



# Telecommunications Price Benchmarking for Arab Countries 2010

Report from the AREGNET Price Benchmarking Study

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Prepared by:

**Name** Halvor Sannæs

**Position** Director Tariff Services

**Tel** +47 3702 3400

**Email** [hsannaes@strategyanalytics.com](mailto:hsannaes@strategyanalytics.com)

# Acknowledgements

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Teligen wishes to thank:

- The AREGNET members for feedback and support in the collection of tariff information and to TRA Bahrain for commissioning and coordinating the study on behalf of AREGNET
- The operators who have contributed with additional tariff information

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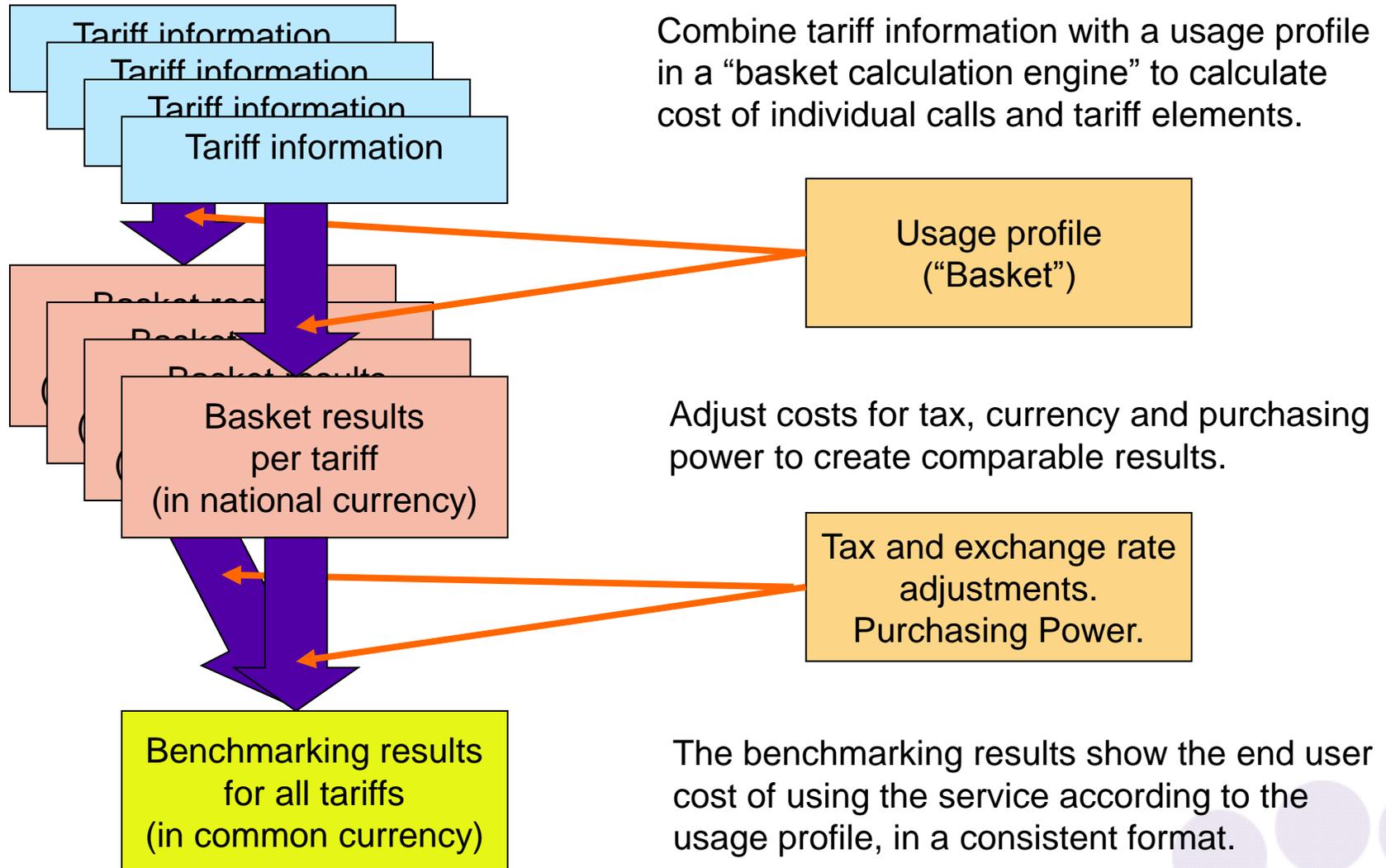
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## The context

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- The benchmarking study was originally initiated by TRA Bahrain in 2008 and updated in 2009. This update for 2010 was commissioned by TRA Bahrain on behalf of AREGNET.
  - In increasingly competitive markets it is important for regulators to be able to track the evolution of prices and analyze the impact of price change and competition on the effective prices paid by consumers.
  - This study allows Arab countries to compare the price levels within and between countries, and also to compare with the OECD countries. Data presented in this report is comparable with data from the 2008 and 2009 reports. However, please note that exchange rates have changed.
  - 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. As OECD baskets were revised in 2009/2010 some results are presented for both versions of the baskets.
  - The data was collected by Teligen from public sources on the Internet. Data has subsequently been passed to national regulators for comments.
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# Price benchmarking with “Baskets”



# Fixed voice (PSTN) baskets, 2006 version

- 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



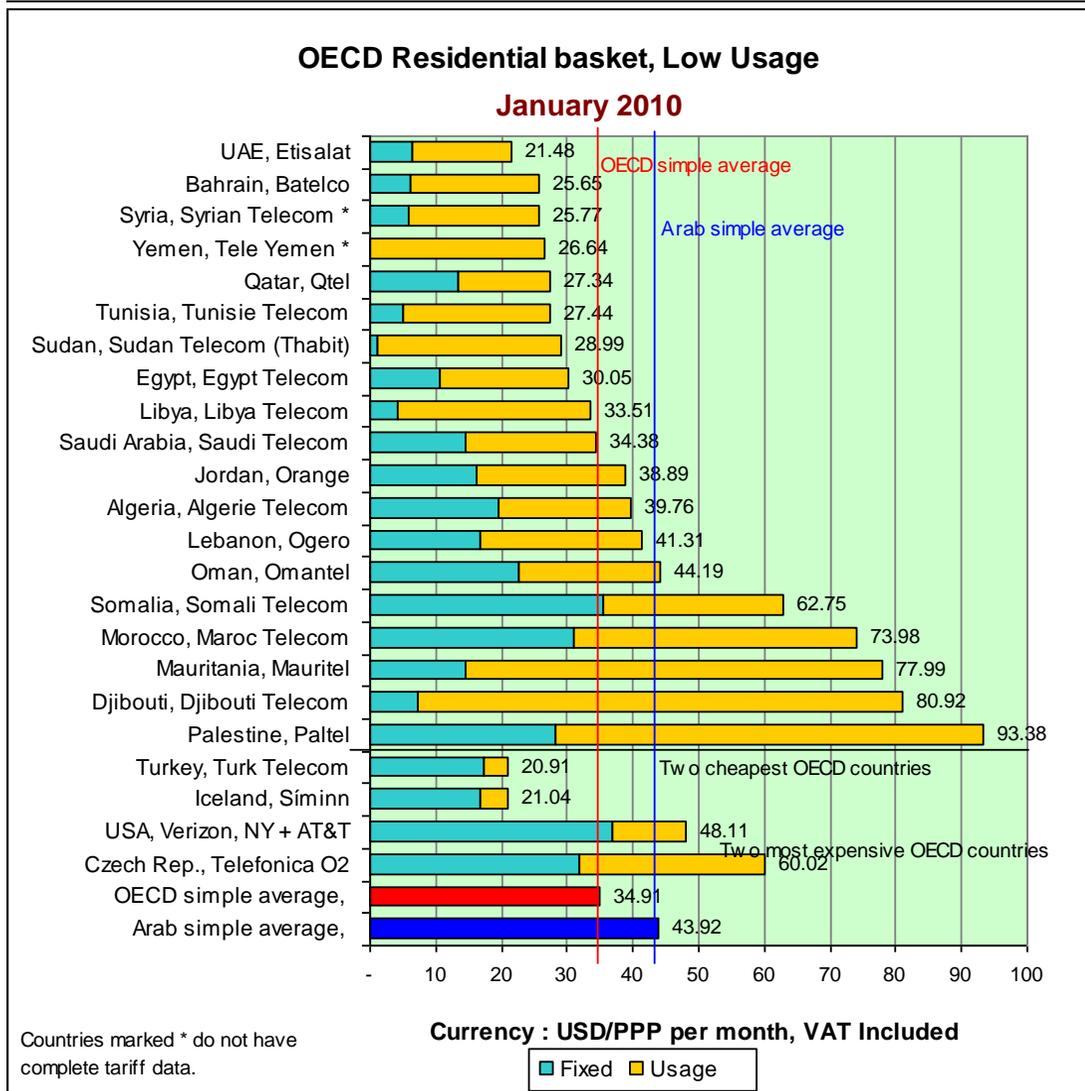
## Fixed voice (PSTN) data issues

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- Tariff data was researched from operator websites in the first weeks of January 2010.
  - Additional clarifications have been sought from operators and regulators.
  - Regulators have been offered the opportunity to comment on the tariff information, and on this report, prior to final publication.
- Due to lack of published data, and lack of feedback, no data is available for:
  - Comoros
  - Iraq
  - Kuwait
- Part of data is missing for:
  - Syria (no prices for calls to mobile)
  - Yemen (no prices for national calls and fixed line)
- The analysis covers 40 tariffs from the incumbent operators in 19 countries



# Low usage basket results



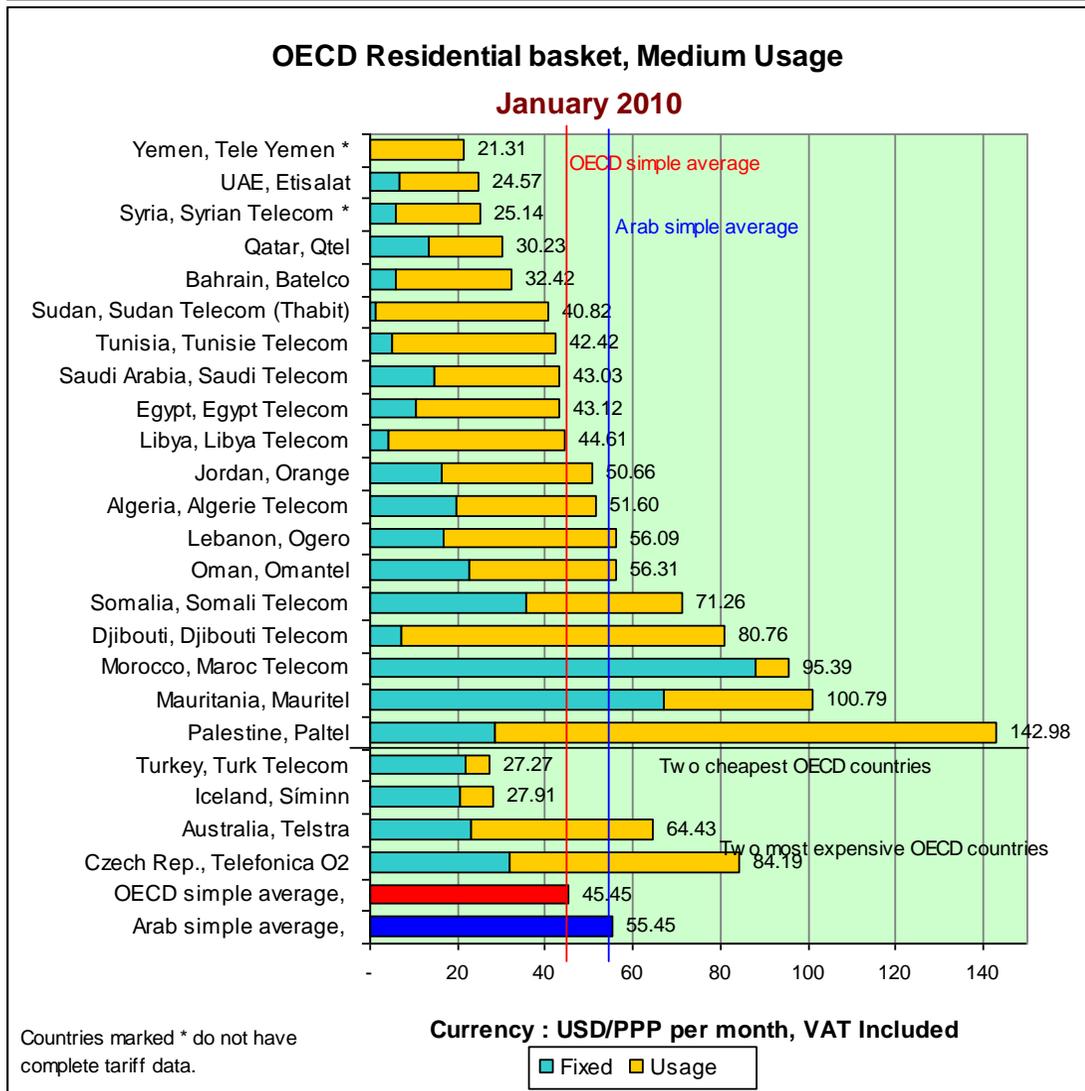
Most Arab countries have a low fixed cost, and “average to high” usage cost.

International calls are particularly expensive (see international basket). For Arab countries the international usage is 57% of the total usage, while for the OECD it is 32%.



The “average” lines are indications of the averages across OECD countries and Arab countries covered in this study

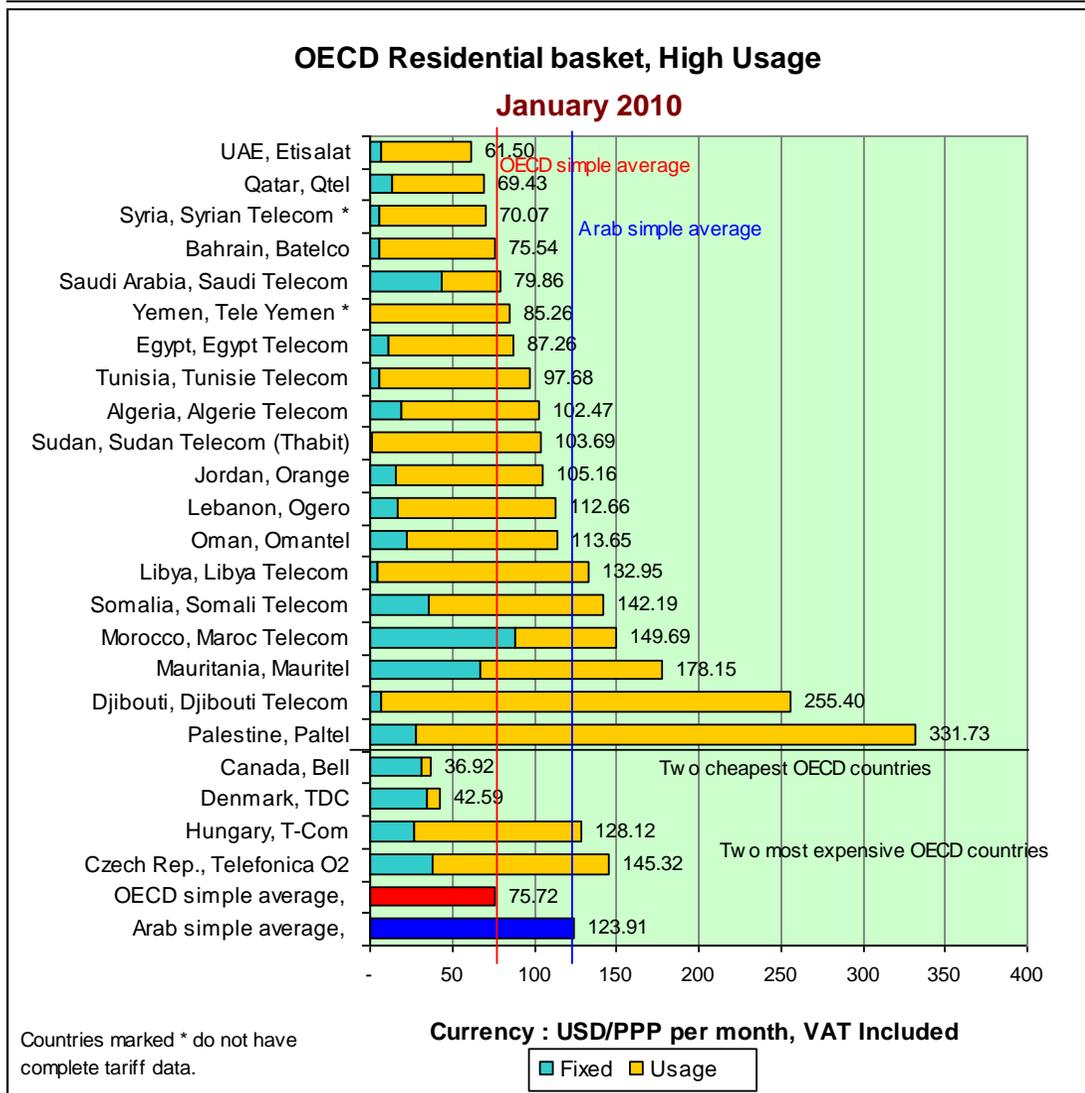
# Medium usage basket results



The “average” lines are indications of the averages across OECD countries and Arab countries covered in this study



# High usage basket results



With high usage six of the Arab countries can compare with the average OECD cost. (up from three last year)

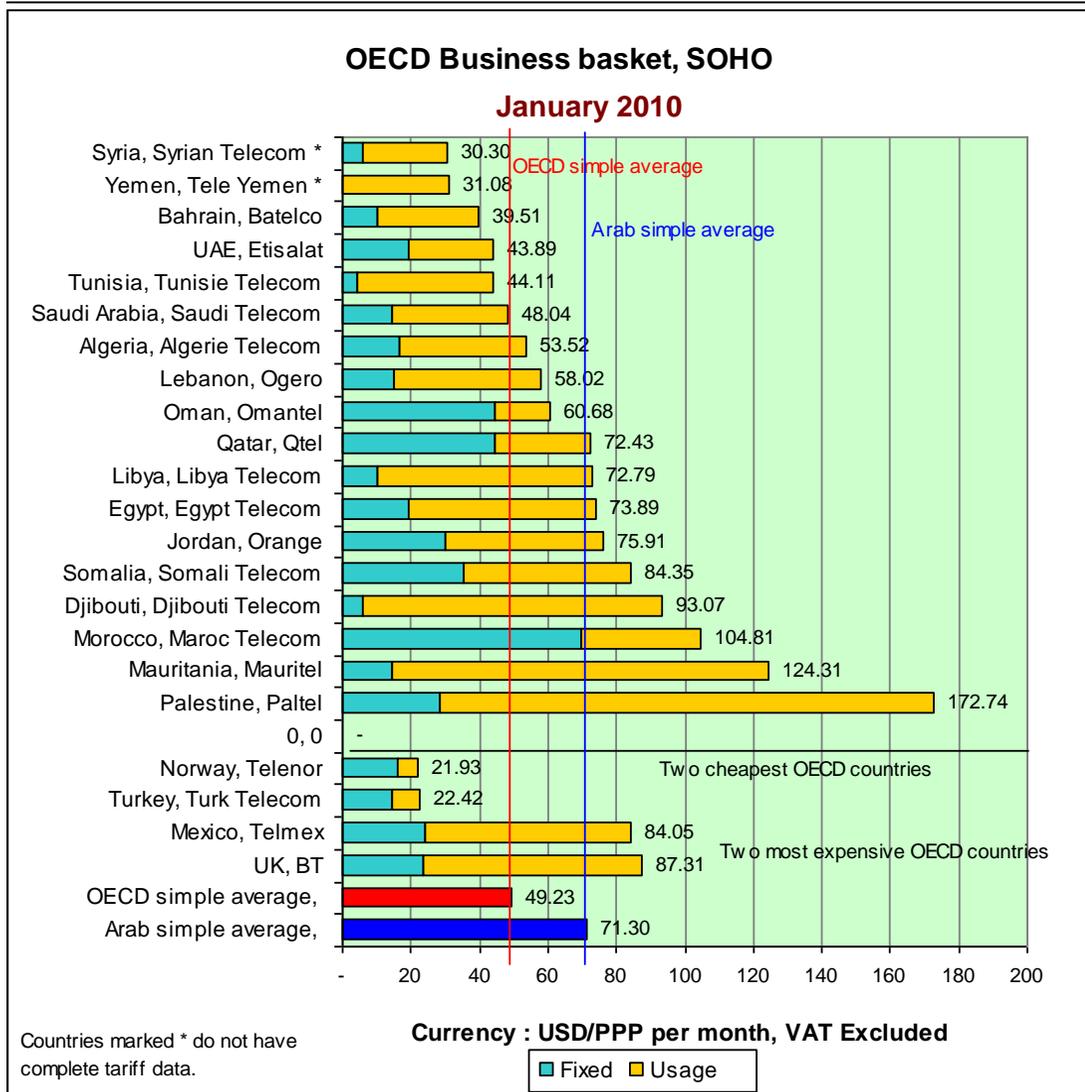
The low fixed cost does, combined with the relatively high usage cost, create a situation where competing operators may easily attract high volume users. Buying the low cost line from the incumbent operator, and cheaper calls from an indirect provider, may be a tempting alternative when usage is high.

This may put the incumbent operator in a difficult position.



The “average” lines are indications of the averages across OECD countries and Arab countries covered in this study

# SOHO basket results



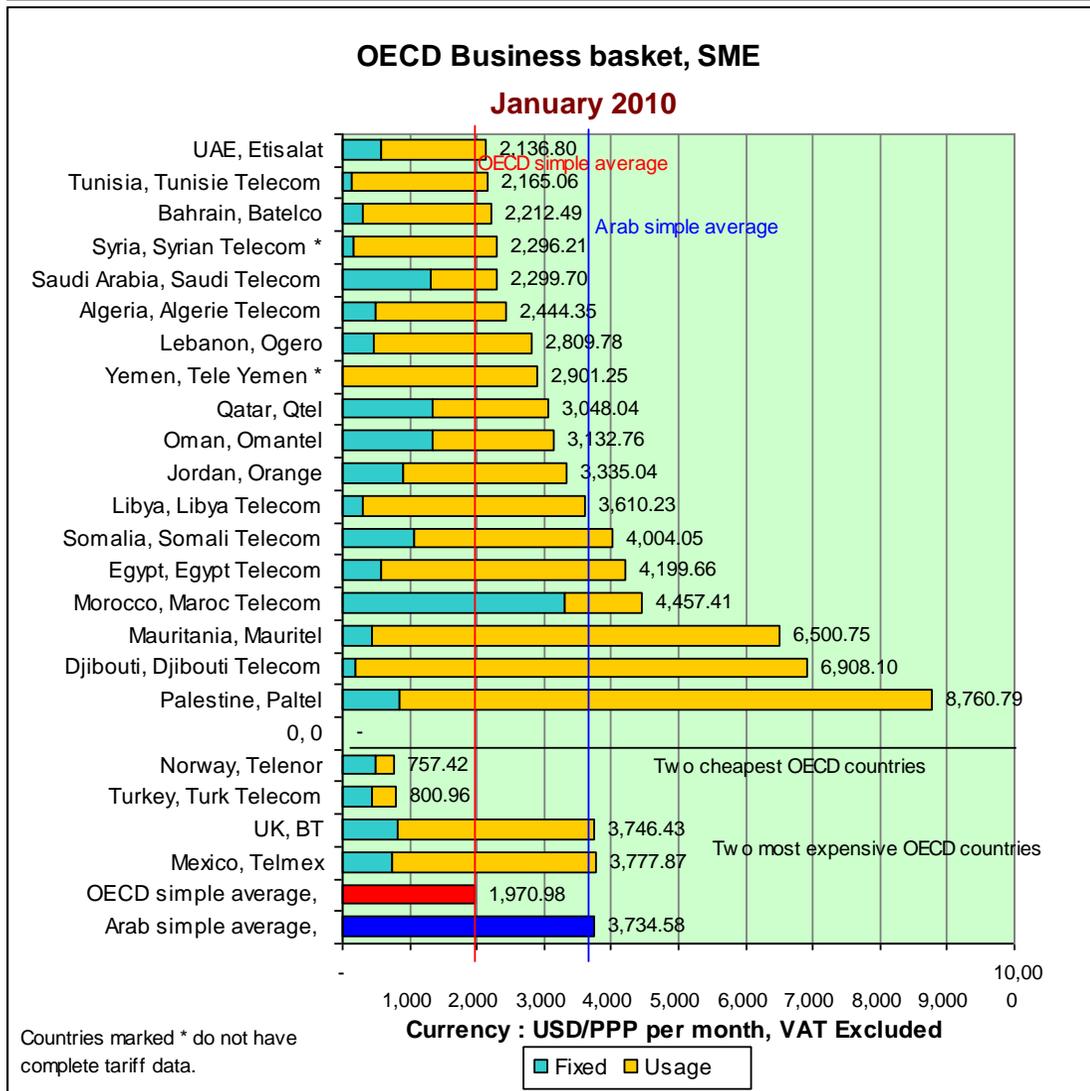
The profile of the “Small Office / Home Office” basket is largely similar to the Medium Residential basket. The main difference is higher overall usage and more international calls.

The difference between the Arab and the OECD averages is smaller for business services than for residential services.



The “average” lines are indications of the 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.

All Arab countries are above OECD average.

The “average” lines are indications of the averages across OECD countries and Arab countries covered in this study



# International call basket

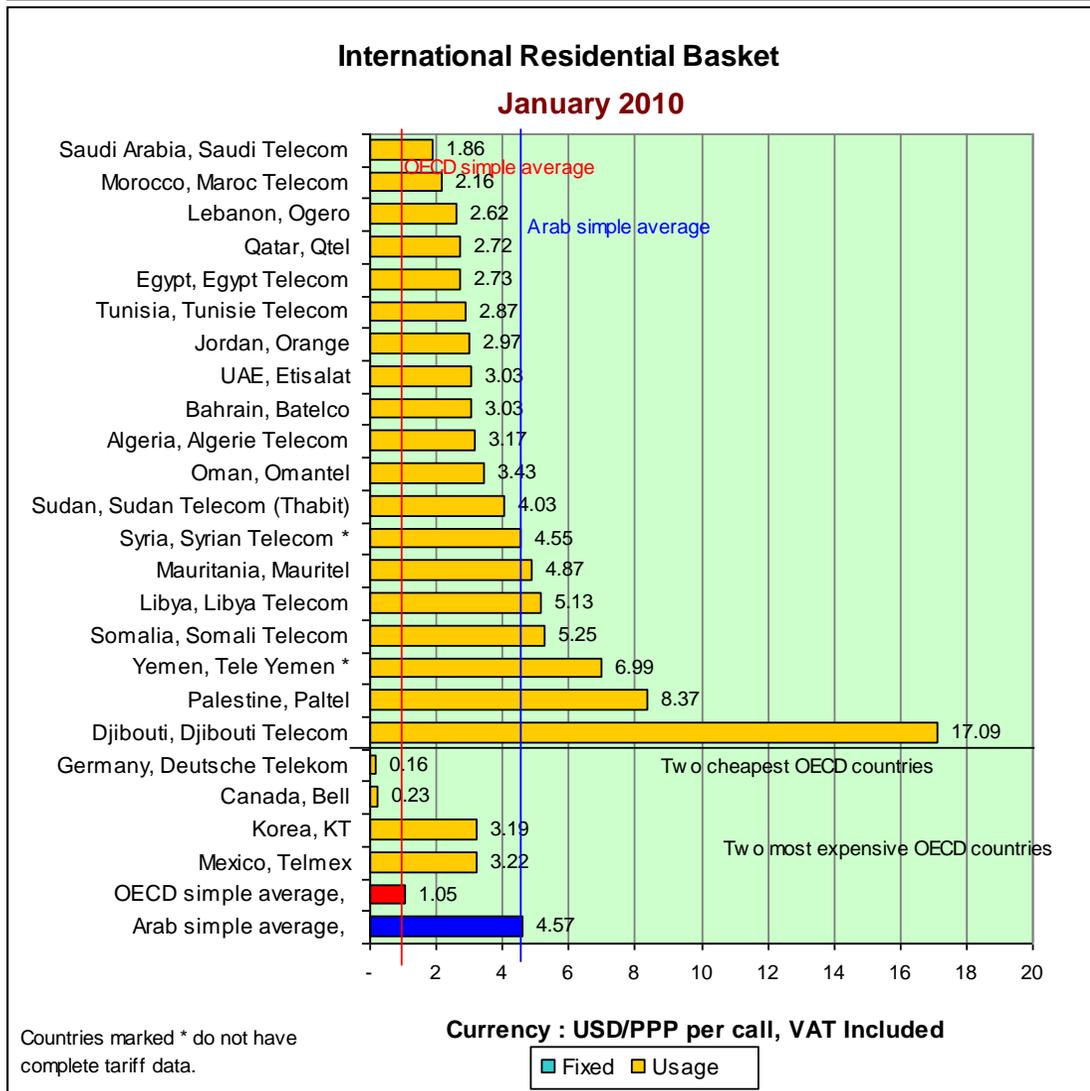
- The international basket gives the weighted average of the cost of **one call**, weighted by:
  - Destination: 22 Arab countries, 4 Western and 4 Eastern countries
  - Time of day: Residential basket with 25% peak time and 75% off-peak time
  - Duration: Peak calls of 3 minutes, off-peak calls of 5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



# International call basket



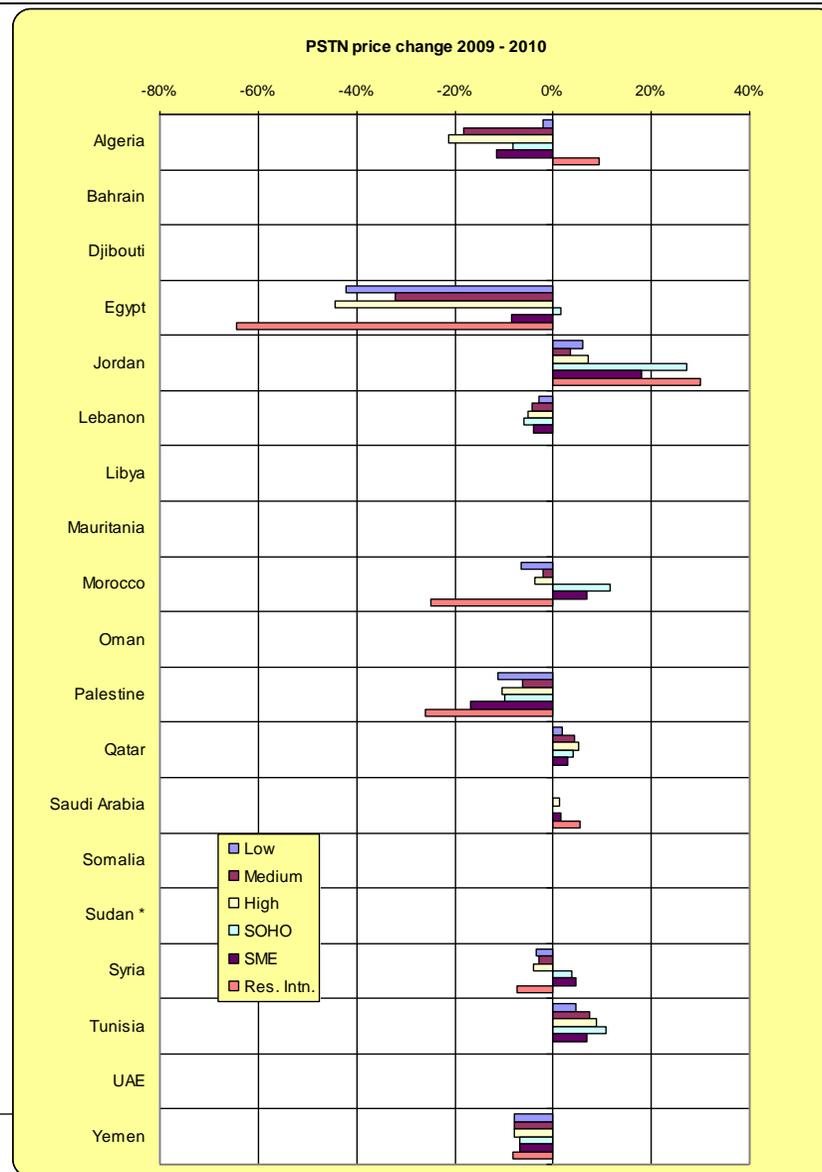
International calls out of the Arab countries are 4-5 times as expensive as the OECD countries on average, and even the cheapest Arab country is 11 times more expensive than the “best in class” OECD country. However, this is an improvement from previous years.



The “average” lines are indications of the averages across OECD countries and Arab countries covered in this study

# Fixed voice basket results 2009 - 2010

- **Price changes 2009 - 2010:**
  - Algeria: Reduced line rental, increased national call charges
  - Egypt: Changes in national call charges and business tariff. International call charges for additional minutes reduced significantly.
  - Jordan: Changes in international call charges, no off-peak discount any more
  - Lebanon: Lower fixed to mobile call charges.
  - Morocco: Changes in fixed to mobile charges and reduced off-peak international charges.
  - Palestine: Change in fixed to mobile charges and lower international charges.
  - Qatar: Adjusted to per minute billing. No price change.
  - Saudi Arabia: Change in call charge to USA
  - Syria: Correction in international call charges. No actual change.
  - Tunisia: Change in fixed to mobile charges
  - Yemen: Reduction in international call charges to some destinations.
- The gap between the Arab average and the OECD average has widened over the last year, primarily because the prices in OECD countries have gone down more than in Arab countries.

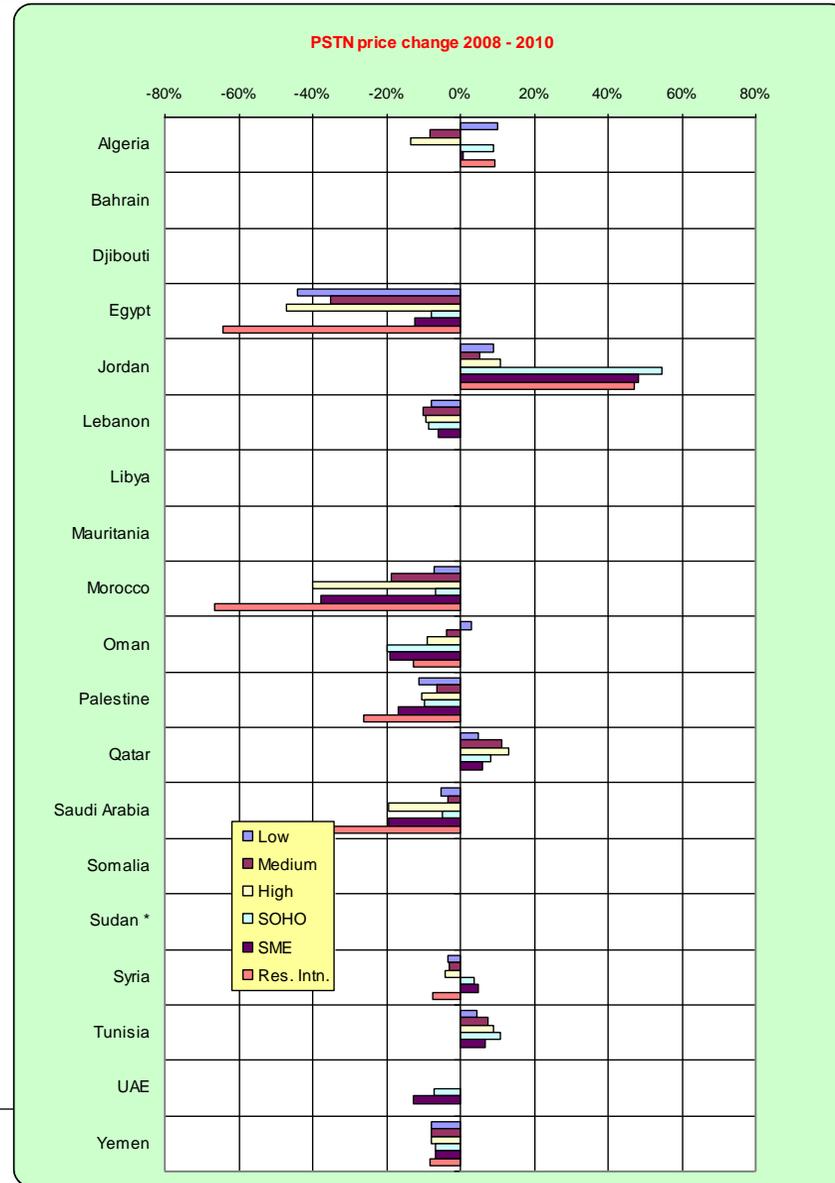


Price change analysis is based on prices in national currency for each country.



# Fixed voice basket results 2008 - 2010

- **Price changes for the entire study period**
  - Most countries have seen some price reductions
  - Price increases for some users seen in Algeria, Egypt, Oman and Syria.
  - General price increases in Jordan and Tunisia
  - Price increase shown for Qatar due to adjustment to per minute billing. No price increase per say.
- **Un-weighted price change per basket across countries**
  - Low basket changed -3%
  - Medium basket changed -4%
  - High basket changed -8%
  - SOHO basket changed +1%
  - SME basket changed -4%
  - International calls basket changed -11%
- Most users of fixed telephony will have seen a price reduction over the three years.



Price change analysis is based on prices in national currency for each country.



# Observations from PSTN basket results

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- The cheapest countries throughout are : (\*)
  - UAE , Syria, Bahrain, Yemen, Tunisia
    - 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.
- As before, 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.
  - This situation has not changed much over time
- 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



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\* Countries with gaps in the tariff information are not considered.

# Fixed voice (PSTN) baskets, 2010 version

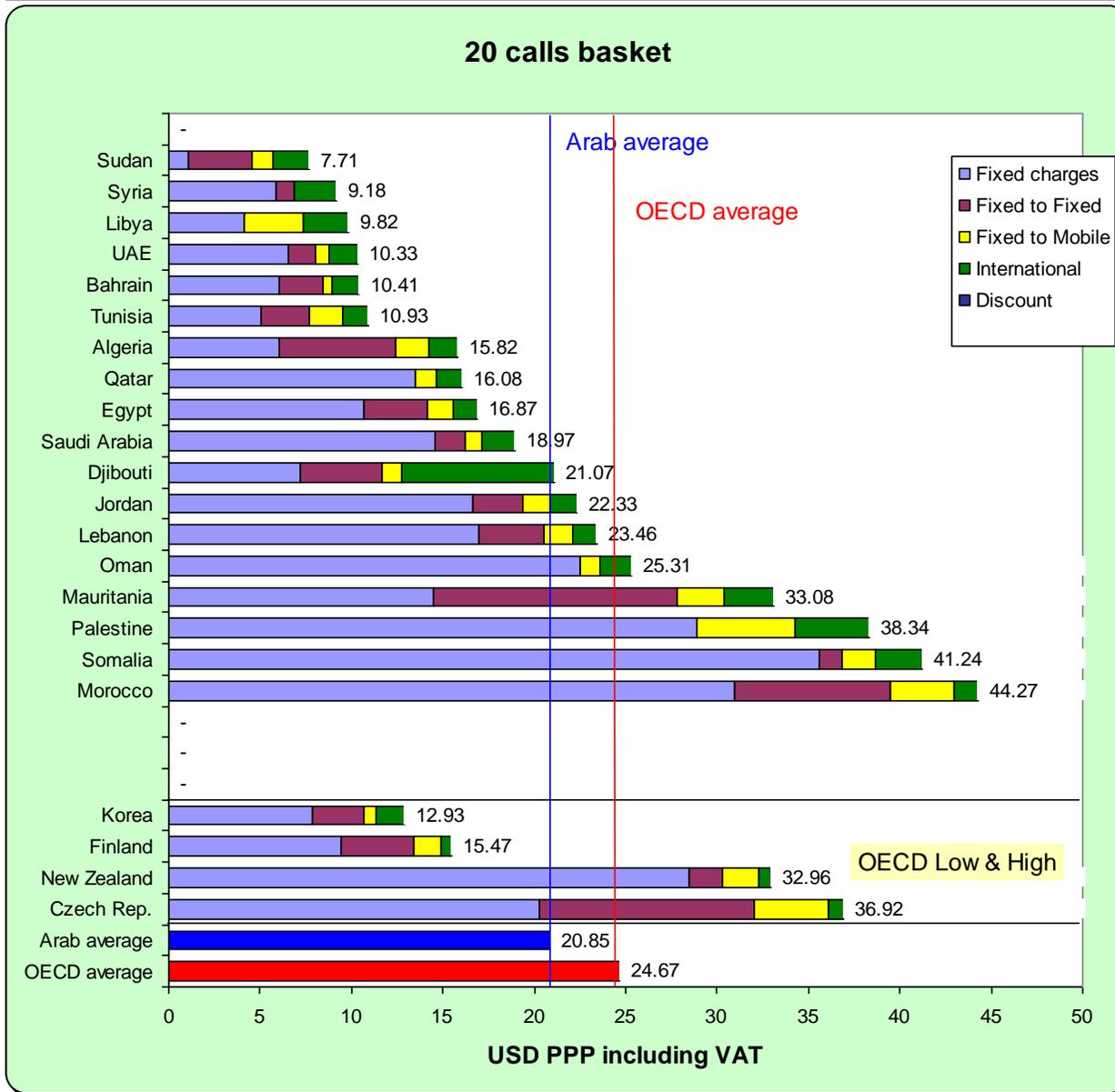
- Six different basket definitions:
  - Defined by number of calls per month
  - Residential: 20, 60, 140 and 420 calls per month
  - Business: 100 and 260 calls per month

Calls per month	Total calls	Call distribution			
		Fixed to fixed Local	Fixed to fixed National	Fixed to mobile	International
20 calls basket	20	61%	20%	17%	2%
60 calls basket	60	60%	15%	21%	4%
140 calls basket	140	58%	15%	23%	4%
420 calls basket	420	73%	17%	8%	2%
100 calls business basket	100	48%	19%	30%	3%
260 calls business basket	260	43%	23%	25%	9%

- Tariffs from the incumbent operator in each country
  - Several tariff packages can be covered for each operator
  - The results show the lowest cost option 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
  - Structure of basket is somewhat simpler than the 2006 baskets
- The results using the 2010 baskets come from a different implementation of the basket spreadsheets, and will inevitably give slightly different results due to the difference in basket structure.



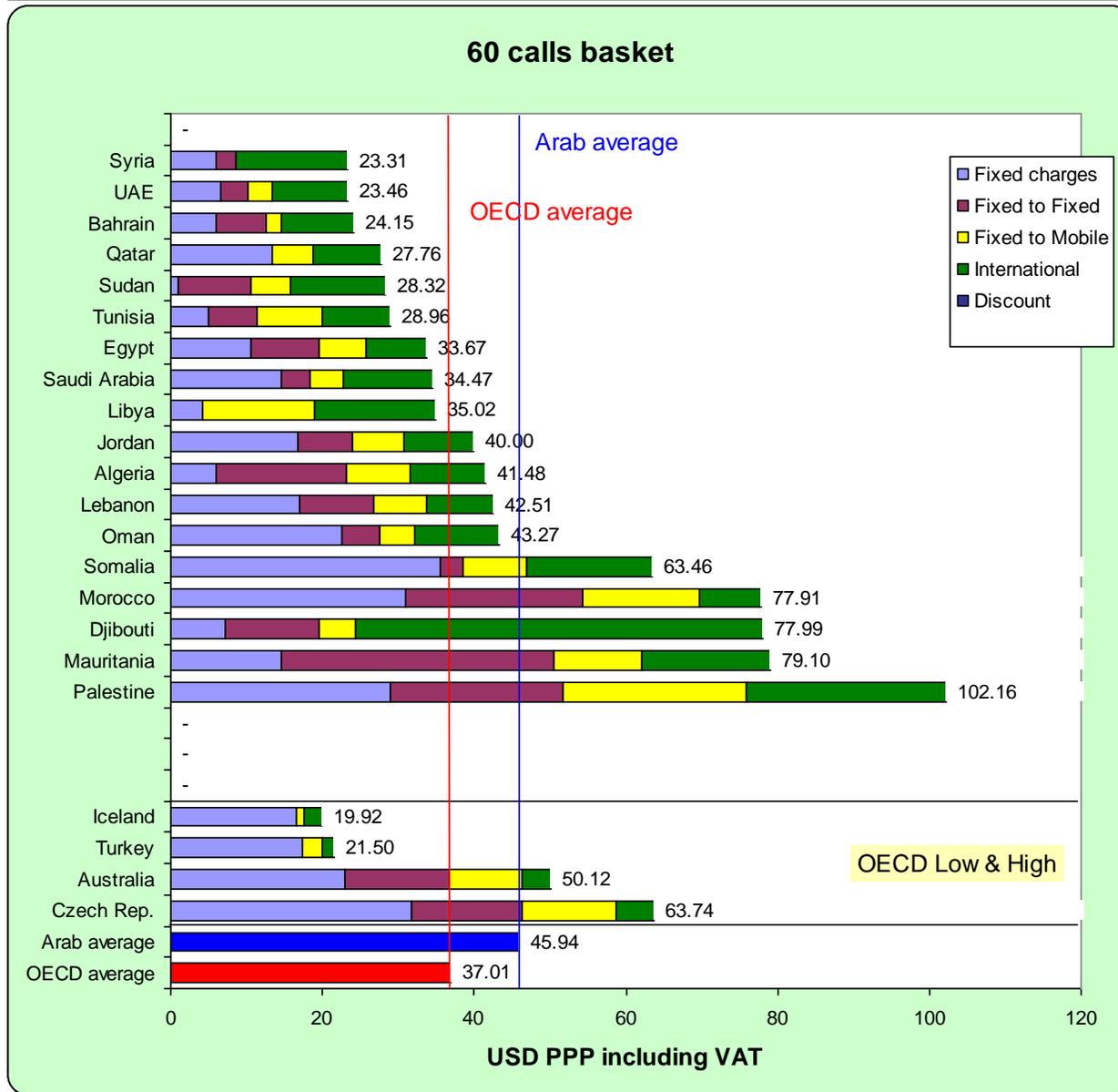
# 2010 OECD PSTN baskets: 20 calls/month



No national tariffs for Yemen are included.  
No F2M prices for Syria are included.



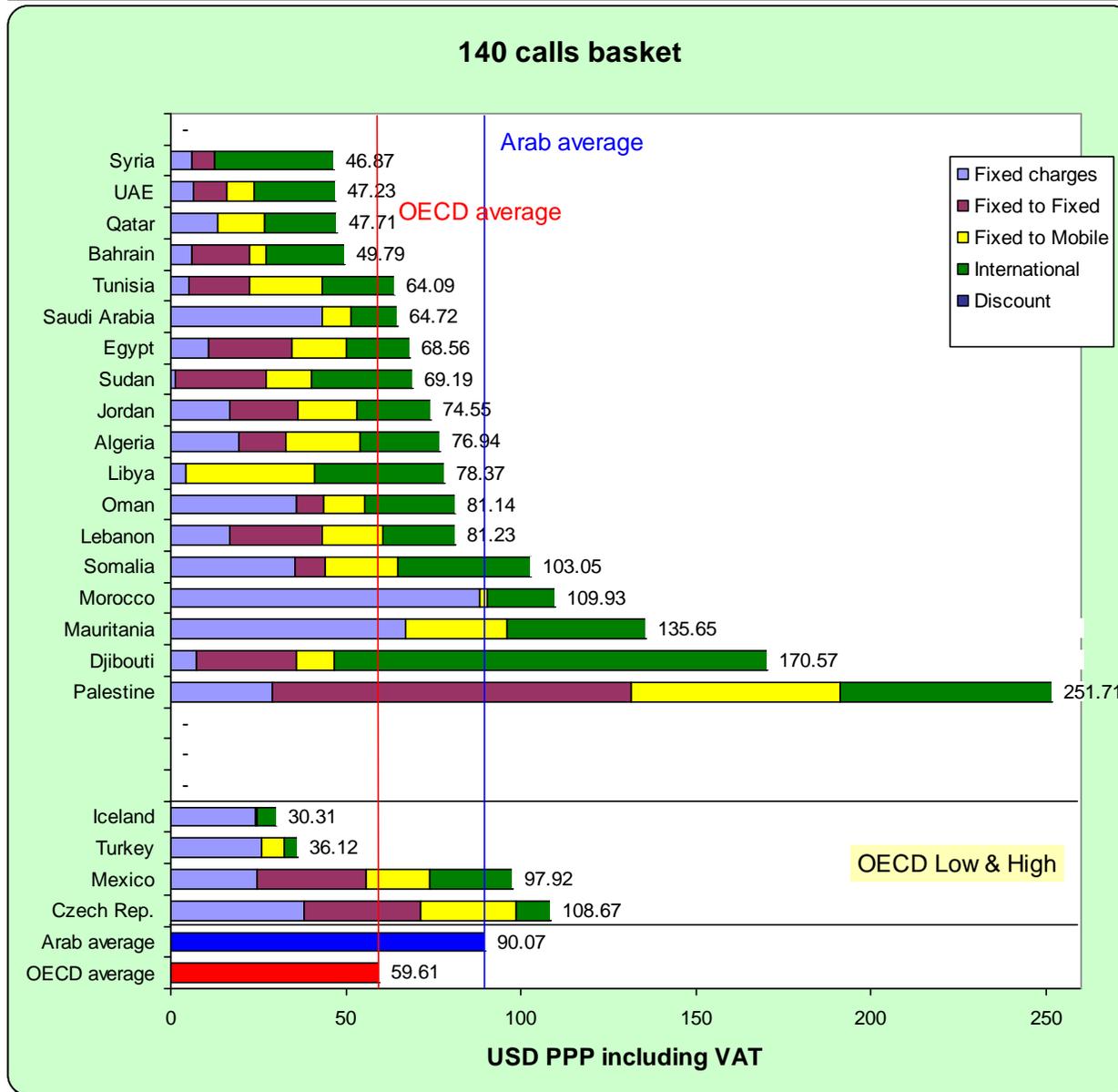
# 2010 OECD PSTN baskets: 60 calls/month



No national tariffs for Yemen are included.  
No F2M prices for Syria are included.



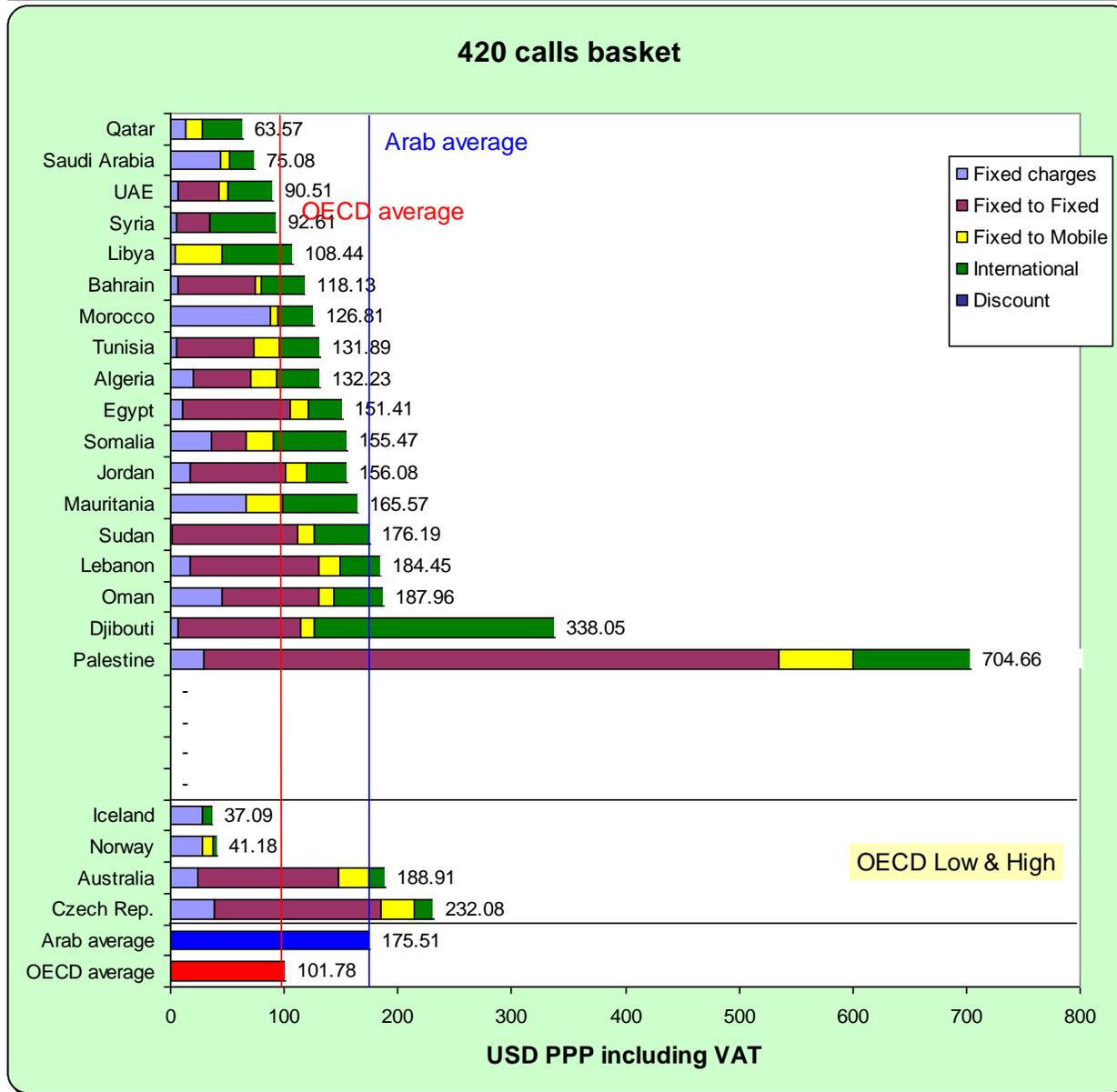
# 2010 OECD PSTN baskets: 140 calls/month



No national tariffs for Yemen are included.  
No F2M prices for Syria are included.



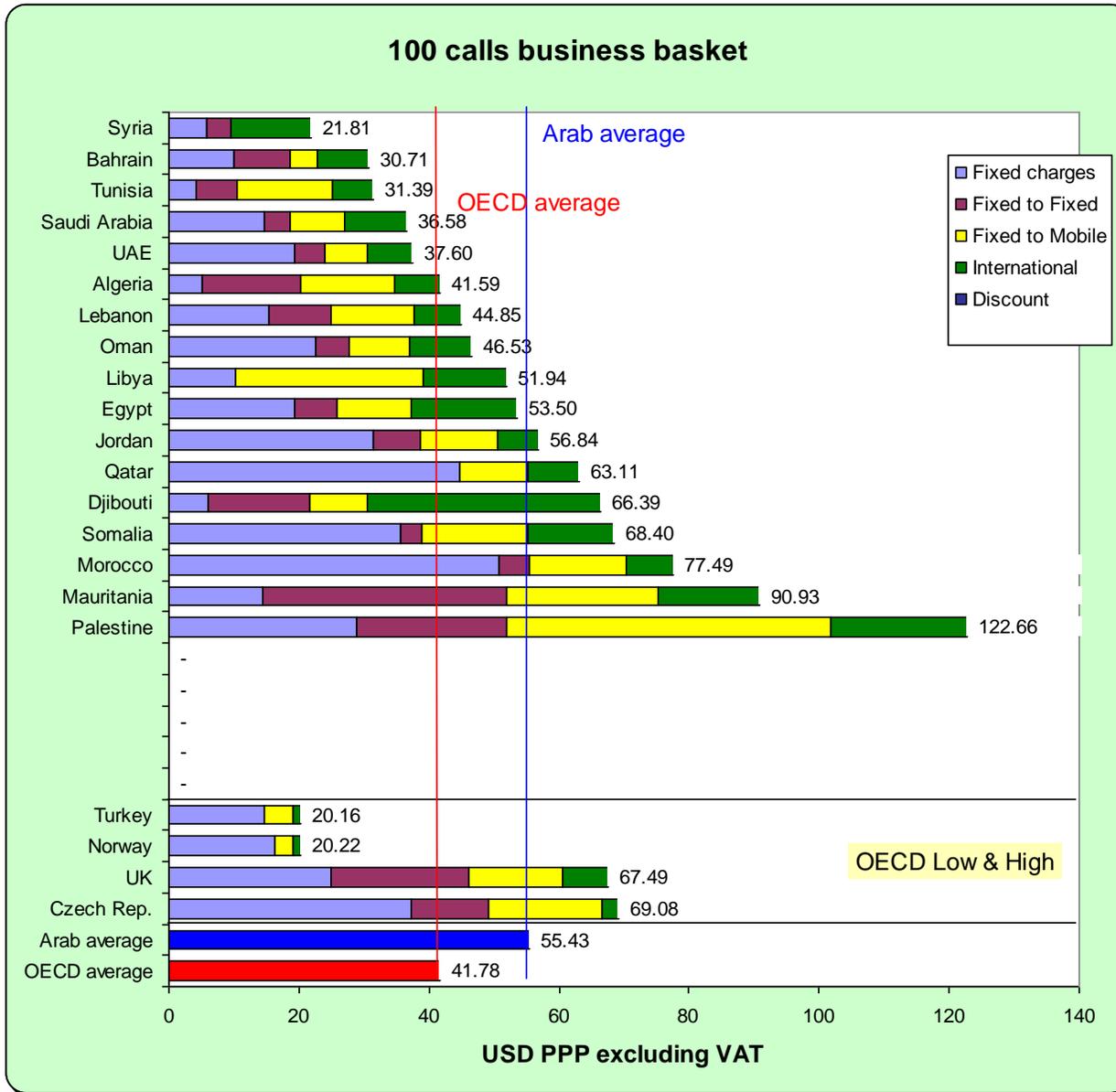
# 2010 OECD PSTN baskets: 420 calls/month



No national tariffs for Yemen are included.  
No F2M prices for Syria are included.



# 2010 OECD PSTN baskets: 100 calls/month, Business

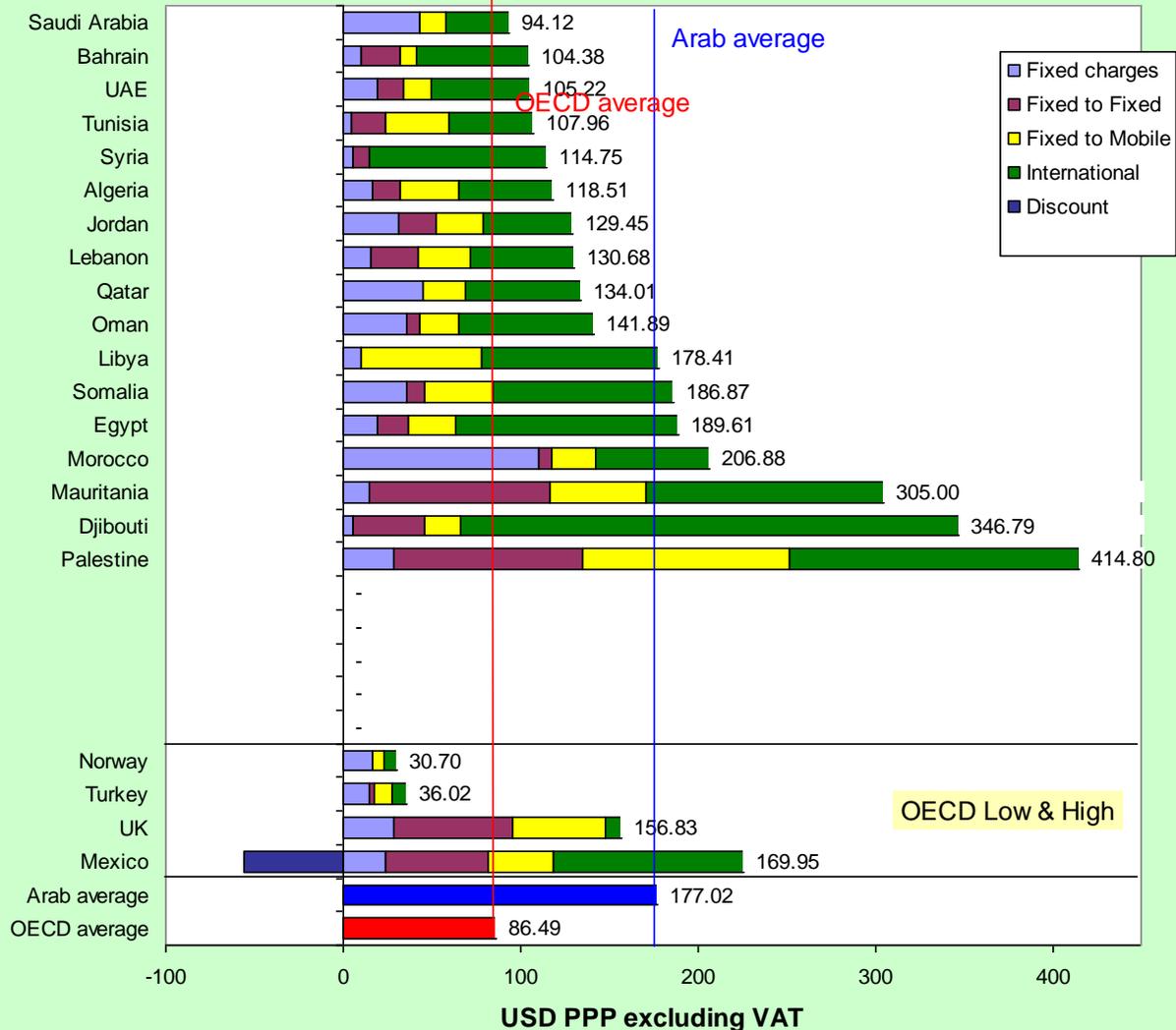


No national tariffs for Yemen are included.  
No F2M prices for Syria are included.



# 2010 OECD PSTN baskets: 260 calls/month, Business

260 calls business basket



No national tariffs for Yemen are included.  
No F2M prices for Syria are included.



# OECD Mobile basket , 2006 version

- 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 calls are 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%



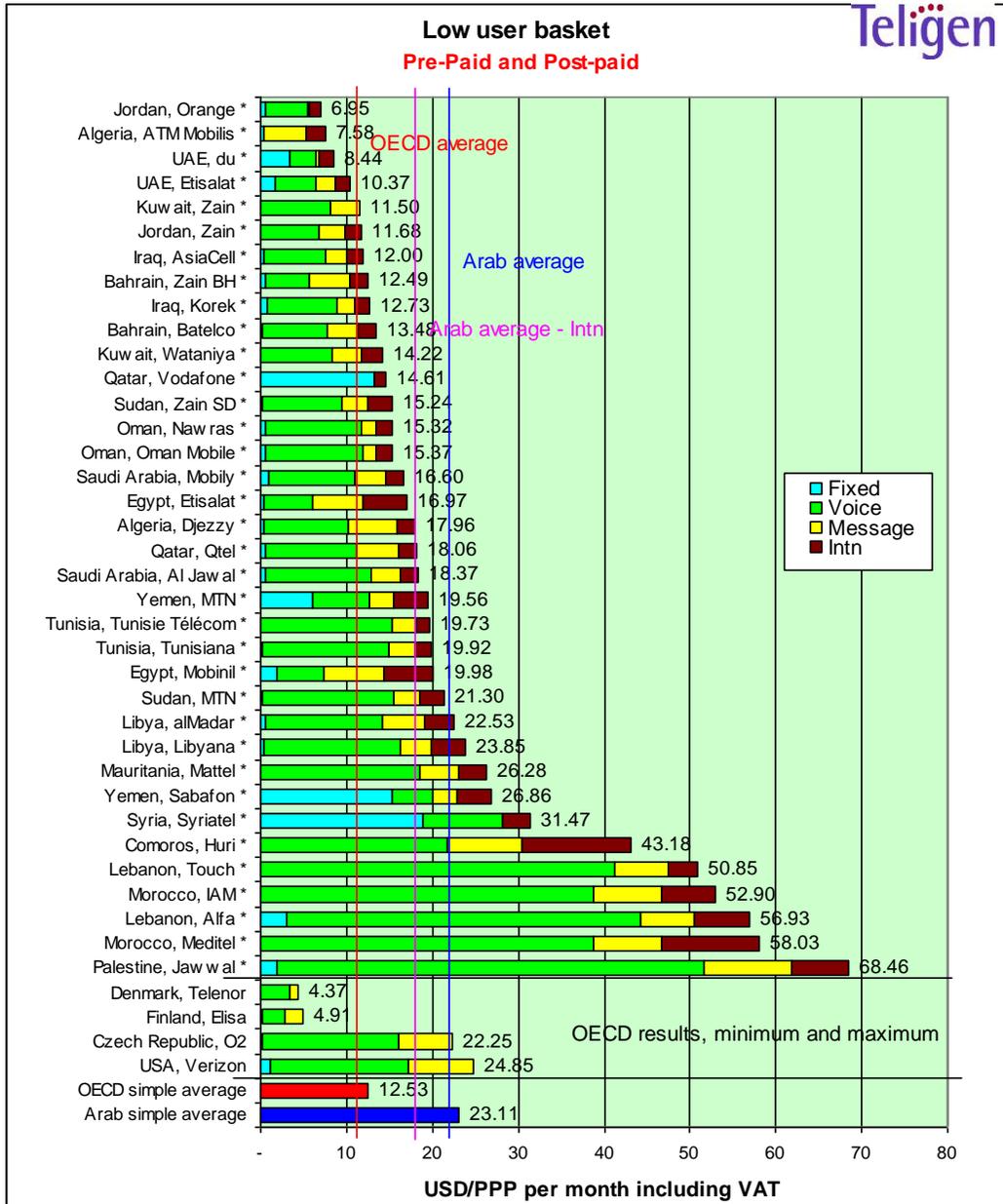
## Mobile tariff data issues

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- Tariff data was researched from operator websites in the first weeks of January 2010.
  - Additional clarifications have been sought from the operators and regulators.
  - Regulators have been offered the opportunity to comment on the tariff information and the draft version of this report.
- No tariff information available for:
  - Djibouti
  - Only pre-paid for Libya
  - One operator only for Comoros, Palestine, Syria and Mauritania
- Part of tariff information missing for:
  - Kuwait (international call prices for Zain)
- Otherwise two operators are covered for each country
- A total of 279 tariff packages covered for 36 operators in 20 countries



# Low usage mobile basket results



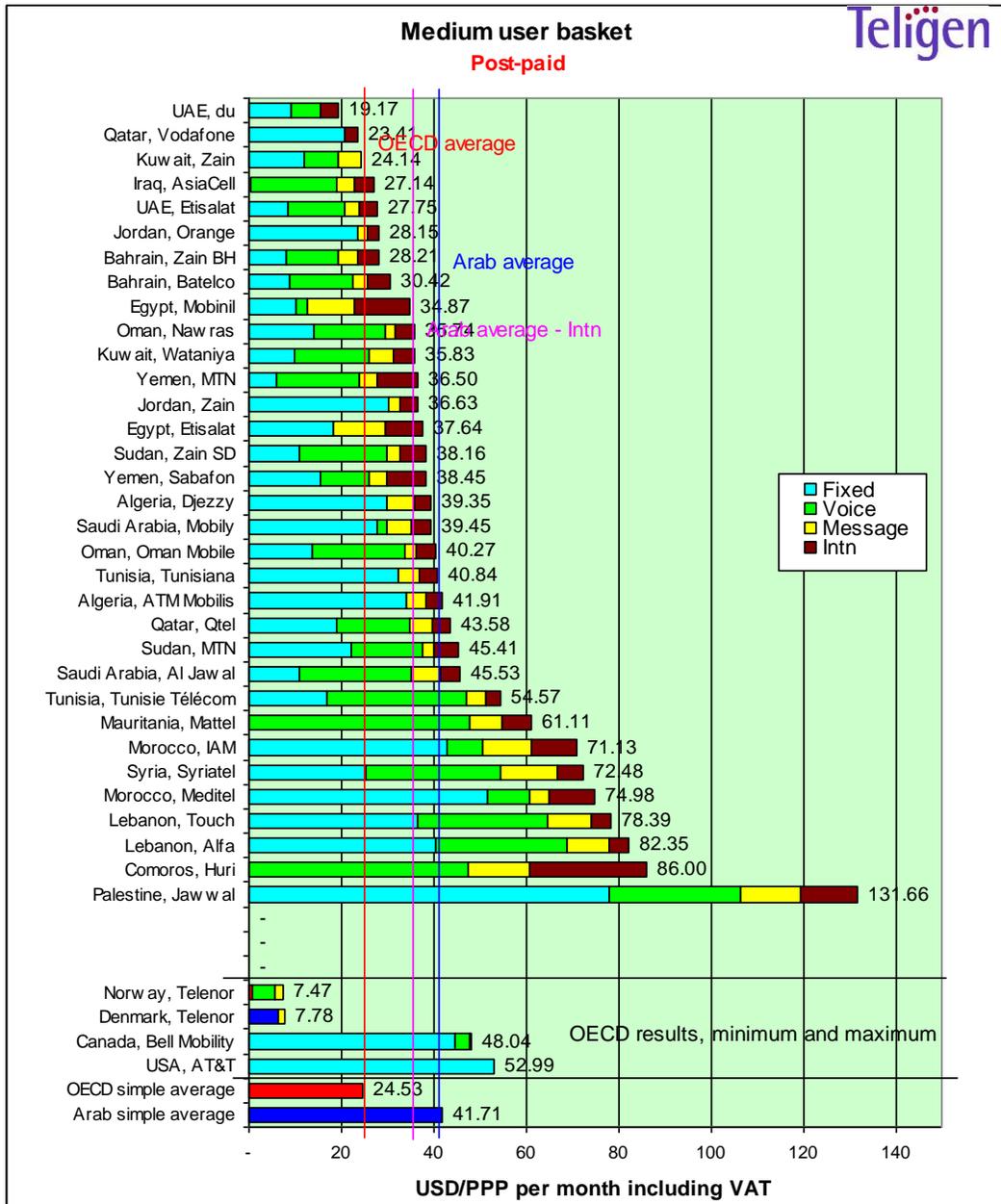
For the Low usage basket both pre- and post-paid tariffs are included. The cheapest option is selected regardless of tariff type.

Most of the tariffs shown in this graph are pre-paid (marked with an \*).

The OECD results do not include International calls as these are not part of the OECD basket definitions. The "Arab average – Intn" line shows the equivalent average based on the Arab basket results



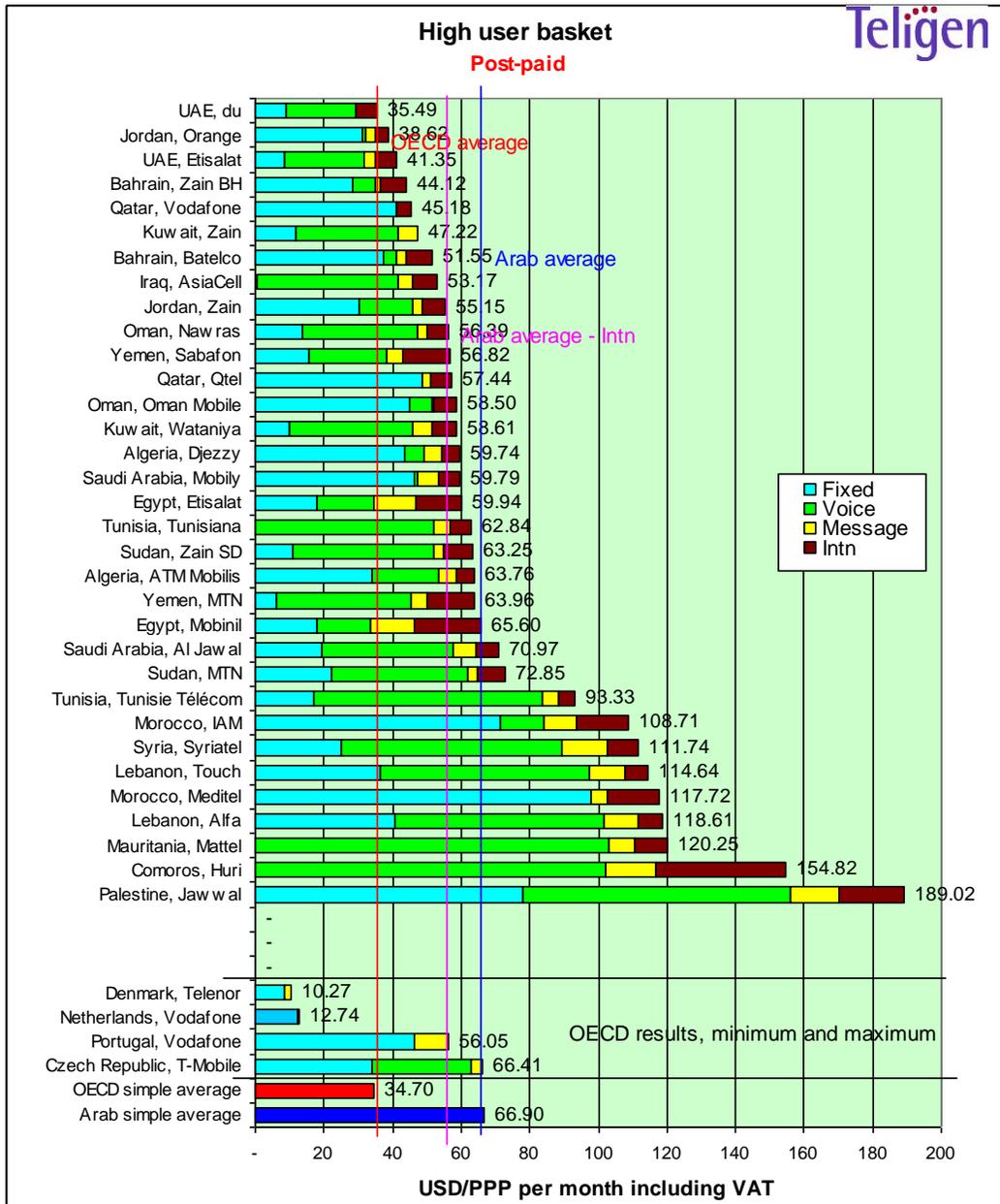
# Medium usage mobile basket results



The OECD results do not include International calls as these are not part of the OECD basket definitions.  
 The "Arab average – Intn" line shows the equivalent average based on the Arab basket results



# High usage mobile basket results

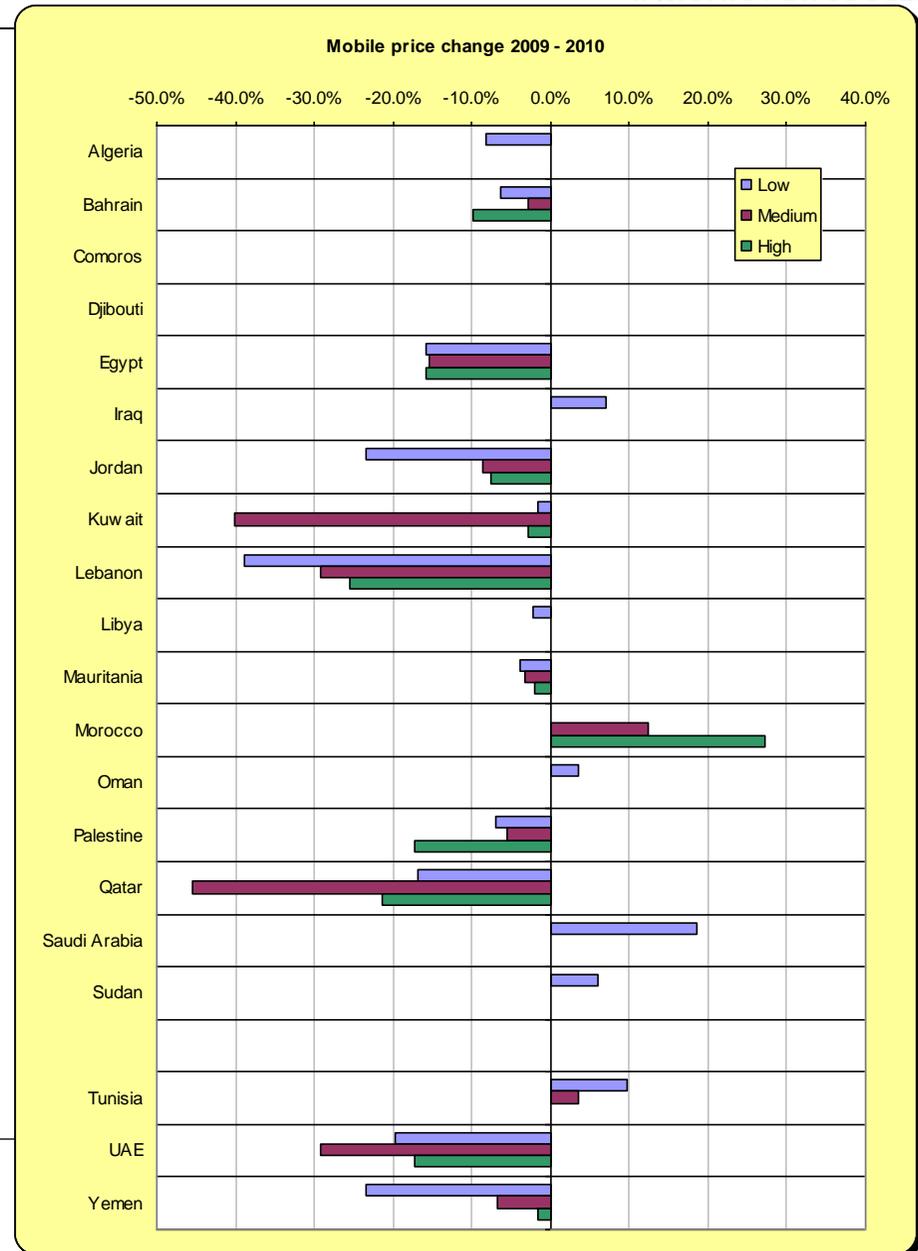


The OECD results do not include International calls as these are not part of the OECD basket definitions.  
The "Arab average – Intn" line shows the equivalent average based on the Arab basket results



# Mobile basket results 2009 - 2010

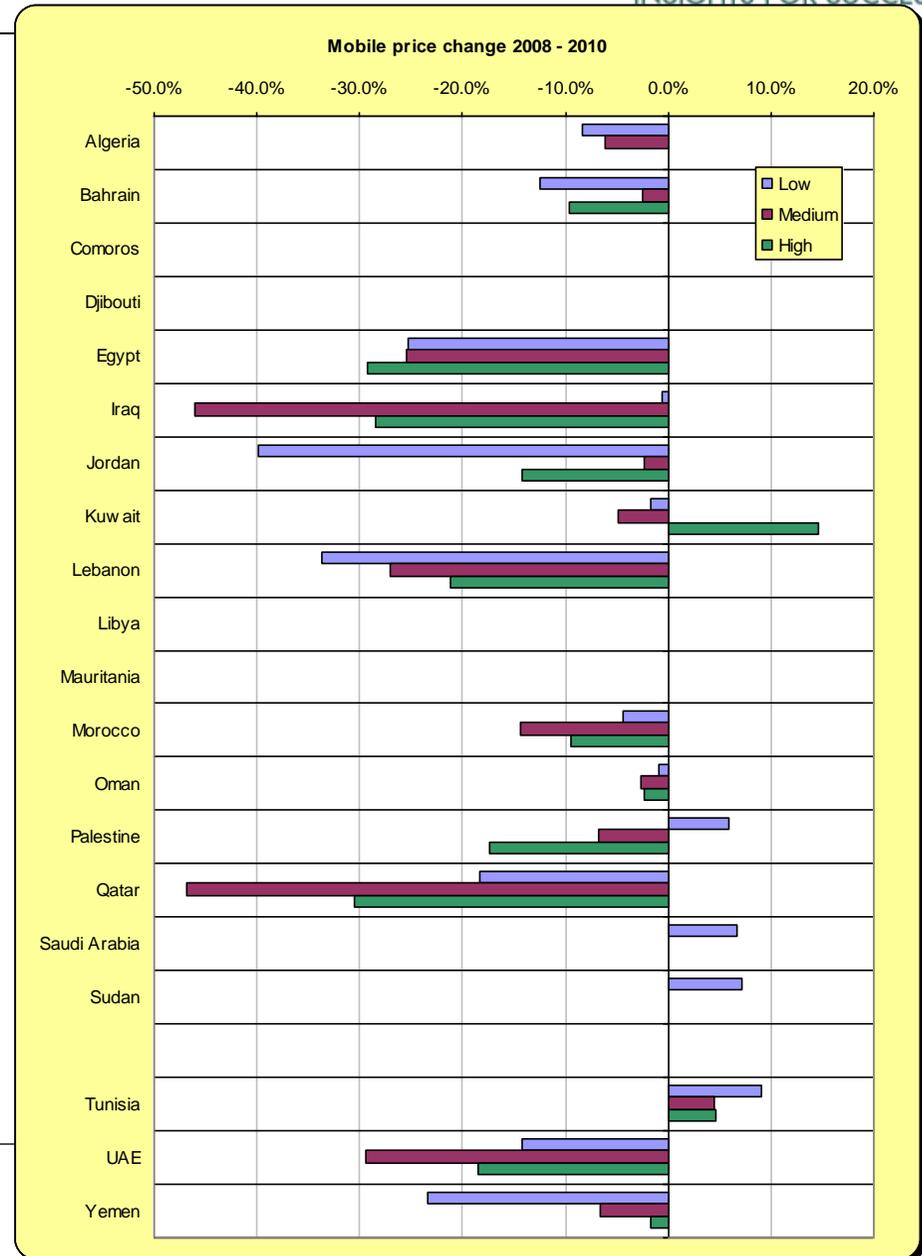
- Changes affecting the mobile basket results 2009-2010:
  - Algeria: Selective discounts introduced
  - Bahrain: Price changes
  - Egypt: Price changes
  - Jordan: Selective discounts introduced
  - Kuwait: Changes in tariffs offered
  - Lebanon: Changes in tariffs offered
  - Mauretania: Price changes
  - Morocco: Changes in allowance
  - Palestine: Package changes
  - Qatar: New operator tariffs
  - Saudi Arabia: Price changes
  - Tunisia: Package changes
  - UAE: Package changes
  - Yemen: Pre-paid package change
- In other countries the changes have been minimal.
- The Arab average has had a minor reduction over the last year, while the OECD average has had a clear decrease.



Price change analysis is based on prices in national currency for each country.

# Mobile basket results 2008 - 2010

This graph shows the accumulated price changes over the study period from 2008 to 2010.



Price change analysis is based on prices in national currency for each country.

## Observations from Mobile basket results

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- The cheapest countries throughout are :
  - UAE, Jordan , Kuwait, Bahrain, Qatar
    - The exact order of these may vary with usage level
    - Only UAE is among the top 5 for all baskets
    - These are largely the same countries that have the best PSTN results
    - These are also largely the same countries that came cheapest in 2009
- For low usage, with pre-paid packages, only a handful of the Arab countries have price levels below the OECD average
- For medium to high usage, with post-paid packages, most Arab countries are above the OECD average
- The average across Arab countries is 80-100% above the OECD average.
- Except for the five-six 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.
  - There has however been an increase of the number of packages in some countries



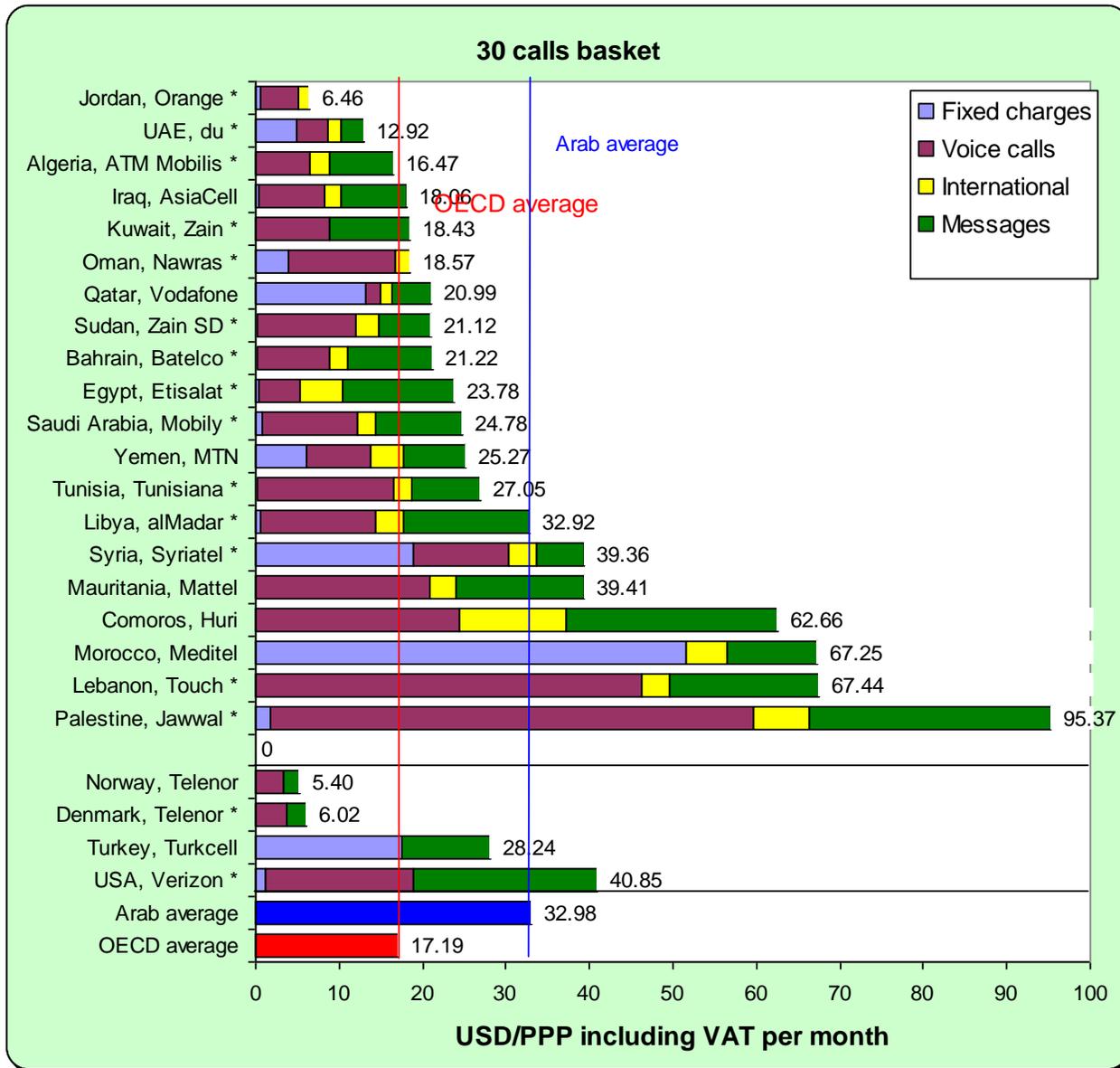
## New OECD baskets 2010

- The OECD has adopted new baskets in March 2010. The key information about the basket definitions is shown below.
  - The following 6 pages show the results using the new basket definitions
  - Tariff information is the same as for previous results
  - New baskets include a new way of calculating call costs, and also include the capability to cover “Selective discounts”
  - Pre- and Post-paid tariffs are included for all baskets

Volume per month	Total calls per month	Call distribution				SMS
		Mobile to fixed	On-net	Off-net	Voicemail	
30 calls basket	30	16%	55%	25%	4%	100
100 calls basket	100	17%	52%	28%	3%	140
300 calls basket	300	14%	46%	37%	3%	225
900 calls basket	900	14%	55%	28%	3%	350
40 calls prepaid basket	40	14%	64%	18%	4%	60
400 messages basket	8	8%	55%	25%	12%	400



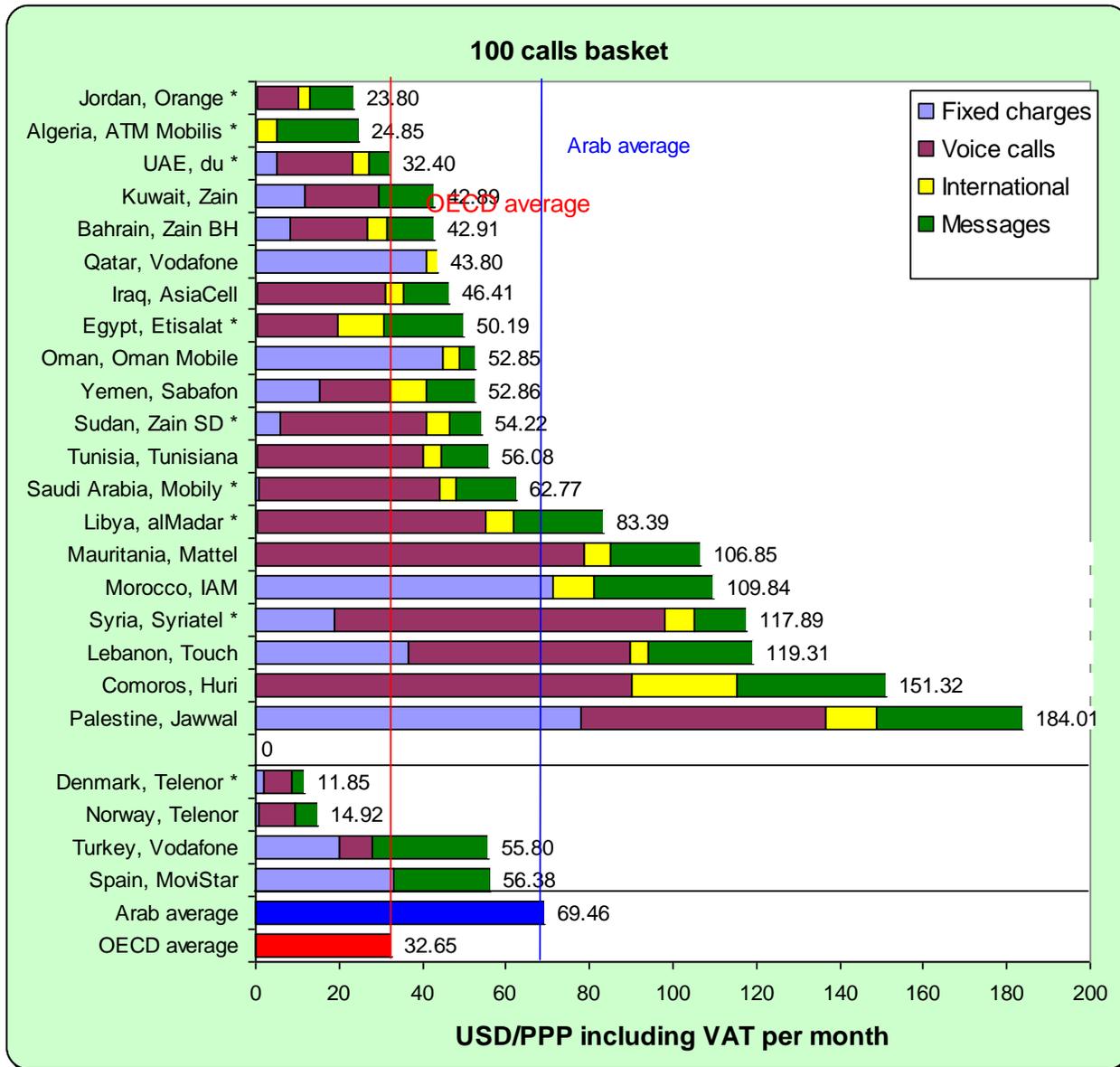
# 2010 OECD mobile basket: 30 calls/month



Please note:  
 No data for Djibouti and Somalia.  
 No international data for Kuwait.  
 Selective discounts included.  
 \* marks pre-paid tariffs.



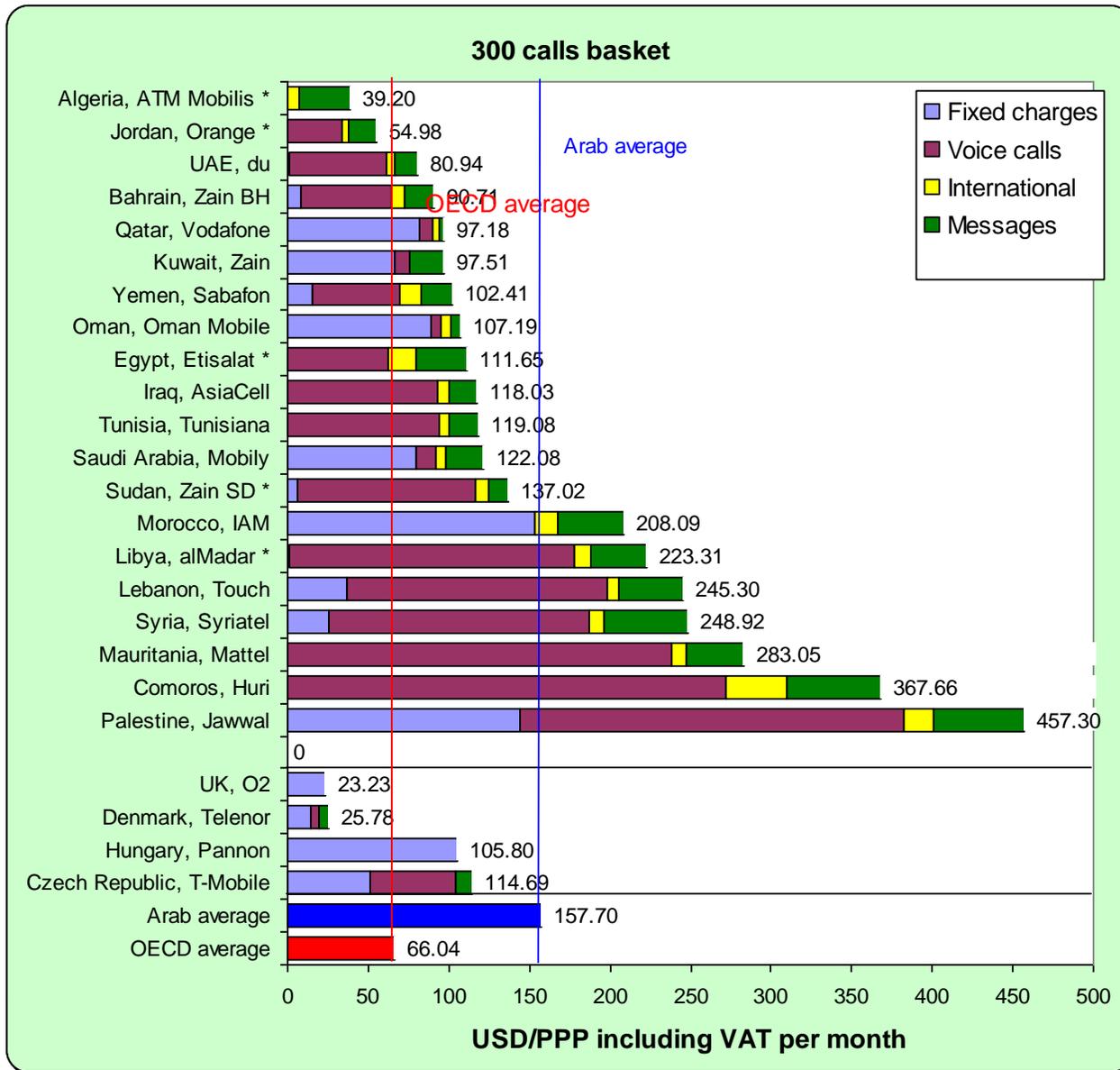
# 2010 OECD mobile basket: 100 calls/month



Please note:  
 No data for Djibouti and Somalia.  
 No international data for Kuwait.  
 Selective discounts included.  
 \* marks pre-paid tariffs.



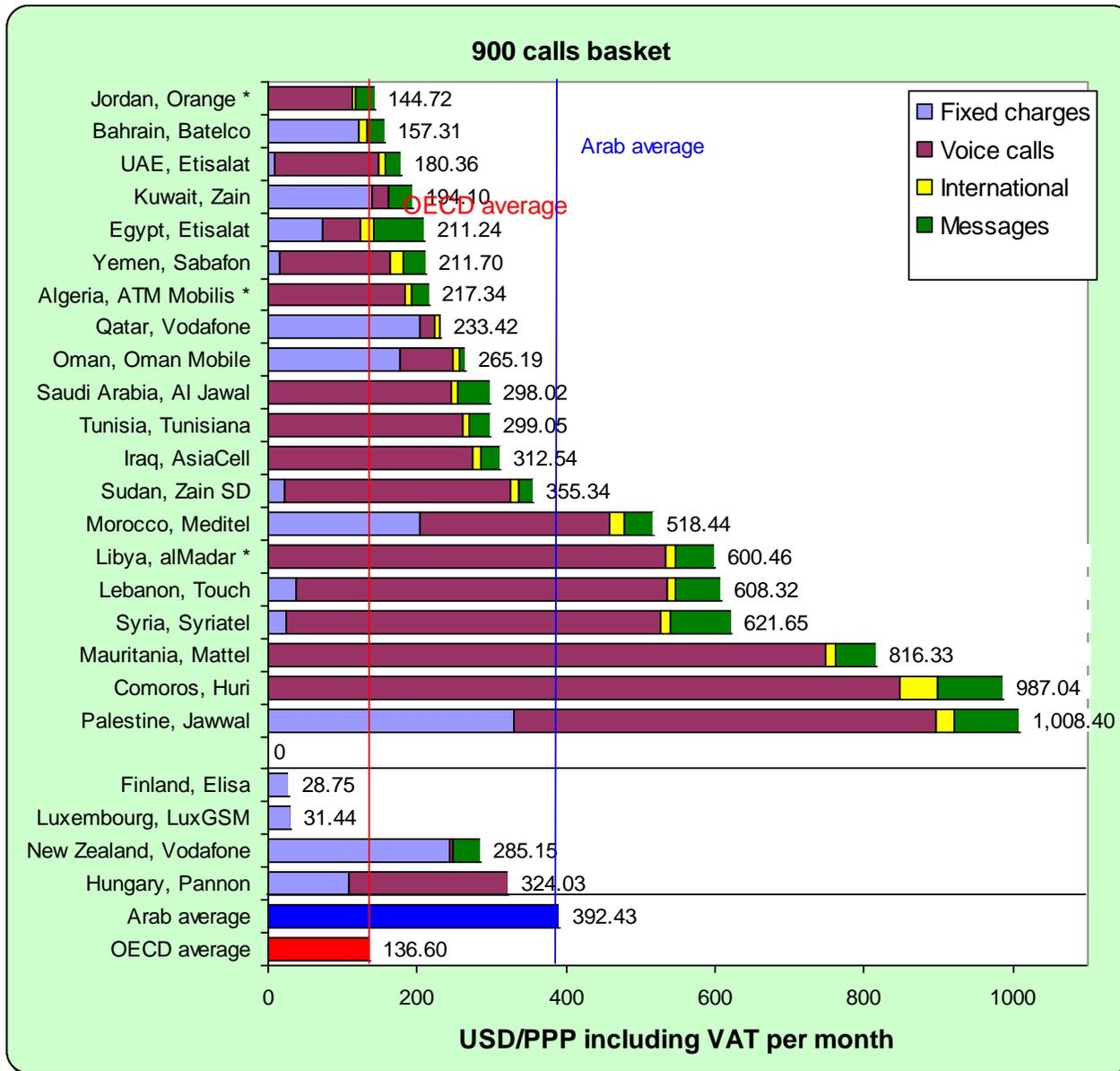
# 2010 OECD mobile basket: 300 calls/month



Please note:  
No data for Djibouti and Somalia.  
No international data for Kuwait.  
Selective discounts included.  
\* marks pre-paid tariffs.



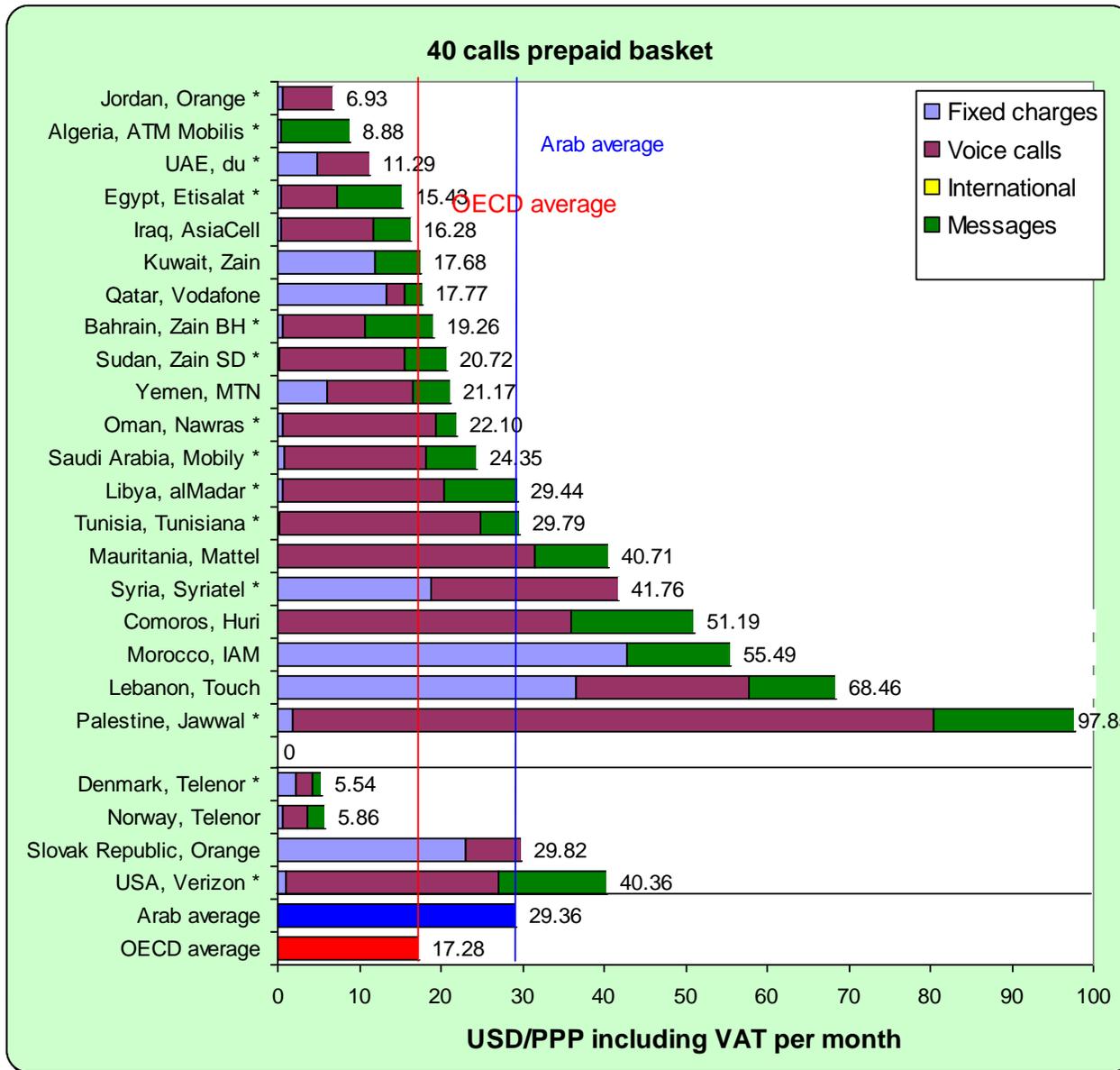
# 2010 OECD mobile basket: 900 calls/month



Please note:  
 No data for Djibouti and Somalia.  
 No international data for Kuwait.  
 Selective discounts included.  
 \* marks pre-paid tariffs.



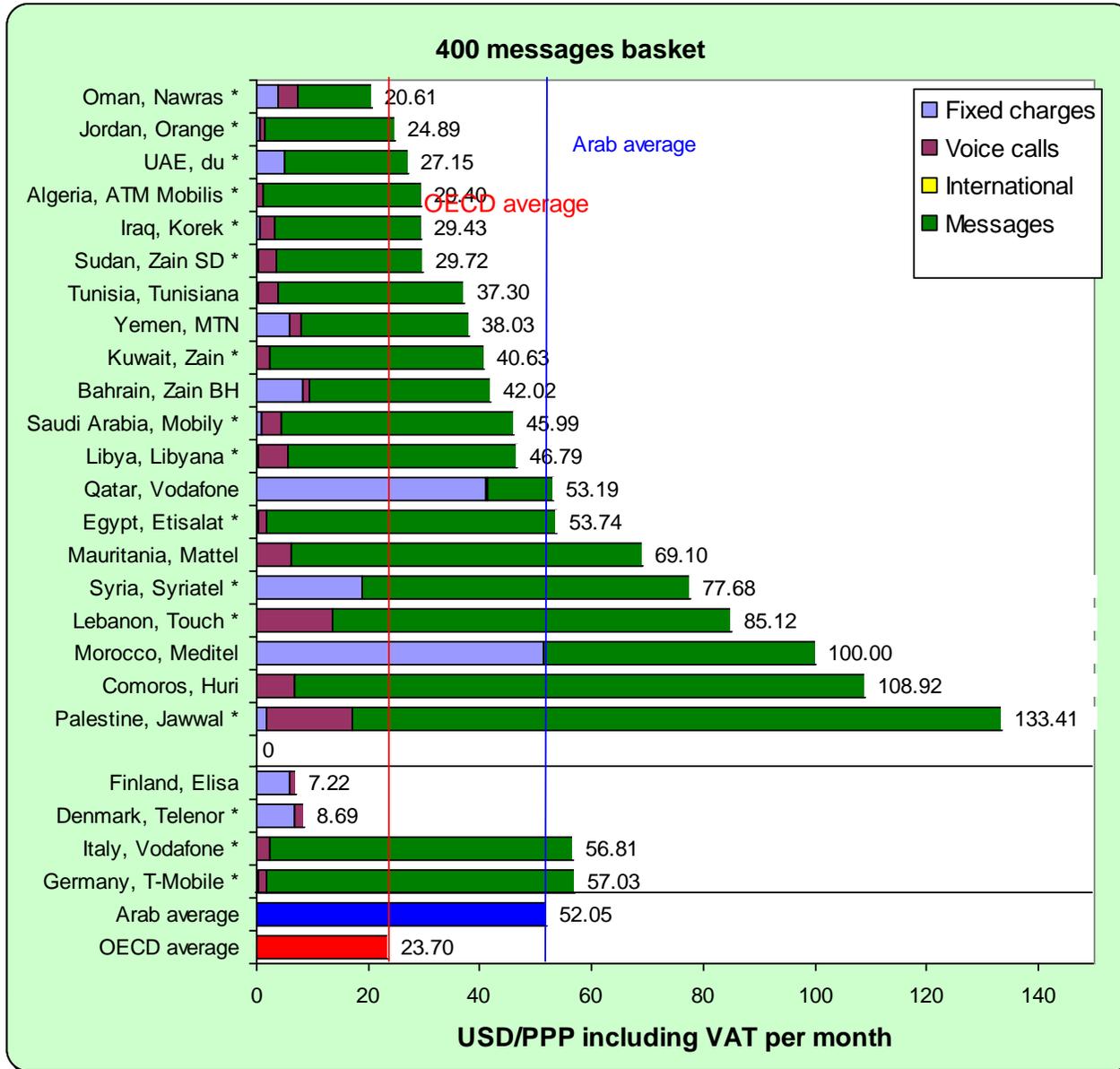
# 2010 OECD mobile basket: 40 calls/month



Please note:  
No data for Djibouti and Somalia.  
No international data for Kuwait.  
Selective discounts included.  
\* marks pre-paid tariffs.



# 2010 OECD mobile basket: 400 messages/month



Please note:  
 No data for Djibouti and Somalia.  
 No international data for Kuwait.  
 Selective discounts included.  
 \* marks pre-paid tariffs.



# 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
  - Small countries with no distance pricing will be favoured by this scheme.
- 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.



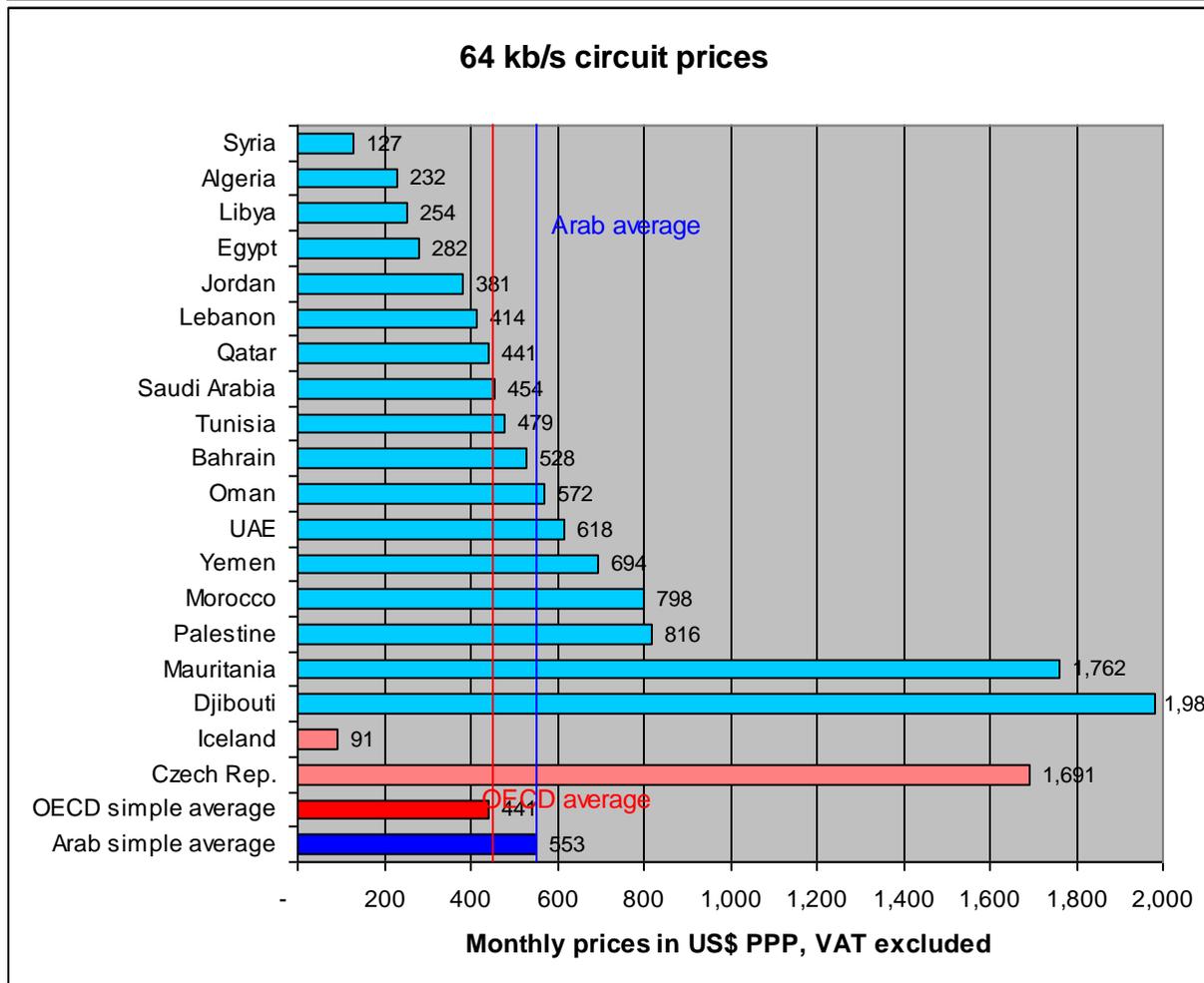
## Leased Lines data issues

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- Tariff data was researched from operator websites in the first weeks of January 2010.
  - Additional clarifications have been sought from the operators and regulators.
  - Regulators have been offered the opportunity to comment on the tariff information and on the draft report.
- No price data available for:
  - Comoros
  - Iraq
  - Kuwait
  - Somalia
  - Sudan
- Other countries may have data missing for specific bitrates
- Due to a calculation error in 2009 the Leased Line price comparisons for 2009 has been reissued in a separate report.



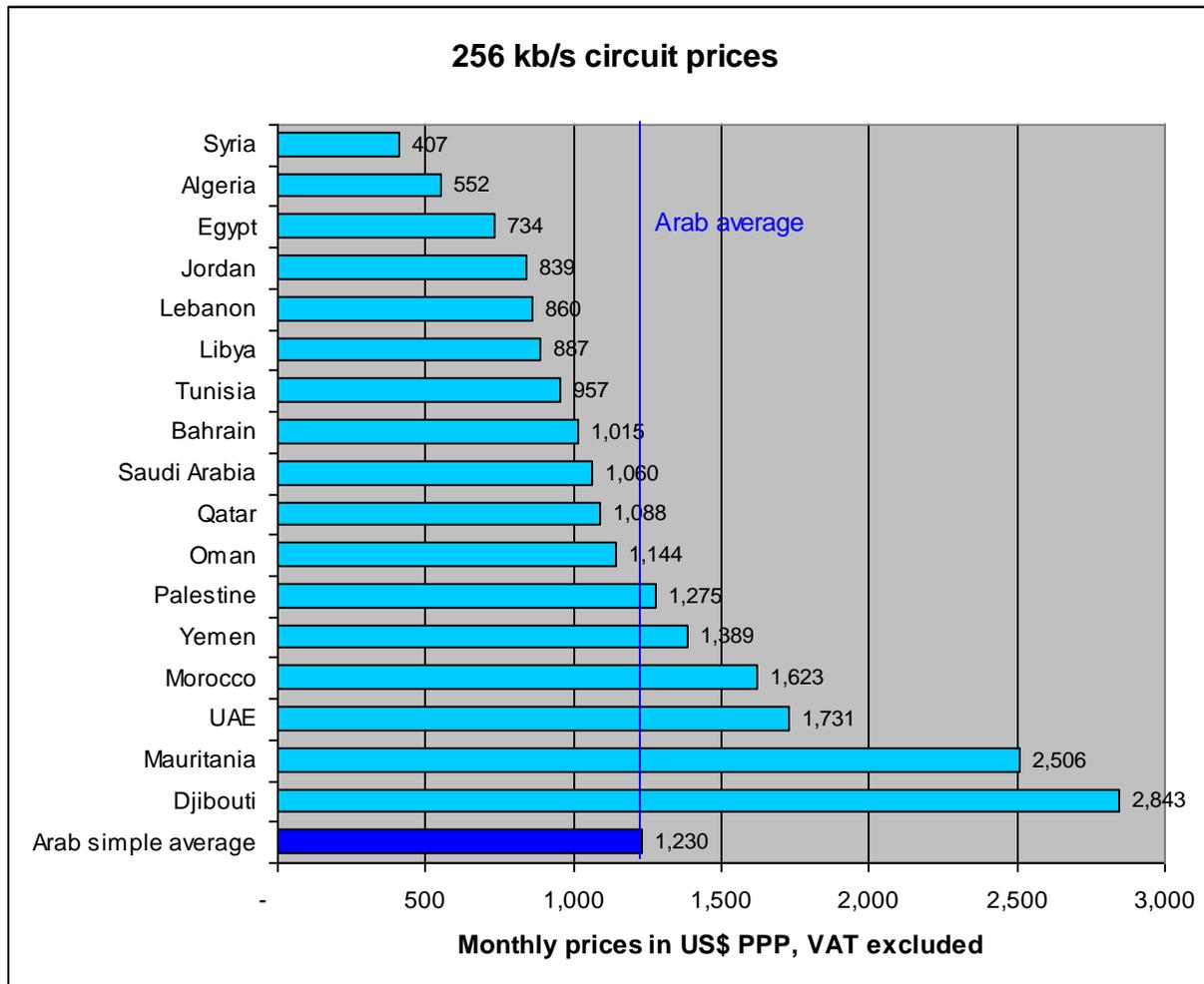
# 64 kb/s Leased Lines basket results



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



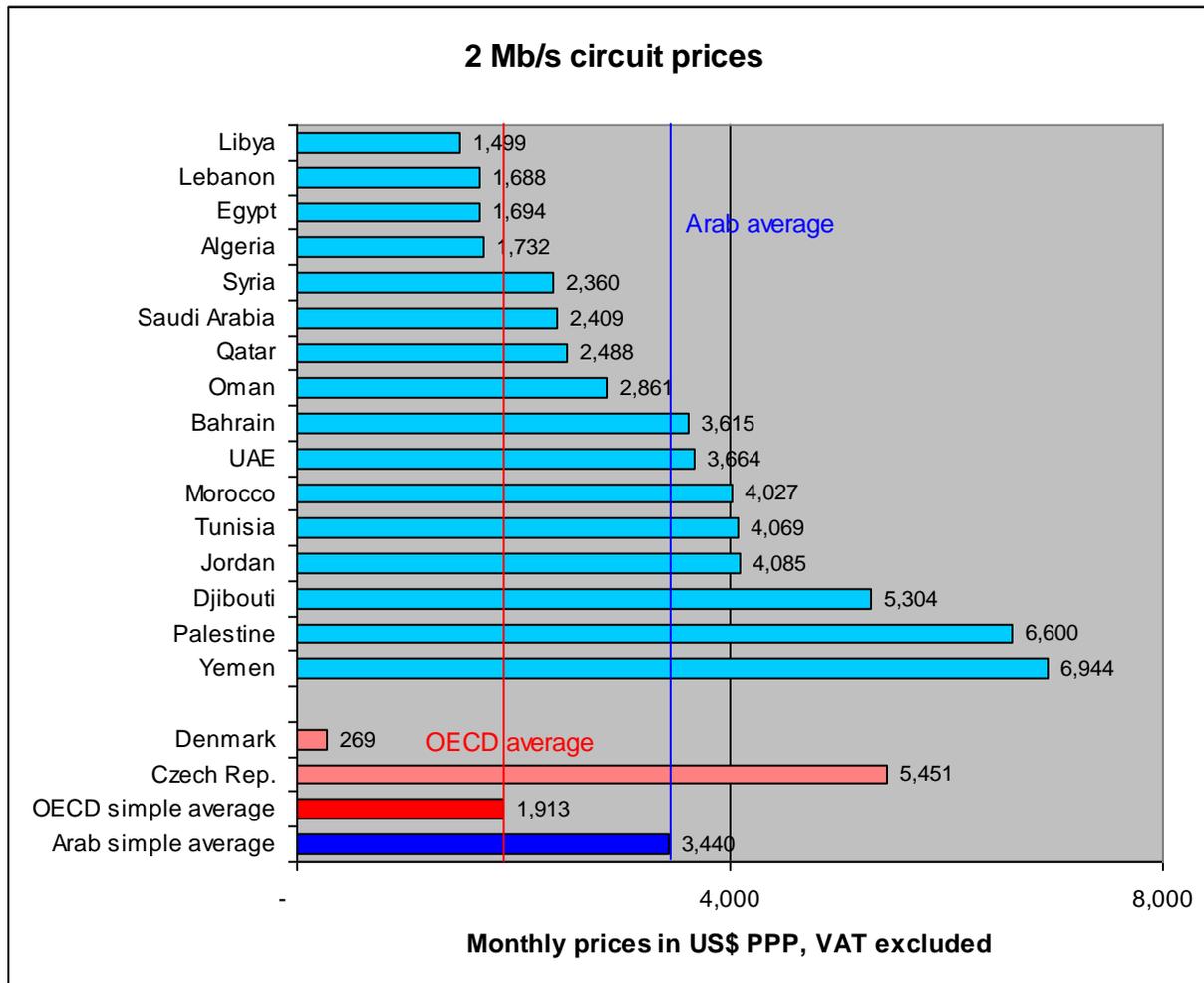
# 256kb/s Leased Lines basket results



Note: No equivalent OECD data exist.



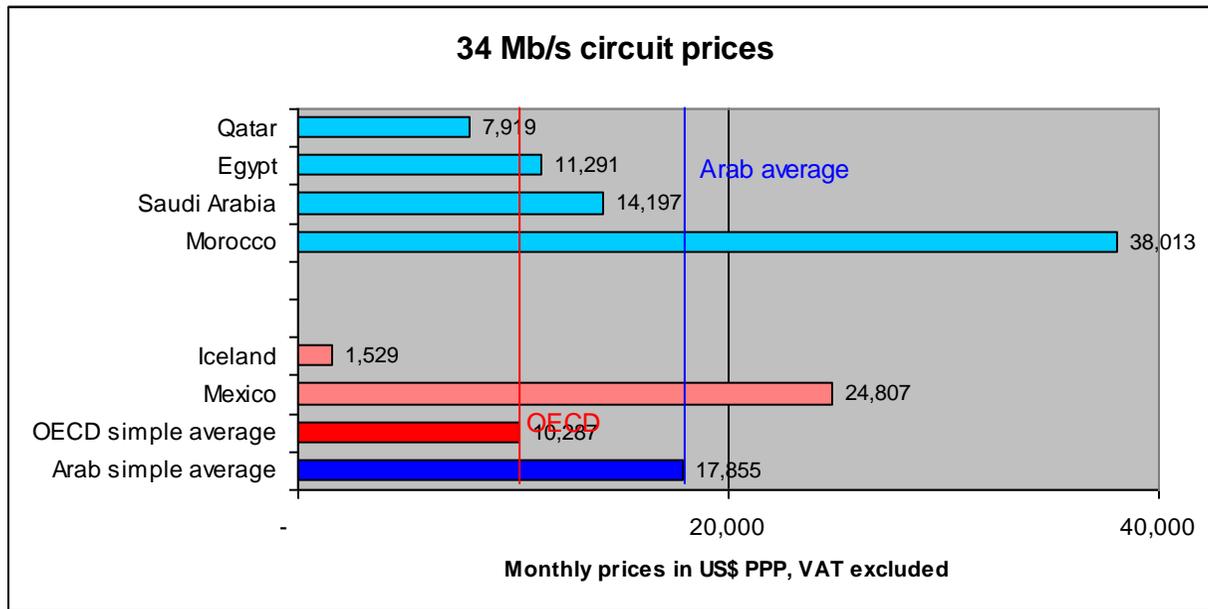
# 2 Mb/s Leased Lines basket results



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

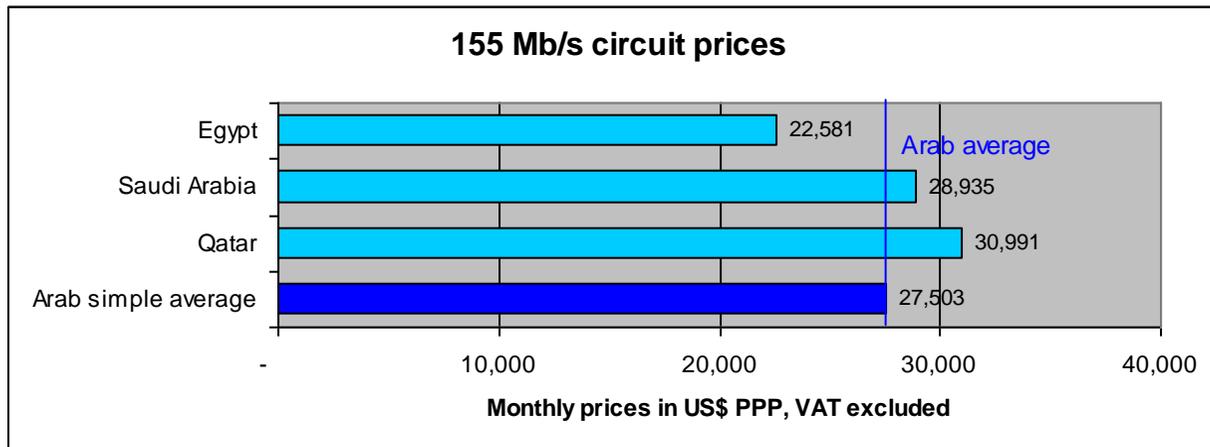


Only a few of the Arab countries publish these prices. The service may still be offered though.

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.

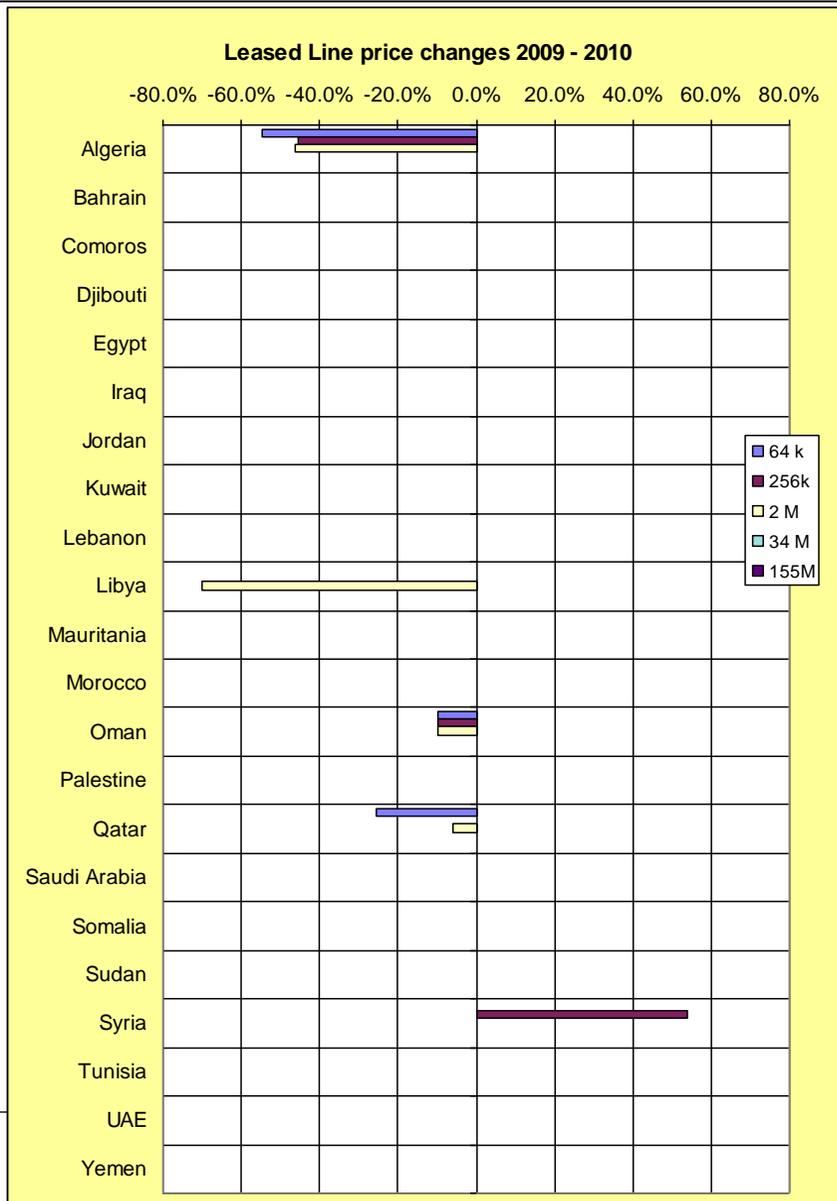


# Leased Line basket results 2009 - 2010

- The basket results are affected by:
  - Algeria: General price reductions.
  - Libya: Reduction of 70% from 2 Mb/s upwards
  - Oman: General price reductions
  - Qatar: General price reductions
  - Syria: General price reductions
- No price changes recorded in other countries.
- The Arab average is closing in on the OECD average

		64 k	2 M	34 M
Arab/OECD average	2010	104%	239%	121%
	2009	136%	198%	257%
	2008	198%	251%	252%

- Please note: The average is only calculated on the basis of the prices shown. As the range of countries publishing prices may change from year to year the average may also change on that basis.

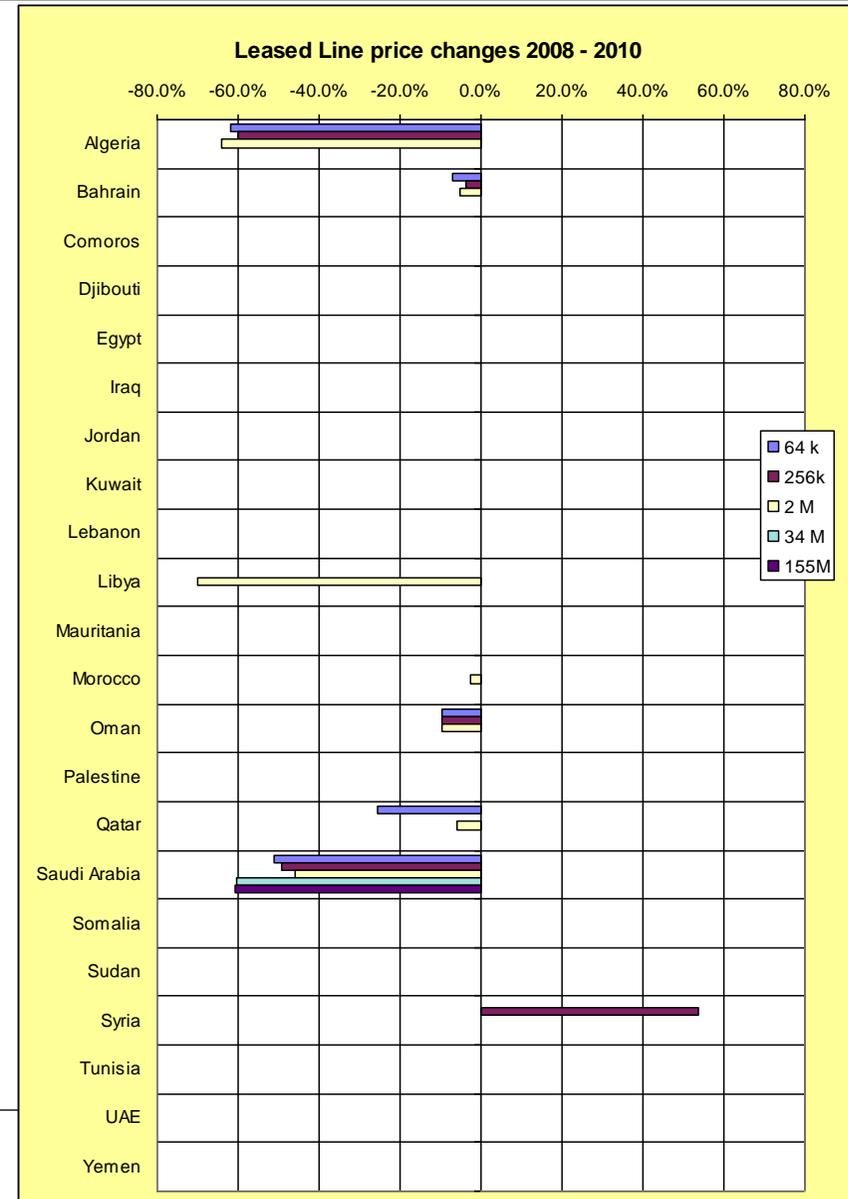


Price change analysis is based on prices in national currency for each country.



# Leased Line basket results 2008 - 2010

- The changes over the study period show price reductions in 7 of the 22 countries.
  - Changes in Bahrain relate to a tighter definition of the type of prices used in 2009 and 2010 than in 2008, i.e. moving from month-by-month prices to 1 year contracts.



Price change analysis is based on prices in national currency for each country.



## Observations from Leased Line results

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- Libya, Lebanon, Egypt, Algeria and Syria have the lowest prices for National Leased Lines.
  - Price levels in these countries are below or close to the OECD average
  - The price ranking may vary with product
- Most of the Arab countries have prices below the most expensive OECD country
  - For 64 kb/s the prices in Djibouti and Mauritania stands out as very high.
  - For 34 Mb/s and 155 Mb/s some of the prices that were very high last year are now not available in the public domain, and have thus not been included.
- However, all 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.



# Broadband basket methodology

- Research covering 200 ADSL service offerings from the incumbent ISP\* in 18 Arab countries
- Costs are presented for low speed (< 1 Mb/s) and medium speed (1-4 Mb/s) services separately.
  - Low speed does not include 1024 kb/s offers
  - 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: 1 GB and 10 hours per month, in 20 minute sessions.
  - High usage: 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



\* Incumbent ISP will normally mean the ISP owned by the incumbent operator in the country.

## Broadband data issues

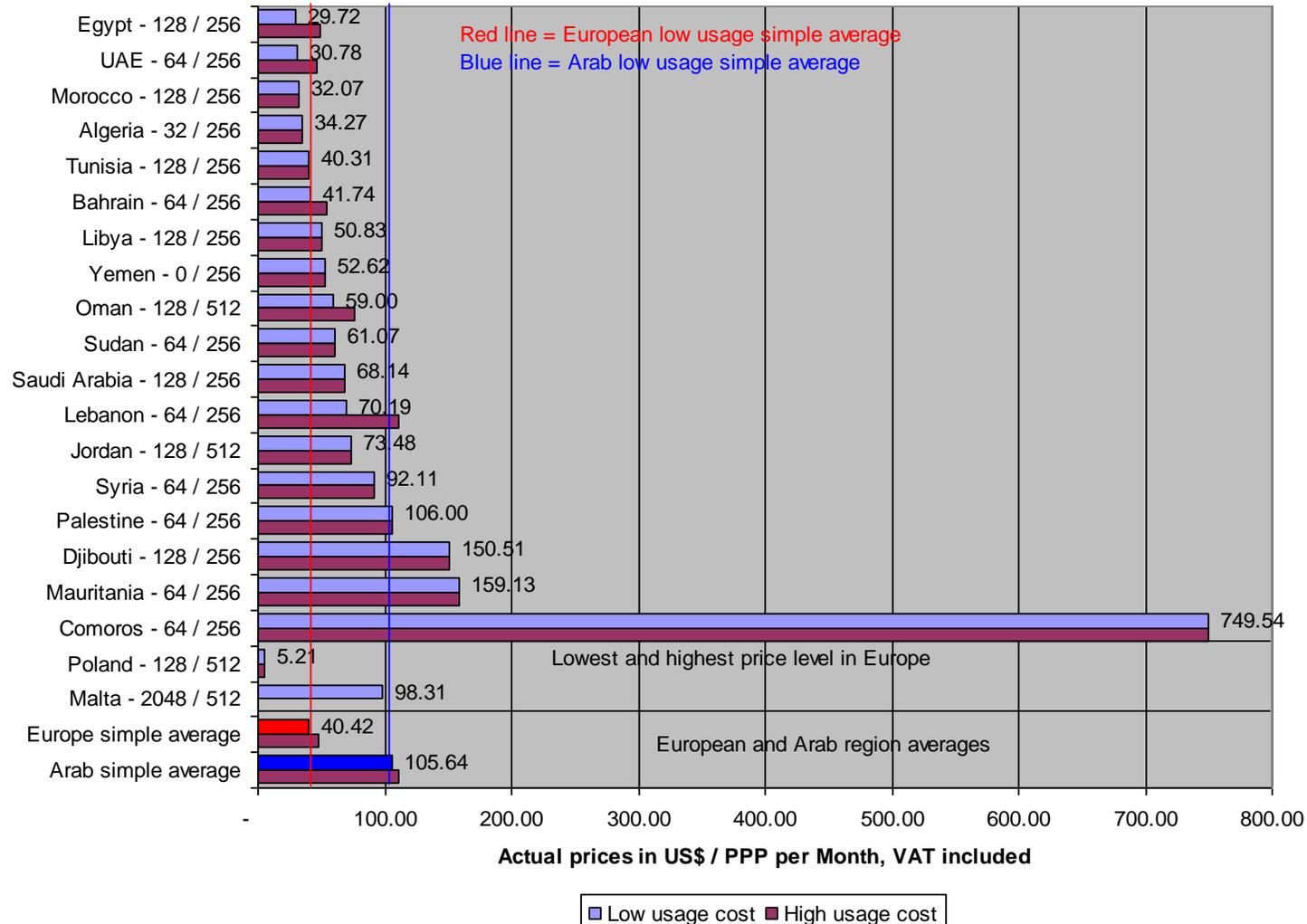
---

- Price data not available for broadband services in:
  - Iraq
  - Kuwait
  - Somalia
- Regulators have been offered the opportunity to comment on the tariff information and the draft report.
- Most providers in the Arab countries offer speeds down towards 128 kb/s. The highest speed from many providers is 2 Mb/s or below.
  - The results shown focus on speeds from 256 kb/s and upwards. This corresponds with the general definition of broadband.
  - Speeds above 2 Mb/s are available in 8 of the 18 countries



# Residential low speed broadband (below 1 Mb/s)

Low speed residential broadband services



Total monthly cost calculated based on two usage baskets:

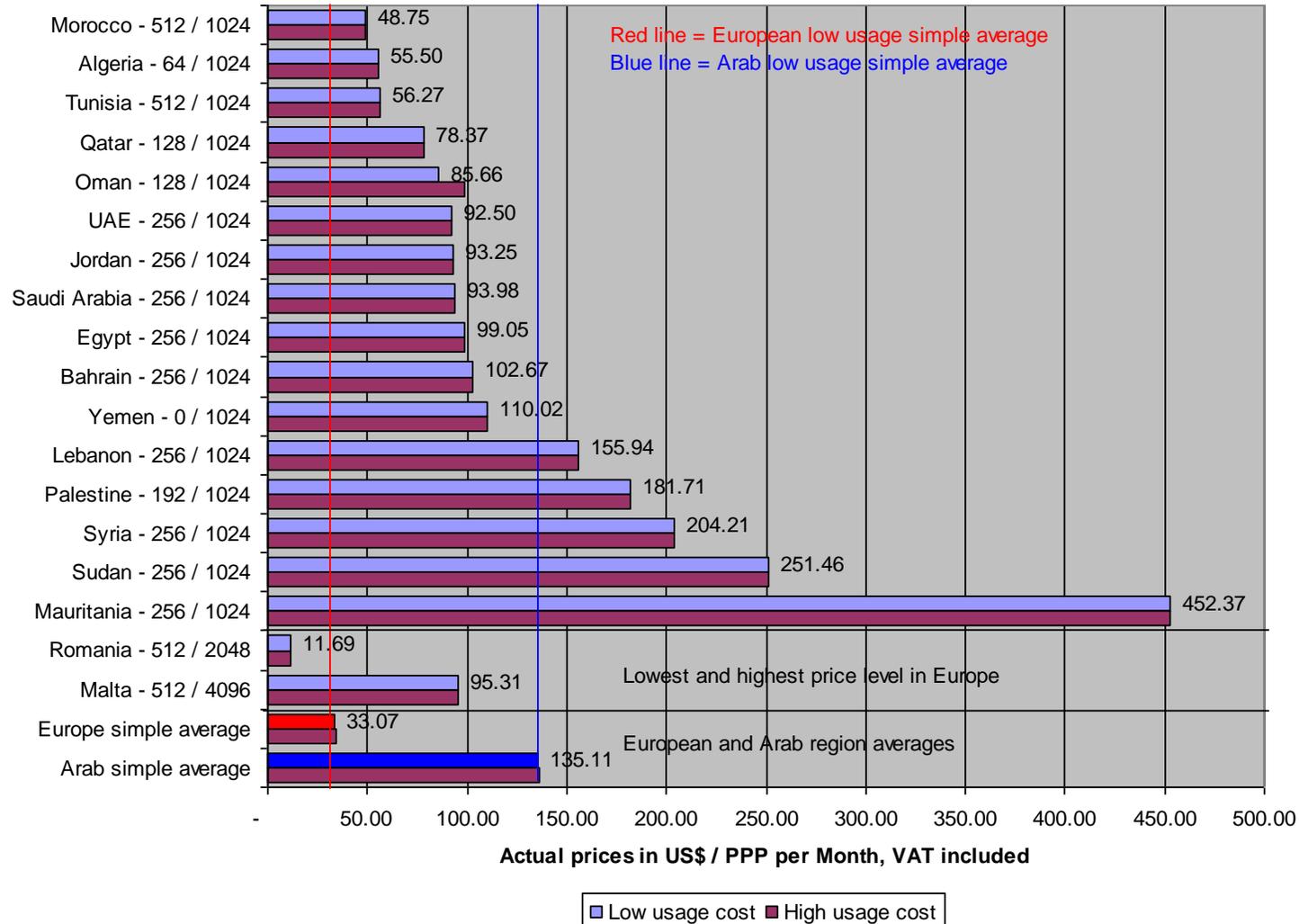
**Low usage:** 1 GB and 10 hours per month, in 20 minute sessions.

**High usage:** 5 GB and 30 hours per month, in 30 minute sessions.



# Residential medium speed broadband (1 – 4 Mb/s)

Medium speed residential broadband services



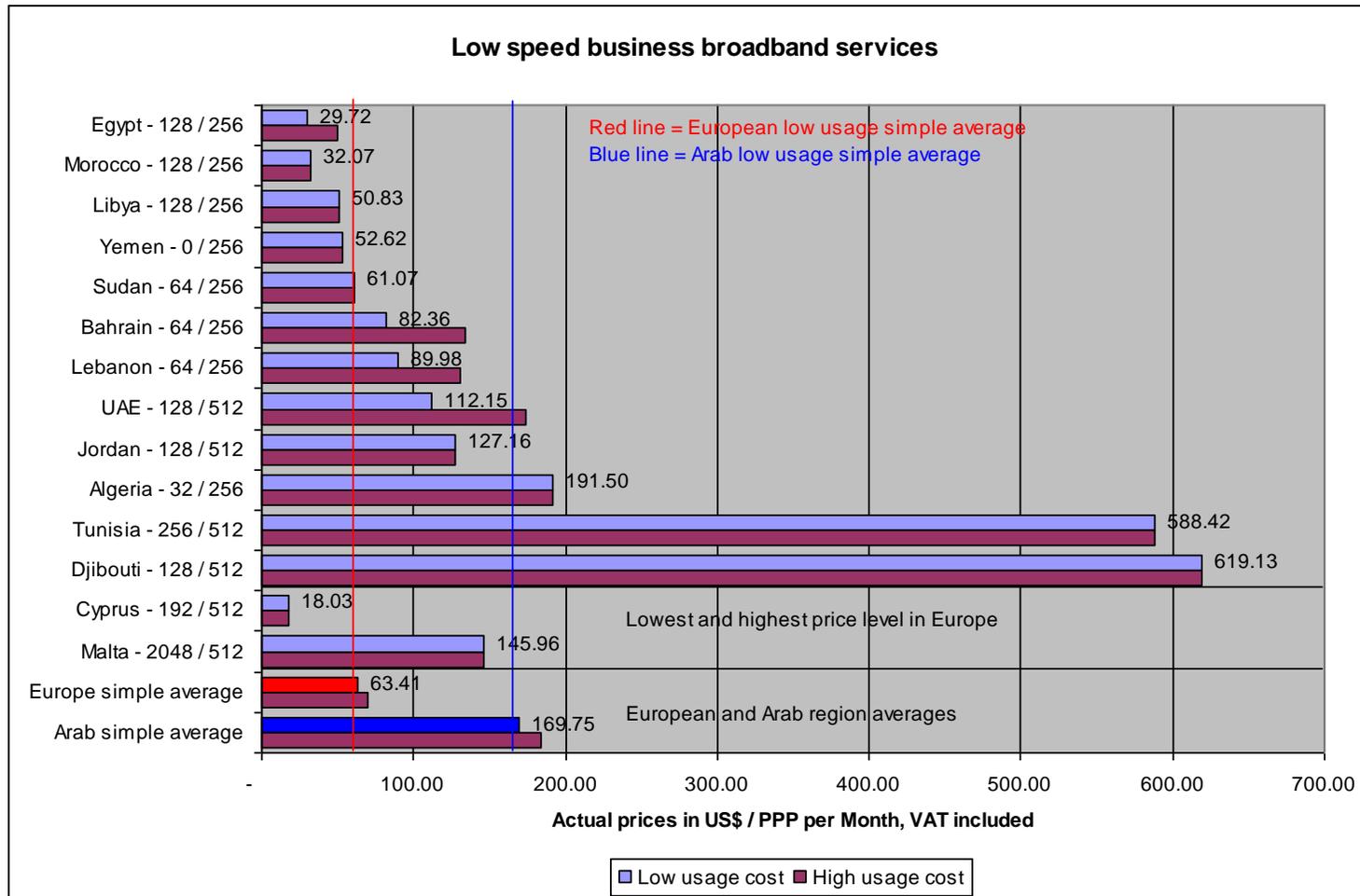
Total monthly cost calculated based on two usage baskets:

**Low usage:** 1 GB and 10 hours per month, in 20 minute sessions.

**High usage:** 5 GB and 30 hours per month, in 30 minute sessions.



# Business low speed broadband (below 1 Mb/s)



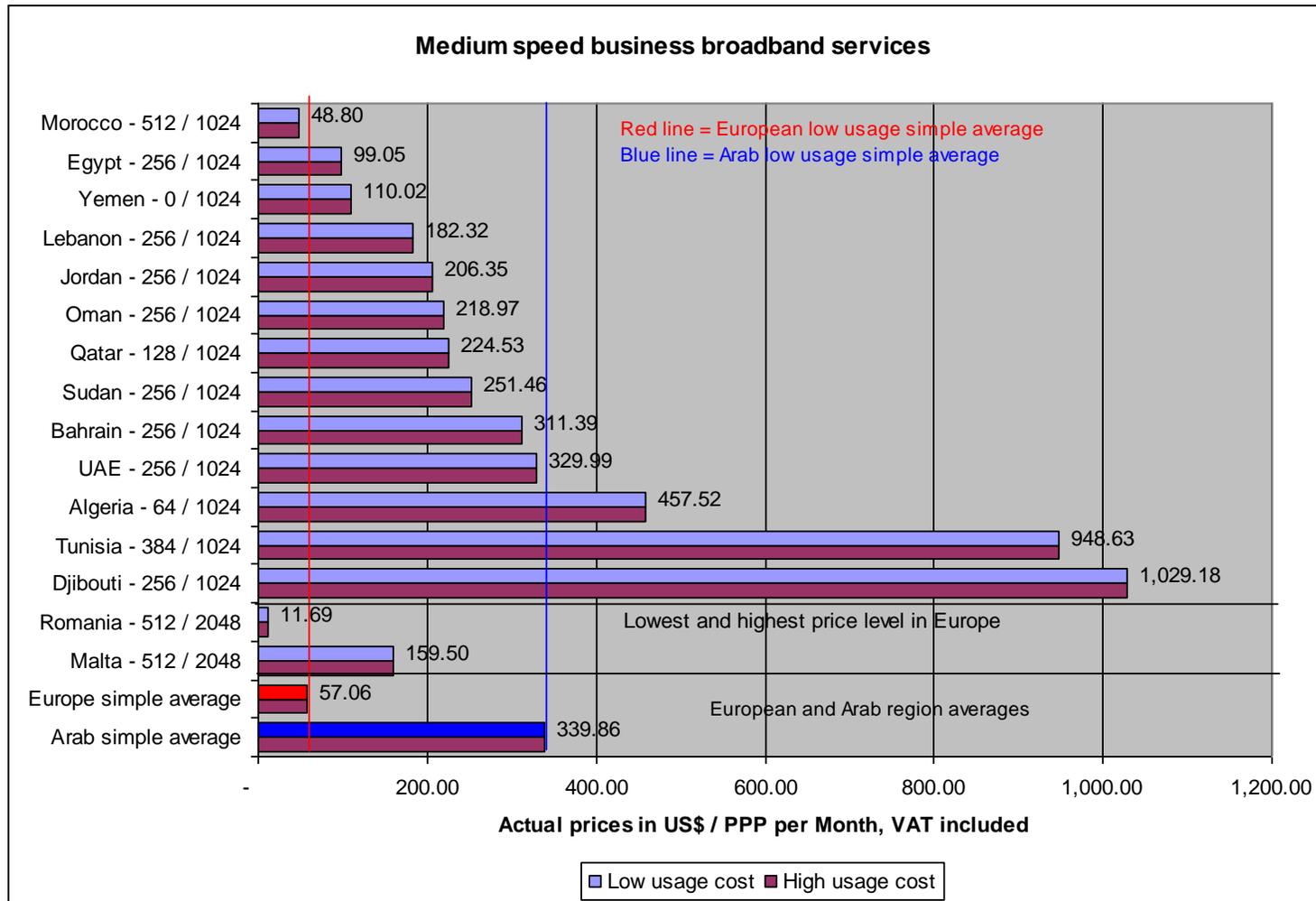
Total monthly cost calculated based on two usage baskets:

**Low usage:** 1 GB and 10 hours per month, in 20 minute sessions.

**High usage:** 5 GB and 30 hours per month, in 30 minute sessions.



# Business medium speed broadband (1 – 4 Mb/s)



Total monthly cost calculated based on two usage baskets:

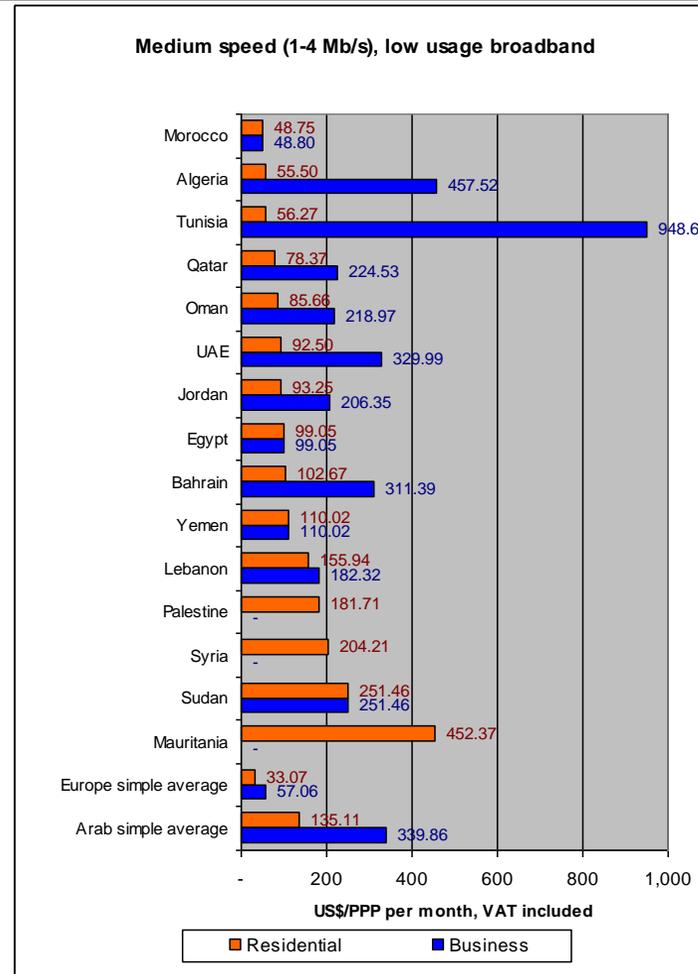
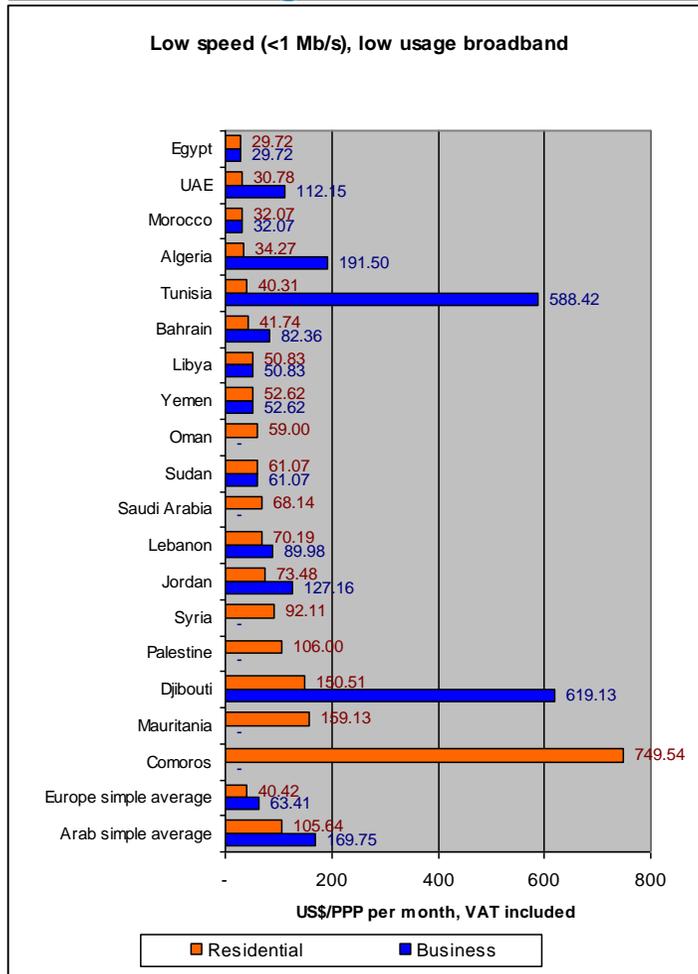
**Low usage:** 1 GB and 10 hours per month, in 20 minute sessions.

**High usage:** 5 GB and 30 hours per month, in 30 minute sessions.



# Residential vs. Business broadband prices

## Low usage basket



The reason for the high business price in Tunisia is the charge to the incumbent operator for network access.

Business to residential price relationship in Arab countries compared to European average.	Arab simple average	Low speed	Medium speed
	Europe simple average	159%	248%
	Europe simple average	157%	173%

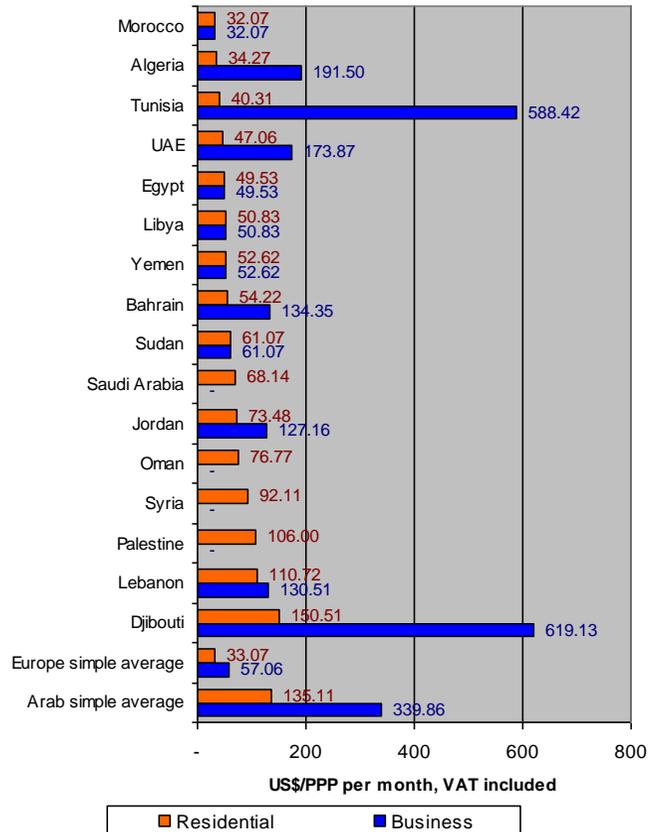
Some business services offer higher speed and more space than comparable residential services.



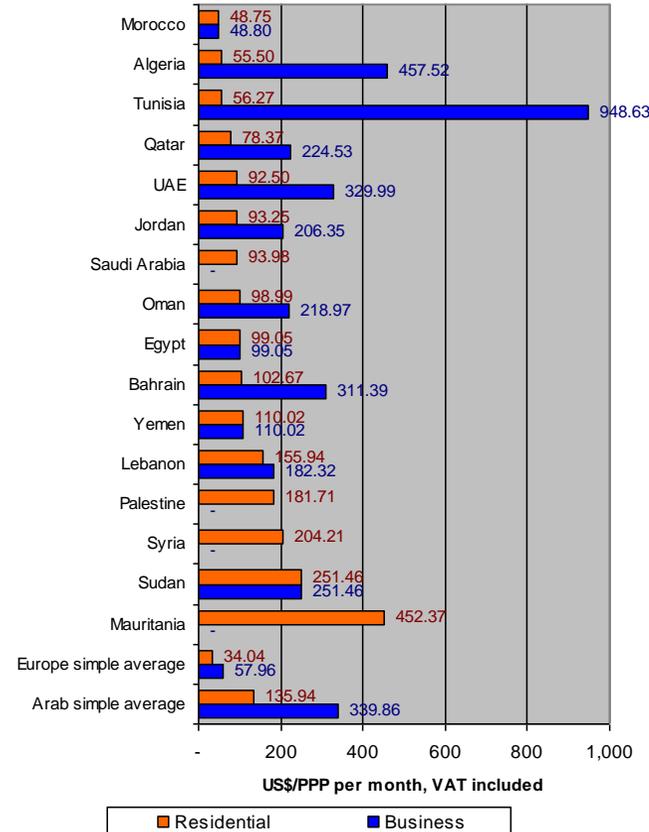
# Residential vs. Business broadband prices

## High usage basket

Low speed (<1 Mb/s), High usage broadband



Medium speed (1-4 Mb/s), High usage broadband



The reason for the high business price in Tunisia is the charge to the incumbent operator for network access.

Business to residential price relationship in Arab countries compared to European average.

	Low speed	Medium speed
Arab simple average	252%	250%
Europe simple average	173%	170%

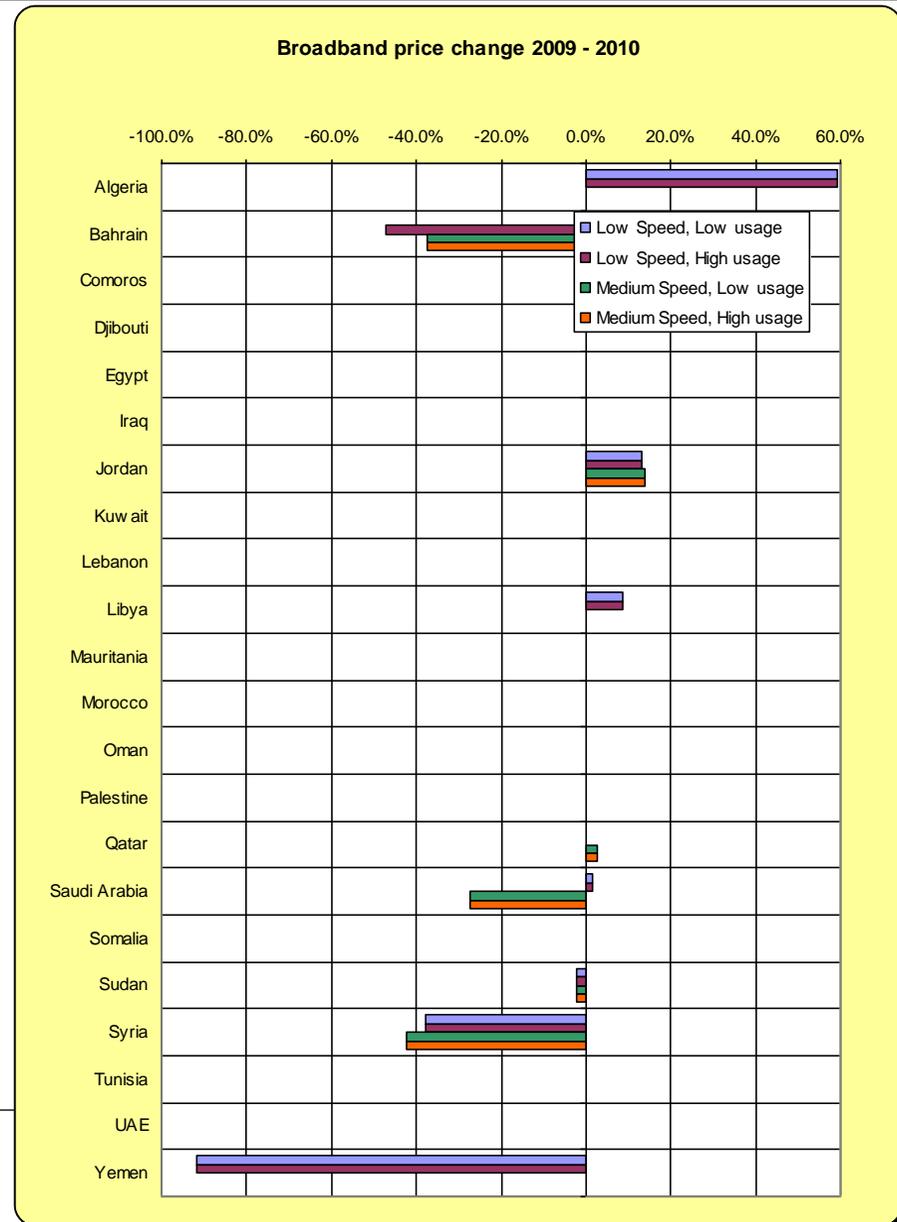
Some business services offer higher speed and more space than comparable residential services.



# Broadband basket results 2009 - 2010

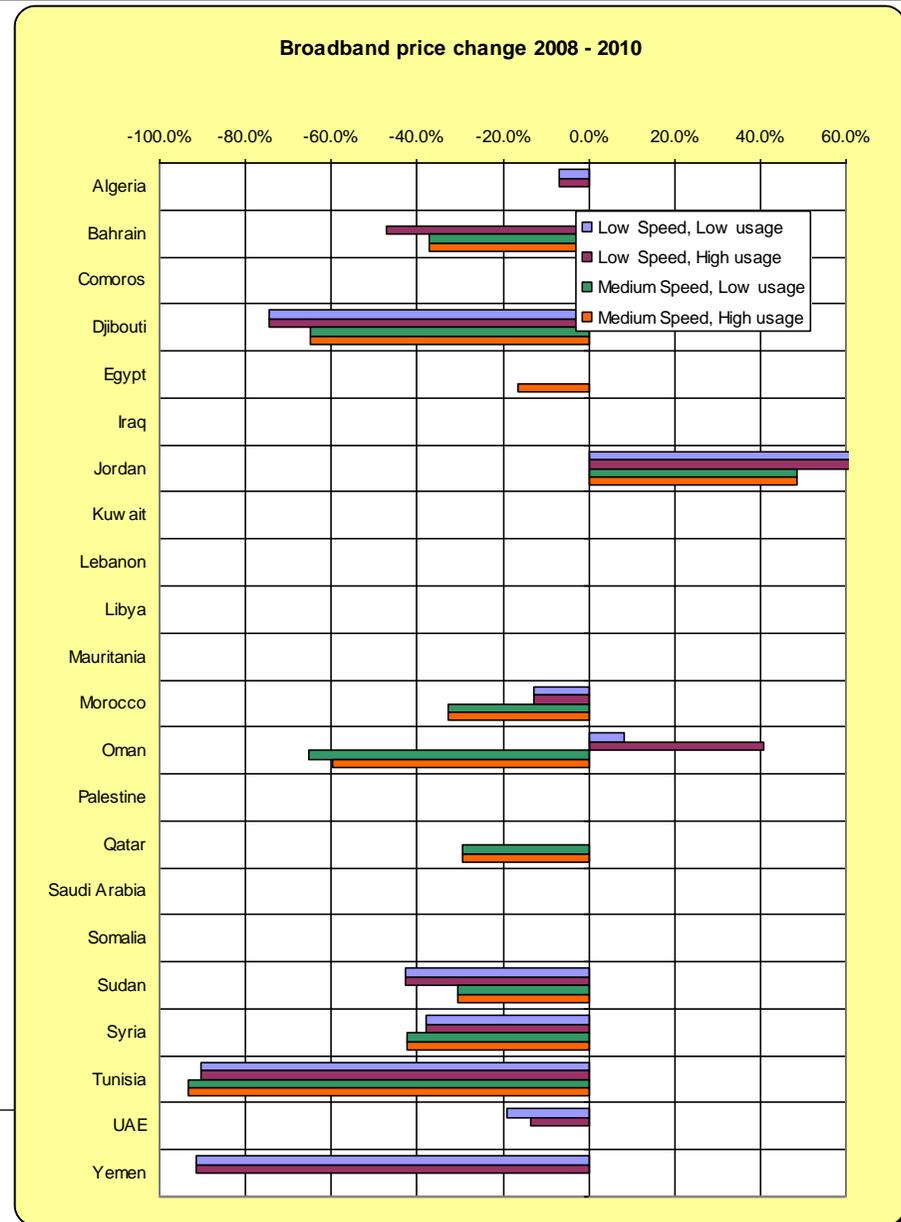
- The basket results are affected by:
  - Algeria: Elimination of lowest speed offers
  - Bahrain: New range of packages
  - Jordan: New range of packages
  - Libya: Installation charge
  - Qatar: Installation / modem price
  - Saudi Arabia: Modem price increase, rental reduction for high speeds
  - Sudan: Lower installation prices
  - Syria: Lower monthly rental
  - Yemen: New range of packages with usage limitations and lower prices.
- Prices in Arab countries have gone down significantly over the last year. But so has prices in Europe.
- Data shown cover both residential and business prices, however, only residential prices show as the cheapest per country.

Price change analysis is based on prices in national currency for each country.



# Broadband basket results 2008 - 2010

- There have been significant price reductions over the study period 2008 – 2010.
- About half of the countries have seen price reductions in some way



Price change analysis is based on prices in national currency for each country.



# Observations from Broadband basket results

- Speeds above 4 Mb/s appear to be offered in 8 of the countries:
  - Bahrain, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, UAE.
  - There were 5 last year
  - The prices are very different between countries
- Speeds below 256 kb/s are still common in most Arab countries
  - Speeds in this range are hardly offered in Europe any more
- For speeds above 1 Mb/s the prices are generally higher than what is found in Europe
  - For low speed broadband (0.256 - 1 Mb/s) the prices in the majority of the Arab countries tend to be similar to the European average, but the speeds used in Europe will be higher.
  - In Europe the most common speeds are in the range 1-4 Mb/s and above, and lower speeds are in many cases not offered at all. There is a clear move towards higher speeds, only since last year the situation has changed significantly.
- The average price relationship between business and residential offering is higher for medium to high speeds in Arab countries than European countries
  - Please note that specific business offerings often include higher speeds, more email and web space, and different conditions.
- Many services are very basic and do not offer many additional facilities
- Only some of the countries apply usage-based prices



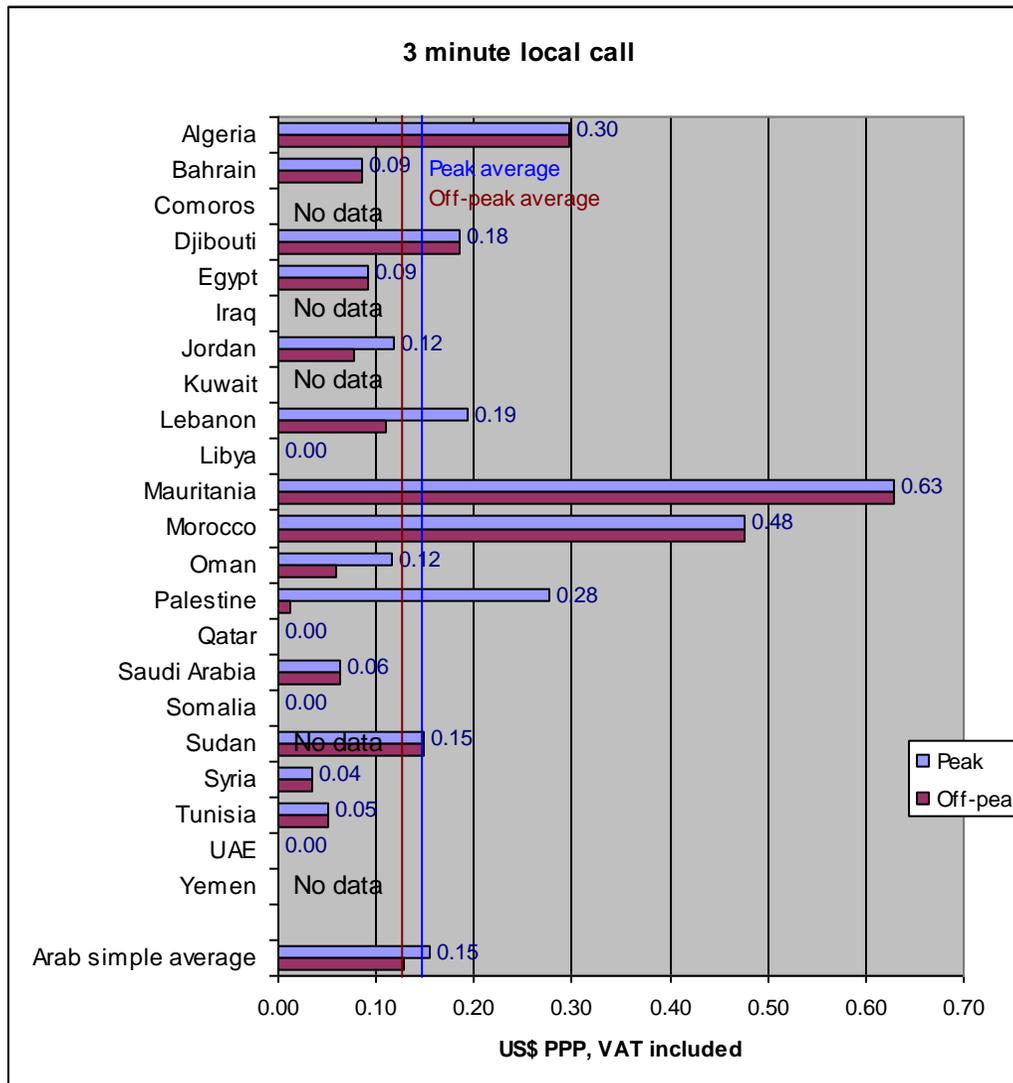
## Call cost comparison

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- The comparison of call cost is based on the actual cost of a 3 minute call.
- Costs are compared for Local calls, National calls, F2M calls and calls to the USA
  - At peak and off-peak times
  - Off-peak meaning the lowest possible cost period
- These comparisons have a much simpler methodology than the basket comparisons shown elsewhere in this report, and will 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 total cost to the end user



# Local call comparison

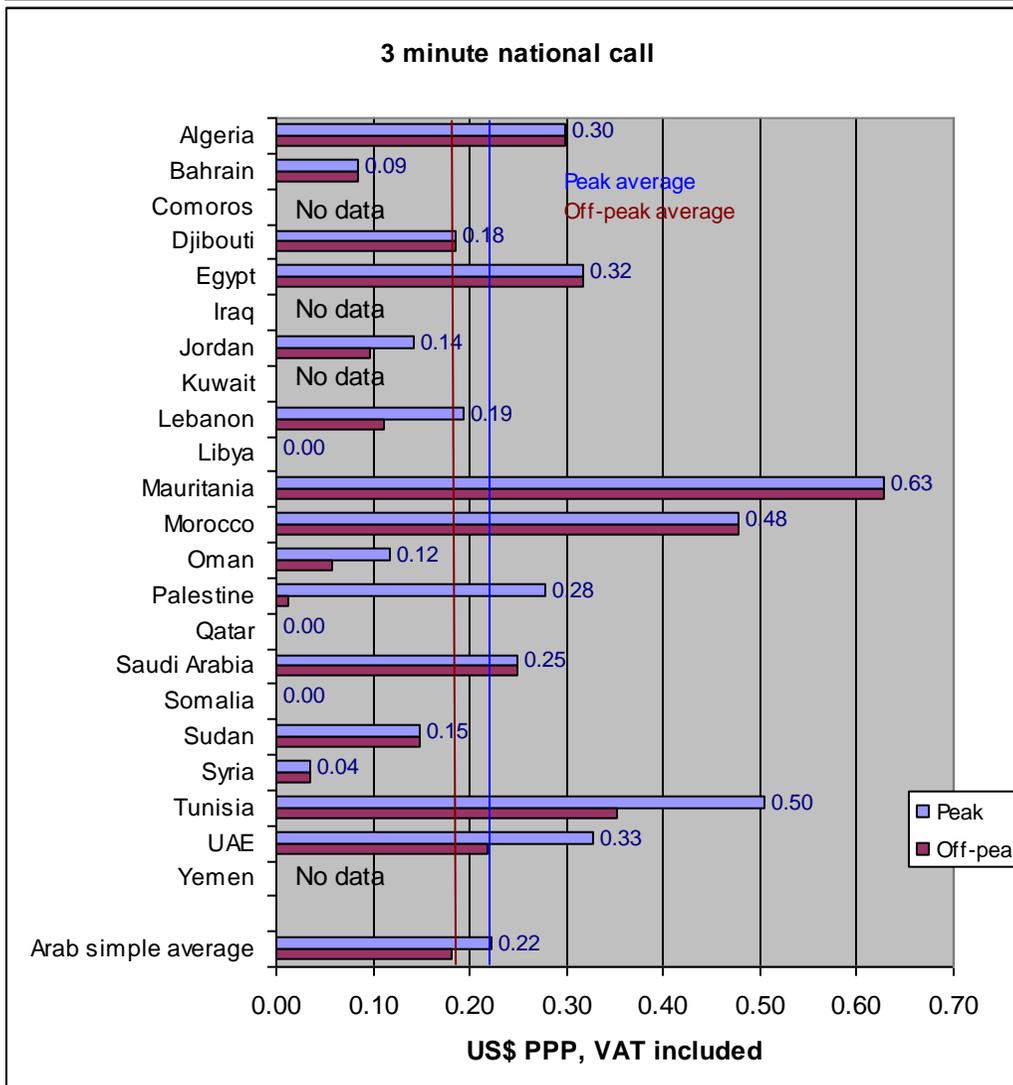


Many of the countries have the same prices for local and national calls.

Entries with call cost of 0.00 have free calling included in the monthly rental.



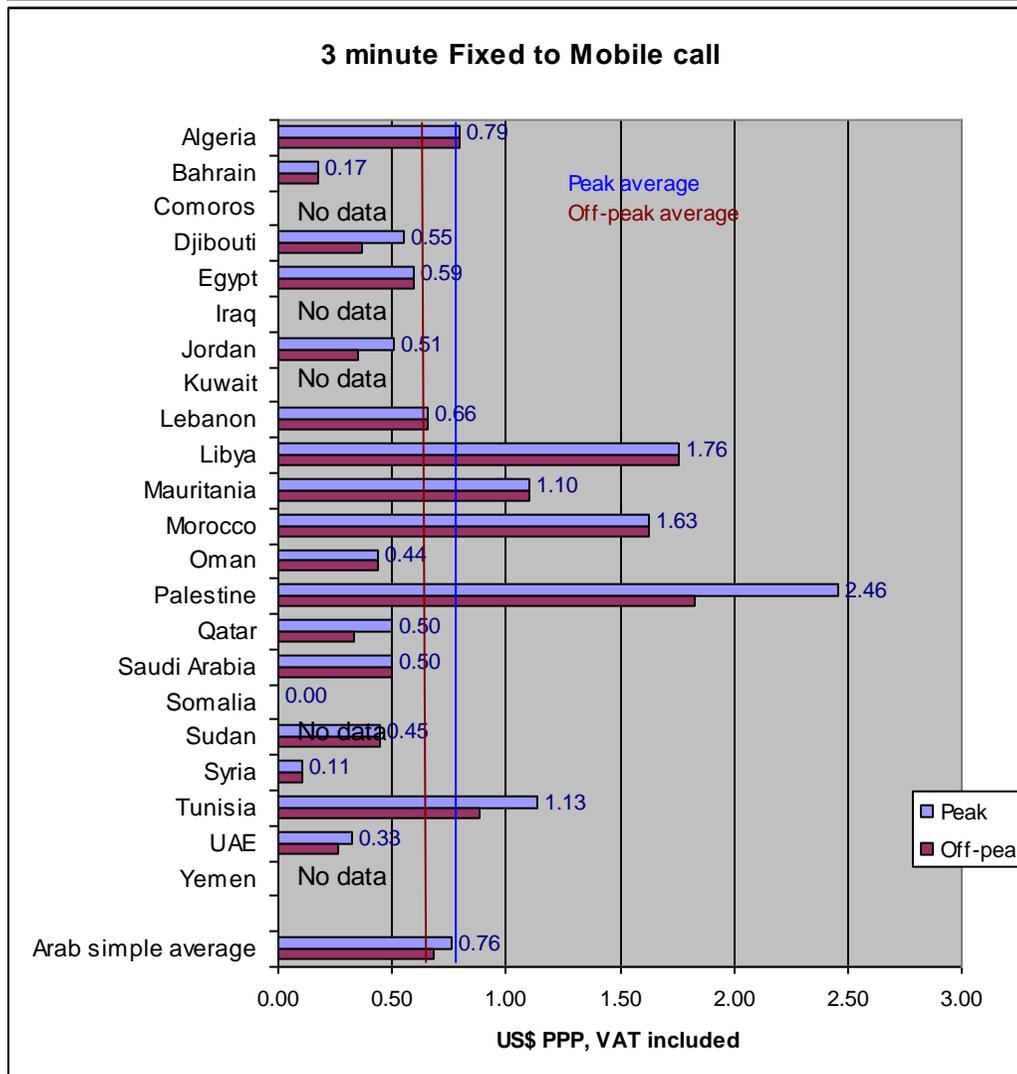
# National call comparison



Entries with call cost of 0.00 have free calling included in the monthly rental.



# Fixed to Mobile (F2M) call comparison

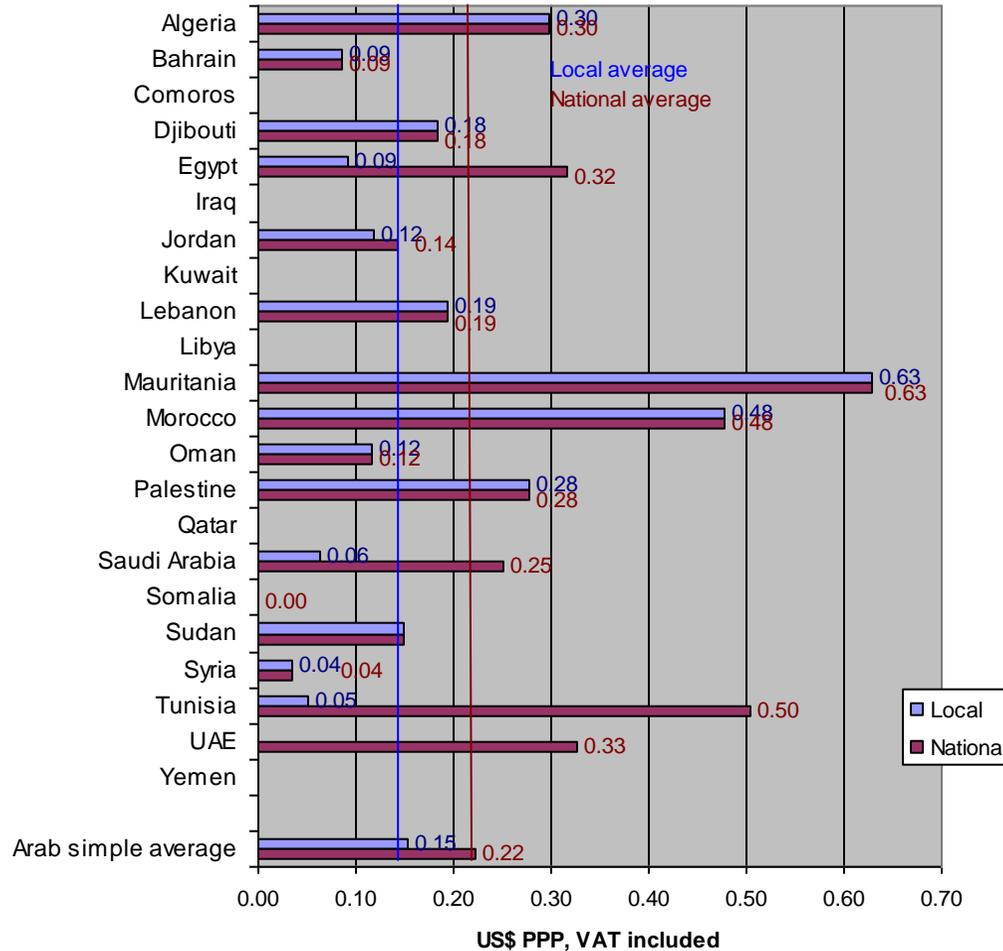


Entries with call cost of 0.00 have free calling included in the monthly rental.



# Local vs. National

3 minute local vs. national call (peak time)

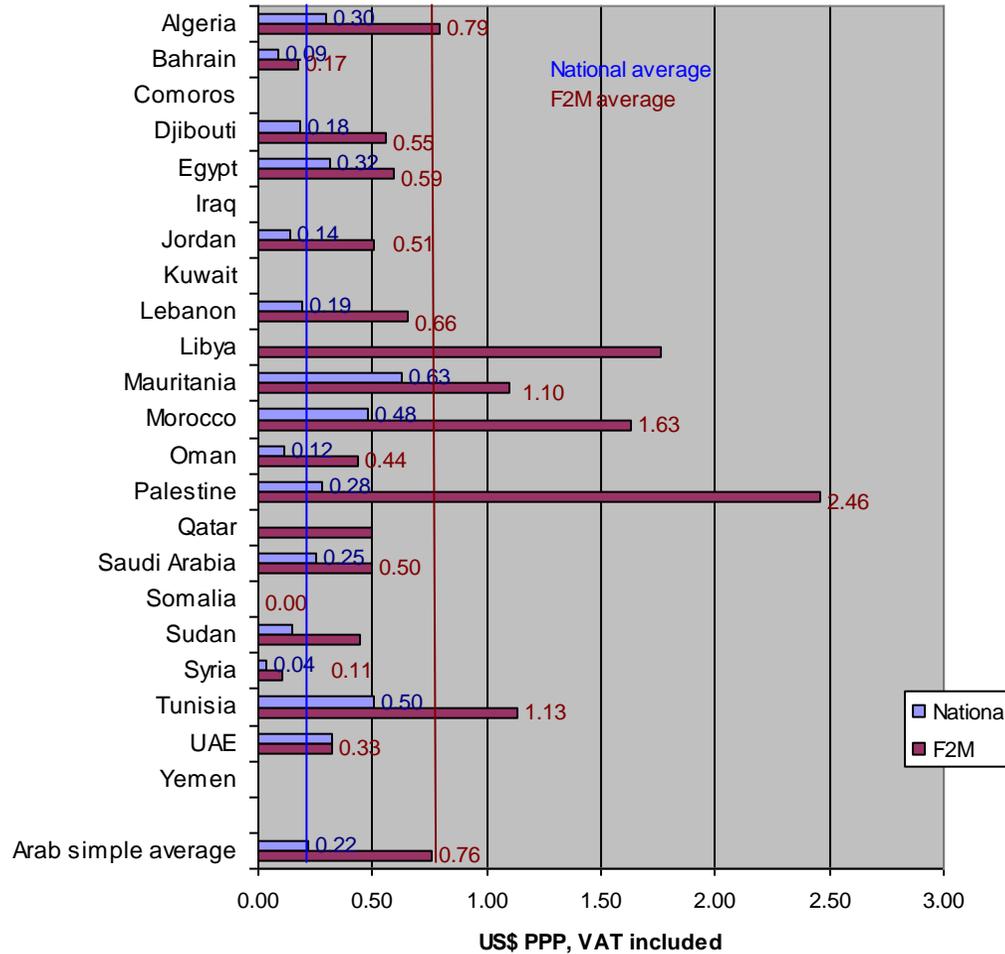


For entries with no bar in the graph, please refer to the data in the special local and national graphs.



# National vs. F2M

3 minute national vs. F2M call (peak time)

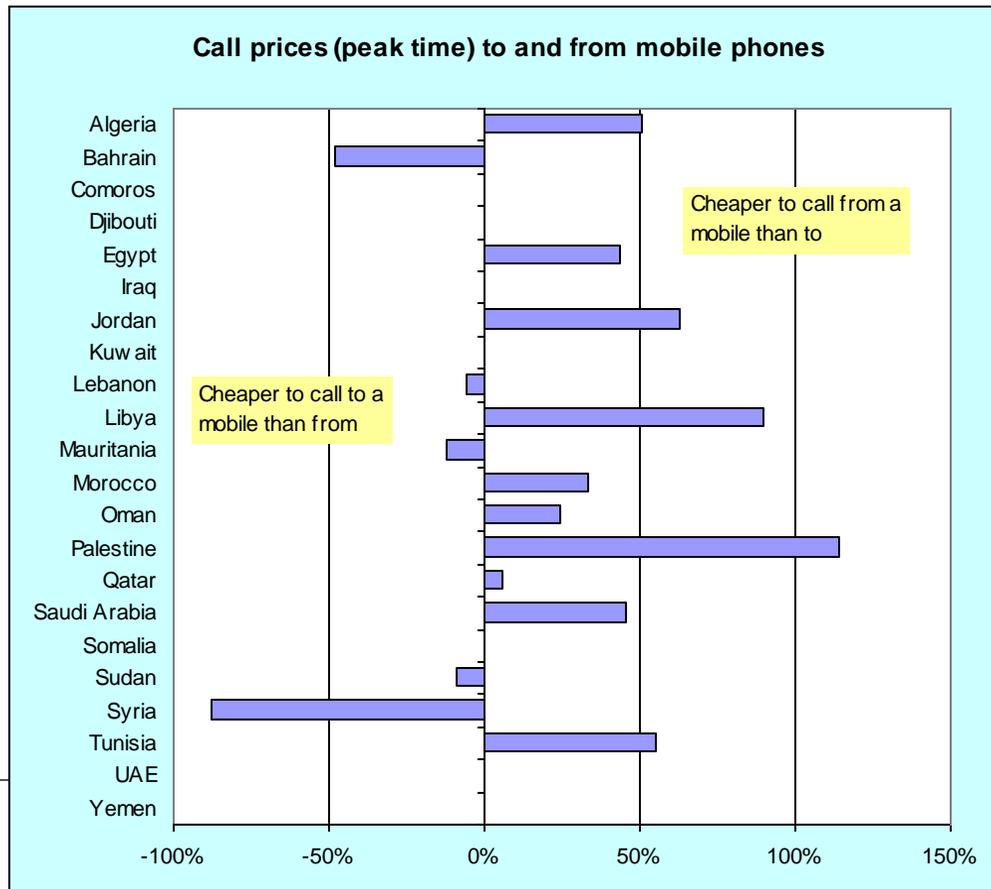


For entries with no bar in the graph, please refer to the data in the special local and national graphs.



# Making and receiving calls to/from mobile

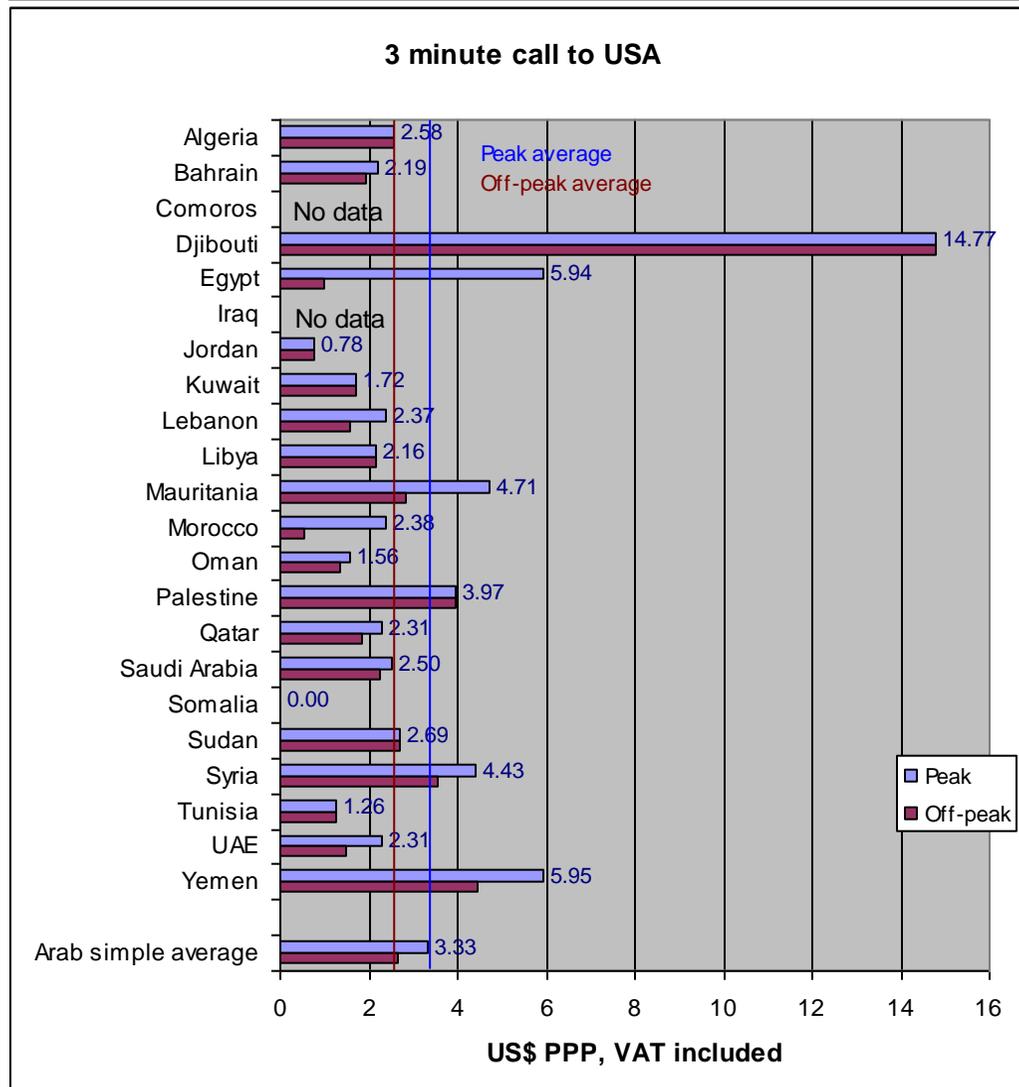
- The relationship between prices of calls to a mobile phone and from a mobile phone varies a lot between countries.



To/From mobile		
	Peak	Off-peak
Algeria	51%	51%
Bahrain	-48%	-44%
Comoros		
Djibouti		
Egypt	44%	44%
Iraq		
Jordan	63%	13%
Kuwait		
Lebanon	-6%	-6%
Libya	90%	90%
Mauritania	-13%	-13%
Morocco	33%	33%
Oman	25%	25%
Palestine	114%	59%
Qatar	6%	-25%
Saudi Arab	45%	45%
Somalia		
Sudan	-9%	-9%
Syria	-88%	-85%
Tunisia	55%	35%
UAE	0%	-11%
Yemen		
Average	-26%	-27%

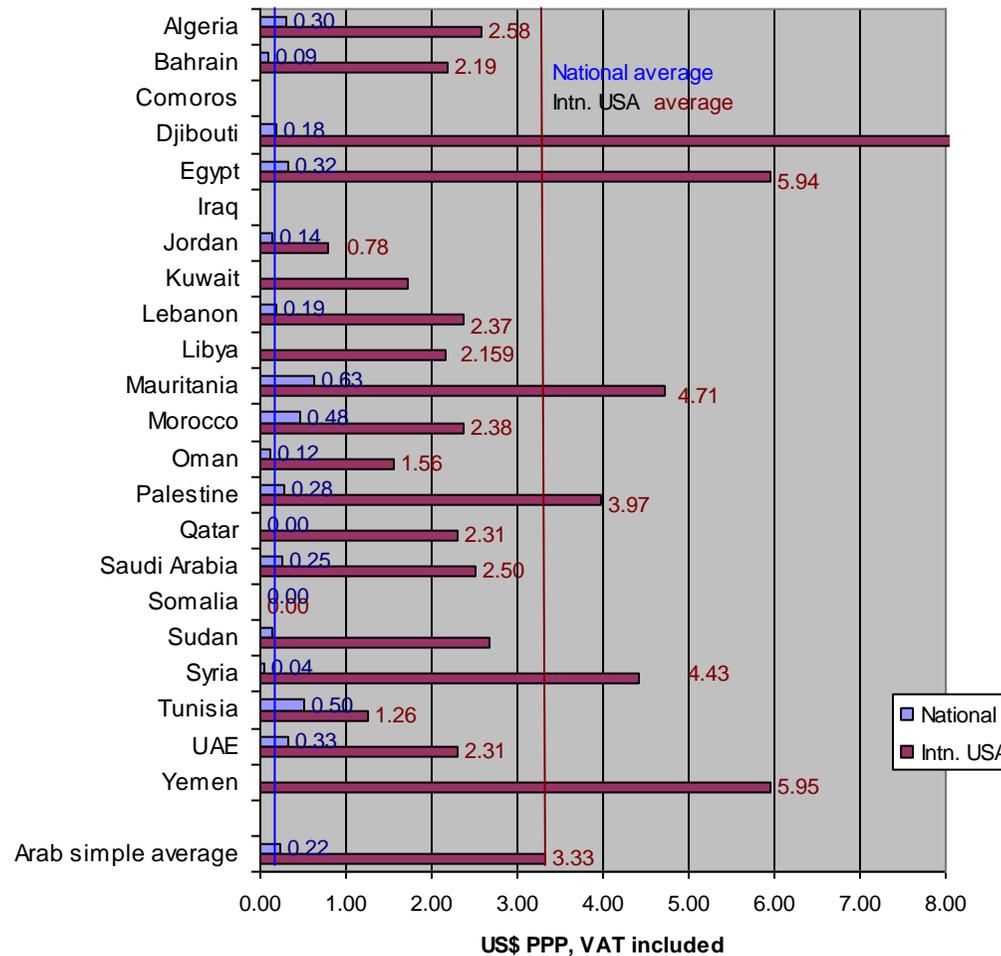
+ means F2M higher than M2F  
- means F2M lower than M2F

# International call comparison (call to USA)



# National vs. International to USA

3 minute National vs. International call (peak time)



For entries with no bar in the graph, please refer to the data in the special national graph.



## Call costs 2009 - 2010

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- There have been some changes in call charges 2009 - 2010
  - A significant rebalancing in Algeria
  - An increase in local call charges in Egypt and Morocco
  - Significant reductions in call charges in Oman
  - Changes in international call charges in Algeria, Egypt, Jordan, Morocco, Oman and Palestine



# Observations from the call cost comparison

- Prices of calls vary considerably between countries
- Less than half of the countries do not offer off-peak rates for national calls
- About half of the countries do not offer off-peak rates for calls to USA
- In some countries the local and/or national calls are “free”, i.e. included in the monthly rental.
  - Libya, Qatar, Somalia 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.
- Ratios of national to international call prices indicate that rebalancing of call charges has not yet taken place in many countries of the regi



# Main findings from the benchmarking study

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- 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
  - Prices have gone down over the last year in some 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
  - Many countries have reduced prices over the last year
- Leased Lines
  - Prices for high speed circuits 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
  - Higher speeds are available in more countries than a year ago
- Generally prices in Arab countries have gone down, most with Broadband services. But since prices have gone down in other parts of the world as well the gap between prices in Arab countries and prices in OECD / European countries remains.

These were the conclusions in 2009, and they are still valid in 2010!

## Reference information

### Exchange rates and VAT

Related to:	US\$	US\$ PPP	%	Currency
Algeria	0.014150	0.028300	17.0 %	DZD
Bahrain	2.680700	4.061667	0.0 %	BHD
Comoros	0.002913	0.005111	0.0 %	KMF
Djibouti	0.005907	0.012306	19.0 %	DJF
Egypt	0.184900	0.660357	10.0 %	EGP
Iraq	1.000000	2.631579	0.0 %	USDx
Jordan	1.412400	2.615556	16.0 %	JOD
Kuwait	3.487400	4.777260	0.0 %	KWD
Lebanon	0.000672	0.001199	10.0 %	LBP
Libya	0.822400	2.056000	0.0 %	LYD
Mauritania	0.003875	0.010473	0.0 %	MRO
Morocco	0.131100	0.238364	20.0 %	MAD
Oman	2.666100	4.443500	0.0 %	OMR
Palestine	0.264500	1.322500	0.0 %	ILS
Qatar	0.278100	0.370800	0.0 %	QAR
Saudi Arabia	0.266800	0.416875	0.0 %	SAR
Somalia	0.000688	0.002292	0.0 %	SOS
Sudan	0.437700	0.994773	10.0 %	SDG
Syria	0.022420	0.059000	0.0 %	SYP
Tunisia	0.755900	1.679778	18.0 %	TND
UAE	0.272300	0.363067	0.0 %	AED
Yemen	0.004920	0.013667	10.0 %	YER
UK	1.612900	1.366864	17.5 %	GBP
USA	1.000000	1.000000	10.0 %	USD
France	1.436900	1.249478	19.6 %	EUR

Prices for services in Iraq are given in US\$

Exchange rates taken from the Oanda web service on the 1 January 2010.  
PPPs are based on World Bank CPL for 2005 (published 2007, latest available).

# Purchasing Power Parities (PPP)

- PPPs are used to incorporate not only the financial differences between exchange rates, but also the differences in the state of the economies as seen through the purchasing power of the citizens in each country.
  - PPPs are based on an assessment of the price levels for a corresponding basket of goods and services in each country. i.e. how much the same basket costs in different countries.
  - PPPs are normally stated based on the US\$ or some other reference currency, e.g. Euro. This study uses the US\$ PPPs calculated by the World Bank in 2007 based on 2005 data.
  - PPPs are normally calculated every 4-6 years due to the effort required. CPLs can be adjusted more regularly, e.g. the OECD publishes CPLs on a monthly basis.
- In order to update these values the Comparative Price Level (CPL) is used. CPL is the relationship between the PPP and the reference market exchange rate at the time the PPP was calculated.
  - CPL is used together with updated, i.e. current, exchange rates to produce an “updated” PPP value.
  - $CPL = \text{Rate}_{\text{PPP}} / \text{Rate}_{\text{Reference}}$
  - $\text{PPP}_{\text{Current}} = \text{Rate}_{\text{Market}} * CPL$
- The advantage of using PPPs is that the results reflect the price differences as seen by the end users in each country based on their income and other costs.

## Acronyms used in the context of this report

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- 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
- AREGNET: Arab Regulators Network.
- AREGNET member countries: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, UAE, Yemen
- 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 are changed so that individual Tariff elements will cover their own cost, and not subsidise other Tariff elements.