

# **Draft BEREC Report on Special Rate Services**

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## 1 Introduction

1. This BEREC document looks at 'special rates services'. The purpose of this document is to offer guidance to NRAs on the regulatory options available in circumstances where competition problems arise in the provision of calls to 'special rate services' on a national level.
2. When an end user chooses a fixed or mobile operator for using electronic communication services, some of the services have fixed monthly rates, while others have usage-based rates. An example of rates based on usage are rates calculated on the basis of voice minutes, offered within or outside a bundle of minutes that does not provide unlimited calling for a fixed fee. Another example of rates based on usage is SMS text messaging. Some of these usage-based rates are frequently used and concern standard usage. This concerns calling to fixed numbers and mobile numbers. Other usage-based rates are relatively less used, non-standard and therefore called "special rate services" (SRS) in this document. A lot of special SRS concern value added services (VAS) among which information services. Examples are free and paid information services, mainly to access contests, helpdesks, ticket ordering, subscription purchasing, TV voting lines, adult entertainment services, chat lines and directory inquiry services.
3. This BEREC document focuses on special rate fixed and mobile *voice calling to service providers* (SPs). SPs are firms that deliver services over an electronic communication network. Unless it is indicated otherwise, SRS in this document concerns voice calling to SPs. A great part of the calls made, are calls to value added services and premium rate services. SRS is a broad definition that contains a lot of services. Not all the features and problems of these services discussed in this document may be relevant for all these services. Calling to certain numbers may have special features or may lack certain general problems depending on national circumstances. Therefore, the guidance that is given in this document does not necessarily apply to all SRS and it is up to individual NRAs to decide if and where the guidance of this document is applicable based on national circumstances. In the end of the document we also briefly address other SRS, like premium SMS services (see paragraph 75 and 105).
4. SRS currently seem to have a number of problems, for example poor price transparency and high prices (both wholesale and retail). This is the reason that BEREC has investigated this issue. Essential for the assessment in this document is that SRS consist of a service part, which is delivered by the SP, and an electronic communication part, which is delivered by operators offering electronic communication. It is the electronic communication part of the service that is of primary interest for NRAs for electronic communication. If problems occur in the communication part of SRS these will lead to distortions in the offering of the service part of SRS too. Problems with the communication part are within the competence of NRAs.
5. As noted above, the objective of this document is to give NRAs guidance on what can be done if problems occur on national level. This is done by analysing the characteristics of SRS services as they occur in general in the EU and the problematic features and negative effects for consumers that seem to arise in at least a number of countries. For countries that do have these problems, regulatory

approaches are identified and assessed leading to a conclusion on the most promising regulatory approach.

6. Note that, while this paper focuses more on possible price regulation, there are also other regulatory possibilities that may be suitable depending on the particular national circumstances. It should therefore not be assumed that price regulation (or indeed the specific price control advanced as a promising regulatory approach in this paper) is necessarily the preferred solution to all possible SRS competition/consumer issues on an EU-wide basis. However, this document largely concerns problems that transparency measures alone will not solve.

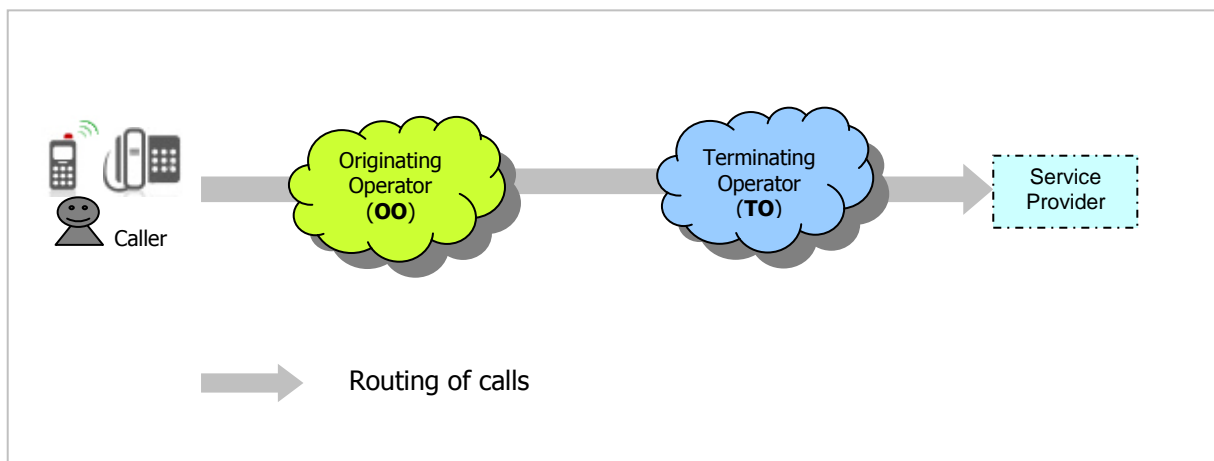
7. Finally the legal instruments that could be used for implementing the regulatory approaches are discussed.

8. The structure of this document is as follows. Section 2 sets the scope of this document and defines most of the terminology used in it. Section 3 looks at the features of SRS, the problems and effects. Section 4 describes the different retail pricing models and their pros and cons. Section 5 identifies possible regulatory approaches and selects the more promising approach in general. Section 6 assesses the available legal instruments. Section 7 summarizes the assessment. Annex A provides data collected on the SRS. Annex B provides references and a list of abbreviations and terminology.

## 2 Value chain, models, terms, definitions

### 2.1 Value chain

9. The value chain for calling to SPs consists of the following main elements:
- the **caller**, that is the end user that initiates the call;
  - the **originating operator** (hereafter: **OO**), to which the caller is connected and which provides call origination services;
  - the **terminating operator** (hereafter: **TO**), to which the service provider is connected and which provides termination services;
  - the **service provider** (hereafter: **SP**), which operates the number and delivers services to the caller. This provider is the party being called;



**Figure 1. Main elements of the value chain: caller, OO, TO, SP.**

10. Furthermore, the value chain might include:
- a **transit operator**, that is positioned between the OO and TO;
  - an **integrator operator** or hosting operator, who can negotiate better conditions with the originating operators and the terminating operators, by aggregating the small volumes of calls each service provider attracts and/or that provides a platform on which SPs could run their services.
11. However, in the remainder of this document we will abstract from the integrator operator considering it as part of the TO. For reasons of simplicity, we abstract from the situation where a transit operator is needed.

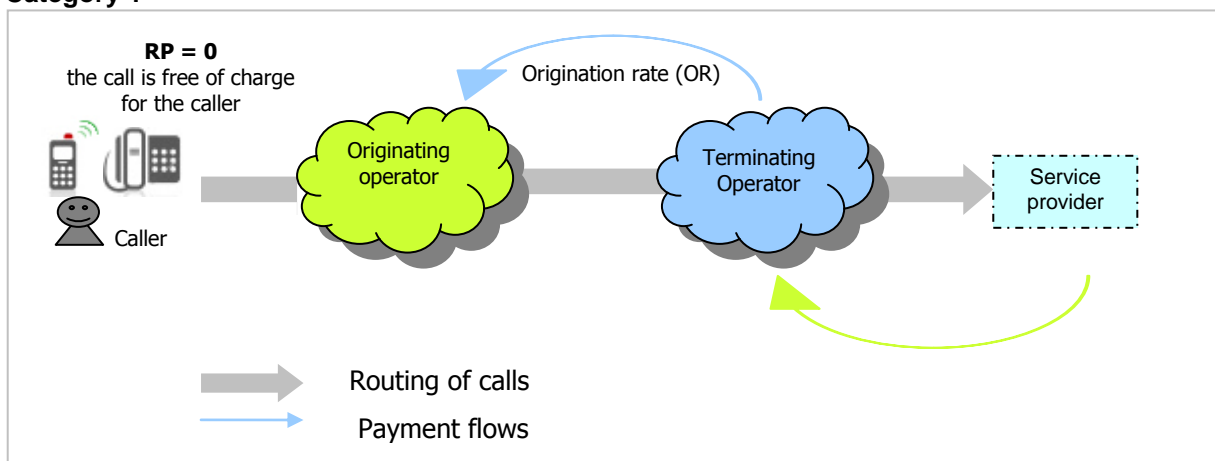
## 2.2 Three categories of net cash flow

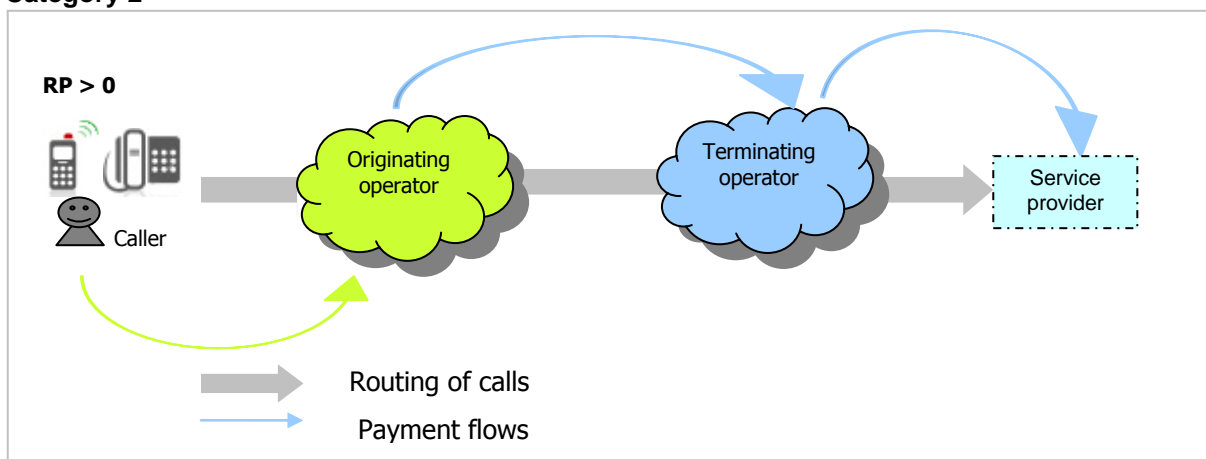
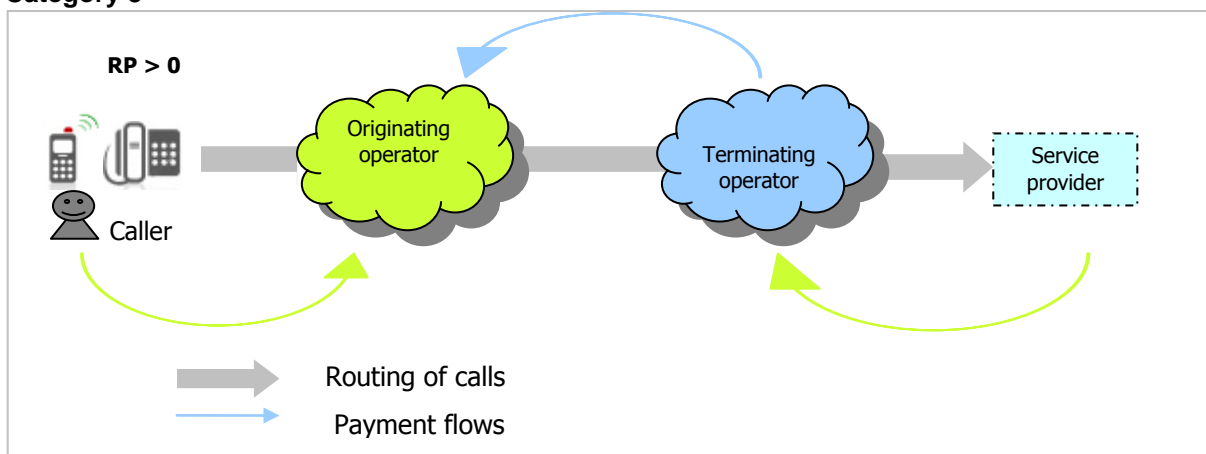
12. Depending on the flow of payments between different players in the value chain, four distinct situations (or categories) are discerned here:

- a. **category 1:** situation in which the caller pays no fee (free services);
- b. **category 2:** situation in which the service is not free for the caller and in which there is a net cash flow from OO to TO;
- c. **category 3:** situation in which the service is not free for the caller and in which there is a net cash flow from TO to OO;
- d. **category 4:** situation in which there is a direct payment from the caller to the SP, through a payment system (like credit card) that is independent from the billing that is done by the OO (this category is not within the scope of this project).

13. In the figure below, the term origination rate (OR) is used. This is defined as any origination payment the TO makes to the OO. The retail price (RP) is defined as the total price a caller pays.

### Category 1



**Category 2****Category 3****2.3 Retail pricing models**

14. On a general level, three main retail pricing models are discerned here. These retail models are independent of the wholesale models that can be used. This section just defines the models and does not address the pros, cons and rationales behind the models. These will be provided in Chapter 4.

**S model**

15. The S model is a pricing model where a user pays a single retail price  $S$ .<sup>1</sup> Usually this price is set by the SP and it means a single uniform price per number. In this case the price  $S$  is independent of the originating network which is used. A price that “is set by the SP” is defined as a price that is chosen and controlled by the SP, although the price is always charged and collected by the OO that has the retail relationship with the caller.

<sup>1</sup> In certain countries the “S” is subjected to a price cap.

**S<sub>f</sub>S<sub>m</sub> model (different S for fixed and mobile)**

16. This model is a variation of the S model. In the standard S model there is one single S, but in this model there is a retail price S<sub>f</sub> for a call originating from a fixed network and a retail price S<sub>m</sub> for a call originating from a mobile network. The price S<sub>f</sub> or S<sub>m</sub> is set by the SP depending on the type of network which is used, but this price would be set independent of the individual originating network which is used. In Portugal this model is used for certain number ranges.

**S' model**

17. In the S' model the OO sets the price of the service. This will usually create a price which depends on the originating network. In this case we speak of a differentiated price S' that is dependent on the originating network.

**A+S model**

18. The A+S model is a retail pricing model where the user pays a retail price (RP) that consists of two elements. The first element A is a retail 'access' charge that can have any level and is set by an individual OO. The second element S is always set by the SP, independent from the originating network. There is only one A for every service package X that an individual OO offers, so A is independent of the special rate number which is called. However, there can be different A's for different operators and service packages. For example a service package X of OO that is targeted at business users could have another A as a package from X targeted at residential users.

**C+S model**

19. The C+S model (like A+S) has two price components. C is the retail 'communication' charge that is equal to the standard communication fee to a national landline. When calling to a landline is provided within a call bundle (fixed amount of calling for a fixed fee), C should be part of the call bundle just as other calls to landlines.<sup>2</sup> Like in the previous model, S is the service charge set by the SP. The C+S model can be considered as a special case of the A+S model.

**2.4 Wholesale pricing models**

20. At the wholesale level sometimes a termination model and an origination model are discerned. However, these models are not fundamentally different and are less important than the net cash flows that are transferred between the different players in the value chain. We do not discuss these alternative wholesale approaches here. Rather, as far as the wholesale level is concerned, we focus on the net cash that is retained (kept) by each player in the supply chain.

21. We define a number of revenues here. First, the originating total revenue (**OTR**). The OTR contains all that is charged by the OO to the TO/SP and retained from the retail revenue, including for example the originating rate and a commission for billing services.<sup>3</sup> The OTR can be split up in an

<sup>2</sup> With call bundles: as long as the bundle allowance is not exceeded, C is counted as a normal bundle minute. If the bundle allowance is exceeded, C is charged at the normal out of bundle rate just like other traffic in the bundle.

<sup>3</sup> The commission for billing services also includes a commission for bad debt if that is charged.



originating retail revenue (**ORR**), that is the part of the retail revenue that is retained by the OO that can be zero in some cases or countries and an originating wholesale revenue (**OWR**), that is the wholesale rate that the OO charges the TO/SP. The OTR equals the ORR plus the OWR. These revenues are shown graphically in the figure below. BEREC recognizes that sometimes it is hard to distinguish between the ORR and OWR. The latter is not a problem since ultimately it is the sum of both (the OTR) that matters. Finally we define the terminating rate (**TR**), this is the rate that the TO charges the OO. BEREC acknowledges that this terminology may differ from price systems used in practice in certain member states. The purpose however is to set out a clear generic terminology that, although it is an abstraction, covers different systems used in practice and can be used in this document.

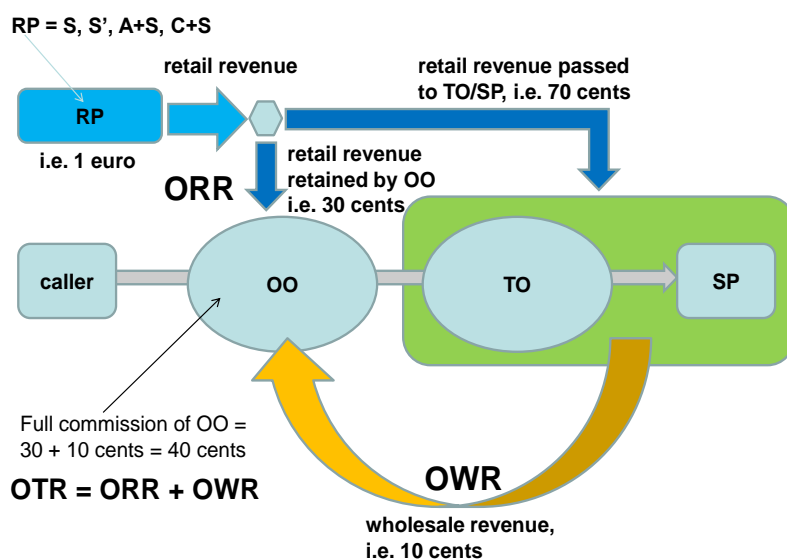


Figure 2. The different revenues retained and charged by the OO.

### 3 Problems and effects

22. In this chapter we first make some preliminary observations on some clearly visible features of SRS that seem to be problematic in the sense that they are likely to have a negative effect on consumers or consumer welfare. We then assess what seem to be the root causes (root problems) of these features. Finally, we assess the negative effects that follow from this.

#### 3.1 Preliminary observations

23. Looking at special rate voice calling to SPs, there are two of clearly visible problematic features concerning SRS in at least a number of EU countries. First, this is the low level of transparency. In some countries this is already addressed by specific regulation towards more transparency, such as pre call announcements in which the price of the call is mentioned at the start of the call. However, even in countries with regulation aimed at greater transparency, there is not always full transparency. In the case of pre call announcements often a separate retail mark-up is charged on top of the advertised service charge S, leading to a A+S pricing model. These mark-ups are not well advertised by operators and relatively unknown to users.

24. The relatively high percentage of revenue that is retained by the OO (the OTR) is also a visible feature. In a recent consultation ('Simplifying Non-geographic Numbers') Ofcom reports that in the UK roughly 50% of all revenue for non-geographic calling is retained by OOs. Roughly 25% of the revenue goes to TOs and 25% to SPs.<sup>4</sup> As can be seen in Figure 5 in annex A, the OTR is especially high for mobile OOs. The OTR of mobile OOs is significantly higher than for fixed OOs and the difference cannot be explained solely by the fact that the cost price for calling from a mobile in general is higher than for calling from a fixed line. The mobile OTR also seems to be considerably higher than the standard mobile retail call prices to national geographic and mobile numbers while the cost for originating is likely to be lower than the cost of a standard mobile retail call. After all, origination consists of only one half of the end to end connection where the retail call covers both the originating and terminating part of an end-to-end communication. The high OTRs occur for both category 1 (Freephone) and category 2 services. For example, in the Netherlands mobile operators (OOs) charge around 25 eurocent per minute for wholesale origination to free services.

25. As mentioned before, at the moment the problems seem far more extensive in the case of calls from mobile connections. This might be the case because usually originating access on the fixed incumbent's network is regulated. However, it is unclear whether this regulation - that seems to be linked with PSTN CPS regulation - will be continued in the future. If regulation of fixed originating access is withdrawn, in the future problems with high OTRs for fixed networks could worsen if they are not properly addressed.

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<sup>4</sup> Ofcom (2011), Simplifying Non-geographic Numbers, 16 December 2010, page 4.

## 3.2 Root causes and problems

26. This section contains a description of the root causes and problems.

### No cost pass-through of OWR to the caller

27. SRS usually involve three main players: the caller, the OO and the SP (the TO can be seen to have an intermediary role). The SP wants to deliver services to the caller and the caller is always attached to one OO at a time. Thus the OO has a central position between SP and the caller and will usually want payment for the use of its network. Section 2 explains this compensation can be charged as a retail A or C charge (retail mark-up) directly charged to the caller and/or a OWR charged to the TO.

28. The first problem occurs with the OWR, since this charge does not generally get fully passed-through to the caller, but is only passed through in a diluted way. This significantly decreases competitive pressure on this rate. If the OWR *were* fully passed-through, the caller connected to OO<sub>1</sub> would be confronted with a higher price component S of the service. This caller could then switch to OO<sub>2</sub> if the price of S (or S') is lower when connected to OO<sub>2</sub>.

29. In the S' retail pricing model, where the S price is differentiated for different OOs, there may be some direct pass-through of the OWR to the S'. However, if S is uniform and not differentiated for originating networks, there can only be a very diluted, pass-through since only *the average* of all OWRs charged by different OOs could eventually be passed-through to the S. As a result, this diluted pass-through does not put an effective pricing constraint on the OWRs of individual OOs.

### Disconnecting from OOs is not an effective way for SPs to exercise countervailing buyer power

30. SPs may disconnect from an individual OO's network, where the OO charges unreasonably high OWRs.<sup>5</sup> This makes the service not reachable for customers of this individual OO. The effectiveness of this mechanism depends on whether these customers have alternatives to reach the service of this SP. For example, a caller who cannot reach the service of the SP from a mobile connection could decide to call the same service over a fixed connection. Also customers noticing they cannot reach the service anymore from their operator (OO<sub>1</sub>), could decide to switch to another OO<sub>2</sub>. These mechanisms could, in theory, provide the SP with countervailing buyer power and so exert competitive constraints on the OWR. However, it seems that SPs require that their service can be reached by all the OO networks. This makes disconnection from OOs not a viable option and therefore not an effective way to exercise countervailing buyer power.<sup>6</sup> In addition, factual levels of OWRs currently charged tend to illustrate that these countervailing buyer power mechanisms are not effective (see for example the 25 eurocents in paragraph 24).

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<sup>5</sup> Physically the SP is connected to the TO and not directly to the OO. However, it is likely that the SP can instruct the TO not to deliver the traffic of an individual OO.

<sup>6</sup> What can also explain why the potential mechanism of disconnecting from an individual OO could work is ineffective, is that it requires two steps. The first step being the SP that disconnects from a high pricing OO<sub>1</sub>. The second step being the customer of OO<sub>1</sub> that has to switch to OO<sub>2</sub> because of an individual SRS that is not reachable any more from OO<sub>1</sub>. This two step process is probably just too slow and complex to create effective countervailing buying power.

31. The potential countervailing buying power from SPs is assessed in more depth in a study by SEO economic research that was launched by OPTA.<sup>7</sup> This study focuses on call origination to freephone numbers in the Netherlands, but its conclusions are also relevant in the broader context of SRS. The study summarizes its conclusions as follows: *“Owing to the absence of sufficient effective substitutes, there are supplier-specific relevant markets for the provision of call origination to a 0800 [Free phone] number. Each originating fixed and mobile network has a monopoly on the market for call origination from the associated subscribers. Number users [SPs] have little if any buying power in relation to the monopoly position held by each originating network. Choosing a different connection route (e.g. by opting for direct interconnection instead of using transit) does not yield any bargaining power because it is necessary to buy call origination from the originating network for each route. In practice, multi-market contact also fails to provide buying power because the various services are purchased separately from the point of view of both the number user and the telecom provider. Encouraging competition between the networks by not being accessible for the least favourable networks raises practical objections and does not fulfil the aim of being accessible to the general public.”*

### **Vertical integration**

32. Another problem could appear when the OO offers SRS itself in competition with other SPs. In this situation, the OO would have incentives for charging high rates for the calls to competitors' services. This would damage the competing SP and benefit the OO's own SP affiliate. One example could be directory inquiry services; some OOs offer this information service directly through their own numbers. In the latter case they have an incentive to set higher rates for calls from their network to directory inquiry services provided by other operators or SPs.

### **Lack of price awareness when user chooses an operator**

33. An other feature of SRS is that they fall in the category of service elements which the average user tends not to take into account when choosing his operator (that is, the OO the user connects to).<sup>8</sup> The source of this problem is that SRS are less frequently used and the usage of these services is usually less predictable to customers than standard rate calls. Also there is a limitation on the number of price elements that can be effectively compared by a user. This makes it onerous for most users to take the price of these calls into account. Therefore, an average user will select on headline prices for the service element that he most often uses. Mostly the focus of a consumer lies on fixed monthly subscription rates and price of calls to standard rate services. On the other hand a user mostly does not look into the rates for roaming or the rates of SRS, when selecting the operator.

34. The lack of price awareness does not imply that the price of SRS is impossible to obtain. Usually the price can be found on websites describing the offer, although these prices are typically not mentioned in advertisements. However, the issue here is that obtaining and making use of this pricing information is difficult. As a result, most users are not much aware (or interested) in the pricing of these services when choosing an operator. This means that the operators have an incentive to

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<sup>7</sup> SEO (2011), Buying power for the purchase of call origination to 0800 numbers, March 2011.

<sup>8</sup> Ofcom (2010), page 53 refers to Ofcom consumer research in 2010 that showed that only 11% of the respondents spontaneously mentioned “the cost of calls to 8xx/09 numbers” as an important factor when choosing a new landline supplier. This figure was 9% for respondents choosing a new mobile supplier.

compete on the price of service elements that the user does take into account, lowering these prices and raising the price of other service elements like SRS.

### **Lack of control by SPs over the full retail price**

35. Especially in the S' and the A+S model, the SP lacks control over the full RP. This is far less severe in the C+S model (and also in the  $S_f$ - $S_m$  model), since C is relatively low, fairly well known and stable. This lack of control decreases the incentive of the SP to develop lower priced services, reduces demand for SPs' services, may affect innovation by SPs and may reduce competition between SPs.

### **Summary**

36. The root cause problems outlined in this subsection, suggest that OOs benefit from a strong market position vis-à-vis SPs, which enables them to have a high OTR and decreases the incentives for SPs to compete on prices.

## **3.3 Effects**

37. The strong market position of OOs vis-à-vis SPs results in a number of resulting negative effects. These are identified in this section.

### **High prices**

38. An effect of high OTRs will be high prices of special rate services relative to standard services. After all, a high OTR is a cost for the SP. The SP will – at least partly – pass-through this higher cost and cause an upward pricing pressure on the retail price of SRS. This is harmful for consumers who will pay more and as a result also call less.

39. It may be the case that the high OTR is partially used by some OOs to lower the retail prices of other services used by the caller. This is usually called the waterbed effect. These other services can be standard calls or subscription prices. This could be a beneficial counter effect (for some customers) of the higher SRS prices. However, even under a full waterbed, the pricing structure of SRS relative to standard services gets distorted. This leads to an outcome that seems to be inefficient and thus not maximise total consumer welfare: prices of SRS are raised and demand reduced while other services may decrease in price. This change in the relative structure of prices seems inefficient because, where SRS demand is depressed as a result of such higher prices, it would thus not be reflective of efficient or welfare-maximising price differentiation according to the relative demand elasticity's for the services in question. As the description of root cause problems in section 3.2 shows, the change is a result of competitive forces that are different between SRS and standard calls and not necessarily a result of their respective price elasticity's of demand. It is thus neither clear why an OTR higher than the average revenue for standard call would be efficient, nor why the OTR for mobile would be much higher than for fixed even when accounting for any differences in cost.

### **Reduction of demand**

40. High prices and the often low transparency will lead to a reduction of demand for special rate services. Ofcom (2010) refers to evidence that due to the low transparency users make fewer calls

and in addition often overestimate the price which also leads to less calls being made.<sup>9</sup> This negative effect does not need further explanation and is evidently harmful for consumers.

#### **Increased risk of fraud**

41. Low transparency will increase the chance that users call high priced fraudulent services of which they do not know the price. As a consequence, the risk of fraud is increased.

#### **Loss of service diversity**

42. Some SPs services may disappear because of low demand or not get developed at all (less innovation incentive for SPs). Especially lower priced services may suffer (see paragraph 35).

#### **Inefficient outcome, also for OOs**

43. Finally, we note here that the problems above lead to individual price setting that may not always be profitable for the OOs themselves. Where the OOs individually have incentives to raise the OTR, the increased prices and potentially reduced level of transparency is not an outcome that seems to be profitable for all OOs as a collective set, because it leads to lower usage of SRS. This element is emphasized in Ofcom (2010) where market failures were characterised as externalities.

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<sup>9</sup> Ofcom (2010), under 4.43 to 4.46.

## 4 Pros and cons of different retail pricing models

44. In section 2.3 three main retail pricing models are described. In Table 1 of this section we identify the pros and cons of these models.

Pricing model	Pro's	Con's
<b>S</b>	<p>This tariff structure is the clearest for end-users, since the retail price is independent from the originating network.</p> <p>It provides full control of the retail price by the service provider.</p>	<p>It does not leave room to take cost asymmetry between fixed- and mobile-originated communications into account, which must then be recouped at the wholesale level or from the retail price of other services.</p> <p>Related to the point above: an unique price generates risks of a significant SRS traffic transfer from fixed to mobile lines. Put differently: it does not give an incentive to call from the lowest cost network.</p> <p>Retail price of special rates services cannot take differences in callers' preferences into account,</p>
<b>S<sub>r</sub>S<sub>m</sub></b>	<p>This model is a hybrid of both the S and S' models and has features of both. The main difference with A+S and C+S is when this model is combined with wholesale regulation.</p> <p>A pro relative to S is it can take into account the cost asymmetry between fixed- and mobile-originated communication.</p> <p>It provides full control of the retail price by the service provider.</p>	<p>This model is a hybrid of both the S and S' models and has features of both. The main difference with A+S and C+S is when this model is combined with wholesale regulation.</p> <p>The model is slightly less transparent than the S and C+S model because it creates more tariffs.</p>
<b>S'</b>	<p>This tariff can take into account the cost asymmetry between fixed- and mobile-originated communication.</p> <p>Retail price of SRS can take differences in callers' preferences into account.</p>	<p>Leads to a huge number of S's that are virtually impossible for the SP to present and therefore are not transparent.</p> <p>The SP does not control its retail pricing at all.</p> <p>It is unclear how competitive pressure will act on the tariff set by each OO for each special rate services (S').</p>
<b>A+S</b>	<p>This tariff structure makes transportation costs explicit to end-users.</p>	<p>The SP has no control over the retail price, since the originating operator is free to (re)define the A component.</p>

Pricing model	Pro's	Con's
<b>C+S</b>	<p>It takes into account the cost asymmetry between fixed- and mobile-originated communication.</p> <p>Originating operators can freely set one of the tariff structure components, also covering for technical costs and differences in caller preferences.</p>	<p>It creates an extra tariff, which makes operator's tariff plans more complex and is likely to require additional communication efforts from operators and service providers.</p> <p>It is unclear how competitive pressure will act on a secondary tariff (A) specific to communication to SRS (as shown by the low competitive pressure on tariff levels of fixed-to-mobile communications in many countries). Unless supplemented by the OWR, the common A does not take into account differences in the costs of originating calls to different special rates services (e.g. bad debt)</p>
<b>C+S</b>	<p>It takes into account the cost asymmetry between fixed- and mobile-originated communication.</p> <p>It is clear for end customers, who pay for a standard communication to a landline (which tariff they know well) plus an extra service fee independent from the originating network.</p> <p>There is competitive pressure on the C component, since its level is the same as the rate for standard communication.</p> <p>The C component is likely to be lower than the A component and therefore the C+S-model gives the SP more control over the full retail price (RP). This partially addresses the problem of lack of control of SPs over the full retail price.</p>	<p>Service provider needs to take into account a C component, known but variable depending on originating operators, to properly define its service retail price.</p> <p>Tariff structure may be a little more confusing for end-users and is likely to require some additional communication efforts from operators and service providers.</p> <p>Unless supplemented by the OWR, the common C does not take into account differences in the costs of originating calls to different special rates services (e.g. bad debt).</p>

**Table 1. Pros and cons of different retail pricing models**

45. The S, S' and A+S models are all models that occur in practice without being imposed by regulation.<sup>10</sup> The C+S model can be viewed as a special case of the A+S model. The C+S model is

<sup>10</sup> In Annex A this data is shown.



not a model that currently seems to occur often,<sup>11</sup> but is presented here because it could be a regulatory solution for certain problems.

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<sup>11</sup> Sometimes a low 'C' (or 'A') occurs for calling to certain numbers but the specification of the C+S model that is used here defines C as a single rate that is used for all numbers so there is only one C for every service packages that an individual OO offers. In Malta the C+S model is imposed by regulation.

## 5 Possible regulatory approaches

46. This section first looks at the possible approaches and then looks at what seem to be the more promising regulatory approaches in case problems occur in a member state. This section purely concerns a discussion on the contents of the approach and does not identify possible legal instruments, like dispute resolutions or SMP regulation. These instruments will be discussed in section 6.

### 5.1 Possible wholesale and retail measures

47. Regulatory approaches can deal with the wholesale level, the retail level or both. Approaches dealing with the wholesale level in the most generic formulation imply that a regulator will set rules regarding the maximum charges between different players in the revenue chain. The most obvious measure would be a maximum threshold (price cap) on the OWR.

48. Approaches dealing with the retail level can be discerned in two types of measures. First, a certain retail pricing model (see section 2.3) can be imposed. Second, certain retail transparency measures can be imposed. One type of transparency measure would be the obligation for a pre call announcement of the price of the call (e.g. “this call will cost x cents per minute”).

49. Another transparency measure would be a numbering plan which sets bands for prices of special rate services. This system already exists in some countries but usually the bands established in the plan are mainly applicable to the fixed operators and premium rate services. A hypothetical example of such a numbering plan is shown in Table 2. The different prices between fixed and mobile networks can take into account the different origination costs from fixed and mobile networks.

Number range	Service	Price from fixed networks	Price from mobile networks
0800	Free	0 €/min	0 €/min
0802	National number	Up to an average national fixed call	Up to an average national mobile call
0803	Premium rate level 1	Between X1 and X2	Between Y1 and Y2
0804	Premium rate level 2	Between X2 and X3	Between Y2 and Y3
.....	.....	....	....
080N-1	Premium rate level N-1	Between XN-1 and XN	Between YN-1 and YN
080N	Premium rate level N	More than XN	More than YN

**Table 2. Numbering plan that sets bands.**

50. It should be noted that when retail pricing follows the A+S or the C+S model, then the bands for premium rate levels should apply only to the S component of the call. In consequence, there would be only one table both for fixed and mobile networks. Furthermore it should be mentioned that to increase

pricing freedom for SP's, there could also be specific bands that offer services that are priced per call and not per minute, and others where the pricing is hybrid (per call + per minute).

## 5.2 Promising regulatory approaches

51. In this section we look at promising regulatory approaches in case problems occur on a national level. The appropriate approach depends on the actual problems and effects that occur. However, in this section we assume the general problem of an OO that wants a high compensation either through a high ORR, high OWR or high OTR. A distinction is made between category 1 and 2 (see section 2.2). We do not deal with category 4 in this document.

52. The focus of this document is on approaches that are not limited to pure transparency measures. 'Pure transparency measures' are defined here as measures that only oblige operators to make prices public in a certain way without restricting the pricing model. These measures can also be useful and could sometimes also be sufficient to prevent problems. However, sometimes additional measures seem to be justified. These additional measures are the focus of this document. This does not mean that transparency is not an important part of the regulatory approaches presented below. The contrary is true. Transparency does play an important role in the C+S approach we present below.

### 5.2.1 Category 1 ('free services')

53. In category 1 a problem of high OWR's can only be addressed by a price measure (for example a price cap) for the OWR that the OO can charge to the TO/SP. For such a price measure a cost oriented price cap could be used. One NRA, for example, has based such prices on cost prices that are determined for termination regulation.<sup>12</sup> Alternatives to this are measures that allow only reasonable prices. Reasonable prices could be set by a price cap that is based on the average retail revenue per minute on a downstream voice market or a certain part (percentage) of this retail revenue to allow for the fact that origination concerns only half of a standard retail call that consists of both origination and termination.

### 5.2.2 Category 2

54. In selecting an appropriate measure, the goal is to address the root problems through the least intervening measures. The goal of the regulatory framework is to solve the problems with only wholesale regulation when possible. This would mean regulating the OWR just as in category 1 situations. However, this wholesale-only approach has two drawbacks. First, this approach needs to set a cap on the OWR, which requires regulators to identify the level of the cap (this may be different for fixed and mobile) which removes wholesale pricing freedom for the OO. Second, by addressing the problem only at wholesale level, the OO can evade this regulation by exploiting its possibilities on retail level and increase the ORR.

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<sup>12</sup> This is the case in Malta, see MCA (2008).

55. On the other hand, a measure that addresses the problems only at the retail level, for example by imposing a C+S model, can increase the problem at wholesale level. In this case the OO can choose to increase the OWR as a compensation for lost retail revenue.

56. What can be done at the retail level is imposing transparency measures. However, transparency measures may not fundamentally address the root cause problems. Transparency measures can be useful in response to a lack of transparency at retail level – a problem that is often relevant but is not the focus of this document. However, these measures do not solve the main problems discussed in this document.

57. Given the above a combination of wholesale and retail measures seem more promising. One promising option that addresses the problems at both the wholesale and retail level and also leaves room for pricing freedom of the OO, is the following. At the retail level a C+S model is imposed, meaning that the OO can charge a retail mark-up (C) besides the S and this mark-up is equal to the standard price for a call to a landline (see also paragraph 19). The C component is specific for the individual service offerings of individual operators. Therefore, C will be different for different operators and their different service offerings. The C component is always the standard rate, which is transparent and therefore under the full competitive pressure of the retail voice market. The OO can only keep the full C (as ORR) and possibly also a percentage x of the S charge (as OWR).

58. The C+S approach has been implemented in Malta in 2010.<sup>13</sup> So far there were no complaints from any parties in the SRS value chain. The objective of this approach in Malta was to address interconnection issues and improve access to SRS by all the telephony subscribers as well as aid the subscribers in understanding the call prices.

59. BEREC identifies four pros of the C+S approach. First, compared to the S' and A+S model, it creates more transparency since there is only one S for every service number and the C is a relatively well known standard rate.

60. The second pro, compared to the S model, is that there is an incentive for the caller to choose the most efficient network considering cost, quality and functionality. This is because the cost asymmetry between fixed and mobile networks is translated into a different C for fixed and mobile. The incentive to choose the most efficient network is relevant on two occasions. First, for a user that chooses between either having only a fixed or only a mobile subscription, the different cost of calling to SRS plays no part in the user's choice with a S model. After all, for this user there is no price difference between calling SRS numbers from fixed or mobile networks. Second, for a user that has both a fixed and a mobile subscription, with a S model, there is no incentive to make an efficient choice between using the fixed or mobile phone for a specific call. In this case the caller may make the call from his mobile because of convenience, while if there was a price differential based on the cost asymmetry the caller would have chosen the fixed phone. The latter even if this would mean postponing the call some time until a fixed phone was available.

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<sup>13</sup> MCA (2010), A framework for Premium Rate Services in the '5' Numbering Range, Report on Consultation and Decision, November 2010 (<http://www.mca.org.mt/sites/default/files/pageattachments/PRS%20Decision.pdf>).

61. The third pro, relative to the A+S model, is that the C component is likely to be lower than the A component and less subject to change and therefore gives the SP more control over the full retail price. A con, relative to the S model, is that the user has to take account of two price components (C and S).

62. The fourth pro, compared with other models, is that the C+S model applies well to cross-border traffic, including both calls from a Member State to another (international calls within Europe) and roaming calls. Considering the case of inter-European SRS calls – for instance a call from a Spanish user to a French SRS, that is a call originating from a Spanish OO's network to a French SP: since the C component of the retail tariff corresponds to a standard communication charge to a national landline, in the case of an international SRS call, it could be easily adapted into a standard communication charge to a landline located in the Member State called – in the above example, the C charge would correspond to the standard communication charge that the Spanish user would pay to place a call to any French landline. On the other hand, the S component solely corresponds to the actual value added service delivered and remains the same, independently from the origin of the call. Considering the case of roaming calls, the same reasoning could apply – for instance a Spanish user roaming in France willing to call a French SRS. The C component of the retail tariff corresponds to a standard communication charge to a national landline. In a roaming situation, there is a rationale to have the C capped by the Eurotariff, while the S component solely corresponds to the actual value added service delivered and remains the same. In both above cases, the C+S model would have the significant advantage to contribute to solve cross-border issues, by lifting some of the complexity born by cross-border economic models.

63. In BEREC's view the C+S model is a relatively light touch regulatory approach because it is limited to setting a structure of prices and does not directly set prices (or price caps). It allows OOs to earn the same revenue on SRS as they earn on standard calls. Nevertheless, the use of retail price bands (as mentioned in paragraph 49), which are used by a number of NRAs, does not conflict with this approach and they can provide an additional consumer protection.

#### **The percentage x (commercial commission)**

64. It could be reasonable that the OO retains a 'commercial commission' on the service charge (S) – apart from the C component – as a result of the retail commercial operations it performs on behalf of the SP. The retail commercial operations we consider here are:

- a. **Billing** – the OO bills the end user for its consumption of SRS along with all other communication services, on the same invoice which requires the implementation of several dedicated tariffs (for instance, in France, up to twenty tariff elements), specific pricing structures and provisioning mechanism which would not have been developed otherwise.
- b. **Cash collection** – the OO is responsible for collecting revenues at the retail level, by any appropriate means, which costs could be correlated to the amount collected and may be significant for some cash collection channels, such as physical distribution networks selling prepaid top-up vouchers.
- c. **Bad debt insurance** – the OO is usually the one supporting the loss in case of bad debt, as opposed to the SP, who gets the negotiated part of the S component regardless of whether the

end user actually paid for the service. In some countries though (for example Spain), the negotiated part of the S component is transferred to the SP only insofar as the end user actually pays.<sup>14</sup>

- d. **Customer information** – end users request the hotlines of the OO, which therefore need proper training and dimensioning, to provide information about special rate services. In some cases, the OO is also responsible for pre-call announcements.

65. All of the above retail operations are also performed with standard rate services, but the costs of these operations could be higher with certain SRS. For this reason a commercial commission could be charged to compensate for this. This could be a percentage  $x$  of the S component, a fixed amount  $X$ , or a combination of both. Considering that the costs for cash collection, bad debt and customer information are usually higher with expensive SRS than with cheaper SRS, setting the commercial commission as a fixed amount is unlikely to fairly reflect the costs incurred and the value added by the OO. Therefore, charging the commercial commission as a percentage  $x$  of the S component – or as a combination of a fixed amount  $X$  and a percentage  $x$  of the S component – appears more appropriate<sup>15</sup>. On the other hand the C component in a standard rate situation includes a termination fee which is paid to the TO. In the SRS situation this component is not paid to the TO. The OO therefore receives a higher revenue and this could also be taken into account when deciding on an appropriate commercial commission.

66. In some cases, using the commercial intermediation of the OO (by using special rate numbers) is not the only way for SPs to retail their products. The following alternatives, which fall outside the scope of this document, are used: (a) calling cards or pin codes, e.g. selling physical calling cards (or pin codes) at retailers', or virtual calling cards through a website; (b) bank account debits or credit card payments, e.g. asking end users for their bank account details, and debit money directly from their accounts. Alternative payment means are mostly not suitable, for instance whenever the use of a given service (number) is one-off and / or the overall retail price invoiced is very small (micropayments). Also this payment option is an extra burden for consumers and is therefore not likely to be a viable substitute.

67. For the given reasons, each NRA could determine if a commercial commission is needed and if so an NRA could edict rules ensuring that the percentage of the S value retained by the OO remains fair and reasonable in view of the cost incurred and the value added by the OO. Each NRA should furthermore in this case be prepared to precise this percentage in case of a legal dispute.

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<sup>14</sup> Waiving the bad debt insurance component from the commercial operations provided by the OO (meaning the SP does not get paid when bad debt occurs), allows the SP to negotiate a lower level of commercial commission. This system further helps preventing frauds: indeed, any dishonest SRS would generate no revenue for the SP, as long as the OO receives no money from the retail side (which is likely to happen in the case of a fraud).

<sup>15</sup> Further, charging the commercial commission as a percentage of S provides a further incentive to the C component for the OO to actively perform cash collection operations: there is no guaranteed wholesale revenue, so that in the absence of retail revenue, the OO does not get any money.

### 5.2.3 Category 3

68. In the category 3 situation both the caller and the SP pay the OO and the SP receives no revenue. This is a kind of hybrid situation between category 1 and 2. BEREC concludes that when problems for category 1 and 2 are properly addressed, it is not likely that problems will arise for category 3. Therefore, BEREC sees no need to identify regulatory approaches in this document for category 3 situations.

## 5.3 Other regulatory approaches

### $S_f S_m$ approach

69. A regulatory approach that can be used for both category 1 and 2, is the  $S_f S_m$  model and regulation of the OWC on a cost oriented level. This approach means that  $S_f$  and  $S_m$  are fully passed to the TO and SP, so the ORR is zero and the OTR is equal to the OWR.

70. An important pro of this approach is that the retail tariff consists of one element, only differentiated depending on whether the call is placed from a fixed or a mobile operator and therefore is as simple and clear as possible, while accounting for differences in originating costs from fixed and mobile networks. Another is that if the analysis of a regulator shows the problem is restricted to wholesale level and it is identified as a problem when the OO retains an OWR that is above cost, this approach can deal with this problem in a very focussed way. So as the C+S approach, the  $S_f S_m$  approach also solves the market distortions caused by the situations where the OOs offer SRS themselves in competition with other SPs, mainly when these latter ones that do not have access to a mobile network. Also consumers have an incentive to choose the most efficient network, firstly when choosing to have a fixed or a mobile only subscription, and secondly when deciding to make a specific call.

71. However, this approach also has two cons. First, imposing a cost orientation measure on the OWR requires a high burden for the regulator to prove this measure is necessary. Second, related to the first pro, you can also say this approach is slightly more complex than the C+S approach, since it has two versions of S that need to be mentioned. The C+S approach has a single S, while the C tariff is already present as the standard rate of calls and is not an extra tariff to remember or consider.

## 5.4 Conclusion

72. In some cases, robust and comprehensive transparency measures at retail level may sufficiently address the NRA's concerns within a national context. Some of those measures are described in section 5.1. However, most of the problems identified in this paper require that the NRA adopt pricing measures in order to address the root causes.

73. For the category 1 situation – in which the caller pays no fee – the preferable approach is one in which the wholesale rate the originating operator (OO) charges is regulated at cost or at another reasonable level.

74. Weighing the pros and cons BEREC furthermore concludes that for the category 2 situation the C+S approach is to be preferred in general, but individual NRAs can make a different judgement regarding the importance of different pros and cons. If in the national circumstances no problems occur on the retail market, but only on the wholesale market, an NRA could for example decide only to regulate the wholesale tariffs for SRS instead and therefore apply a  $S_fS_m$  approach.

75. Although the analysis in this document has focussed on voice SRS, the competitive dynamics for non-voice SRS seem comparable. Therefore, the regulatory approaches identified could also be a solution for these non-voice services in case problems arise. An example of these is SMS premium services.



## 6 Legal instruments

76. This section identifies the legal instruments that can be used and presents pros and cons of each instrument.

### 6.1 Introduction

77. A number of legal instruments are identified in this section that NRAs might use to address the possible problems identified for SRS, and to impose the regulatory approach that is considered appropriate in a national setting. The main instruments are (1) dispute resolution; (2) SMP regulation and (3) symmetric regulation. Within the main category of symmetric regulation a number of instruments are available. These are (a) Article 5 of the Access Directive, (b) Part C of the Annex to the revised Authorisation Directive as amended by the revised EU Framework and (c) Article 28 of the Universal Service Directive. This section provides a further description of those instruments and considers some of the advantages and disadvantages of each.

78. The purpose of this document is not to provide a definitive answer as to what the right legal instrument is to adopt in all cases; since in part this will be dependent upon the prevailing national circumstances and conditions in each national market. The most suitable legal instrument to use (if any), must be based on the issues and severity of any problems identified in a particular market, the regulatory approach that an NRA wants to impose, and the national legislation. NRAs will be best placed to undertake such analysis and tailor any approach to deliver the best outcomes for consumers in their national market.

79. Nevertheless, there is a degree of commonality around the issues and concerns we have identified, and reviewing the possible legal instruments available should help NRAs in assessing which approach to adopt. The intention in this section therefore is to outline what we have identified as the regulatory 'tool-kit' available to NRAs to address the problems found on national level.

80. Note also that an NRA may adopt more than one legal instrument in regulating SRS (instruments can be used in partnership).

### 6.2 Dispute resolution

81. Dispute resolution could be used as a wholesale measure in case parties in the value chain file a dispute. In order to reduce the potential for legal uncertainty, NRA's could release guidelines or decisions that clarify how certain disputes would be resolved. These guidelines in themselves could at least partly address the identified problems even without the disputes being filed. However, any such guidelines cannot provide a solution to every issue that may arise.

82. Dispute resolution powers have been used widely by NRAs to address disputes between different parties. The analysis required is lighter than a full SMP analysis as the time for resolution is time

bounded by Article 20 of the Framework Directive requiring NRAs to resolve disputes within 4 months (save in exceptional circumstances). This is significantly shorter than the time taken to undertake a full market review.

83. Pros of dispute resolution are that it is light-touch, less complex, it is flexible in these sense it addresses problems case by case and that it is driven by the specific necessities of market parties.

84. Cons are the potential for inconsistency since through continual case by case assessment the overall consistency may suffer, the limited application of the individual disputes, the lower regulatory certainty it provides for parties that have not settled their dispute, the high cost and slower application of settling a large number of disputes that could be needed for wider market application. A con in this context is also that the regulatory measure mostly seem limited to wholesale level, while most of the regulatory approaches identified also need a retail component.

### 6.3 SMP regulation

85. SMP regulation is mainly used at wholesale level, but can (under certain circumstances such as those described below) also be applied in retail markets. In any case, SMP regulation can only be applied following a detailed economic and legal analysis of any market failures identified at national level. This involves the definition of relevant markets and the identification of significant market power for one or several actors in these markets. There are no relevant markets specifically related to calls to SRS in the Recommendation on relevant markets.<sup>16</sup> Previous experience and observation of market dynamics<sup>17</sup> tend to show that wholesale markets for call origination to SRS might be considered as a subset but do not fully correspond to origination markets as defined in the Recommendations on relevant markets (i.e. market 2 of the current Recommendation and market 15 of the former Recommendation<sup>18</sup>).

86. Since wholesale markets for calls to SRS are not as such included in the recommendation on relevant markets, NRAs that intend to use SMP regulation as a legal instrument to regulate problems identified with wholesale SRS access would usually<sup>19</sup> need to define a specific relevant market, while respecting the three conditions established in article 2 of the Recommendation to do so:

- (a) the presence of high and non-transitory barriers to entry. These may be of a structural, legal or regulatory nature;
- (b) a market structure which does not tend towards effective competition within the relevant time horizon. The application of this criterion involves examining the state of competition behind the barriers to entry;
- (c) the insufficiency of competition law alone to adequately address the market failure(s) concerned.

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<sup>16</sup> European Commission Recommendation 2007/879/EC of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation.

<sup>17</sup> For instance, see ARCEP market analysis of origination on fixed networks, n° 2011-0296. 26 July 2011.

<sup>18</sup> European Commission Recommendation 2003/311/EC of 11 February 2003, on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation

<sup>19</sup> The exception is fixed originating traffic to SRS from the incumbents network.

87. The pros of SMP regulation in the SRS context are the following. It is the most rigorous, widespread and recognized solution for regulation of failures in wholesale markets. It provides a clear legal basis and justification to impose proportionate tariff regulation based on cost orientation if it is proved that this is an appropriate measure. As it is based on a system of periodic review, it also helps ensure regulation can be sufficiently responsive to any changes in identified market failures.

88. The cons of SMP regulation in the SRS context are the following. It is less suitable for situations where structural problems exist that do not seem to disappear over time and involve regulation of numerous parties. In particular in the latter case, SMP regulation may represent a much heavier regulatory burden for both NRAs and market players, compared to approaches relying on symmetric regulation that encompass all existing and future market actors and do not have to be periodically reviewed. The periodic review also creates less regulatory certainty since the measure can be appealed again after every review period. The required market analysis process is lengthy, complex and costly. The latter is especially true if the relevant markets are not included in the recommendation on relevant markets. However, on the other hand, including a new relevant market in the recommendation has the con that it would require all NRAs to periodically review this market, even where problems at national level had been solved in an alternative way.

#### **6.4 Symmetric regulation**

89. BEREC has identified four types of symmetric regulation. These are (a) article 5 of the Access Directive, (b) Part C of the Annex to the revised Authorisation Directive as amended by the revised EU Framework, (c) article 21 of the Universal Service Directive and (d) article 28 of the Universal Service Directive.

90. Article 5 of the Access Directive<sup>20</sup> provides a basis for NRAs to take measures with regard to access and interconnection. This can be used in dispute resolution but also to intervene at the initiative of the NRA. Paragraph 1 of this article establishes that “In particular, without prejudice to measures that may be taken regarding undertakings with significant market power [...], national regulatory authorities shall be able to impose: [...] (ab) in justified cases and to the extent that is necessary, obligations on undertakings that control access to end users to make their services interoperable.” In addition, paragraph 3 establishes that “With regard to access and interconnection referred to in paragraph 1, Member States shall ensure that the national regulatory authority is empowered to intervene at its own initiative where justified in order to secure the policy objectives of Article 8 of Directive 2002/21/EC (Framework Directive), in accordance with the provisions of this Directive and the procedures referred to in Articles 6 and 7, 20 and 21 of Directive 2002/21/EC (Framework Directive).”

91. In France, ARCEP adopted in April 2007, after notification to the EC, a symmetric decision, based on the transposition in national law of article 5 of the Access Directive, with the aim of clarifying relationships between operators and ensure better interoperability to SRS. Contractual relations between operators and consumers are not within the scope of this decision (regulated through the national numbering plan and consumer law). However, the expected outcome of the decision was to

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<sup>20</sup> Directive 2002/19/EC.

ensure better consumer protection, through two types of regulatory obligations: (1) an obligation on operators present at both ends of the SRS value chain (OOs and SPs), to give right to reasonable requests for access to SRS under objective, transparent and non-discriminatory conditions, without prejudice of the right to suspend services in case of fraud or breach of deontology rules, (2) an obligation to OOs to give right to reasonable requests for billing, recovery or repayment of amounts charged to users, under objective and non-discriminatory conditions. As a symmetric market regulation, the obligations set by the decision apply to both mobile and fixed operators. In its comments<sup>21</sup> the Commission reminded that article 5 should be used only in case of necessity, carefully and with proportionality, and acknowledged that ARCEP's conclusions, indicating that some SPs had encountered difficulties to conclude interconnection agreements with OOs, leading to unjustified delays and in some cases refusals to grant access, tend to indicate the presence of problems related to end-to-end connectivity.

92. Part C of the Annex to the revised Authorisation Directive as amended by the revised EU Framework, specifies the conditions which may be attached to rights of use for numbers. In particular, paragraph 1 of Part C provides for: "Designation of service for which the number shall be used, including *any requirements* linked to the provision of that service and, for the avoidance of doubt, tariff principles and maximum prices that can apply in the specific number range for the purposes of ensuring consumer protection in accordance with Article 8(4)(b) of Directive 2002/21/EC (Framework Directive)."

93. Article 21 of the Universal Service Directive can be used to ensure operators provide transparent, comparable, adequate and up-to-date information on applicable prices and tariffs.

94. Article 28 of the Universal Service Directive states that: "Member States shall ensure that, where technically and economically feasible, and except where a called subscriber has chosen for commercial reasons to limit access by calling parties located in specific geographical areas, relevant national authorities take all necessary steps to *ensure that end users are able to: (a) access and use services using non-geographic numbers within the Community,...*". Ensuring access and use also means the prices for these services should be reasonable otherwise use would be hampered.

95. In the Netherlands, the responsible ministry is working on a new piece of legislation that requires mobile operators to charge tariffs for calling to certain SRS number ranges that are comparable with tariffs that these operators charge for calls to geographic numbers, except if deviating tariff is necessary to cover the cost to these non-geographic numbers. This requirement concerns both the retail and wholesale tariffs. This legislation is based on article 28 of the Universal Service Directive. The new legislation is expected to come into force in 2012.

96. The pros of these symmetrical instruments are the following. It is more suitable to address structural problems that do not seem to disappear over time and involve regulation of numerous parties, because it encompasses all operators on the given market where problems have been identified, whatever their size. It is more suitable to apply measures at both wholesale and retail level.

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<sup>21</sup> Case FR/2007/0608, 4 April 2007

It is more suitable to take lighter touch measures that do not involve heavy-handed cost orientation measures. It is less complex and costly than an SMP regulation approach.

97. The main con of these symmetric instruments may be the lack of practical examples of implementation so far, because these tools have been used less often in the past. Therefore there could be difficulties regarding the legal interpretation of these instruments.

## 7 Conclusion

98. In section 3 of this document BEREC concludes that SRS voice calling to service providers at least in some countries have problems of (a) low transparency and (b) relatively high prices. This leads to several negative effects like – beside the high prices itself – reduction of demand, increased risk of fraud and loss of service diversity.

99. These problems can be, and often are already, addressed through transparency measures like pre call tariff announcements. However, the transparency measures do not always solve all these problems. In this document BEREC identified a number of regulatory approaches that can be used - possibly alongside pure transparency measures - to address these problems if they occur.

100. For the category 1 situation – in which the caller pays no fee – this is an approach in which the wholesale rate the originating operator (OO) charges is regulated at cost or at another reasonable level.

101. For the category 2 situation – in which the caller pays a fee and the TO/SP receive a certain part of this fee – two approaches look promising. The first one is the C+S approach. This is a combination of a C+S pricing model, where there is a separate service charge S and a communication charge C equal to the standard communication fee for calling to a national landline. In the C+S approach the C and possibly an x percentage of S goes to the OO as a compensation for the communication and billing service. The S charge goes to the SP. The second approach is the  $S_f S_m$  approach. In this approach the retail tariff for each SRS called is only differentiated depending on whether the call is placed from a fixed or a mobile network. The OO receives part of this  $S_f$  or  $S_m$  charge and this part is regulated at cost or another reasonable level.

102. Overall, BEREC concludes the C+S approach looks more promising in general, but considers that individual NRAs can make a different judgement based on the importance of different pros and cons in national circumstances. If in the national circumstances no problems remain on the retail market, but on the wholesale market, regulation of only the wholesale tariffs looks more promising ( $S_f S_m$  approach).

103. In the category 3 situation both the caller and the SP pay the OO and the SP receives no revenue. This is a kind of hybrid situation between category 1 and 2. BEREC concludes that when problems for category 1 and 2 are properly addressed, it is not likely that problems will arise for category 3. Therefore, BEREC sees no need to identify regulatory approaches in this document for category 3 situations.

104. Whether regulation is appropriate will depend on national circumstances. It is the role of individual NRAs to assess whether problems occur for SRS services on national level and whether they justify regulation. This document gives a framework for looking at these services if at a national level problems are identified, common terminology, the problems that could occur, the promising

regulatory approaches if problems occur and the legal instruments that can be used to implement the regulatory approach.

105. Although the analysis in this document has focussed on voice SRS, the competitive dynamics for non-voice SRS seem comparable. Therefore, the regulatory approaches identified could also be a solution for these non-voice services in case problems arise. An example of these is SMS premium services.

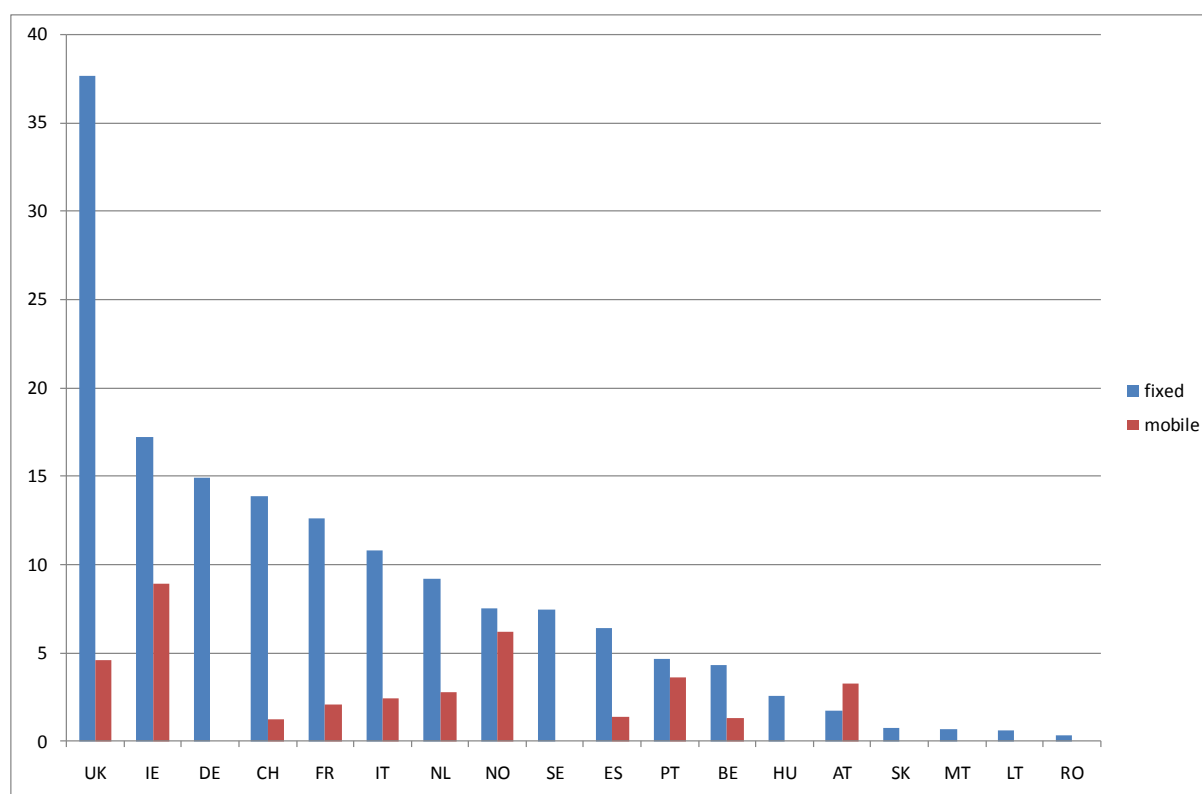
106. The legal instruments are the legal basis (directives and articles) that can be used to impose a preferred regulatory approach. The paper considers the pros and cons associated with various legal tools that are available to NRAs as mechanisms for regulating SRS competition problems, where required. This analysis is intended to provide guidance to NRAs when considering which legal instruments to adopt.

107. However, in the absence of a consolidated source of law at European level to address the SRS problems identified in this paper, there is no ubiquitous or universal regulatory approach that can be pointed to in this paper. For this reason, the paper refrains from making a direct recommendation on the most appropriate legal instrument. In practice, the suitability of each respective legal instrument will depend on the specific national circumstances.

## Annex A SRS data on volumes and prices

108. This annex describes the volume, revenue and price data for SRS services. The data is largely based on a questionnaire that was sent to member states in July 2011.

109. The yearly volume of SRS fixed plus mobile voice traffic in the 27 EU member states is estimated by BEREC at 100 billion minutes a year, which is on average around 5% of all voice traffic. Roughly 15% of SRS voice traffic is mobile SRS voice traffic. There are considerable differences in the voice traffic per capita for different countries. This is shown in Figure 3.

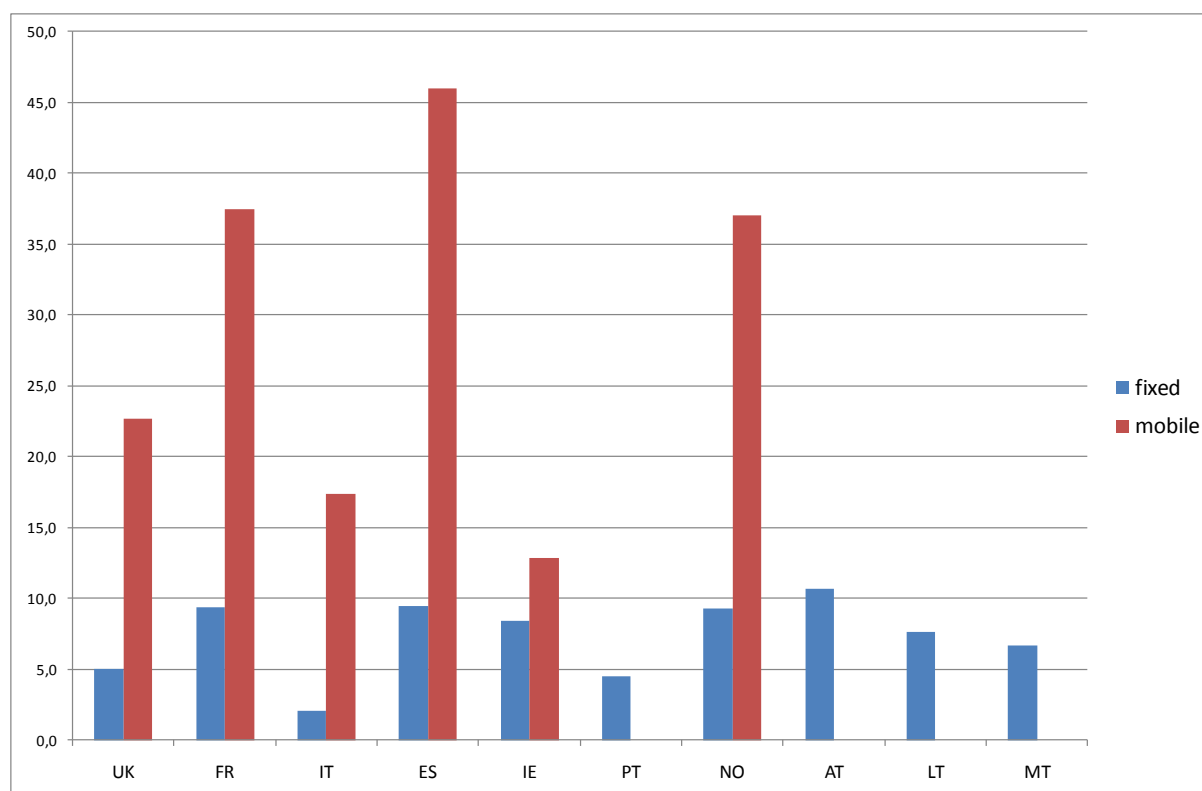


**Figure 3. SRS minutes per capita per month for different countries. For countries with no mobile volume, no data was available. Depending on the country the volume data concerns 2008, 2009, 2010.**

110. The yearly revenue of SRS fixed plus mobile voice traffic in the 27 EU member states is estimated by BEREC at 10 billion euro a year. Roughly 30-40% of this is from calling with mobiles.

111. Figure 4 gives the average retail revenue per minute for a number of countries. This shows that the average revenue for mobile is usually considerably higher than for fixed.





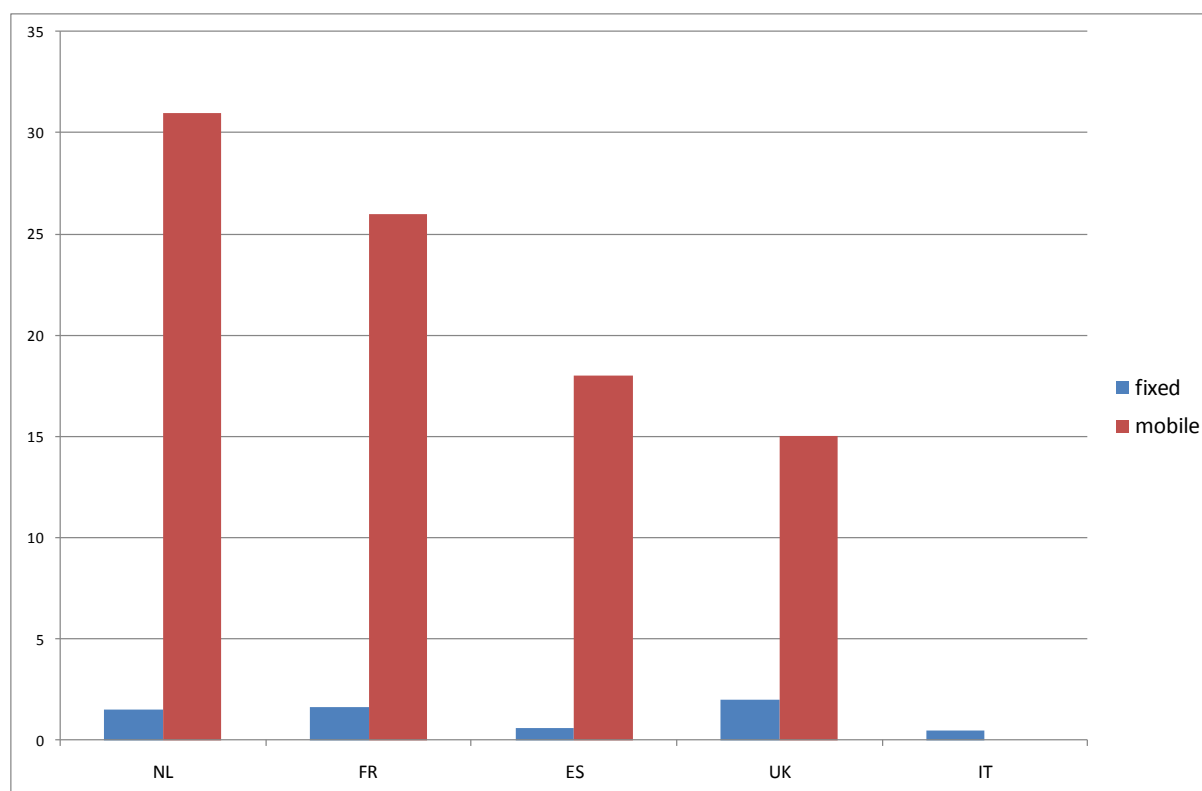
**Figure 4. Average retail revenue in eurocent per SRS minute.**

112. Table 3 summarizes the different pricing models used in member states. This shows that the S (and S') models are the most frequently used models.

Retail pricing model	Fixed	Mobile
S	11	7
S'	3	4
S or S'	4	3
A+S	1 (ES)	2 (ES, NL)
C+S	1 (MT)	1 (MT)
A+S or C+S		1 (FR)

**Table 3. Retail pricing models used.**

113. Relatively few countries could provide data on the total revenue retained by the originating operator (OTR). Figure 5 shows the OTR of five countries. It shows there is a large difference in the OTR of fixed and mobile operators. For fixed the OTR is below the average retail price per minute for calling to a standard national landline, for mobile it is considerably above this.



**Figure 5. Total revenue of the originating operator (OTR) in eurocent per minute.**

114. On the fixed wholesale market thirteen NRAs regulate SRS and eight NRAs do not regulate fixed. Some NRAs solely regulate the incumbent, in a few Member states both the incumbent and other operators are regulated. Only two NRAs regulate SRS at the wholesale level for mobile voice, whereas nineteen NRAs do not regulate mobile voice at the wholesale level.

115. At the retail level most NRAs have implemented transparency measures and price caps for fixed and mobile networks. Mostly the provisions regarding SRS concern general provisions on numbering or provisions on consumer protection. Specific provisions related to SRS are either laid down in Government Decrees, Consumer Codes or in the national telecommunication law in those MS.

116. In the cases where SRS is regulated, the following measures are taken: access conditions for originating operators and service providers; wholesale charge control; retail price caps; transparency measures; caps for specific number ranges; compliance with numbering plan.

## Annex B References

### References

Term	Explanation
Arcep(2007)	Decision n° 2007-0213 on obligations imposed on operators controlling access to end users for the provisioning of communications to value added services
Ofcom(2010)	Simplifying Non-Geographic Numbers, Improving consumer confidence in 03, 08, 09, 118 and other non-geographic numbers, 16 December 2010 <a href="http://stakeholders.ofcom.org.uk/consultations/simplifying-non-geo-numbers/">http://stakeholders.ofcom.org.uk/consultations/simplifying-non-geo-numbers/</a>
SEO (2011)	Buying power for the purchase of call origination to 0800 numbers, March 2011 study assigned by OPTA
MCA (2008)	A Framework for Freephone Services in the 800 range Report on further Consultation and Decision, August 2008 <a href="http://www.mca.org.mt/sites/default/files/pageattachments/Framework%20for%20Freephone%20Services%20in%20the%20800%20Range.pdf">http://www.mca.org.mt/sites/default/files/pageattachments/Framework%20for%20Freephone%20Services%20in%20the%20800%20Range.pdf</a>
MCA (2010)	A framework for Premium Rate Services in the '5' Numbering Range Report on Consultation and Decision, November 2010 <a href="http://www.mca.org.mt/sites/default/files/pageattachments/PRS%20Decision.pdf">http://www.mca.org.mt/sites/default/files/pageattachments/PRS%20Decision.pdf</a>

### Definitions

Term	Explanation
A+S / C+S / S / S' / SfSm	Retail pricing models acronyms, as defined in section 2.3.
A+S model	The A+S model is a retail pricing model where the user pays a retail price that consists of two elements. The first element A is specified as a retail 'access' charge that can have any level and is set by an individual originating operator. The second element S is always set by the service provider, independent from the originating network.
C+S model	The C+S model has two components, like A+S. The first element C is specified as a retail 'communication' charge that is equal to the standard communication fee to a national landline. The second element S is always set by the service provider, independent from the originating network.
S model	In the S model, the user pays a single retail price S, independent from the originating operator.

<b>Term</b>	<b>Explanation</b>
S' model	In the S' model, each originating operator sets its own price for the service, which usually creates a price which depends on the originating network.
S <sub>f</sub> S <sub>m</sub> model	In the S <sub>f</sub> S <sub>m</sub> model, the user pays a single retail price S <sub>f</sub> from any fixed line or S <sub>m</sub> from any mobile line (both S <sub>f</sub> and S <sub>m</sub> are independent from the originating operator).
CPS	Carrier preselection
MS	Member state
OO	Originating operator
OR	Origination rate (any origination payment the terminating operator makes to the originating operator)
ORR	Originating retail revenue (the part of the retail revenue that is retained by the originating operator)
OTR	Originating total revenue (the sum of what is charged by the originating operator to the terminating operator / service provider and what is retained by the originating operator from the retail revenue, i.e. originating wholesale revenue + originating retail revenue) (OTR = OWR + ORR)
OWR	Originating wholesale revenue (the wholesale rate that the originating operator charges the terminating operator / service provider)
PSTN	Public switched telecoms network
RP	Retail price (the total price a caller pays)
SMP	Significant market power
SP	Service provider
SRS	Special rate service
TO	Terminating operator
TR	Terminating rate (the wholesale rate that the terminating operator charges the originating operator)
VAS	Value added service