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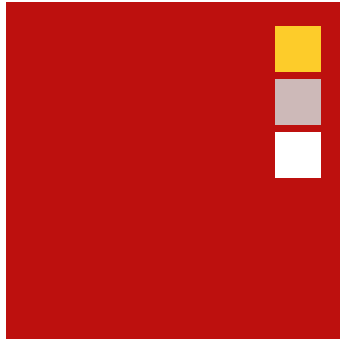
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# 2011 Q1 Fair mobile: Approaches and measurement

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# Fair Mobile Index

## Introduction

The cost of communication varies across the continent. Fair competition is the key to bringing prices to affordable levels while providing efficient incentives to invest. The Fair Mobile Index tracks price developments for mobile telecommunication across the African continent. The purpose is to establish price transparency for consumers, allow for the benchmarking of affordability across countries and to provide tools to assess the impact of policies and regulatory interventions.

## Minute Index

In order to eliminate the impact of currency conversions a local price index was established. The average per minute rate of any month is divided by the average rate for March 2011. March 2011 serves as a reference point and the index value is 100. This approach allows for the tracking of price changes for the cheapest product of an operator and the cheapest product available in a country across time. The per minute index is based on the average per minute call rate for peak, off-peak and off-off-peak rates for on-net, off-net and fixed-line calls in local currency. It is expressed as the cheapest prepaid product available in a country divided by the cheapest prepaid product in January 2011. This means a value below 100 indicates a price decrease in local currency and a value above 100 an increase. Only a few countries saw a price drop in their cheapest product available between January and March 2011. Figure 1 displays an index of the values reflecting price decreases with prices in Tanzania plummeting to nearly half the price they were between January and March 2011.

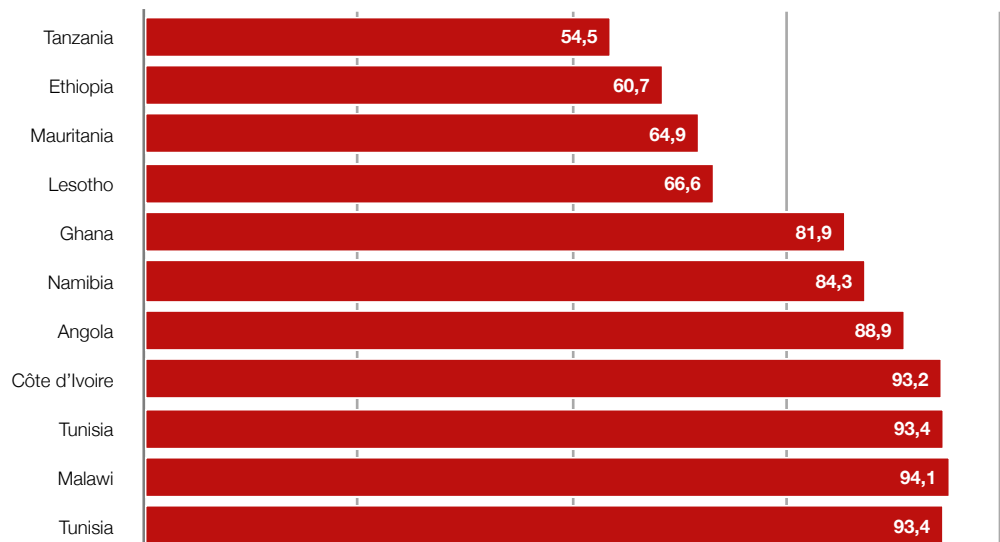


Figure 1: March 2011 Local minute price Index (base = January 2011)

## OECD 2006 Basket Methodology

To overcome comparative pricing complexities at least partially, the Organisation for Economic Development and Co-operation (OECD) has developed pricing baskets methodology. The OECD basket methodology is the heart of the price comparison. The OECD (2006) defined usage baskets are displayed in the Table 1 below. Generally, basket methodologies have strengths and weaknesses. Strengths include the ability to compare products of an operator, comparing cheapest products of operators and comparing cheapest products available in a country. This allows benchmarking of countries, operators and products.

Table 1: OECD mobile basket Definition 2006: Monthly call distribution, minutes and SMS

Destination	Time	Low	Medium	High
Fixed	Peak	4,75	12,29	28,56
	Off Peak	2,48	5,90	9,04
	Off Off Peak	2,67	6,39	10,00
On-Net	Peak	11,98	31,80	80,60
	Off Peak	6,24	15,26	25,52
	Off Off Peak	6,74	16,54	28,21
Off-net	Peak	5,24	15,19	44,60
	Off Peak	2,73	7,29	14,12
	Off Off Peak	2,95	7,90	15,61
SMS On-Net		21,45	32,50	35,75
SMS OFF-Net		11,55	17,50	19,25

There are two main weaknesses in the OECD methodology:

- The methodology only includes dominant operators, the 2010 baskets of only the two largest operators. Price changes following regulatory interventions would mainly be expected from small operators that attempt to gain market share through lower prices. On the other hand, dominant operators reflect what people actually pay better than comparing the cheapest product available in a country.
- OECD baskets do not take into account the number of people on each package and actual minutes of use for each package. No one is an average user and actual consumption patterns of an individual might only poorly be reflected. The same basket is used for all operators while subscribers of smaller operators are likely to have a different off-net/on-net ratio compared to larger operators.

The table below addresses this inconsistency by comparing the cheapest basket for a high user (regardless of which operator the basket is based on) and the same basket of minutes from the dominant operator. The third column of the table lists how much cheaper (in terms of percentage) the user basket is from the cheapest operator compared to the same basket provided by the dominant operator. Several of the countries that are experiencing higher levels of competition show a price difference. For example, in Kenya, Zain has cut prices by over 30% compared to the dominant operator, Safaricom, in an attempt to gain market share. The result is a percentage price difference of 26% between the user basket from the cheapest operator and Safaricom, the dominant operator. There are similar results in countries such as Tanzania, Uganda, Ghana and Rwanda.

Table 2: March 2011 OECD Basket costs in USD

Country Name	Cheapest High User USD	Dominant High User USD	% cheaper than dominant	Cheapest in Country In terms of January 2011
Egypt	7,63	7,63	0,00%	100,00%
Kenya	9,10	12,35	26%	100%
Uganda	10,42	21,24	51%	84%
Algeria	10,52	29,65	65%	100%
Sudan	11,53	13,75	16%	100%
Mauritius	13,15	13,15	0%	100%
Tanzania	13,35	21,59	38%	66%
Ghana	13,98	20,37	31%	85%
Ethiopia	15,67	15,67	0%	60%
Sierra Leone	19,04	19,04	0%	
Rwanda	21,37	28,45	25%	100%
Guinea	23,93	23,93	0%	100%
Gambia	23,95			99%
Nigeria	26,58	36,47	27%	100%
Tunisia	34,98	37,81	7%	93%
Benin	35,70	46,12	23%	100%
Libya	38,62	38,62	0%	100%
D.R. Congo	39,43	49,80	21%	
Sao Tome & Principe	40,25	40,25	0%	
Mauritania	40,66			67%
Liberia	41,97			
Namibia	42,17	66,36	36%	93%
Djibouti	42,29	42,29	0%	100%
Congo Brazzaville	43,25	52,54	18%	82%
Cameroon	43,39	43,39	0%	100%
Botswana	44,44	44,44	0%	100%
Angola	45,67	56,64	19%	90%
Senegal	46,22	46,22	0%	100%
Madagascar	46,49	52,57	12%	100%
Côte d'Ivoire	46,74	46,74	0%	97%
Niger	48,39	61,35	21%	100%
Burkina Faso	49,50	49,50	0%	100%
Mozambique	50,51	50,51	0%	100%
South Africa	52,04	55,51	6%	108%
Mali	59,24	59,24	0%	100%
Zambia	59,73	65,23	8%	100%
Zimbabwe	61,84	61,84	0%	100%
Togo	62,07	62,07	0%	100%
Lesotho	62,66	92,39	32%	68%
Malawi	63,50	63,50	0%	93%
Seychelles	64,88			100%
Central African Republic	66,35	66,35	0%	100%
Gabon	68,15			100%

Table 2: March 2011 OECD Basket costs in USD

Country Name	Cheapest High User USD	Dominant High User USD	% cheaper than dominant	Cheapest in Country In terms of January 2011
Swaziland	77,42	77,42	0%	100%
Chad	97,34	97,34	0%	100%
Cape Verde	105,88	115,98	9%	100%
Morocco	114,93	114,93	0%	100%

## Commodity Index

The benchmarking across countries requires the denominator to be common across countries. This is usually done by expressing prices in US\$ or in implied US\$ PPP conversion rates. The problem with this type of comparison is that it is not easily understood by the person in the street. US\$ PPP conversion rates are relatively sophisticated analytical tool. In order to make the comparison "more real", i.e., useful to a person wishing to see how competitive the mobile sector is in their country, an alternative illustration has been used: the average calling rate in currency is also expressed as minutes for a kilogram of cooking oil or sugar or tea.

A comparison to cooking oil, sugar and tea is a better comparison than US\$ PPP, it is not without its own shortcomings. It would be highly complex to show the exact quantity of cooking oil, sugar or tea that someone has to give up in a particular geographic location for a particular number of minutes. To make comparison easier (and to take one step back from price differences within a country) the reference point is a commodity expressed in world market prices. The indices are compiled based on the following rules:

- Cheapest prepaid mobile product available in a country
- US\$ Exchange rate = Average exchange for 2010
- Cooking Oil Price = average price for sunflower and palm tree oil
- Price of 1 kg sunflower oil is based on US export price from Gulf of Mexico, US\$ per metric tonne
- Price of 1 kg palm tree oil is based on Malaysia Palm Oil Futures (first contract forward) 4-5 percent FFA, US\$ per metric tonne
- Price of 1 kg sugar is based on Sugar, Free Market, Coffee Sugar and Cocoa Exchange (CSCE) contract no.11 nearest future position, US cents per pound
- Price of 1 kg tea is based on Tea, Mombasa, Kenya, Auction Price, US cents per kilogram, From July 1998, Kenya auctions, Best Pekoe Fannings. Prior, London auctions, c.i.f. U.K. warehouses

Feedback suggests that we have still not found the product that people can really relate to across the continent and that really has local resonance. We are returning to one of the original proposed products, Coke. We are in the process of trying to get the recommended retail prices of Coke in each African country. The Coke Mobile Index we believe will really capture the cost of communications and the relative luxury it is at current prices in most African countries. Nevertheless, the figures below are a closer approximation of what people are foregoing in order to pay for mobile minutes.

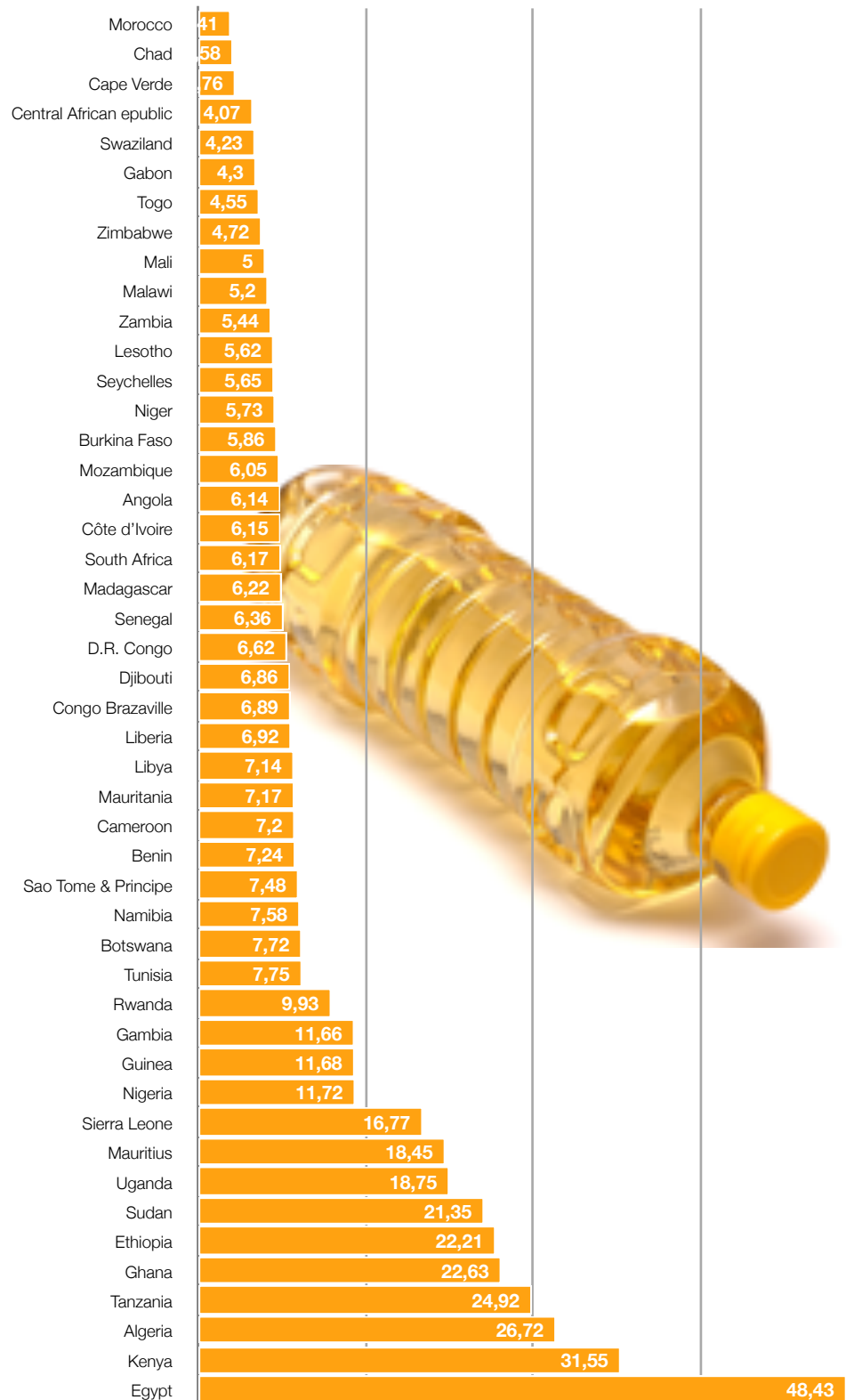


Figure 2: Minutes talk time for 1 kg cooking oil (higher is better)

One of the findings is that generally the same countries that have a price difference between a basket from the cheapest operator and a basket from the dominant operator also give more value for money. To go back

to the Kenyan example, people get 31.5 minutes of talk time for a kilogram of cooking oil, which is the second highest figure on the continent.

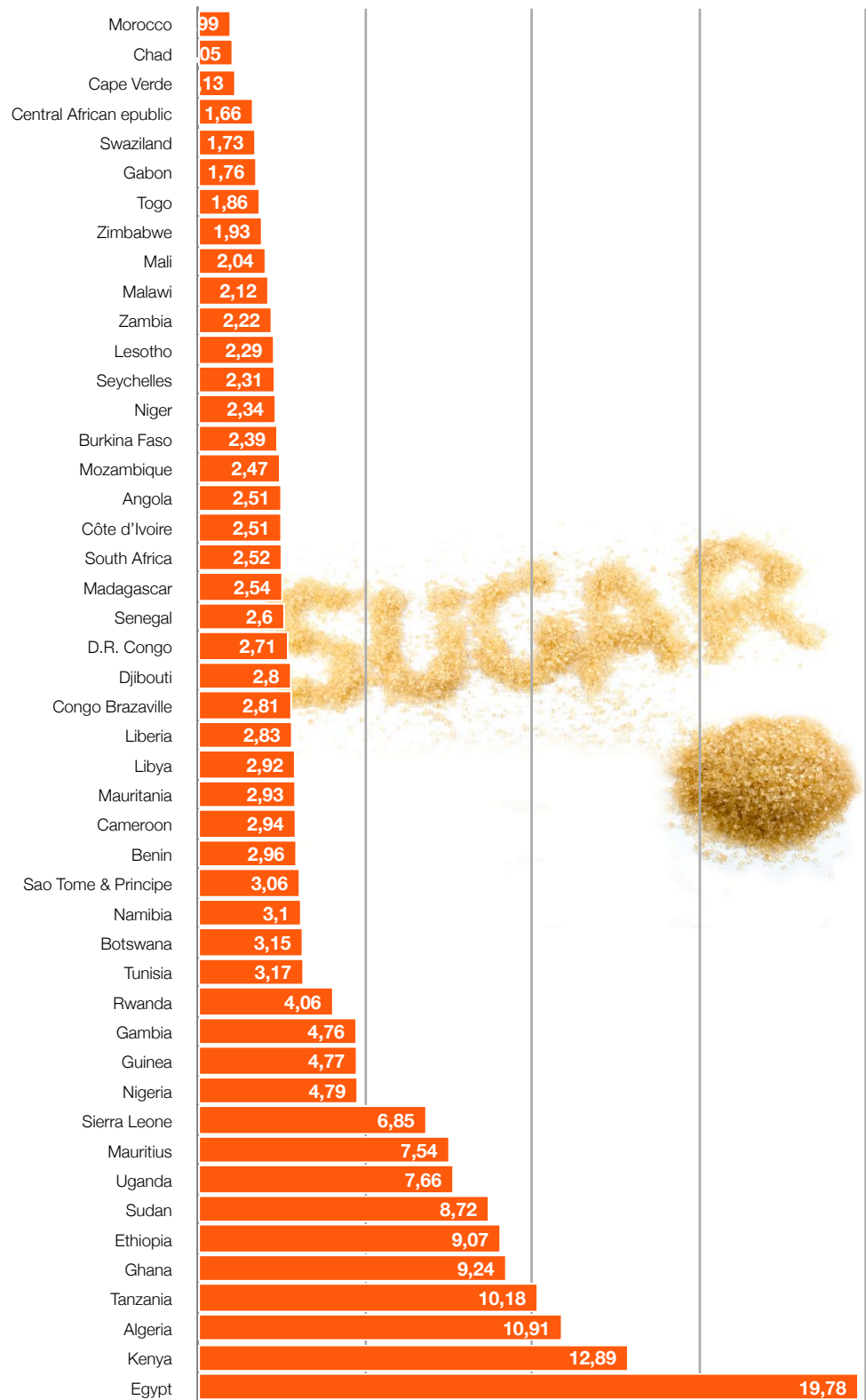


Figure 3: Minutes talk time for 1 kg cooking oil

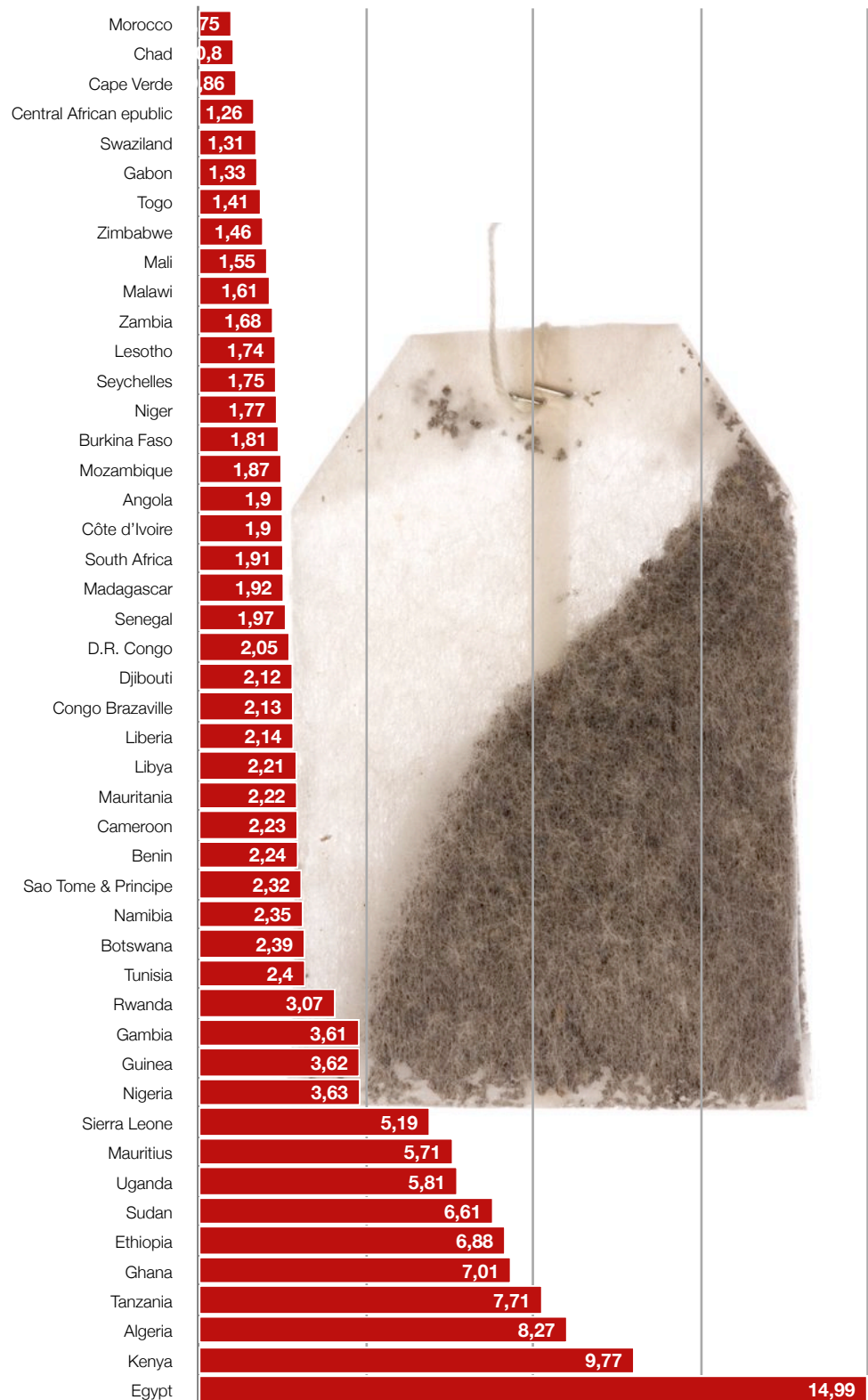


Figure 4: Minutes talk time for 1 kg tea

The advantage of this further analysis is that we are now able to assess the levels of competition in a country from two different angles: firstly, an indicator of the level of recent competition (likely to be the result of a new entrant into the market) via the mechanism of comparing the same basket of minutes from the

cheapest operator and the dominant operator (Table 2). Secondly, whether competition has delivered more affordable telecommunications by comparing the cost of airtime to a kilogram of cooking oil, tea or sugar.

## Conclusion

Feedback suggests that we have still not found the product that people can really relate to across the continent and that has local resonance. The cooking oil, sugar and tea comparisons is a partial step towards an indices that reflects the cost to people across the continent and expresses what actual trade-offs are. Nevertheless, this partial solution to the problem of accurately comparing what people forego for airtime provides insight into the levels of competition between countries. This insight is achieved through two mechanisms:

- A table that compares a basket of minutes from the cheapest operator against the same basket of the dominant operator; and
- The number of minutes that a kilogram of cooking oil or sugar or tea can purchase.

Several countries show a substantial difference between the basket of airtime from the cheapest operator vs. the dominant operator. These countries are also experiencing increased levels of competition - either from new entrants or from existing entrants that are trying to gain market share against a dominant operator. Looking at the amount of airtime a kilogram of cooking oil, tea or sugar buys provides further insight into the level of competition in each country and whether the gains from competition have been realised.