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Indicators on Bundles

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1. Introduction

In the last few years, bundles have become an increasingly popular way of buying electronic communication services by consumers. On the supply side, many operators have been increasing the number of services included in the bundles.

Competition is shifting towards quadruple-play and quintuple-play bundles (including mobile services) and almost all countries have converged operators with both fixed and mobile operations. Due to competition and/or wholesale regulation, all operators should now be able to provide both fixed and mobile services, by using different forms of access to their competitor's networks (e.g. Local Loop Unbundling, bit-stream, Mobile Virtual Network Operators (MVNO)), so they have the option of entering the market and providing all types of bundles. As a matter of fact, in several countries (e.g. Portugal, Spain, Malta and Luxembourg) quadruple-play and quintuple-play bundles (that combine both fixed and mobile services) are becoming the most common form of contract. Also, it is common among countries, for two operators belonging to the same economic group or having an agreement between them, to launch joint fixed/mobile products.

The objective of this document is to update and improve the current set of indicators to better reflect the more complex bundles that are being offered in different European Union (EU) countries, especially quadruple-play or quintuple-play combinations, that combine fixed and mobile network based services.

The current existing indicators on bundling at European level lack the detail that is needed to monitor the latest developments in retail markets.

This report presents the growing importance of bundled offers in the electronic communications market, showing evidence of increasingly significant bundle penetration and increased bundle diversity across EU countries.

This document proposes a more contemporary definition of bundles, so that data is more comparable and relevant.

The current European Commission (EC) bundle definition[1] addresses the vast majority of bundles, but not all EU countries are accommodated by it. A number of NRAs have many

[1] The current EC bundle definition is the following: 'Bundled offer' means a commercial offer of two or more of the below services marketed as a single offer and offered for a single price. Services include (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony (4) Mobile Broadband and (5) Pay TV (Mobile TV should not be included).

additional elements that render the current definition provided by the EC problematic. The pros and cons of the proposed deviations from the EC definition are further examined in this document.

Moreover, in discussion at the Expert Working Group (EWG) level, the EC presented a new approach on what they understand as a bundle. The EC position is for a broader definition that covers all multiple-play offers, which will be targeted in the future. In the opinion of the EWG there is a need for further analysis in order to determine if such goal is feasible.

The Benchmarking (BMK) EWG proposes to adopt a new definition, broader than the one currently in place, but not as extensive as that which the EC suggests. The main changes suggested are designed to enable the inclusion of offers that may be considered a bundle (and have a high importance in some countries), but which were excluded from the previous definition, which was narrower.

The report analyses several alternative sets of indicators for improving the current indicators on bundles collected in the context of the Digital Agenda Scoreboard (DAS) [2].

The final outcome shall be proposed to the EC for adoption in the next data collection, first as a test in January 2016, and then the fully implementation of the new set of indicators for the 2017 Digital Agenda Scoreboard.

A questionnaire (**Annex A**) was launched in early 2015 to gather information that NRAs have on bundles and the data they currently collect. 34 NRAs replied to the questionnaire giving a detailed picture on the usage of bundles across Member States (MS). Throughout this document results from the questionnaire are used to support the various discussion points.

2. Evidence of bundle penetration and importance of bundles in the electronic communications market

Even though the average penetration of bundle offers has increased in Europe in the last 5 years, this has happened at very different pace among MS. The growing importance of bundling is evident in almost all countries that provided response to the questionnaire launched by the EWG

Competition is shifting towards quadruple-play and quintuple-play bundles (including mobile services) and almost all countries have converged operators with both fixed and mobile operations. More players are bringing together their fixed and mobile assets where they have

[2] http://ec.europa.eu/digital-agenda/en/digital-agenda-scoreboard

them, and where they don't, they are looking to make acquisitions to facilitate converged services or have wholesale agreements.

Due to competition and/or wholesale regulation, all operators should now be able to provide both fixed and mobile services, by using different forms of access to their competitor's networks (e.g. Local Loop Unbundling, Bitstream, Mobile Virtual Network Operators (MVNO)), so that they have the option of entering the market and providing the various types of bundles.

Converged operators are competing with mobile operators only which may lead to an uncompetitive behaviour. Operators with both fixed and mobile operations may have competitive advantage over those operators who operate in the mobile market only.

Among EU countries, different types of bundles have gained importance. While in some countries there is a predominance of double-play offers, in other countries the most popular bundle packages include three or more services, fixed and mobile services.

It is important to track closely the bundling dynamic, the evolution of bundle consumption over time, which services are being purchased in a bundle, and which new bundles are emerging. This allows a better understanding of the evolution of converged offers. This is essential at national level also very important for benchmarking purposes at international level.

Most NRAs collect and publish data on bundle subscribers periodically. After analysing the data available on bundle subscribers[3], the following three trends emerge:

- An increase in bundle penetration;
- Geographic heterogeneity
- Bundle diversity.

It should be noted that the methodology to collect bundled subscribers is not unified across all MS. Some do not collect quintuple-play, as they do not consider Mobile Broadband as a standalone service. Also, some MS include only pure bundles, while others include other forms of bundling, such as tied bundling[4].

NRAs were asked whether they follow the EC definition and the majority of NRAs that replied adhere to the EC definition, but there are some NRAs which have additional elements, which increase the heterogeneity of the definitions. The definitional heterogeneity influences the statistical data published by the EC and presented in this document.

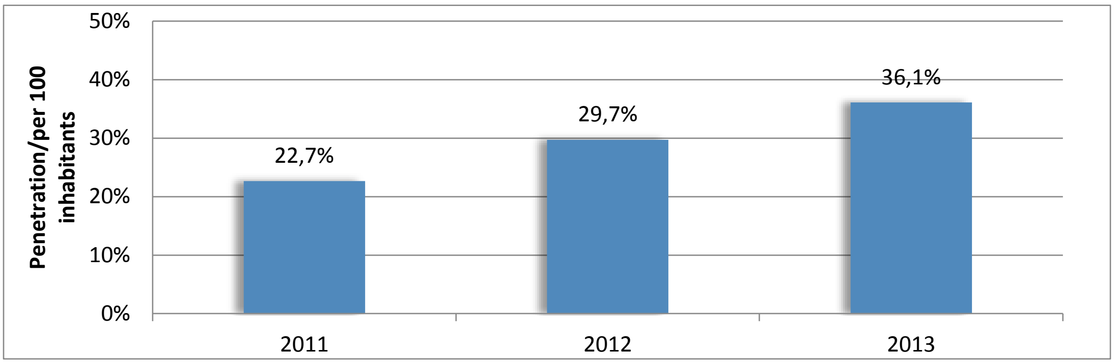
[3] The figures presented in this section are based on *http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=5937* (2014), *Special Eurobarometer 414* (2014) and own data collection for this project (2015).

[4] Tying occurs when the purchase of one service is conditional on the purchase of another service.

2.1 Increasing bundle penetration

Between 2011 and 2013, the proportion of bundled offers has increased in Europe (see Figure 1). According to the EC, the penetration of bundled offers has constantly increased, reaching 36 % in 2013.

Figure 1 - Penetration of bundled offers in terms of subscribers over population (2011-2013)



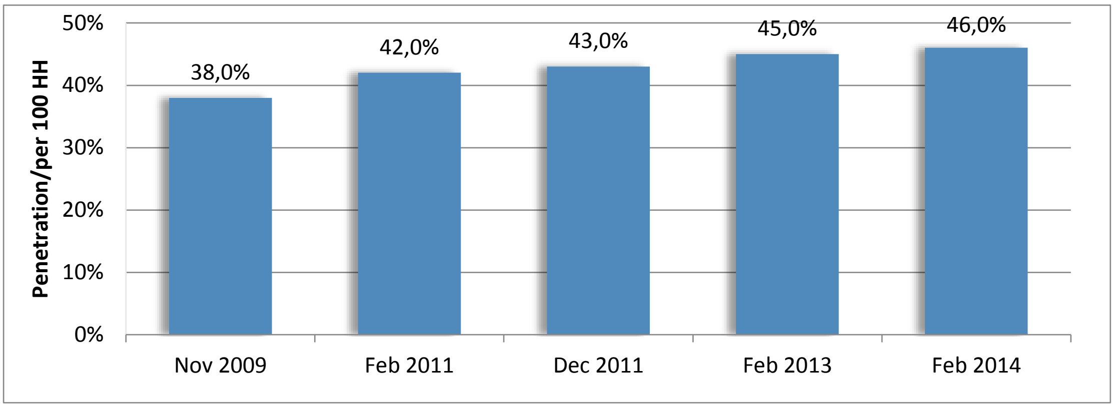
Source: **EC,** ***Digital Agenda***

Note: The EC changed the bundle definition in 2013 and *decided to define five services and treat Mobile Voice and Mobile Broadband as separate services.* Therefore, the penetration growth should be carefully analysed.

This trend is also evident in the analysis of the E-Communications and Telecom Single Market Household Survey (Special Eurobarometer[5]), which was published in June 2014, based on data collected in January 2014. In the survey, the penetration of bundles (per 100 households) has increased by eight percentage points since 2009 (see Figure 2).

[5] Special Eurobarometer 414, E-Communications Telecom Single Market Household Survey 2014, available at http://ec.europa.eu/public_opinion/archives/eb_special_419_400_en.htm

Figure 2 - Penetration of bundled offers in terms of subscribers over households (2009-2014)



Source: Euro Barometer

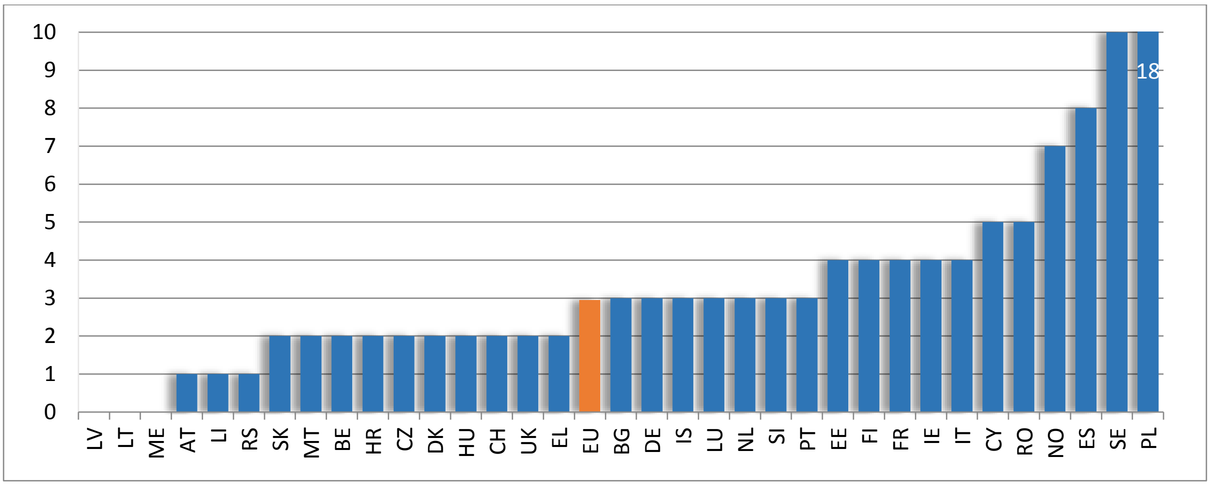
Note: Above results are based on household survey and therefore they reflect the consumer perception.

The importance of bundled offers is evident if we observe the number of converged operators (operators providing both fixed and mobile services) in each country. According to BEREC data, in Europe there are 100 converged operators overall, with the majority of countries (21) having 2 to 4 converged operators (see Figure 3).

29 of the 34 countries that responded to the recent BEREC questionnaire[6] have converged operators providing both fixed and mobile services in a bundle. Only 4 NRAs[7] replied that there are no converged operators in their countries. In Sweden, there are 10 converged operators and in Poland there are 18.

[6] Data collection by BMK-EWG in January 2015.
[7] SPRK (Latvia), RRT (Lithuania), EKIP (Montenegro) and RU (Slovak Republic).

Figure 3 - Number of converged operators per country, December 2014



Source: Data collection by BMK-EWG in January 2015.

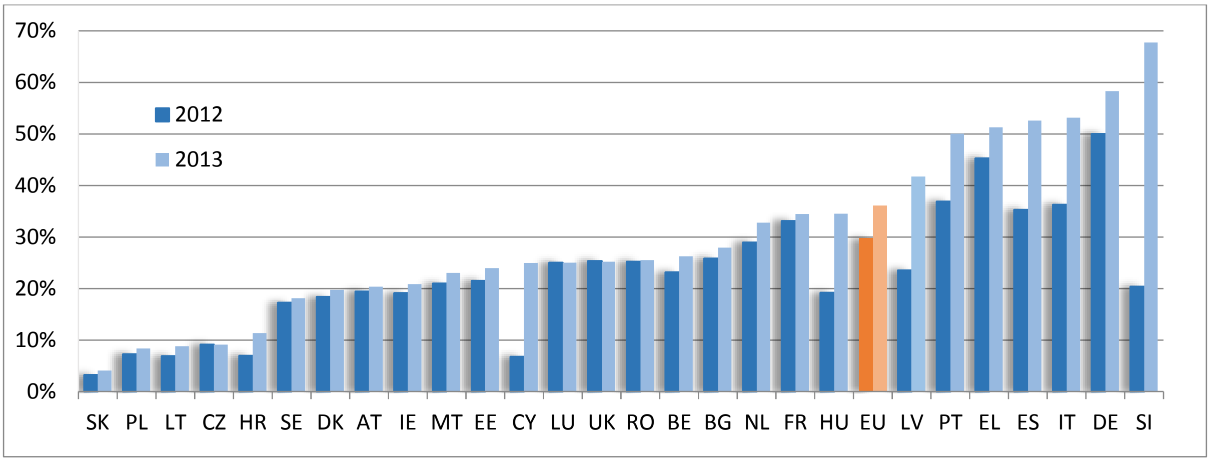
Combined fixed-mobile products offered for a discount by two different operators are common in some EU countries (e.g. Greece).

2.2 Geographic heterogeneity

Bundled offers are gaining popularity across the EU, although this is happening at verying degrees among MS. A significant change in the landscape of telecom products and services took place between 2012 and 2013 across all member states[8], with an increase in the median from 21.5% to 25.2%. Slovenia represents a clear example of this as the penetration of bundled offers reached 68% in 2013 (almost double of the European simple average). On the other hand, in Slovakia, the penetration of subscriptions that are bundled offers was about 4% in the same year (see Figure 4).

[8] It should be noted that the methodology is not unified in all MS as some do not collect quintuple-play, as they do not consider Mobile Broadband as a standalone service. Also, some MS are including only pure bundles, while others are including other forms of bundling as well, such as tied bundling.

Figure 4 - Penetration of bundled offers in terms of subscribers/population per country (2012-2013)



Source: **EC,** ***Digital Agenda 2014, NRAs***

Notes:

The EC changed the bundle definition in 2013 and *decided to define five services and treat Mobile Voice and Mobile Broadband as separate services. So, a Mobile Voice + Mobile Broadband package with a single price should then be included as double-play.* Therefore, some countries (among them Slovenia, Slovak Republic, Portugal, Hungary) have accepted this new definition from 2013 and in this sense, the penetration growth should be carefully analysed.

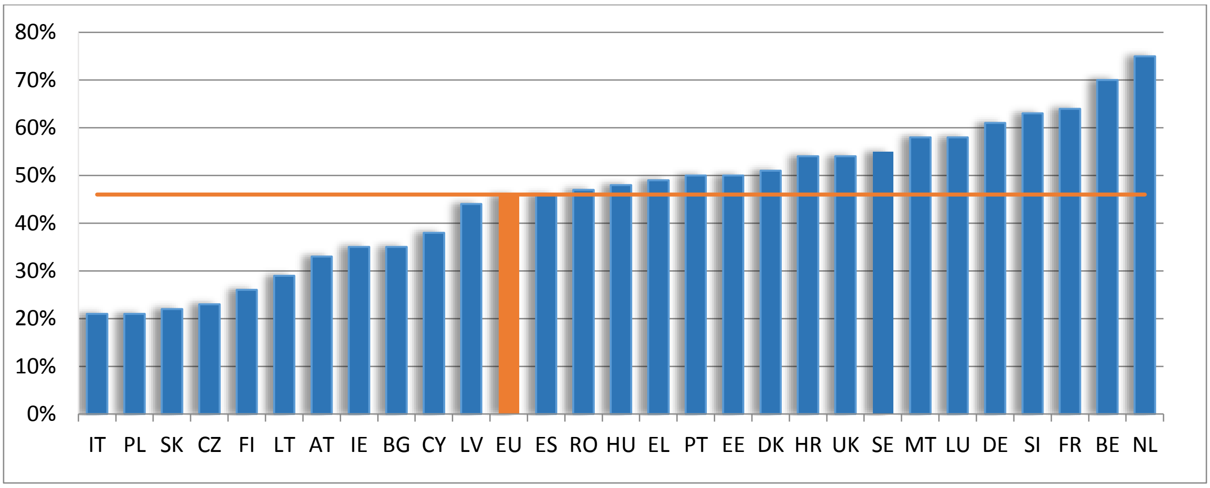
PT 2012 figures do not include bundles with mobile services for some operators.

UK, HU: Data is based on consumer surveys. Croatia does not include bundles with mobile services for both years.

This trend can also be seen in the 2014 E-Communications Survey results. On average, almost half of all EU household respondents had bundled communications services[9] (see Figure 5). In 11 countries bundled offers are the majority (in the Netherlands 3 out of 4 households are subscribed to bundled services), while in 7 countries communication bundles are less than a third (in Italy only 1 out of 5 household is registered for bundled offers).

[9] E-Communications Survey considers the following definition for bundle: "By bundle, we mean a combined package offering more than one communication service from the same provider at an overall price". Eurobarometer considers only 4 services in this question: TV channels, fixed line telephone, mobile telephone and internet access.

Figure 5 - Penetration of bundled offers in terms of subscribers/households per country (2014)



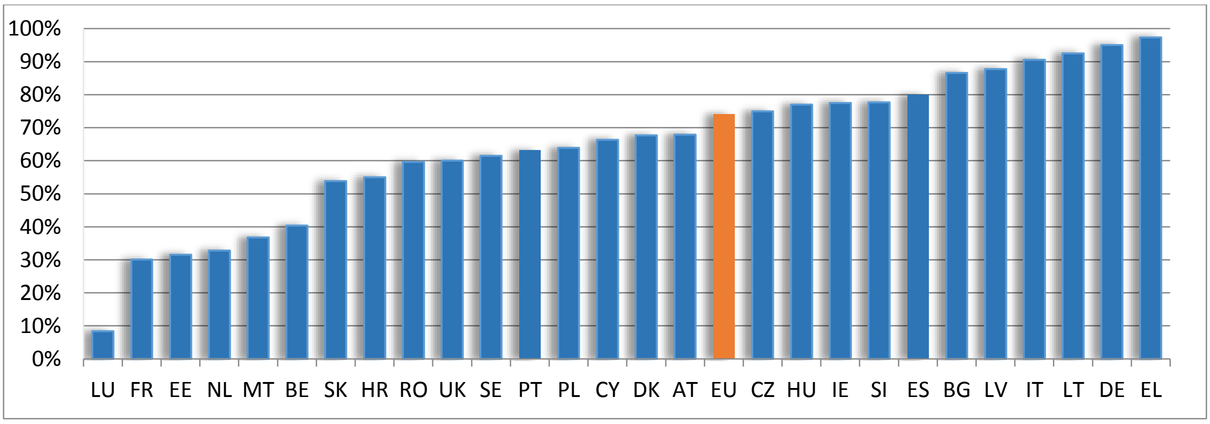
Source: Euro Barometer, January 2014

Note: Above results are based on household survey and therefore they reflect the consumer perception.

2.3 Bundle diversity

Among European countries different types of bundles can be observed. A first possible distinction among bundled offers is based on the number of combined services: double-play, when two services are jointly offered or multiple-play bundles with 3 or more services (fixed and/or mobile). The proportion of double-play bundles among European countries varies significantly (see Figure 6), For Luxembourg, most bundled offers have at least 3 services included, while in Greece almost all bundles are double-play (97%).

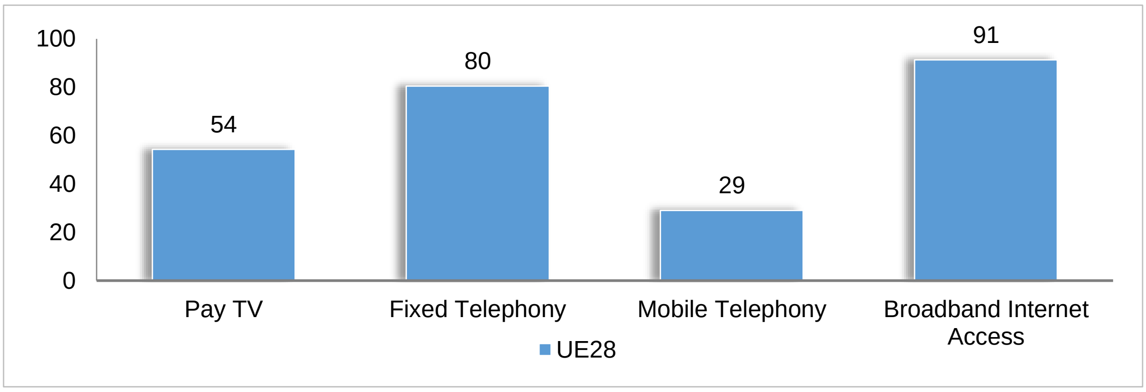
Figure 6 - Proportion of double-play bundled offers per country (2013)



Source: EC, Digital Agenda 2014

The E-Communications Household Survey, published in June 2014, showed that most bundles in the EU28 included Broadband Internet Access (91%)[10] and Fixed Telephony (80%), while Pay TV service is a component of 54% of the bundles and only 28% registered mobile services in a bundle (see Figure 7). This survey did not consider Mobile Internet Access as a separate service to be included in a bundle. However, it showed that 52% of the mobile telephony users have mobile phone subscriptions or pre-paid arrangements that allow them to access the Internet.

Figure 7 - Services included in *multiple-play offers,* EU28 (residential only)



Unit: %
Source: Euro barometer, January 2014.

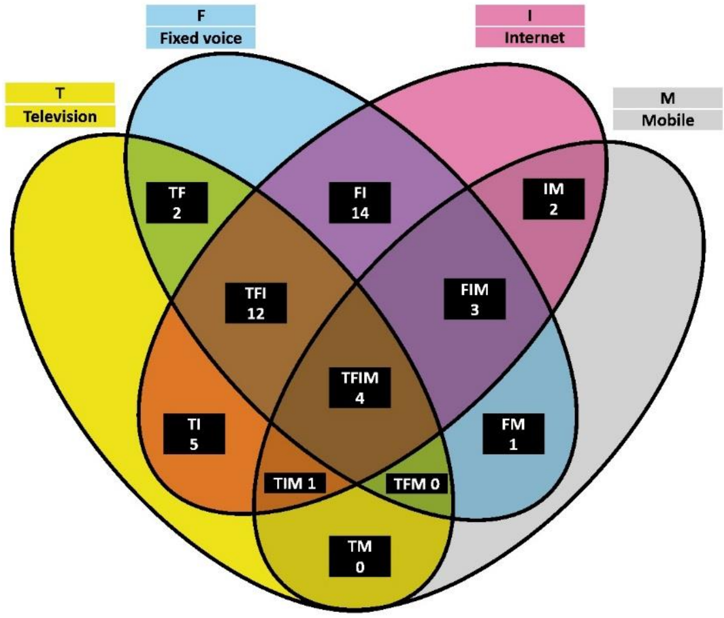
Base: Households with *multiple-play* bundles.

Note: Above results are based on household survey and therefore they reflect the consumer perception.

In general, when considering n services, the possible number of bundled offers is equal to $2^n - n - 1$, so in the case of 4 distinct services – Pay TV (T), Fixed Voice (F), Internet Access (I), and Mobile Voice (M) – there are 11 possible bundles. According to Euro Barometer, only two bundles (FI and TFI) have a percentage higher than 10% (see Figure 8). If the 5 basic services were considered, all combinations of 2, 3, 4 or 5 services would yield 26 different bundles.

[10] In the Eurobarometer Survey Internet Access includes both fixed and mobile broadband services.

Figure 8 – Bundles of four communication services in 100 European households (2014)



Source: BMK-EWG elaboration of data from Eurobarometer

Note: Pay TV (T), Fixed Voice (F), Internet Access (I), and Mobile Voice (M).

According to Eurobarometer, almost half (46%) of the EU households surveyed purchased bundled communications services, which means an increase of 3 percentage points since December 2011[11].

The same study showed that the most popular bundles[12] subscribed by EU28 households are:

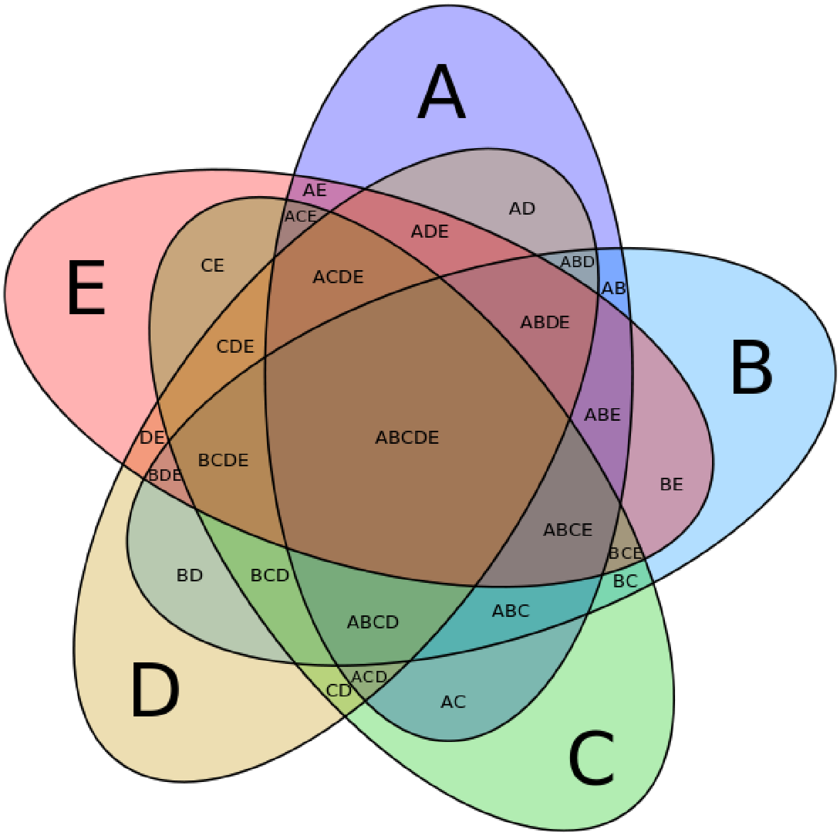
a) Fixed Voice + Internet Access: 14%
b) Fixed Voice + Internet Access + Pay TV: 11%
c) Pay TV + Internet Access: 5%
d) Fixed Voice + Internet Access + Pay TV + Mobile Voice: 4%
e) Fixed Voice + Internet Access + Mobile Voice: 4%

A further split of mobile services into Mobile Voice and Mobile Internet leads to 5 different services – Fixed Broadband (A), Fixed Voice (B), Pay TV (C), Mobile Voice (D), and Mobile Broadband (E) – a total of 26 possible bundles (see Figure 9). Based on the data[13] from the

[11] "QB.19. By bundle, we mean a combined package offering more than one communication service from the same provider at an overall price. Has your household subscribed to two or more of the following services as part of a bundle?" Eurobarometer considers only 4 services in this questions: TV channels, fixed line telephone, mobile telephone and Internet access.
[12] "QB19. Has your household subscribed to two or more of the following services as part of a bundle?"
[13] Collected data have slightly different timeframes (third quarter 2014, October 2014, end of 2014, etc.) but, for the purpose of the present analysis, we can consider them as homogenous.

BEREC (BMK EWG) questionnaire, the incidence of each bundled service was evaluated among different countries. In Figure 9 this means evaluating each ellipse (i.e. for each service) and the intersection areas (i.e. the bundled offers) in respect to the whole area (i.e. the total subscriptions).

Figure 9 – Bundled offers of five services



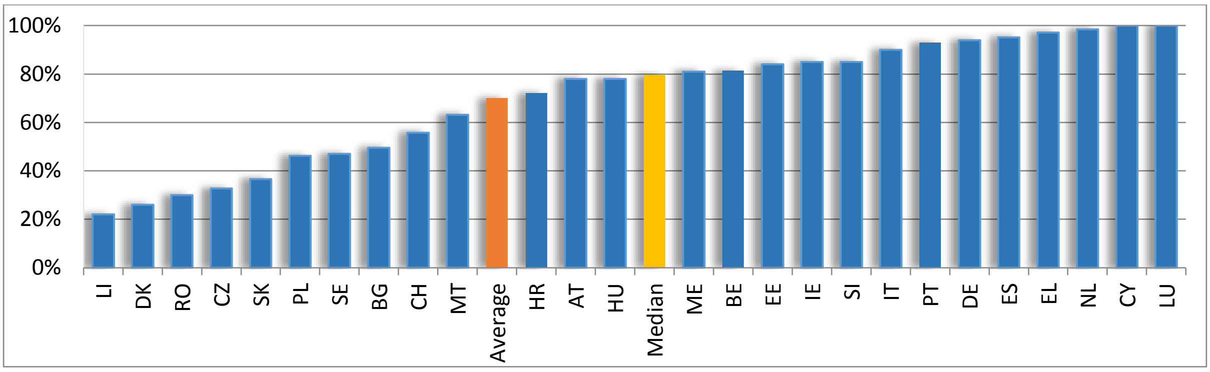
Source: Branko Grünbaum

Looking at the percentage of each service provided in a bundle with other services[14], it was identified that Fixed Broadband Internet and Fixed Voice were the major services offered.

Regarding Fixed Broadband (see Figure 10), in Luxembourg and Cyprus, this service is always bundled with other services (100%), while in Liechtenstein roughly 1 out of 5 Fixed Broadband subscriptions is included in a bundled offer. On average, 70% of Fixed Broadband subscriptions in the EU are bundled with other services, while the median is 80%.

[14] Calculated as the number of service subscriptions that are bundled together with any other service, divided by the total number of total subscriptions of the service (bundled and standalone).

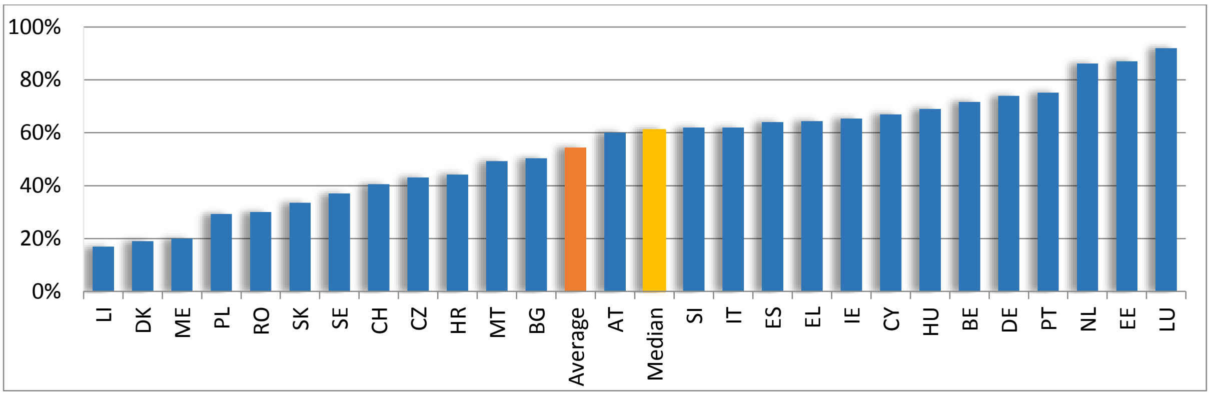
Figure 10 - Proportion of Fixed Broadband subscriptions bundled with other services per country (2014)



Source: Data collection by BMK-EWG in January 2015

For Fixed Voice (see Figure 11), Luxembourg has the highest proportion of this service in a bundle (92%), while the proportion is the lowest in Liechtenstein (17%). On average, 54% of voice subscriptions are included in a bundle.

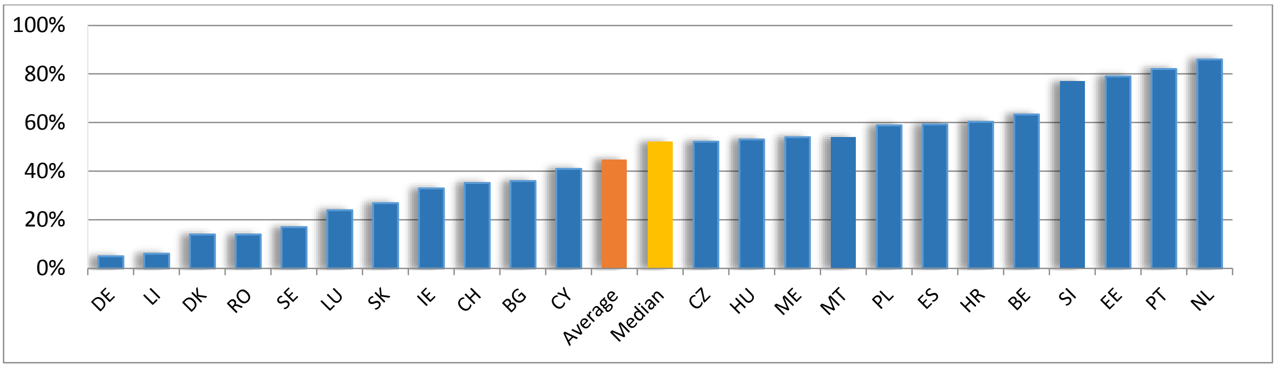
Figure 11 - Proportion of Fixed Voice subscriptions bundled with other services per country (2014)



Source: Data collection by BMK-EWG in January 2015

Regarding Pay TV (see Figure 12), in the Netherlands the proportion is almost double the European average (86%) in. On average, 45% of Pay TV subscriptions in the countries that responded to the questionnaire are bundled with other services.

Figure 12 - Proportion of Pay-TV subscriptions bundled with other services per country (2014)

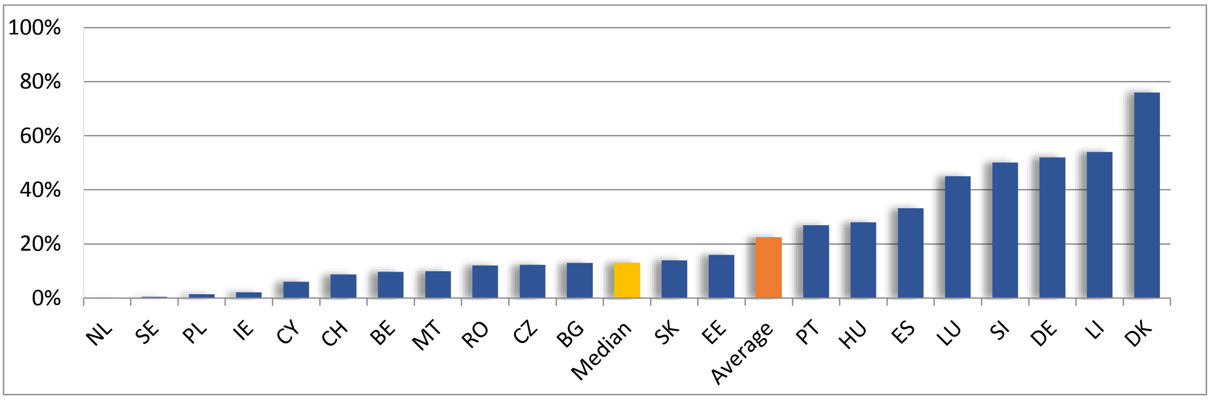


Source: Data collection by BMK-EWG in January 2015

Data not available for Greece.

In Denmark, most Mobile Voice subscriptions (see Figure 13) are bundled with other services (76%), but in 8 countries the proportion is equal to or less than 10%.

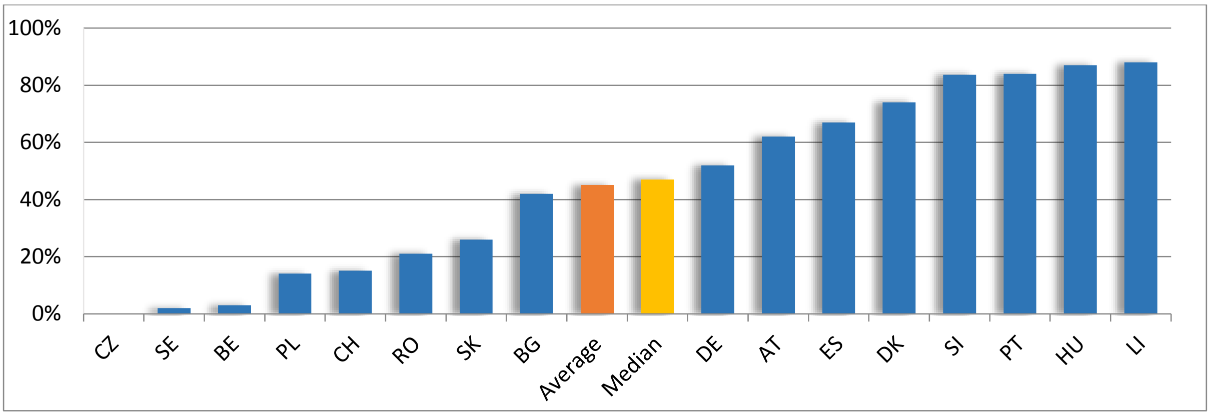
Figure 13 - Proportion of Mobile Voice subscriptions bundled with other services per country (2014)



Source: Data collection by BMK-EWG in January 2015

Finally, bundled offers are very common among Mobile Broadband subscribers (see Figure 14) in Liechtenstein (88%), while they are not present in the Czech Republic.

Figure 14 - Proportion of Mobile Broadband subscriptions bundled with other services per country (2014)



Source: Data collection by BMK-EWG in January 2015

It should be noted that not all the Benchmark-countries split mobile services into Mobile Voice and Mobile Broadband. The proportion of mobile services (voice and broadband) show on the chart above only refers to those countries which provided a breakdown between the two mobile services.

3. Current bundle definition and bundling indicators collected

With reference to the European Digital Agenda, the EC applies the following definition:

- 'Bundled offer' means a commercial offer of two or more of the below services marketed as a single offer and offered for a single price. Services include (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony (4) Mobile Broadband and (5) Pay TV (Mobile TV should not be included).

Based on this definition, currently the EC collects the following indicators:

a. The **number of subscribers** for the various bundle sizes (**2-Play, 3-Play, 4-Play** and **5-Play**). The combination of these bundle sizes is based on the following services; (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony, (4) Mobile Broadband and (5) Pay TV (Mobile TV should not be included).

3.1 Bundle definition

A questionnaire was launched in early 2015 to gather information from NRAs to determine what kind of data they currently collect on bundles. As a result, 34 NRAs replied to the questionnaire.

NRAs were asked whether they follow the EC definition. Only 3 NRAs said that they don't collect anything (or use an alternative definition). 17 NRAs replied that the definition they use is not different (or very minor changes are applied) from the one used by the EC (see Figure 15).

The remaining NRAs stated that in general they use this definition, but with some additional elements. The major adjustment related to the consideration of Mobile Voice and Mobile Broadband as one service and not separate services (10 NRAs). Another adjustment (3 NRAs) was the consideration that it is a bundle when a customer buys two separate services from the same provider (with price discount, compared to the sum of "stand alone" prices).

Figure 15 – Bundle definitions – deviations across countries

	Countries	# of Countries
Stricter than EC definition		2
Single invoice	CH, PT	2
EC definition or very similar	**BG, HR, DK, EE, DE, EL (**), HU, IS, LV, LT, RO, RS, SK, ME, ES, SI, SE**	**17**
Less strict than EC definition		8
No single price	BE	1
Less products (*)	FR, IT, LI, MT, PL, CY, NL	7
More strict than EC definition		1
Price discount	AT	1
MIX more strict (+) and less strict (-)		**3**
Single invoice (+), no single offer (-) and less products (*) (-)	IE	**1**
Price discount (+) and less products (*) (-)	CZ	**1**
Price discount (+) , less products (-) and no single price (-)	LU	**1**
Not applicable or quite deviating	*FI, UK, NO*	***3***

Source: Data collection by BMK-EWG in January 2015

(*) no breakdown between Mobile Voice and Mobile Broadband as part of Mobile Telephone.
(**) Only IPTV. No Satellite TV.

Regarding the services subject to debate in this document, the following services are taken into consideration:

1. Fixed Voice (FV) (sometimes referred to as Fixed Telephony) – includes the publicly available telephone services and managed VoIP. 'Peer-to-peer' VoIP services, simple reselling and calling cards should be excluded.

2. Fixed Broadband (FBB) - defined as having a capacity equal to or higher than 144 Kbit/s.

3. Mobile Voice (MV) (sometimes referred to as Mobile Telephony).

4. Mobile Broadband (MBB) - refers to third generation technologies (3G) and higher speed mobile technologies (i.e. HSPA or LTE), while excluding GSM/GPRS technologies. Terminal capabilities and the number of terminals simultaneously connected to a cell are affecting speed. For this purpose, the advertising speed is what matters, once the operator provides data on the number of customers that subscribed to an advertised bundle with mobile broadband.

5. Pay TV (TVS) - include terrestrial, satellite, cable and IPTV. Web TV and Mobile TV are not included, even if some operators are offering those so called “all screen TV accesses” - available for TV sets, PCs, laptops, smartphones or tablets - as a distinct offer. These additional services are at the moment considered as Content and Application Providers (CAPs) services.

3.1.1 Problems with the heterogeneity of bundle definitions

With respect to question 2[15] in the BEREC BMK-EWG questionnaire, the majority of NRAs adhere to the EC definition, but there are some which have an additional element, thereby affecting the definitional heterogeneity.

[15] Question 2: “The EC definition for a bundle (Implementation Report, questionnaire A) is the following: ‘Bundled offer means a commercial offer of two or more services of the below services marketed as a single offer and offered for a single price. Services include (1) fixed broadband, (2) fixed telephony, (3) mobile telephony, (4) mobile broadband and (5) pay TV (mobile TV should not be included).’ Do you use such definition in your national data collection? If not, what is your definition?”

The pros and cons of deviations from the EC definition, which could possibly lead to adjustments to the EC definition, are described below.

3.1.1.1 Less products are considered – no breakdown between Mobile Voice and Mobile Broadband

Based on the previous section it is clear that the major factor or challenge is that Mobile Voice and Mobile Broadband are considered together and not as separate services.

Mobile Broadband, especially broadband via mobile phone is not always considered as a separate service from Mobile Voice. Some NRAs (10) consider these two services as a single service, while the majority (19 out of 31) consider them as a double-play bundle.

Currently, Mobile Broadband is available in operator's commercial offers as follows:

- Included in Mobile Voice tariff plans available on (smart)phones

  These tariff plans are pure bundles[16]: the single price allows access to 2 services, which cannot be bought separately;

- As an extra-option for Mobile Voice tariff plans available on (smart)phones

  In this case, the 2 services are tied together[17]: Mobile Broadband is bought as an extra-option for Mobile Voice tariff plans;

- As a standalone product, available for tablets/dongles.

Based on the definitions of ITU and EC, the services included in the bundle definition are (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony (4) Mobile Broadband and (5) Pay TV. Thus, Mobile Broadband is clearly considered as a separate service.

Having regard the above mentioned there are several aspects in favour of Mobile Broadband as a separate service. These are as follows:

- Some NRAs consider Mobile Voice & Mobile Broadband (via dongle/tablet) as a bundle. Hence, the same follows for Mobile Broadband via mobile phone since the service provided is the same, but through a different device.

[16] Pure Bundling occurs when consumers can purchase only the entire bundle and not the single services separately.
[17] Tying occurs when the purchase of one service is conditional on the purchase of another service.

- The EC bundle definition states that it is a bundle when the package is a commercial offer of two or more services marketed as a single offer and offered for a single price. Therefore, Mobile Broadband can be considered as a service, part of the bundle, since it encompasses one service (Broadband) with another one (Voice), for a single price.

- NRAs shouldn't look into the product with a commercial perspective, but rather focus on the services included in the offers which are in fact the services that the customers subscribe to. The consumers' perspective should prevail and we must look into the product from the service point of view included in the offer. Even in case of tied products, both mobile services must be accounted as separate services if the bundled offer includes a certain amount of mobile internet traffic and a number of minutes, which doesn't imply an additional payment or subscription.

- Mobile Voice and Mobile Broadband, when tied, can be considered as a double-play by the NRA, when collecting data.

- Some countries still have voice and broadband services sold separately. For example, in Portugal and Spain, there are still a few offers in the prepayment segment which initially offer voice only.

- By not making a distinction between mobile voice and mobile broadband, these countries do not have quintuple-play bundles.

- Considering only one mobile service (including both voice and broadband services) would go against the principle of neutrality to the extent that in fixed services voice and broadband are considered different services in the bundle context.

- The degree of substitutability between the fixed broadband (FBB) and the mobile broadband (MBB) services is still somewhat limited.

On a similar note, there are arguments supporting the view that Mobile Broadband should not be considered as a separate service:

- From a marketing point of view, the provider doesn't consider Mobile Broadband and Mobile Voice as a bundle when mobile broadband is included in Mobile Voice tariff plans.

- Mobile services offered for a single price within a tariff plan available on (smart)phones generally include voice, internet and other services (e.g. SMS, MMS, video calls) and are being considered by operators as one whole pack. Also in some countries Mobile Voice-only subscriptions are not available anymore, both monthly subscriptions and pre-paid plans include mobile internet by default, as part of the mobile service.

- Considering Mobile Voice and Mobile Broadband as a bundle is counterintuitive from the point of view of operators. Including both services as a single mobile service avoids the risk of misunderstanding and therefore avoids mistakes in the data collection.
- If we had to consider all Mobile Broadband packages (offered with Mobile Voice) as a bundle, it would automatically increase the number of bundled packages and also boost the mobile (voice and broadband) service.
- It is not necessarily relevant to collect information on bundles which are already very competitive, and this could be the case for mobile bundles in some countries.

These facts still leave room for discussion on how to tackle Mobile Broadband. On one hand, following the definitions and given that the majority of NRAs consider Mobile Broadband as a separate service leads to the fact that Mobile Broadband should be considered separately and hence in a bundle format. On the other hand, given that nowadays most providers offer Mobile Broadband (via the phone) as part of the mobile tariff plans, leads to the fact that in the near future voice only packages will no longer be offered and therefore when we speak about mobile service, it will automatically include broadband which defeats the purpose of separating them.

Which services should be considered as part of a bundle?

The argument discussed above leads to the question of which services should be taken into account.

Based on EC and ITU definitions, the following services can be part of a bundle (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony, (4) Mobile Broadband and (5) Pay TV (Mobile TV should not be included).

In case Mobile Broadband is not regarded as a single service, the number of services would be reduced to four: (1) Fixed Broadband, (2) Fixed Voice, (3) Mobile Service and (4) Pay TV (Mobile TV should not be included).

Therefore, as pointed out earlier, these factors have an impact on the way forward and choosing one option will have an impact on the other options.

For defining the set of indicators on bundles we propose to include both services as a single mobile service (the second scenario), which makes no distinction based on the services offered and consider any offer that integrates Mobile Voice and/or Mobile Broadband. Mobile services should count as one service whether they include only voice, only broadband or both services.

Offers with mobile broadband included (and not mobile voice) should be accounted regardless of the Mobile Broadband Service is used or not. For prepaid, a definition for active user should be considered, as for voice (used in the last 3 months).

Additionally, with the introduction of mobile services in bundles (4P) and considering mobile services as one service, it should be clear that only Mobile Voice and Mobile Broadband (no distinction between computer-based or handset-based connections) are considered. SMS and Mobile TV should not be considered as standalone services.

Also, broadband provided through LTE or other mobile technology at a fixed location should not be considered as a mobile service but a fixed broadband service.

3.1.1.2 Need a single invoice

Single invoicing is one of the advantages of bundled offers. Operators can also easily provide data on customers with a bundle subscription. This way data collection from operators will be easier and more reliable (data directly from their main administration systems).

Nevertheless, these criteria cannot be seen individually, but jointly with others. The invoice can have separate lines for different services, but if those services are not part of a "single offer"/"commercial offer" it can't be considered as a bundle. For example, an operator which does not include Pay-TV in a commercial double-play offer with Fixed Broadband and Fixed Voice, can put the Pay-TV bill on the same invoice with the double-play bundle, but that does not make it triple-play.

However, the invoice can have separate lines for each service included in the bundle. In some countries like Portugal, Romania and Spain, there are operators sending one invoice to their customers with a split of the expenditure of services included in the bundle. These offers are considered as bundles, but still have not integrated the description of the services and offer separate lines for each individual service.

For example, there are combined packages, marketed as a single offer, from one or two different operators, that include two bundles of services in two separate invoices and there is a rebate deducted on one of the invoices. This is the case of Germany, where there are packages combining fixed services and mobile services in the way that e.g. a tariff for a double-play comprising Fixed Broadband + Fixed Voice and Mobile Broadband + Mobile Voice. By subscribing to both offers the customer receives a monthly discount. However, the customer receives two separate invoices, one for each offer and the rebate is deducted on one of the invoices.

In this case, the combined package mentioned above, could be considered as a triple play offer as the combined subscription leads to beneficial conditions that cannot be obtained without the combination (although the consumer receives two different invoices).

3.1.1.3 Need a price discount

Based on the definition, mixed bundled[18] products are also made available as stand-alone, but the sum of the prices when sold separately is usually higher than the bundled price.

Discounts and promotions may be offered in various ways: it may be a free gift when a subscriber contracts a bundle, and in this case the gift is just a “promotion” (a fixed cost for customer acquisition), or it may be offered as a direct discount by contracting to a pack of services, when compared to the alternative of buying services separately and adding up the individual prices. In the second case, the discount is a variable cost, which is permanent in the bundled contract.

However, this may not be so relevant, since these discounts are not always very visible/comparable (e.g. free gifts, retro-active discounts in the framework of a loyalty program, free subscription for a certain number of months when buying more services). Also, prices vary throughout the year and are therefore not reliable base for data collection.

Moreover, operators may need to move away from strategies that focus on discounts. At the beginning discounts may encourage larger numbers of customers to sign up, but this strategy is not sustainable in the long term and will lead to a disaster for revenues. A long-term bundle strategy, mainly with converged offers, needs to be more sophisticated than just discounts (more data or voice allowances, more TV channels, higher speeds, multiscreen access, etc.).

It could be considered that in a bundle the offer has to be subscribed under specific and permanent beneficial conditions (to consumers) that cannot be obtained by adding single play offers together (not necessarily a price discount).

The beneficial condition has to be permanent and should be in place throughout the contract duration. Gifts and temporary discounts or promotions shouldn’t be regarded as beneficial conditions as they are not considered permanent.

It should be clear that for an offer to be considered as a bundle, those offers for which the total invoice amount is equal to the sum of the prices of each separate services, will only be considered as a bundle if the offer in question could not be obtained unless subscribing to the bundle offer.

Beneficial conditions include, in the absence of a monetary discount, for example, large consumption allowances, higher speeds, etc. For example, consider a mixed bundle offer with Fixed Voice and Fixed Broadband, which has the same price as the sum of the two services

[18] Mixed bundling occurs when customers are offered a choice between purchasing the entire bundle (usually at a discounted price) and purchasing the separate components of the bundle.

when bought separately. If the subscriber buys the services in a bundle, he will be granted unlimited voice calls to all networks. However - when purchased separately - a Fixed Voice subscription may, for example, only include 200 voice minutes for free.

3.1.1.4 Need single price

There should be one (monthly) subscription fee for the complete bundle in order to receive the most accurate data on bundles from operators. Furthermore it will be easier for NRA's to compare monthly bundle fees among the EU countries.

Besides, single price is in line with the concept of a "commercial pack" and in line with reality as most commercial packs are offered for a single price.

The single offer criteria underlie the payment of multiple services for a **single price,** proposed by the operator in the offer conditions and agreed by the parties, **regardless of how such a single price is shown in the invoice.**

However, if an offer is **subscribed under conditions that cannot be obtained by adding single offers together, a single price is not mandatory.**

Furthermore, tied services are considered as a bundle (since there is a thin line between tied products and pure bundles[19]), even if the single price criteria is not fulfilled. It refers to situations where customers who purchase one product (the tying product) are required also to purchase another product from the provider (the tied product).

3.1.1.5 Need a single offer

A key feature of bundles is that they are marketed as a single offer. Without this feature it is more difficult to define bundles and to collect data (the scope will be too large).

Customers can pay/order each service separately, but it may not be considered as a bundle since it is not "marketed as a single offer".

It can be considered a **single offer if the offer is subscribed under conditions or prices that cannot be obtained out of the bundle** (either because the services are unavailable

[19] The difference between tying and (pure) bundling is that the tied product is available on a stand-alone basis under tying, but not under (pure) bundling.

individually – pure bundling – or because the bundled offer has certain specific conditions – mixed bundling).

Taking as an example a 3P offer with FV+FBB+TV, when the provider offers additionally a mobile service (with one or more SIM cards) for a discounted price that cannot be obtained out of the package, this should be considered a 4P bundle. The mobile service is subscribed under conditions (lower price) that cannot be obtained by adding single offers together.

3.2 Bundle indicators collected

Currently, for the purpose of the Digital Agenda Scoreboard, the EC collects the **number of subscribers** for the various bundle sizes (double-play, triple-play, quadruple-play and quintuple-play).

The combination of these bundles is based on the following services: (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony (4) Mobile Broadband and (5) Pay TV (Mobile TV should not be included).

However, the information collected by the EC on double-play or triple-play bundles are not very informative as it includes any combinations of services, and major differences could occur among countries. As long as any two services are bundled, they may be considered as double-play.

The ITU's Expert Group on Telecommunications/ICT Indicators (EGTI) agreed to collect subscription data for bundled services starting from the ITU World Telecommunication/ICT Indicators Long Questionnaire 2015 for the following set of bundles:

a) Mobile Voice and Mobile Broadband,
b) Fixed Broadband and Fixed Telephony and
c) Fixed Telephony, Fixed Broadband and Pay TV.

These are only the most common bundles, since they are supposed to be the most popular specific bundles sold, but of course do not represent all bundles across the countries.

The EGTI clarified that bundled services would be counted under the respective bundle indicator (as one) and separately under each category for the services included in the bundle. It applies the new ITU bundle definition mentioned below.

Based on results from the BEREC BMK-EWG questionnaire, 31 out of 34 NRAs collect bundles related information. However, 29% of NRAs do not publish the data, while the remaining NRAs publish a variety of detail in terms of bundled. 12 NRAs publish an overview per bundle size (2-play, 3-play, 4-play and 5-play[20]), while the remaining 10 NRAs publish only certain details of the bundle packages.

From those NRAs that collect the information, 15 publish subscriber data every quarter, 7 semi-annually, 8 annually and 1 NRA collects the information, but does not publish it.

One of the questions dealt with the most common bundles within the country. In total there were 13 combinations and the most common ones were:

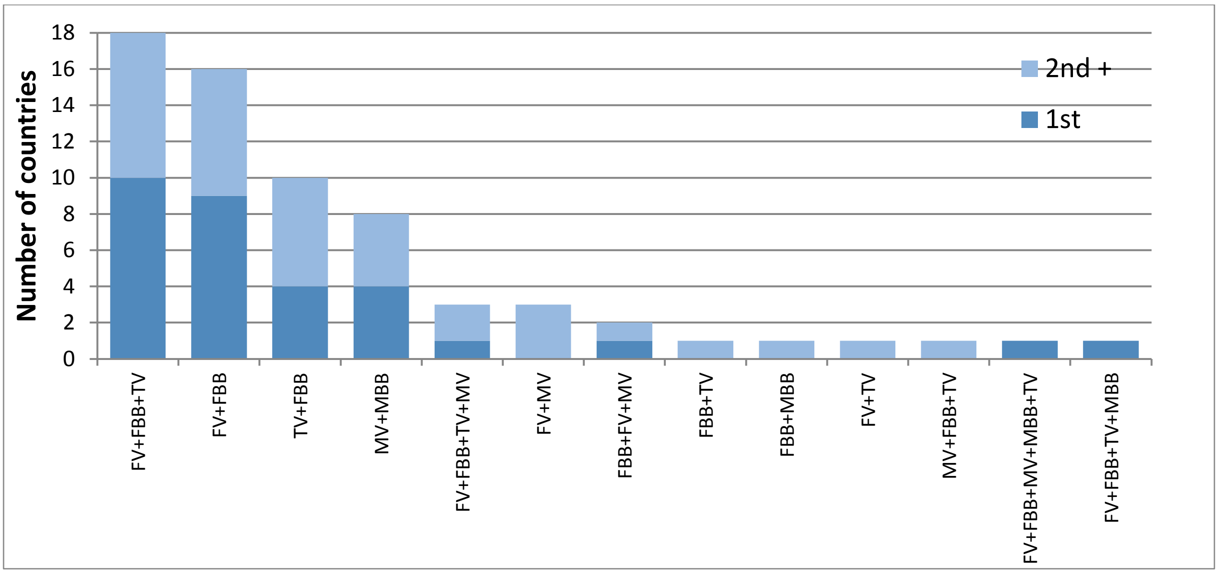
- Fixed Broadband & Fixed Voice & Pay TV
- Fixed Broadband & Fixed Voice
- Fixed Broadband & Pay TV
- Mobile Broadband & Mobile Voice

After triple-play (with Fixed Broadband, Fixed Voice and Pay-TV), double-play (Fixed-Broadband and Fixed Voice or Fixed Broadband and Pay-TV) the most popular in most countries in the survey. Double-play with Mobile services –Voice and Data – is a popular bundle in 10 countries.

Quadruple-play (with Fixed Broadband, Fixed Voice, Pay-TV and Mobile Voice) is the fifth most common bundle offered in the surveyed countries. Quintuple-play (with Mobile Broadband) is the most popular bundle in Portugal.

[20] The data collection by the BMK-EWG in January 2015 includes the 5 services (FBB+FV+MBB+MV+TV).

Figure 16 – Most popular bundle offers in 34 surveyed countries



Source: Data collection by BMK-EWG in January 2015

Further analysis of these data showed that Fixed Broadband and Fixed Voice are the most common services that are combined in a bundle. On the other hand, Mobile Broadband was the least common, especially as not all NRAs separate this service from Mobile Voice.

4. Proposal for a new bundle definition

In order to have comparable data we must have a common bundle definition. We believe that the current EC bundle definition addresses the vast majority of bundles/cases and it would be difficult to take into account all variations across all countries. In this sense, the BMK EWG proposes to adopt a new definition, broader than the one currently in place, to enable the inclusion of offers that may be considered a bundle (and have a high importance in some countries) and with the previous definition (which was narrower) were excluded.

ITU World Telecommunication will include bundle indicators in its ICT Indicators Long Questionnaire 2015 and their definition does not differ significantly from the current EC definition. The ITU's definition of a bundle addresses the following principles: (i) includes two or more services (Fixed Voice, Mobile Voice, Fixed Broadband, Mobile Broadband, Pay TV); (ii) is marketed as a single offer, with a single price for the set of services included in the bundle, with a single invoice; (iii) is subscribed under conditions that cannot be obtained by adding single play offers together.

Starting from the current EC definition and taking into account the evolution of bundle offers over time, we propose to stop the distinction between mobile voice/broadband and to add a range of offers that were so far excluded.

The EC currently considers that*:*

> *'Bundled offer' means a commercial offer of two or more of the below services marketed as a single offer and offered for a single price. Services include (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile Telephony (4) Mobile Broadband and (5) Pay TV (Mobile TV should not be included).*

However, during this exercise, **the EC position is for a broader definition** that covers all multiple-play offers, which will be targeted in the future. In the opinion of the EWG there is a need for further analysis in order to determine if such goal is feasible.

Moreover, a change in the definition to include all multiple-play offers, and not only bundles, has implications on what NRAs are currently collecting and a transitory period is needed for all NRAs adjust their definitions to the new one suggested by the EC. Note that such a dramatic change in the definition might entail costs for operators, creating an issue for many NRAs since they have to comply with the proportionality criterion.

In order to have comparable data between European countries and comparability with previous years' data collections, **we propose to adopt a new definition, broader than the one currently in place**, but not as extensive as the EC suggests.

The main changes suggested are designed to enable the inclusion of offers that may be considered a bundle, and have a high importance in absolute numbers in some countries, and with the previous definition (which was narrower) were excluded.

In this sense, tied services and offers subscribed under specific beneficial conditions that cannot be obtained by adding single play offers together are included in the proposed definition.

"Bundled offers" are commercial offers provided by one or more operators, of two or more of the following services: (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile services (voice and/or broadband) and (4) Pay-TV. "Bundled offers" are either:

a) **Pure bundles**, comprising services that are unavailable individually;

b) **Combinations of tied and tying services**, consisting of a service ("tying service") that can only be purchased in connection with another service ("tied service"). The purchase of the former is conditional on the purchase of the latter but not vice versa;

c) **Mixed bundles**, combining services that are available individually, while the operator(s) provide(s) an incentive for buying these services jointly by granting the customer permanent beneficial conditions (i.e. throughout the joint purchase duration) that cannot be obtained by purchasing these services separately. Permanent beneficial conditions may include discounts *(e.g. a single discounted "pack" price or a discount that applies to a certain service conditional to the purchase of another service)* and/or non-monetary benefits *(e.g. enhanced data consumption allowances)*. Gifts and temporary discounts or promotions should not be regarded as beneficial conditions.

5. Types of bundles to collect and criteria

The aim is to improve the set of indicators currently collected (by the EC) by obtaining information on the relevant combinations of double-play (2P), triple-play (3P) and quadruple-play (4P) bundled offers.

Breaking down the statistics by type will undoubtedly improve the information provided.

It would be desirable to collect all 11 possible service combinations. Taking into account the four single services (Fixed Broadband, Fixed Telephony, Mobile Services and Pay-TV), it would count 11 possible combinations.

As an alternative, a sample of the most frequently contracted bundles can be selected to the collection (alternative B, below).

The number of subscribers has been collected from the perspective of the household, while the fixed services are considered as the core element of the bundle. For example, a 4P offer with Fixed Broadband, Fixed Voice, Pay-TV and 3 SIM cards for Mobile Voice, would count as a 4P offer, with four different services, regardless the number of SIM cards included in the offer.

Another approach was analysed in order to capture the individual point of view (mobiles subscriptions), with the objective to measure the evolution of fixed mobile convergence.

Based on the previous chapters we analyse **several alternative** sets of indicators, in order to improve the current bundling indicators collected in the context of the European Digital Agenda.

Proposals for collection (alternatives):

- **Alternative A:**

Collect all types of combinations, 4 final services grouped in sets of 2, 3, and 4 packs: total of 11 combinations. Afterwards, we can group the indicators as we wish.

Bundled subscriptions that include mobile services (voice and/or broadband), are accounted regardless of the number of SIM cards included in the bundled offer (e.g. a 4P offer with up to 4 SIM cards for the whole family are accounted as one 4Play bundle).

An advantage of this data collection proposal is that it shall be **possible to construct any measure of interest** or indicators with the information gathered. For example, it shall be possible to know the percentage of total Pay-TV subscriptions that are bundled, in any combinations. Also it shall be possible to make proportions based on the total amount of bundles sold in the market, or based only on the total amount of fixed network services bundled on the market.

Another advantage of this approach is that **it allows tracking closely the bundling dynamic**, **the evolution of bundle consumption over time**, **which services are being purchased in a bundle and which new bundles are emerging**. Moreover, it allows to better understand the **evolution of converged offers**.

By having all possible combinations there is few risk of lack of information of a certain bundle that may become widespread. This alternative allows to highlight the possible differences between countries in the most popular bundle categories.

The main disadvantage of this approach is the high number of indicators. However, operators may not offer all the possible 11 bundle combinations and most of them shall be left blank. In this sense, NRAs are free to ask for the combination that applies in each country (ensuring that all bundles offered are considered).

- **Alternative B:**

Collect the most common bundles, i.e., the most frequently contracted bundles. Based on the evidence gathered from NRAs, and considering mobile services as one single service, these are:

- Fixed Voice and Fixed Broadband
- Pay-TV and Fixed Broadband
- Fixed Voice and Pay-TV
- Fixed Voice, Fixed Broadband and Pay-TV;
- Fixed Voice, Fixed Broadband, Mobile Service
- Fixed Voice, Fixed Broadband, Mobile Service and Pay-TV

- Other types of bundles (please describe which services are included)

Bundled subscriptions that include mobile services (voice and/or broadband), are accounted regardless of the number of SIM cards included in the bundled offer (e.g. a 4P offer with up to 4 SIM cards for the whole family are accounted as one 4Play bundle).

A small number of indicators may be easier to collect for NRAs. However, it can’t be assumed that a reduction in the number of indicators implies less of a burden on operators than alternative A. If an operator has the data for these eight bundle types they also have the same data for the other bundle types offered.

The disadvantage of this smaller sample is that it can exclude other types of bundles from the collection that at the moment do not have significant subscriber base, but may become more widespread in the future.

The most common bundled offers do not enable us to evaluate the increased competition in the converged services, since there are some bundle types with fixed and mobile services that are not included in this collection.

The trend in technology convergence has increased competition between services and platforms which result in new commercial offers based on bundles. New types of bundled offers are emerging, including mobile services, which can be excluded from collection. In Portugal, the proportion of triple-play offers (with Fixed Broadband, Fixed Voice and Pay-TV) in the total number of bundle users decreased by 21 percentage points between 2012 and 2014. This reduction was due to the emergence of new 4-Play bundled offers including mobile services from 2013.

In terms of dynamic consistency and possibilities to track closely the bundling intensity, alternative B seems less attractive.

- **Alternative C:**

In order not to mix households point of view (fixed subscriptions) and individual point of view (mobiles subscriptions), two sets of indicators could be collected with the objective to measure the fixed mobile convergence evolution:

Fixed access indicators:

- Number of 2P subscriptions
    - of which number of fixed subscriptions bundled with at least one SIM card
- Number of 3P subscriptions
    - of which number of fixed subscriptions bundled with at least one SIM cards
- Number of 4P (fixed subscription bundled with at least one SIM card)

- Total number of fixed bundle subscriptions
    - Of which number of Pay TV subscriptions bundled to other services

These indicators allow both to know the number of fixed bundles and the breakdown by number of services regardless of the number of mobile plans.

Mobile access indicators

- Number of mobile SIM Cards including voice and/or broadband service and which are bundled to at least one fixed service

This indicator allows to know the number of mobile subscriptions tied to fixed subscriptions.

This proposal lacks the detail to monitor the bundle retail market and track closely the bundling dynamic. This is even more important as the penetration of bundles is increasing at different paces among European countries and a closer monitoring would be essential.

On the other hand this approach enables us to collect the total amount of bundle offers subscribers, by bundle size and the amount of bundled converged subscribers (in the last case with both households and individual perspectives).

- **Alternative D:**

A mix of **Alternative A and the mobile access indicator from alternative C.**

This alternative enables us to have both views – household point of view and mobile accesses. It also enables us the collection of data on the number of SIM cards tied with fixed services.

To clarify how a bundle offer should be counted according this alternative, here are some examples:

a) Example 1: If I have a 4P bundle with FBB+FV+TV+M and this offer includes 4 SIM cards (with MBB+MV):

It should be counted as:

- From the HH point of view (indicators from alternative A):

Quadruple-Play	FV+FBB+M+TV	**1**

**It counts as one bundle no matter how many SIM cards are included in the offer.*

- Mobile access indicators (from alternative C):

- Number of mobile SIM Cards including voice and/or mobile broadband bundled to at least one fixed service: **4**

b) Example 2: If I have a **3P bundle with FBB+FV+M** and this offer includes **2 SIM cards** (with MV):

It should be counted as:

- From the HH point of view (indicators from alternative A):

Triple-Play	FV+FBB+M	1

**It counts as one bundle no matter how many SIM cards are included in the offer.*

- Mobile access indicators (from alternative C):
  - Number of mobile subscriptions including voice service and/or broadband bundled to at least one fixed service: **2**

6. Conclusions

We consider **Alternative D**, which is based on alternative A plus one additional indicator for mobile access (from alternative C), as set above, is the one that best fits our goals. This alternative is more flexible than B or C, as it allows tracking closely the bundling dynamics, the evolution of bundles consumption over time and services purchased in a bundle. Otherwise, this is an improvement on what is currently collected by the EC.

By having such level of granularity we will be able to better benchmark across countries, which would not be the case with alternative B, C or with the current bundle data collection.

The EC aims to have the total number of bundles subscribers and to understand the dynamic of the converged offers so, alternative A is the one that better fulfil these requirements. Nevertheless, in order to have the number of mobile SIM Cards from the individual point of view, in the case of several mobile subscriptions bundled with fixed services, additional indicators should be collected which leads to **Alternative D**.

Additionally, there are some changes on the bundle definition in order to enhance comparability among national data in benefit of Member States and the EC and also to enable the inclusion of other offers that may be considered as a bundle (and have a high importance in some countries), but with the previous definition (which was narrower) were excluded

Taking into account that the majority of NRA's have expressed the need for extra-time in order to implement the new definition into their regular data collection, we propose **trial the data gathering process** (based on the new set of indicators and definition) **in January 2016** (for the 2016 Digital Agenda Scoreboard), which would allow issues to be identified, and then **fully implement the new set of indicators for the 2017 Digital Agenda Scoreboard**.

The previous analysis leads to the following set of indicators to be collected and definition to be applied:

- <u>The analysis of the report suggests the following "bundled offer" definition</u>:

"Bundled offers" are commercial offers provided by one or more operators, of two or more of the following services: (1) Fixed Broadband, (2) Fixed Telephony, (3) Mobile services (voice and/or broadband) and (4) Pay-TV. "Bundled offers" are either:

a) Pure bundles, comprising services that are unavailable individually;

b) Combination of tied and tying services, consisting of a service ("tying service") that can only be purchased in connection with another service ("tied service"). The purchase of the former is conditional on the purchase of the latter but not vice versa;

c) Mixed bundles, combining services that are available individually, while the operator(s) provide(s) an incentive for buying these services jointly by granting the customer permanent beneficial conditions (i.e. throughout the joint purchase duration) that cannot be obtained by purchasing these services separately. Permanent beneficial conditions may include discounts (e.g. a single discounted "pack" price or a discount that applies to a certain service conditional to the purchase of another service) and/or non-monetary benefits (e.g. enhanced data consumption allowances). Gifts and temporary discounts or promotions should not be regarded as beneficial conditions.

- <u>Indicators to be collected</u>:

1 - Number of total (residential and non-residential) subscribers of bundled offers, from the households point of view (fixed subscriptions), detailed by the exact combination of services included in each type of bundle.

Double-Play	Total Double-Play
	FV+FBB
	FV+TV
	FV+M
	FBB+TV
	TV+M
	FBB+M
Triple-Play	**Total Triple-Play**
	FV+FBB+TV
	FV+M+FBB
	FV+M+TV
	FBB+M+TV
Quadruple-Play	FV+FBB+M+TV
Total	

FV: Fixed Voice Service
FBB: Fixed Broadband Service
TV: Pay-TV service
M: Mobile Service (includes Voice and/or Broadband)[1]

[1] *Mobile services should count as one service whether they include only voice, only broadband or both services. Only two mobile services are considered: voice and data (no distinction between computer-based or handset-based connections).SMS and Mobile TV are not considered as standalone service for bundle purposes.*

Mobile subscriptions should be considered regardless if the Mobile Broadband Service is used or not. For prepaid, a definition for active user should be considered, as for voice (used in the last 3 months).

Bundled subscriptions that include mobile services (voice and/or broadband), are accounted regardless of the number of SIM cards included in the bundled offer (e.g. a 4P offer with up to 4 SIM cards for the whole family are accounted as one 4Play bundle).

2 - Number of mobile (residential and non-residential) subscribers of bundled offers, from the individual point of view (Mobile SIM cards):

- Number of mobile SIM cards including voice and/or mobile broadband bundled to at least one fixed service

Annex A

Indicators on Bundles - Questionnaire

Due by 29th January 2015

In the last few years, bundles became the most popular offer among consumers. On the supply side, operators have been increasing the number of services included in the bundles. In several countries 4- play and 5- play bundles (that combine fixed and mobile services) are becoming the most common form of contract. Current existing indicators on bundling at the European level lack the detail that is needed to monitor the latest developments in retail markets.

The objective of this work stream is to update and improve the current set of indicators on bundles to better reflect the more complex bundles that are being offered in different EU countries (e.g. 4P and 5P offers).

As a first step, we propose to launch a brief questionnaire to all NRAs, in order to collect data for the report.

NRA: ***Responsible person and e-mail:***

Please note that all questions refer to retail services.   ***In this context services include:***   ***Fixed voice (FV)***   ***Fixed Broadband (FBB)***   ***Mobile Voice (MV)***   ***Mobile Broadband (MBB)***   ***Pay TV (TV)***

Data collection on bundles

1. Do you collect information on the number of bundles regularly from operators? If yes, with which periodicity: yearly, quarterly, others?

2. The EC definition for a bundle (Implementation Report, questionnaire A) is the following:

   ‘*Bundled offer means a commercial offer of two or more services of the below services marketed as a single offer and offered for a single price. Services include (1) fixed broadband, (2) fixed telephony, (3) mobile telephony, (4) mobile broadband and (5) pay TV (mobile TV should not be included).*’

   Do you use such definition in your national data collection? If not, what is your definition?

3. According to your definition, Internet *via* mobile phone (not a dongle), when offered in a bundle with mobile voice is considered a double-play? How do you treat the mobile internet via mobile phone in a bundle context? (eg. MV+MBB; Included in Mobile Voice; …)

4. Which indicators regarding bundle offers do you collect from operators? And which <u>bundle disaggregation</u> do you have on your questionnaires? Please mention all items and detail the exact combination of services included in each type of bundle.

5. Do you collect data on specifically the 4-play (mobile voice and data and fixed voice and data) and the 5-play bundles (the 5-play including as well pay TV)?

6. In your statistical reports what detail of bundle disaggregation do you publish? Please mention main categories.

7. Do you collect the number of subscribers by individual services (fixed broadband, fixed voice, pay-TV, mobile voice, etc)? If yes, these numbers include the subscribers of each service when provided in a bundle?

8. Which is the percentage of each service provided in a bundle with other service:

   a) Fixed Broadband ______________________
   b) Fixed Voice Telephony __________________
   c) Pay TV ________________________________
   d) Mobile Voice ___________________________
   e) Mobile Broadband (includes internet on the mobile phone and/or dongles) _________
   f) Other (please describe) _________________

9. Which are the most popular bundles in your country?

10. There are converged operator in your country providing fixed and mobile services in a bundle? How many?
