



# Mobile Broadband prices

Prices as of February 2016

## Executive Summary

A study prepared for the European Commission  
DG Communications Networks, Content & Technology by:



*Digital  
Single  
Market*

**This study was carried out for the European Commission by**



**Internal identification**

Contract number : 30-CE-0741840/00-00

SMART number: 2015/0025

**DISCLAIMER**

By the European Commission, Directorate-General of Communications Networks, Content & Technology.

The information and views set out in this publication are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.

ISBN: 978-92-79-59298-0  
doi:10.2759/502139

Copyright © 2016 – European Union. All rights reserved. Certain parts are licensed under conditions to the EU. Reproduction is authorised provided the source is acknowledged.

The completion of the Digital Single market being one of the 10 priorities of the Juncker Commission, the developments in the electronic communications market continue to be closely monitored by the EC. In recent years, elements like coverage and take-up of mobile broadband have been added to fixed broadband indicators, and as of 2015, the Commission has started to **monitor and analyse the prices of mobile broadband**.

This second round of the “Mobile Broadband prices” study<sup>1</sup> aims at analysing and comparing what residential customers actually pay for mobile broadband in the EU28, three other European countries (i.e. Norway, Iceland and Turkey) and some non-EU countries (i.e. the USA, South Korea and Japan). It also allows for objectively measuring the price evolutions in the different EU countries between 2015 and 2016.

This report presents the results of the analysis of mobile broadband offers that were collected in February 2016. The approach used is that of the **2012 OECD methodology for mobile broadband**<sup>2</sup> which aims at calculating the total price (including the monthly fee, non-recurring charges and usage charges) of a set of offers in order to identify the least expensive offers for three different types of mobile devices (i.e. laptop, tablet and handset) and five different levels of usage (i.e. monthly volume consumed), in other words for 15 different combinations or “baskets”. In order to reflect the rapid evolutions on the mobile broadband market, in this 2016 analysis a sixth usage profile (with double the data allowance of the highest OECD basket) has been added for each type of device.

	<b>Laptop use (data volumes)</b>	<b>Tablet use (data volumes)</b>	<b>Handset use (data volumes + voice/SMS basket)</b>
Basket 1	500 MB	250 MB	100 MB + 30 calls basket
Basket 2	1 GB	500 MB	500 MB + 100 calls basket
Basket 3	2 GB	1 GB	1 GB + 300 calls basket
Basket 4	5 GB	2 GB	2 GB + 900 calls basket
Basket 5	10 GB	5 GB	2 GB + 100 calls basket
Basket 6	20 GB	10 GB	4 GB + 900 calls basket

*Table 1: Mobile broadband baskets under consideration in the study*

Per operator, only offers that could potentially be the least expensive one for a given usage profile have been collected. After a calculation of their average total monthly cost (on a 36 months basis), the least expensive offer per operator, and subsequently per country, was identified for each usage profile. These least expensive offer prices per country and per usage profile (subsequently called ‘price’) are used as the key indicator for all analyses.

In view of the large number of usage profiles, distinguishing between good and bad performers is not always straightforward, as **differences can occur between devices and usage volumes**:

<sup>1</sup> The first mobile broadband prices study, based on February 2015 prices, is available at <https://ec.europa.eu/digital-single-market/en/news/mobile-broadband-prices-february-2015>

<sup>2</sup> Methodology for constructing wireless broadband price baskets, OECD (2012): <http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/CISP%282011%295/FINAL&docLanguage=En>

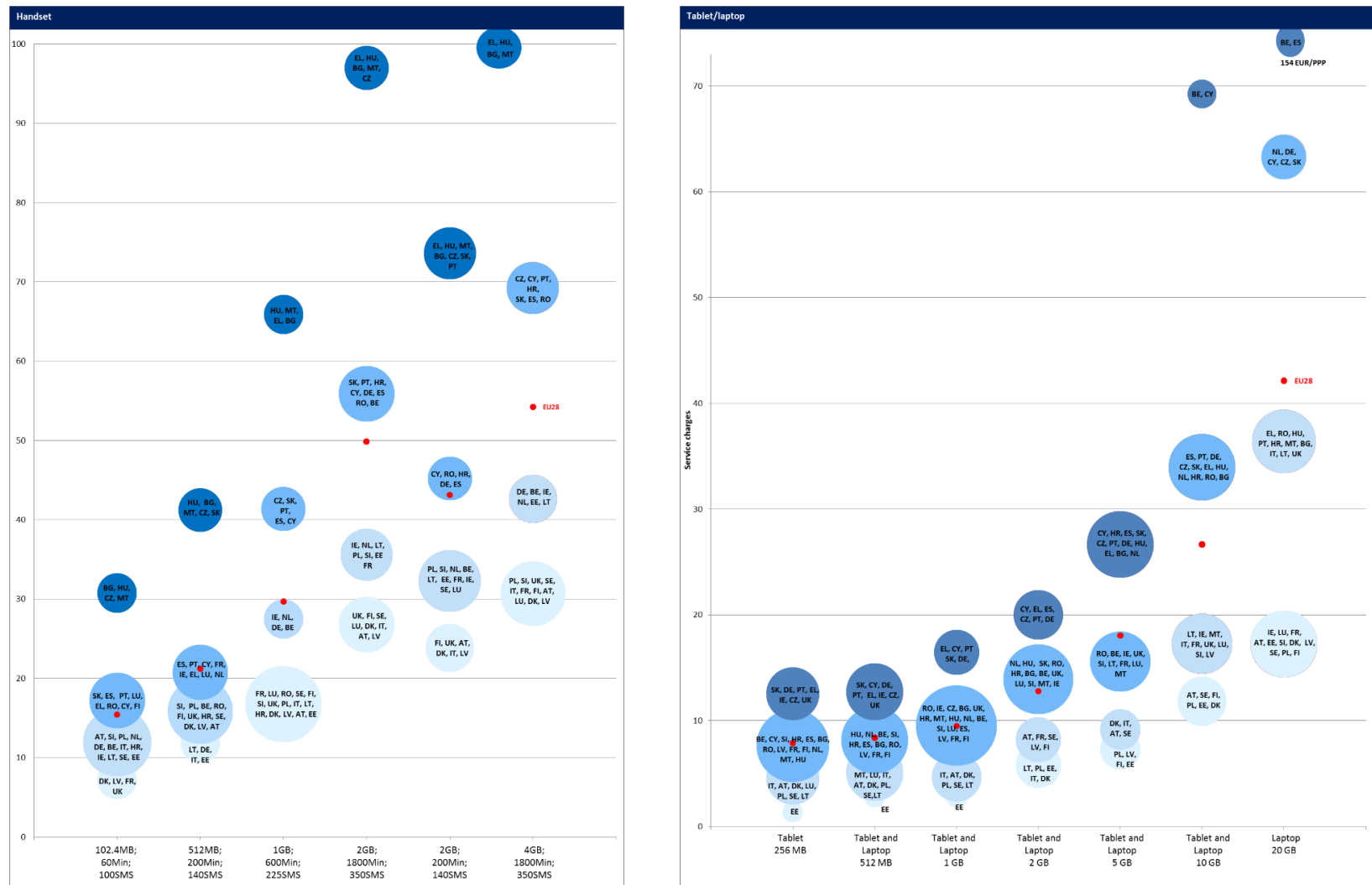


Figure 1: Clustering<sup>3</sup> of countries based on prices for the least expensive offer available on handset (left) and laptop/tablet (right)<sup>4</sup> (expressed in EUR/PPP, VAT included, data for February 2016)

<sup>3</sup> Clustering is performed through the k-means clustering approach (see above) with 4 clusters. In the graph, all clusters are centered around the cluster mean, and the size of the clusters illustrates the number of observations belonging to the cluster.

<sup>4</sup> The least expensive offer available per basket is the lowest value of the least expensive laptop and least expensive tablet offer.

Within the **handset baskets**, Denmark, Italy, Latvia and the UK frequently perform very well, and unlike in 2015, they are accompanied by Austria and Sweden. On the other side of the ranking, Bulgaria, Hungary and Malta are expensive for all user profiles. To a slightly lesser extent, the Czech Republic, Greece, Portugal and Slovakia also perform relatively poorly in comparison to the other EU countries.

For **laptop/tablet offers**, which are presented above in a grouped way (as in many cases identical or rather comparable offers are available for both - see below), results are somewhat different. Denmark, Austria and Sweden again score very well, but other top rankers for these devices are Poland (especially for higher baskets) and even more so Estonia, which for all user profiles takes a place in the lowest (i.e. least expensive) cluster and in six out of seven cases has a top 3 place. In the high price range, Czech Republic, Slovakia and Portugal appear again, but this time they are accompanied by Cyprus and Germany and for the higher baskets, Spain (2GB and more) and Belgium (10GB and more).

When expressing these monthly prices as a **percentage of income**, the dispersion between countries is still apparent. For instance, in Bulgaria and Hungary more than 7% of income is spent on mobile broadband on handsets of 1, 2 and 4 GB, whereas in Austria and Denmark this is less than 1.5%. Depending on the usage profile, the EU average is situated between 1.7 and 3.1% of income. For laptops and tablets, the EU average is a bit lower (0.5 to 2.5%), and especially Bulgaria, Romania and Cyprus come out as bad performers. The position of the first two thus deteriorates if prices are expressed in terms of income. On the other side of the ranking, the good performance of Austria, Denmark and Sweden is confirmed, but when crossing results with income, they are accompanied by Italy.

From the 'clustering' analysis, some further observations can be drawn, that have given rise to more detailed analyses:

- The clustering graphs show (both for handset and for laptop/tablet offers) a clear and continuous rise in EU average prices for higher volumes, thus confirming the existence of a **positive data volume-price relationship**. Higher usage profiles however appear to give more value for money. Indeed, when expressing prices in unitary terms as a 'cost per GB', the latter at EU28 level in all cases drops between 20 and 45% between two adjacent usage profiles. This is similar to last year's result, as then a drop between 30 and 50% was observed. Exceptions to the general rule arise most often when the basic data allowance included in the offer does not fit the basket usage profile (but no cheaper alternative exists at the operator or other operators of the same country) or because higher usage profiles on handsets also include higher volumes of voice and SMS;
- Prices for **handset offers** at first sight seem much higher than those of laptop/tablet offers, but it should be kept in mind that these offers, next to a data allowance, **also include voice minutes and SMS**. Moreover, to allow for meaningful comparisons, all handset offer prices also include **hardware** (smartphone): a basic smartphone (i.e. Nokia Lumia 532/535/550/635/640; Huawei Y5/P8 Lite; Samsung Galaxy S4 mini; LG Spirit 4G/Leon 3G/G Stylo/G Flex 2) for Baskets 1 to 3 and an advanced smartphone (i.e. most often the Samsung Galaxy S6) for Baskets 4 to 6. As mentioned, **prices for laptop and tablet offers are much more comparable**. First of all, the equipment cost (e.g. USB stick, dongle or MiFi-modem) that in more than half of the countries is part of the laptop offer prices, is highest for the lowest baskets, but even then on average is only 1.1 EUR per month. Secondly, when abstraction is made of this equipment cost, in between 17 and 21 (depending on the usage profile) of the EU Member States prices for laptop and tablet offers of the same usage profiles are identical, most often implying that on the operators' websites offers are proposed that can be used by choice either with tablet or laptop;

- While a **basic smartphone** represents on average around **3.2 to 3.3 EUR** or 10 to 20% of the total monthly price, the **advanced smartphone** that is part of the three highest handset baskets has a monthly cost of around **13.5 to 14.5 EUR** or 25 to 35% of the total monthly price on average, in a handful of countries even surpassing 20 EUR. Only the advanced smartphone therefore truly **impacts on the relative performance of some countries**. This is especially the case in Lithuania and Poland: if in these countries the smartphone cost to be added to the monthly price would only be as high as the EU average, they would in all three baskets end up in the top 5 of least expensive countries (while in reality, they occupy positions between 11 and 16, depending on the basket).

These overall observations run strongly parallel with what was observed during the first “Mobile Broadband Prices” study of February 2015. When **comparing 2015 and 2016 prices** per usage profile and per device more in detail, it can be observed that EU28 average prices of mobile broadband on handsets have without an exception dropped in the past year. However, only for the 2GB - 1800 min -350 SMS usage profile can an impressive decrease of 14% be observed. Laptop and tablet based offers of 2 GB and more have also slightly decreased, but offers in low usage profiles have become slightly more expensive since last year. Going down to the level of the individual countries, it appears that these increases are mostly caused by price increases in some of the countries that last year had relatively low prices, so that prices in the 512 MB and 1 GB laptop/tablet baskets appear to have grown somewhat closer between 2015 and 2016. Also for low handset usage profiles can such a limited price convergence be observed, while for high usage profiles (on all devices), no clear trend for more expensive countries versus less expensive countries emerge. Noteworthy is however that in Finland, Malta and Sweden, prices have decreased since 2015 on all devices and for all usage profiles.

When crossing the results of the mobile broadband prices study with mobile broadband take-up figures, last year’s observation that a certain amount of **correlation appears to exist between prices and take-up**, is further confirmed. Good illustrations of this are e.g. Denmark, Estonia, Finland and Sweden, where low prices go hand in hand with high take-up figures; and Greece, Hungary, Malta and Portugal, where high prices and low take-up can be observed. However, this trend is not ubiquitous: for instance, in Latvia and Lithuania low prices can be observed, but at the same time mobile broadband penetration is relatively low in these countries.

Finally, **EU mobile broadband prices score relatively well compared to those in a selection of other countries worldwide**. In the handset category, the EU and the USA showcase prices that are situated close together, and take turns in occupying first place, whereas for laptop and tablet offers, the EU takes first position for the low-capacity offers (up until 1GB), but loses its leading place to South Korea for higher capacity. This is because in South Korea no low allowance offers exist on the market, and (relatively more expensive) offers with higher data allowances are thus the only solution to fulfil the lower basket requirements. A similar effect can be noticed in Japan in the handset category. The OECD usage profiles thus do not seem fully appropriate for some of these non-EU countries. Moreover, although baskets with higher usage profiles have been added during the 2016 study, this does not solve the lack of representativeness of the low usage profiles for several (EU and non-EU) countries. Results should thus be interpreted with caution.

European Commission

**Mobile broadband prices**

Luxembourg, Office des publications de l'Union européenne

**2016** – 6 pages

ISBN 978-92-79-59298-0

doi:10.2759/502139

