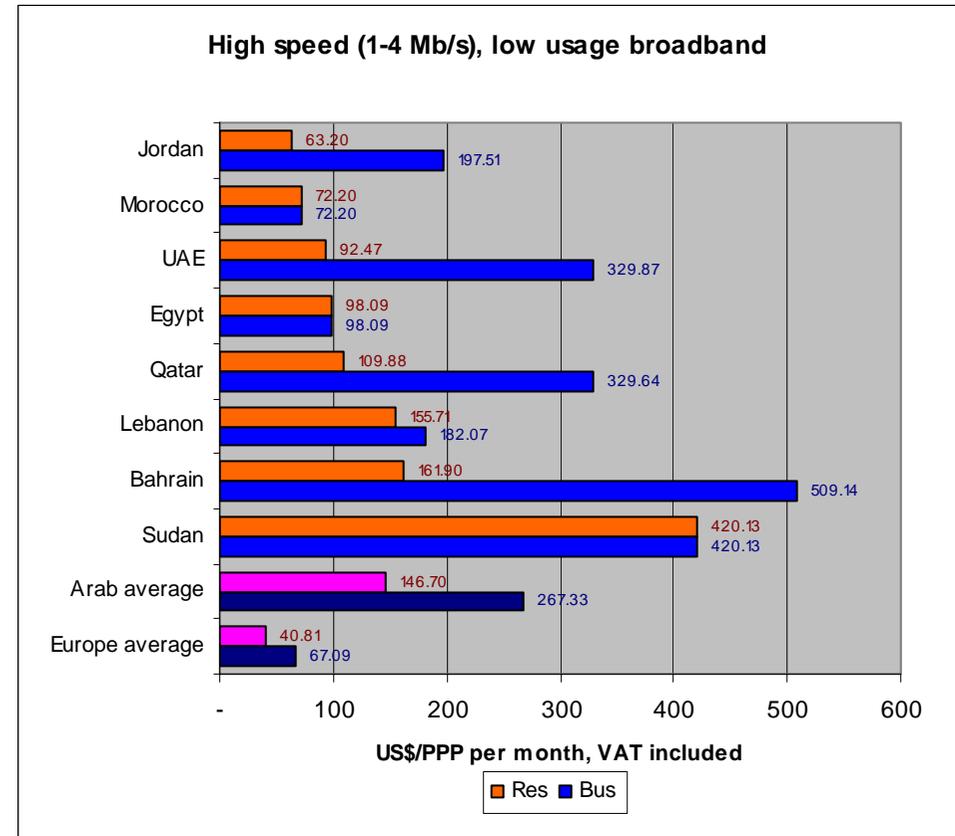
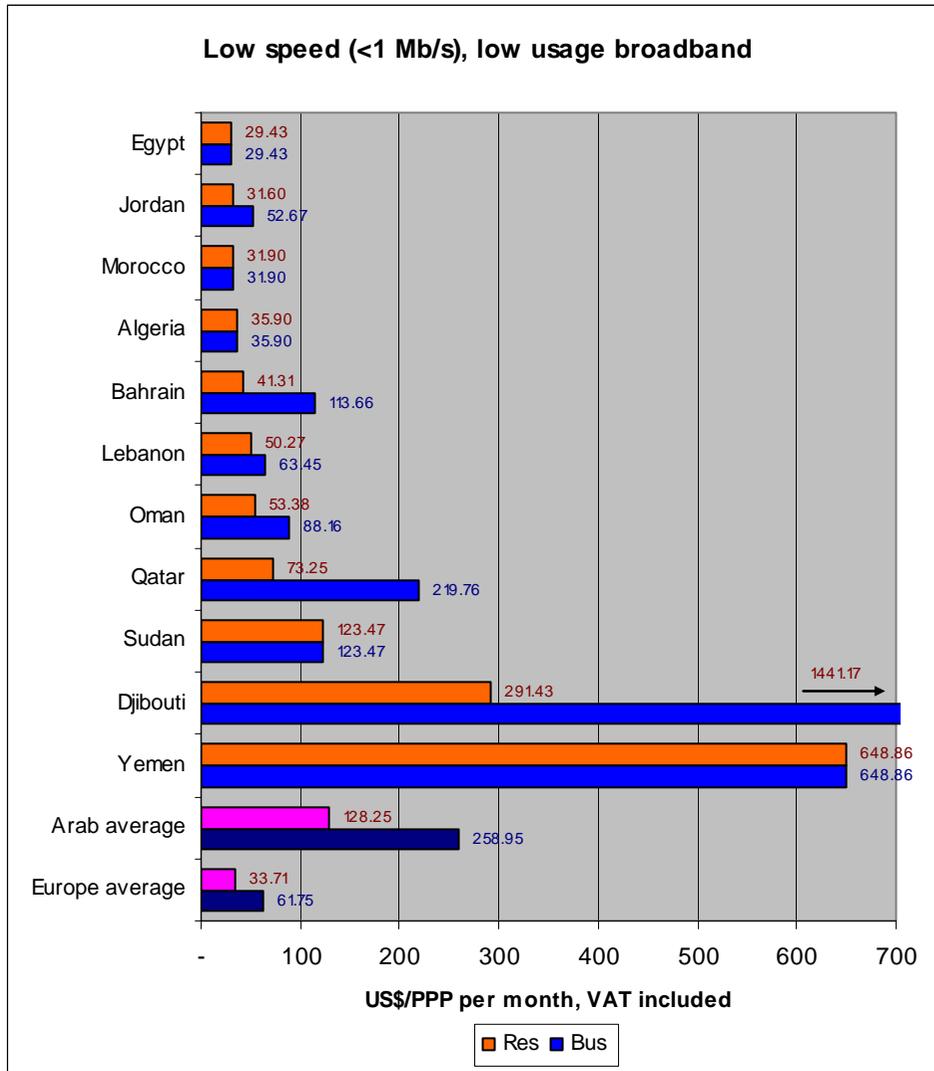


Business high speed broadband (1 – 4 Mb/s)

High speed business broadband services



Residential vs. Business broadband prices



Business to residential price relationship in Arab countries is fairly similar to European average.

	Low speed	High speed
Arab average	202%	182%
Europe average	183%	164%



Some business services offer higher speed and more space than comparable residential services.

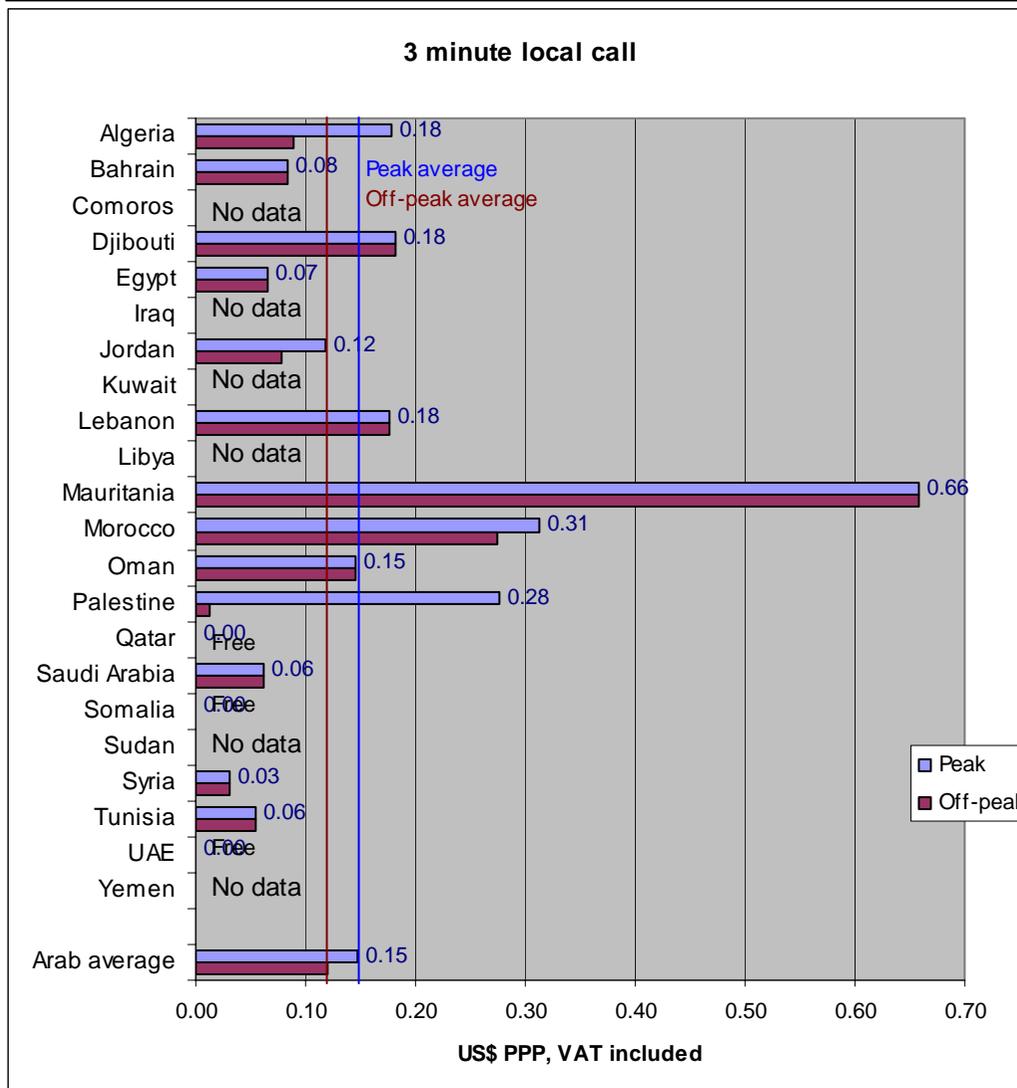
- Speeds above 4 Mb/s appear only to be offered in 4 of the countries:
 - Morocco, Syria, UAE, Tunisia.
 - The prices are very different between countries
 - Price difference between lowest and highest price level is 2430% for low speed services, and almost twice that for high speed.
- Speeds below 256 kb/s are common in most Arab countries
- For speeds above 1 Mb/s the prices are generally higher than what is found in Europe
 - For low speed broadband the prices in the region tend to be below or similar to the European average
- The average price relationship between business and residential offering is almost same for Arab countries and European countries
 - Please note that specific business offerings often include higher speeds, more email and web space, and different conditions.
- Most services are very basic and do not offer many additional facilities
- Only a few of the countries apply usage-based prices



- The comparison of call cost is based on the actual cost of a 3 minute call.
- Costs are compared for Local calls, National calls and calls to the USA
 - At peak and off-peak times
 - Off-peak meaning the lowest possible cost period
- Please note that these comparisons have a much simpler methodology than the basket comparisons shown elsewhere in this report, and reflect the costs for specific call types.
- The results are presented with countries in alphabetical order as a ranking of these results is not necessarily useful.
 - Services with for example free calls (zero cost per call) may still have a higher cost to the end user



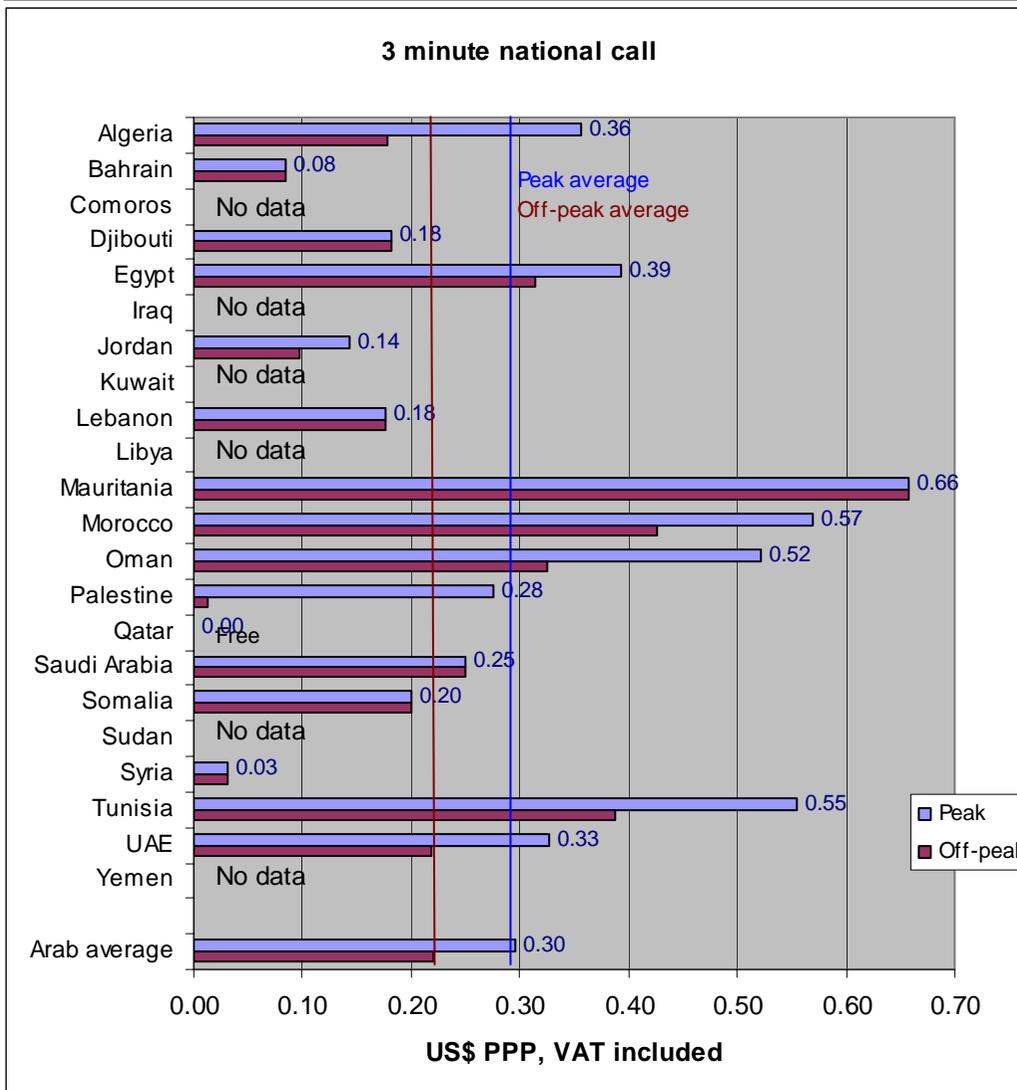
Local call comparison



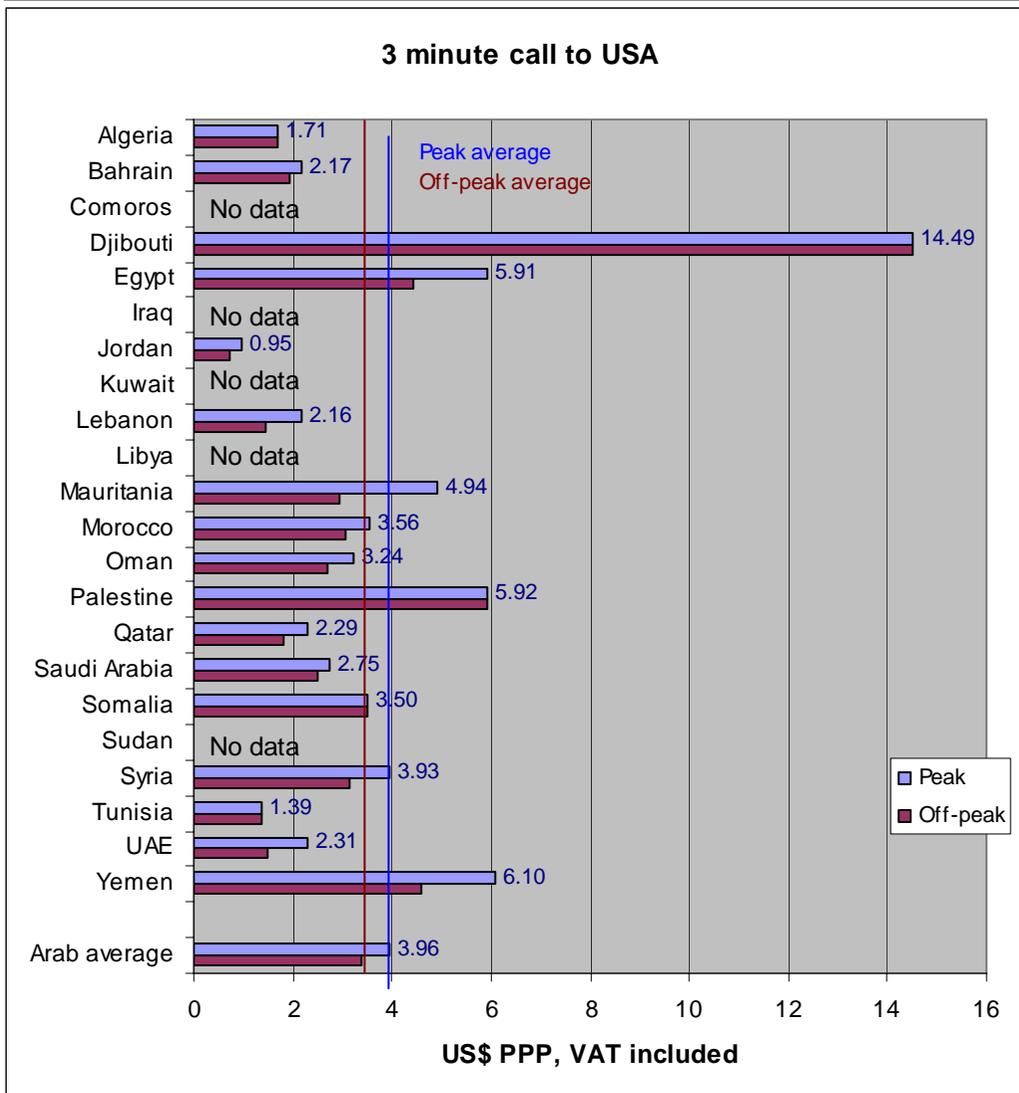
Many of the countries have the same prices for local and national calls.



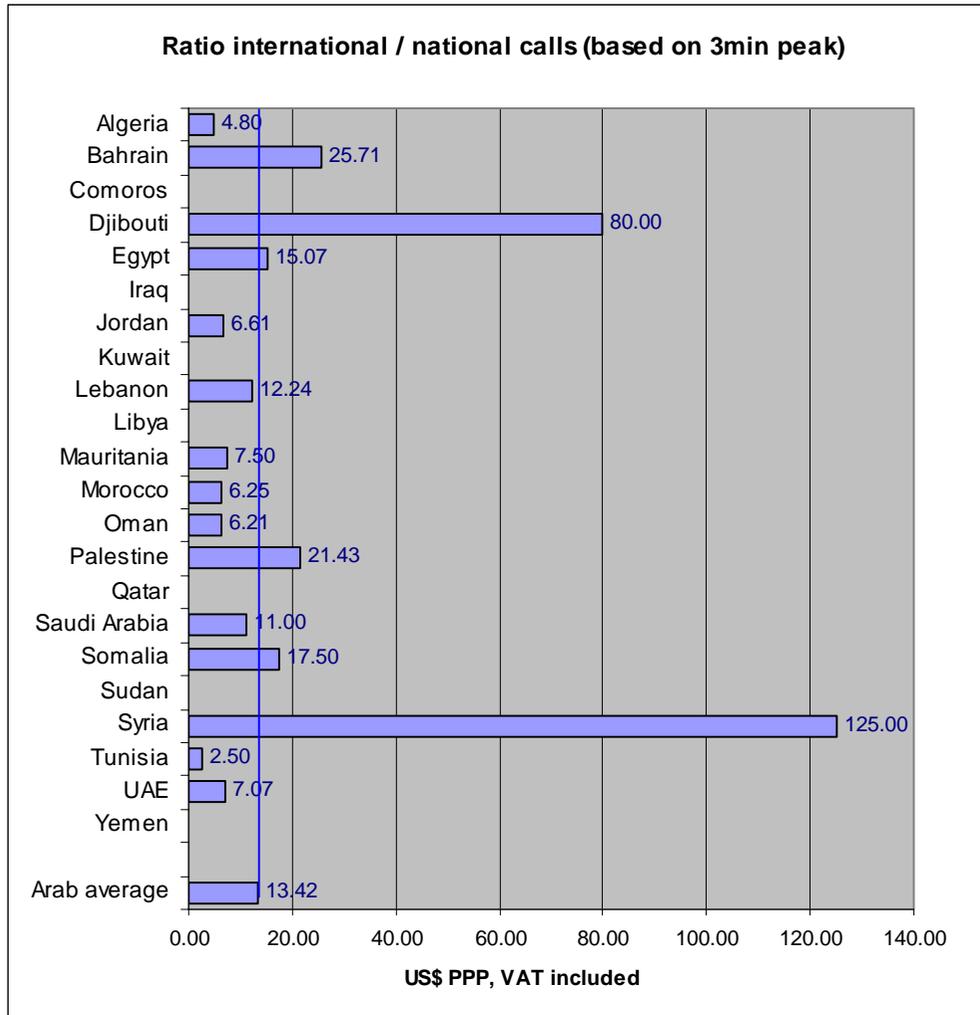
National call comparison



International call comparison (call to USA)



Ratio International to national calls (calls to USA)



- Prices of calls vary considerably between countries
- About half of the countries do not offer off-peak rates for national calls
- Off-peak discounts for international calls are generally quite small
- In in some countries the local and/or national calls are “free”, i.e. included in the monthly rental.
 - Qatar and UAE
- In some countries there are several tariff options available, with different call charges and fixed charges. This analysis is based on the so called “basic” packages.
- Ratio of national to international call prices indicates that rebalancing of call charges has not yet taken place in many countries of the region



- Fixed voice telephony
 - Prices are on average higher in Arab countries than in OECD countries
 - There is a wide spread of price levels between the Arab countries
 - Rates are not rebalanced, with low fixed and high usage costs
 - Especially the international call charges are higher than in OECD countries
 - The lack of rebalancing will make it difficult for the incumbent operators to perform in a competitive market
 - Mobile telephony
 - Price levels in most Arab countries compare well with OECD countries, especially for low and medium usage
 - Rather uniform prices through the region
 - Leased Lines
 - Prices are generally higher than in OECD countries
 - There is a wide spread of prices between the Arab countries
 - Broadband
 - Price levels are significantly higher in Arab countries than in Europe
 - The speed range offered is lower in Arab countries, and prices increase rapidly with speed.
 - The higher rates will inhibit broadband penetration
-

Reference information

Exchange rates and VAT

Related to:	US\$	US\$ PPP	%	Currency
Algeria	0.01497	0.02994	17.0 %	DZD
Bahrain	2.6529	4.019545455	0.0 %	BHD
Comoros	0.002991	0.005247368	0.0 %	KMF
Djibouti	0.005797	0.012077083	19.0 %	DJF
Egypt	0.1831	0.653928571	10.0 %	EGP
Iraq	1	2.631578947	0.0 %	USD
Jordan	1.4221	2.633518519	16.0 %	JOD
Kuwait	3.6617	5.016027397	0.0 %	KWD
Lebanon	0.000671	0.001198214	10.0 %	LBP
Libya	0.8325	2.08125	0.0 %	LYD
Mauritania	0.004059	0.01097027	0.0 %	MRO
Morocco	0.1304	0.237090909	20.0 %	MAD
Oman	2.6087	4.347833333	0.0 %	OMR
Palestine	0.2631	1.3155	0.0 %	NIS
Qatar	0.274700000	0.366266667	0.0 %	QAR
Saudi Arabia	0.2669	0.41703125	0.0 %	SAR
Somalia	0.0007313	0.002437667	0.0 %	SOS
Sudan	0.491279784	1.116544963	10.0 %	SDG
Syria	0.01993	0.052447368	0.0 %	SYP
Tunisia	0.8317	1.848222222	18.0 %	TND
UAE	0.2722	0.362933333	0.0 %	AED
Yemen	0.005048	0.014022222	10.0 %	YER

Prices for services in Iraq are given in US\$

Exchange rates taken from the Oanda web service on the 8 January 2008.
PPPs are based on World Bank CPL for 2005 (published 2007).

Acronyms used in the context of this report

- OECD: Organisation of Economic Co-operation and Development
- OECD countries: Australia, Austria, Belgium, Canada, Czech Rep., Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Rep., Spain, Sweden, Switzerland, Turkey, UK, USA
- VAT: Value Added Tax, a consumption tax system used in most European countries and some Arab countries.
- PPP: Purchasing Power Parity, exchange rates adjusted for the purchasing power of consumers in each country. Used in international comparisons to adjust for market differences. This study uses data from the World Bank.
- CPL: Comparative Price level. The relative factor between market exchange rates and PPP. Used to calculate the PPPs from current market exchange rates.
- Service: A telecommunications service
- Basket: A theoretical usage profile describing the usage volumes across different types of calls. The basket shall include all important elements of the service, including fixed cost elements.
- Tariff: The description of all the end user prices related to a service
- Tariff element: The part of a tariff describing the price(s) for a single type of call or service.
- Basket calculation: The process where the Basket is applied to the individual tariff in order to calculate the cost of the individual tariff elements and the overall cost.
- Basket result: The cost of using the service as described in the Basket.
- Re-balancing: The process through which the prices of individual Tariff elements will cover their own cost, and not subsidise other Tariff elements.