Considerations about the "ICT price data methodology"
Considerations about the “ICT price data methodology”, input of the “Measuring the Information Society Report”

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This document aims to summarize proposals for the improvement of the "ICT price data methodology”, input of the “Measuring the Information Society Report”, published annually by the International Telecommunication Union (ITU).
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INTRODUCTION

This document aims to summarize proposals for the improvement of the "ICT price data methodology", input of the "Measuring the Information Society Report", published annually by the International Telecommunication Union (ITU).

According to the mentioned report, the ICT Price Basket (IPB) is a composite basket that includes three price sets, referred to as sub-baskets: the fixed-telephone, mobile-cellular and fixed-broadband sub-baskets. In brief summary, the IPB is the value calculated from the sum of the price of each sub-basket (in USD) as a percentage of a country’s monthly GNI per capita, divided by three.

This document outlines suggestions for the improvement of IPB basket methodology, particularly the mobile-cellular sub-basket and the rules applied in collecting mobile-cellular prices.

Thus, the collection of price data from ITU Member States is object of considerations as also the tax burden disclosure.
ICT Price Data Methodology

Considerations about the mobile cellular sub basket

Measuring and comparing prices from different countries is a complex task. Different manners of offering and billing services for distinct user’s profiles, as well as the social and economic characteristics of each region impose great challenges to the comparison of the level of economic accessibility to telecommunications services in the countries.


For the collection and processing of data, ITU adopts methodologies discussed and agreed upon internationally. As with any method, the choice of unique standards is critical aspect for the comparability and the conception of credible and representative results of the reality.

However, the chosen baskets used to measure the prices of telephone services, present aspects that deserve some consideration by the Brazilian government, especially the mobile-cellular phone sub-basket.

Admittedly, the chosen sub-basket for the pricing of mobile access is strongly inspired, with some few adjustments, in the methodology provided by the Organization for Economic Cooperation and Development (OECD), revised in 2009.

The mobile-cellular sub-basket refers to the price of a standard basket of mobile monthly usage for 30 outgoing calls per month (on-net, off-net to a fixed line and for peak and off-peak times) in predetermined ratios, plus 100 SMS messages. It is calculated as a percentage of a country’s average monthly GNI per capita, and also presented in USD and PPP$.

The chart bellow summarizes the mobile-cellular phone sub-basket.
Indeed, as is clear from the explanatory document on the method, the OECD developed a set of metrics for comparing the retail prices of services, in order to evaluate spending on telecommunications consumers and companies of OECD member states.

A point of concern already emerge. The method of the OECD, developed in conjunction with the Teligen advice and the support of operators and regulators, created baskets with patterns of consumption of different users, but naturally with a restricted view to the reality of 34 members of the Organization.

In absolute terms, the number of OECD countries (34) is not representative of the global context. The ITU, for example, has a membership of 193 countries, besides from having hundreds of representatives from the private sector and academic institutions.

Additionally, and an even more sensitive, the socioeconomic status of the OECD countries is somewhat peculiar, given the global average. Briefly, taking the wealth degree as a reference, it is observed that the simple average of the gross domestic product of OECD member countries is well above the global average, as illustrated in the chart below.
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Chart 2 - Average Gross Domestic Product

Taking as a basis for comparison of different developing economies combined, the difference becomes even more evident, the average GDP of the OECD countries is higher in these cases in the proportion of 3.5 or even 20 times.

Therefore, it is intuitive to recognize that any methodology inspired by the socio-economic reality of the OECD, once extended to the global comparability may produce distorted results if not properly adapted.

Resuming the issue of baskets, ITU adopts the first package of the OECD sub-baskets range, arguing that this is the entry level and of lower utilization:

"The mobile-cellular sub-basket is largely based on, but does not entirely follow, the 2009 methodology of the OECD low-user basket, which is the entry-level basket with the smallest number of calls included (OECD, 2010b). […]. The basket gives the price of a standard basket of mobile monthly usage in USD determined by OECD for 30 outgoing calls per month in predetermined ratios plus 100 SMS messages". [Measuring the Information Society Report 2014]

Even if the OECD mobile sub-baskets methodology provides coverage of a representative bundled price, so as to allow the lower cost package is selected for each operator, this does not imply that the package range defined for the OECD members is necessarily representative of the rest of the world. And as for the economic data mentioned here, they actually tend to be quite different.

It is worth mentioning that the OECD standard mobile basket methodology, referenced by the ITU in its 2009 version of the report, had not suspended its development.

As can be observed in the Organization's website1, the baskets are routinely updated as the dynamic change of use of telecommunications patterns. Even the OECD

1 http://www.oecd.org/sti/broadband/price-baskets.htm
mobile sub-baskets, according to available data of 2012, have been modified to encompass multimedia messages and a specific prepaid sub-basket profile, which is different from the sub-basket considered by the ITU as appropriate to the prepaid offer.

Still, it is mentioned in the OECD website that more information on the baskets are provided by Teligen company, today part of Strategy Analytics consultancy. The company keeps updating and quarterly disclosures the results of comparisons, though, with access available only to their clients.

**In short, on the issue of mobile-cellular sub-basket inspired by the 2009 OECD method and still used as standard by the ITU comparability, Anatel believes that it is not the most updated, nor representative of the global context.** Anatel also believes that ITU, legitimized by the representation of 193 member states and supported by technical expertise (academia, policy makers, operators and regulators) meets the necessary and sufficient conditions to define a more appropriate standard of comparison, updated and representative of the global reality.

Besides, having set the consumption pattern sub-basket, ITU sub-basket methodology defines what will be considered pre-paid billing plans, based upon the premise that the pre-paid offering conditions are the only options to low-income users:

> “Prepaid prices were chosen because they are often the only payment method available to low-income users, who might not have a regular income and will thus not qualify for a postpaid subscription”.

[Measuring the Information Society Report 2014]

Indeed, prepaid accesses have a very particular appeal in developing economies, but this cannot be considered an absolute and inflexible truth, ignoring the context of other relevant variables to national regulatory contexts, just like the remuneration schemes and systems of traffic exchange between networks.

As the following illustration, from the Global Wireless Matrix Bank of America Merrill Lynch's data, there is reasonable degree of dispersion of the percentage of prepaid in each country, indicated in the chart with per capita GDP of information.
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Chart 3 - Mobile access and GDP per capita

With this distribution, to choose to analyze only pre-paid access affects the representativeness of the sample base in many countries. This is the case of, for example, Italy and Taiwan, whose GNP per capita is similar to each other, but that are very distant in the proportion of pre-paid access, the first with a 80% base of pre-paid access and the second, with less than 25%. A similar situation can be observed in the case of Germany and Finland with a similar GNP per capita, but the first one with more than 50% of pre-paid access and the second, with only 8%.

In addition to the difficulty of representativeness of the different distributions, the unconditional choice of the pre-paid plan as a reference of comparison becomes inconsistent with the choice of the standard plan (OECD mobile-cellular low-user call distribution) that probably does not correspond to the entry plan of many nations.

Furthermore, when supply and demand for mobile telephony market (traffic pattern and conditions of the plan) are determined simultaneously for the sake of comparison, not taking into account the existing correlation between the two variables, the probability of conceptual inconsistency of the method chosen is likely to increase. This occurs due to the fact that the price elasticity of the demand, essential for any analysis on market structure, is disconsidered. This approach leads into a hypothetical situation where the consumer with the traffic pattern chosen as the standard would necessarily use a pre-paid plan, regardless of the availability of more attractive and less costly post-paid plans, as the data collection method disconsiders these options.

This approach underestimates consumer’s capacity to obtain information and make rational decisions. According to the methodology, the consumer would always choose a pre-paid plan, it being advantageous or not and despite of having access to a diversity of plans and payment options.

It is important to stress that the variety of options available for the consumer is the result of the increase in the competitiveness in the telecommunications market. Only a healthy competitive environment is capable of offering the market players the
correct incentives in order to create competition in price, quality and innovation of the products and thus, benefitting the end consumer.

Hence, to not considering the diversity of mobile plans is a discredit to all the effort taken by the national regulatory authorities to improve competition, which is the most effective vector to drive a market towards efficient operation. In fact, in the report "Measuring the Information Society", the ITU highlights the impact enabled by competition in the financial accessibility to telecom service, with a clear contradiction to the data collection method for mobile telephony. See below:

The report finds that the price of ICT services falls with better market regulation and increased competition. […]

The effects of competition in driving prices down and fostering innovation have been most apparent in the mobile-cellular market, […]

As a result, of all the important elements in the analysis of the affordability of ICT prices, competition and regulation are those upon which telecommunication administrations may exert more direct control. They therefore merit particular attention. […]

Therefore, the ultimate goal of policy and regulatory interventions in the sector is often to bring about a sustainable reduction in the prices of ICT services, and in many cases this is achieved through regulatory actions to promote competition, […]

A pivotal element for ensuring that lower costs are passed on in terms of lower prices for customers is competition. […]

Competition directly affects prices in markets where retail prices are deregulated, such as the majority of mobile-cellular and fixed-broadband markets. […]

Market competition is one of the main drivers of affordable prices in telecommunication services. […]

Different competition levels largely explain the differences in mobile-cellular prices observed across countries (an estimated 7 per cent), whereas differences in the regulatory environment have less of an impact in setting mobile-cellular prices, since regulation in most countries is already open enough to allow competition. […]

Admitting the idea that an intense rivalry environment presses the market to a reduction of prices, it would be expected that in most competitive countries the prices were lower than those of most concentrated markets. It turns out that the ITU methodology, in our view, has led to distortions that contradict this premise.

In the chart below it can be seen that there is no correlation between the HHI concentration measure and the prices level.
According to our understanding, this contradiction is explained by methodological flaw in data collection, analyzed in the next section, which amplifies the distortion of a basket that does not take into account post-paid offer. For this reason, both the basket and the collection method need to be revised.

Finally, we consider that the mobile-broadband should compose the IPB, given the importance of this service in the current context of telecommunications. In 2012, for the first time, ITU collected mobile-broadband prices through its annual ICT Price Basket Questionnaire. In this case, to capture the price of different data packages, covering prepaid and postpaid services, and supported by different devices (handset and computer-based), mobile-broadband prices were collected for two different data thresholds. This methodology is adherent to the arguments set out above that exposed some of the weakness related to the manner in which mobile-cellular sub-basket is defined.

In short, we propose:

- To update the mobile-cellular sub-basket, currently based on the OECD 2009 Basket
- To consider the mode post-paid in the mobile-cellular sub-basket, taking into account the ITU experience related to the evaluation of the mobile-broadband prices.
- To consider the mobile-broadband as a component of the IPB.

We propose that these suggestions be included in the ITU Discussion Group “Expert Group on Telecommunication/ICT Indicators (EGTI)”.

In case discussion on the standard consumption sub-basket related to mobile telephony is not admitted, to guarantee stability and analysis of data overtime, we...
suggest a revision to the collection method, considering that the present method increases the above-discussed distortion.

This will be the subject of the next topic.
ABOUT THE RULES APPLIED ON COLLECTING MOBILE CELLULAR PRICES

ITU defines a set of rules and assumptions to be applied when selecting tariff plan that will be reported in the Price Basket Questionnaire. These rules are listed in the Handbook for the Collection of Administrative Data on Telecommunications/ICT 2011, page 77 of the English version, with updates from February 2015.

ITU also defines a Call Distribution in its report "Measuring the Information Society", largely based on OECD’s mobile-cellular low-user call distribution, according to a 2009 methodology as mentioned in the last section, which is the entry-level basket with the smallest number of calls included. ITU states that the sub-basket reflects a basic, representative low-usage package, rather than the cheapest option available.

We can view these two definitions (plan selection methodology and the mobile-cellular call distribution) as two sets of mobile plans available in a given country: one set composed of plans that fit the selection methodology; and another set of plans that a user with an usage profile equal to ITU’s call distribution would choose to subscribe (considering that the user knows its own usage profile and fully understand each available plan).

Depending on how each definition is made and the reality of each Member State, there is a risk that these two sets have no intersection between them, as shown in figure 3. This means that plans that fit the selection methodology are not among the plans a user with ITU’s call distribution would choose to subscribe.
Any Member State falling into this scenario is forced to report a plan that either does not suit the methodology or a plan no user with ITU’s call distribution would subscribe. It is safe to assume that a Member State would report a plan in the gray set (a plan a user would choose). ITU may be reticent towards the Member State’s selected plan, since it does not comply with the methodology.

In a more ideal scenario, there is an intersection between the two sets, as shown in figure 4. In this case, a Member State is able to select a plan that both complies with the methodology and is among the plans that a user with the same call distribution defined by ITU would choose to subscribe.

However, we can explore this scenario further. Among the plans in the green set, there are plans cheaper than others (the green set is composed only with basic, low-usage plans), while in the gray set there are also plans cheaper than others.

Figure 5 shows the case where the cheapest green plan and the cheapest gray plan are not in the intersection, forcing the Member State to choose a more expensive plan than the one available.
In Figure 6, the scenario is improved, since at least the cheapest green plan is in the intersection, and the Member State can select it.

But the true ideal scenario is the one where the cheapest gray plan is in the intersection, as shown in Figure 7. In this case, the Member State is able to select the best plan a user would subscribe.
Figure 7 - Best plan for the user is in the intersection.

Depending on how the methodology and the call distribution are made, different Member States may fall in the different scenarios shown above. As long as this occurs, the comparability among Member States is impaired, with some Member States being forced to select plans that are not ideal, while others will not have this problem.

We believe that in order to achieve comparability, each Member State should ideally match with the same scenario, or at least match with scenarios that are close (like the ones in figure 5, 6 and 7). For that to happen the methodology should be the least restrictive possible.

The call distribution is currently based on a 2009 survey by OECD. This should be updated, as pointed above. While the methodology is currently too restrictive, with rules like “it must be a prepaid plan”, we can also observe that the term “non-promotional plan” is not precisely defined in the methodology, leading to several plans being ruled out.

For the reason, we advocate that the reporting, by Member States, of a promotional plan with a minimum duration of 12 months should be allowed.

Therefore, we believe both the methodology and the call distribution should be put in discussion for the EGTI (Expert Group on Telecom Indicators) to assess these issues and improve comparability among Member States.
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In the ITU ICT Price Basket Questionnaire the following questions are made:

- **i151 Tax - Fixed-telephone tariff, tax rate:**
  - What is the tax rate included in the fixed-telephone tariffs (%)?

- **i153 Tax - Mobile-cellular tariff, tax rate:**
  - What is the tax rate included in the mobile-cellular prepaid tariffs (%)?

- **i4213 Tax - Fixed (wired)-broadband, tax rate:**
  - What is the tax rate included in the fixed (wired)-broadband Internet tariffs (%)?

Considering the principles of publicity and transparency, as well as the relevance of empowering consumers with information on the composition of prices in different countries, we understand that these questions are extremely important and the disclosure of such information must have the same highlight of assessed prices in the "Measuring the Information Society Report".

For this reason, we suggest adding column in the table related to "ICT Basket Prices and sub-baskets"\(^2\) with data about tax burden.

\(^2\)Table 4.15 of the Measuring the Information Society Report 2014.