Subject: State aid SA.33659 (2011/NN) – Denmark
Digital Audio Broadcasting transmission network in Denmark

Sir,

The Commission wishes to inform the Kingdom of Denmark that, having examined the information supplied by its authorities on the measure referred to above, belatedly notified on the basis of Article 108(3) of the Treaty on the Functioning of the European Union (“TFEU”), it has decided not to raise objections.

1. **PROCEDURE**

1. On 29 September 2011 Denmark notified possible State aid aspects relating to the commercial radio operators’ payment for the distribution costs of the Digital Audio Broadcasting ("DAB") transmission network and the tendering out of remaining broadcasting capacity reserved to commercial broadcasters on DAB block 2 (see paragraphs 37 and 38). Following requests for information of 20 October 2011, 12 December 2011 and 4 April 2012, Denmark submitted further information on 4 November 2011, 27 January 2012 and 4 July 2012. The measure had not been notified prior to 2011 although the Danish authorities confirmed that the scheme has been operating since 2005.

2. The Danish authorities do not consider that the measure constitutes State aid and they have therefore submitted the notification for reasons of legal certainty.

2. **CONTEXT**

3. The measure consists of an exemption for commercial broadcasters using DAB from paying the full costs of construction and operation of the DAB transmission network.
for the period 2005 to 2017.¹ According to the Danish authorities, the method used for calculating the participation of each commercial broadcaster is the fully distributed costs method ("FDC"). The present assessment covers also the period from 2018 onwards during which the full costs concerned will be borne by the commercial broadcasters. Prior to describing the measure in detail, some background information about DAB in general as well as FM band and DAB in Denmark should be provided.

2.1. Digital Audio Broadcasting

4. DAB is radio broadcast in digital form, while broadcasting on FM represents the analogue technique. DAB is the result of a European research project, Eureka 147, and is standardized by ETSI¹.

5. While each FM channel requires its own network of transmitters and its own frequency, DAB on the other hand is transmitted in so-called blocks (MUX/Multiplex), which can accommodate a varying number of radio channels depending on the type of channel transmitted (music or talk). Each DAB block therefore only needs one broadcasting network, and all transmitters in the network use the same frequency. Technically, the DAB technology is based on broadcasting several radio channels at the same frequency (DAB block). This technique is called Single Frequency Network. Thus, in contrast to FM and AM radio, which can only broadcast one channel per frequency, on DAB, several radio channels are assembled, packed, encrypted, compressed and transmitted on the same frequency in one DAB block. This improved spectrum use is essential, as frequencies are a limited resource.

6. A DAB block has an available bit rate of 1 152 kbit/s. At the outset, a DAB block has capacity for about nine 128 kbit/s channels, but the specific number of radio channels depends on how the bit rate is used. However, a part of the capacity in a DAB block could be used for technical information and digital value regarding the program, leaving the actual realistic number of channels at eight (with 144 kbit/s per channel) when the capacity is divided between several licensees. The number of radio channels that can be transmitted in one DAB block depends on the bit rate of each channel transmitted. An example: a classical music radio channel requires a bit rate of 192 kbit/s to sound good, while a pure talk radio only requires 64 kbit/s to obtain a reasonable audio quality. Thus, an operator who has been allocated a certain capacity on DAB can choose to reduce the bit rate of a channel, with reduced quality as a result, in order to obtain sufficient capacity for the transmission of another channel within the same capacity. The more capacity an operator has available the more flexibility the operator has to broadcast multiple channels. An operator with a capacity of 128 kbit/s can for example choose to broadcast 2 channels at 64 kbit/s or one channel at 128 kbit/s.

2.2. Legal framework of the development of digital radio in Denmark

7. Spectrum is a limited resource. Frequencies move like light - they cannot be stopped once they are sent off. They exceed beyond national borders, which is why agreements on spectrum use with other countries are necessary. Such agreements are made within the International Telecommunication Union (ITU).

8. In the ITU Wiesbaden Agreement of 1995, Denmark was awarded one DAB block for nation wide DAB radio (block 1) and one DAB block for regional DAB radio (block

¹ For distinction between the period from 2005 to 2012 and the period from 2013 to 2017, see paragraph 51.
2) in the European DAB frequency plan. Subsequently, in the ITU Maastricht Treaty of 2002, an agreement on frequencies for yet another block (L-band) was concluded, and furthermore, in connection with the ITU Geneva Agreement of 2006, another regional DAB block (block 3) was allocated to Denmark. In total, according to international frequency agreements, Denmark has been allocated one DAB block to cover the whole country (block 1), two DAB blocks for regional coverage (block 2 and block 3) and the L-band.

9. Digital radio was introduced in Denmark with the political agreement\(^2\) of 20 January 1995 regarding the strengthening of Danish public service TV, allowing DR\(^3\) - a public service broadcaster - to commence DAB testing. In that political agreement between the Danish government (at that time the Danish Social Democrats, Radikale and Centre Democrats) and Socialistisk Folkeparti, it was decided to commence testing the new DAB technique in a limited geographical area until 1 January 1998.

10. In September 1995, as one of the first broadcasters in Europe, DR started experimenting with the DAB technology, testing the technique and listeners’ interest in the technique.

11. In the political media agreement for 1997 to 2000 of 10 May 1996 between the Danish government (at that time the Danish Social Democrats, Radikale and Centre Democrats) and Konservative Folkeparti, Venstre, Socialistisk Folkeparti, Fremskridtspartiet and Dansk Folkeparti it was decided to expand the DAB testing to cover a larger geographical area.

12. In addendum no. 1 of 15 December 1998 to the political media agreement for 1997 to 2000 it was decided to prolong the testing period until 31 March 1999.

13. In addendum no. 3 of 17 March 2000 to the political media agreement for 1997 to 2000 it was decided to commence DAB broadcasting on a permanent basis as soon as possible and to let DR commence nationwide DAB transmission on the DAB blocks internationally allocated to Denmark.\(^4\) It was also decided that the nationwide and regional transmission networks (block 1 and 2) were to be developed to nationwide outdoor reception. It was further decided that the utilization of the blocks should take place gradually according to the following model: Blocks 1 and 2 should be used for nation-wide radio, and block 3 - to be introduced at a later stage - for local and regional radio. DR and the future commercial broadcasters of the FM5 and FM6

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\(^2\) Traditionally, the long-term framework for the Danish media has been decided by broad political consensus between the incumbent government and the opposition in political media agreements with a four-year duration. These media agreements are regularly adjusted through addendums to the original agreements. The media agreements, incl. addendums, are political agreements negotiated between the incumbent government and one or several of the political parties represented in Folketinget (the Parliament). The political agreements set out the directions for the future development for the Danish media. They are not legally binding and do not create rights or obligations for private legal or natural persons. However, these agreements are politically binding for the agreeing parties. The intentions in the media agreements are subsequently given effect through various legal acts (laws, amendments to laws and executive orders adopted by the Minister of Culture). Thus, the political agreements should not be confused with the agreements between the licensees and DR regarding the payment for distribution costs. For further information, please see the link below: [http://www.kum.dk/Kulturpolitik/Medier/Medieaftaler/](http://www.kum.dk/Kulturpolitik/Medier/Medieaftaler/). The political agreements should also be distinguished from the contract notices (see footnote 8) and the licences (see footnote 10).

\(^3\) DR (Danish Broadcasting Corporation) is Denmark’s oldest and largest electronic media enterprise. The corporation was founded in 1925 as a public service organisation. DR is an independent, licence financed public institution. DR Radio is a part of DR concerned with radio programming.

\(^4\) The decision to extend the DAB reception to almost 100% indoor reception nationwide and that DR – as part of its public service obligations - should be responsible for realizing this extension was made by the Minister of Culture.
channels were expected to transmit DAB radio and to share the costs of financing and running the DAB transmission network.

14. By addendum no. 3 of 17 March 2000, DR was given the task of establishing and running the Danish DAB transmission network as a part of DR’s public service obligations and DR’s public service contracts. The general legal basis for DR's public service obligations, including its obligation to establish and run the DAB network, is Section 12 of the Radio & TV Act.

15. In the political media agreement for 2007 to 2010 of 6 June 2006 between the Danish government (Venstre and Konservative Folkeparti) and Socialdemokraterne, Dansk Folkeparti, Radikale Venstre and Socialistisk Folkeparti it was decided to join DR's DAB channels in block 1, to move the DAB version of the commercial FM6 channel to block 2, and to tender out the remaining DAB capacity in block 2 (allowing up to three channels) to commercial operators. According to this agreement, the commercial operators on DAB block 2 were to finance both the programming (content) of the channel and the establishment and running of the transmission network.

16. The Danish Ministry of Culture ("the Ministry") initiated a tendering process on DAB block 2 in 2007, but in light of the difficult economic development on the Danish commercial radio market in general, the tendering process was suspended. In these circumstances, it was decided by the Minister of Culture that DR on a temporary basis should utilize the available DAB capacity in block 2.

17. In the addendum to the media agreement 2007 to 2010 of 9 June 2009 it was specified that – like DAB block 1 - DAB block 2 was to be developed for indoor reception.

18. After the final political decision not to carry through a reorganising of the FM band in 2009, the Ministry has worked to carry out a tender of the available DAB capacity on block 2 with a temporary reduction of the distribution costs for the licensees on block 2. Consequently, a new contract notice has to be adopted before initiating the tender. Once adopted, this new contract notice will replace the contract notice from 2007.

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5 Before 2000, DAB transmission was only carried out by DR on a trial basis. As a part of DR’s public service obligations – in the same manner as DR’s obligation to run the FM network in connection with DR’s FM channels - the costs were financed through licence fees. For further information on DR’s investments in DAB and on the costs of establishing and running the DAB transmission network, reference is made to section 3.2.

6 Act no 1052 of 17 December 2002 with subsequent amendments. The Act and later amendments are now consolidated in Act no 988 of 6 October 2011.

7 For the initial allocation of channels, please see paragraph 21 below. In 2006, the tendering out of the remaining capacity on DAB block 2 was initiated. However, in 2006 there was a political consensus to postpone the tender until final political decision on a potential reorganising of the FM band had been made, which was expected to happen in 2007, as the continuing uncertainty about the reorganising was feared to hinder the commercial interest in DAB.

8 In 2007, one single tendering process regarding three available capacities (two capacities of 256 kbit/s and one capacity of 128 kbit/s) on DAB block 2 was commenced, cf. the contract notice of 28 March 2007 on the tendering out of the remaining capacity on DAB block 2: [https://www.retsinformation.dk/Forms/R0710.aspx?id=12055](https://www.retsinformation.dk/Forms/R0710.aspx?id=12055). However, later in 2007 the final political decision on the potential reorganising of the FM band was postponed once again and thus the tender was never implemented.

9 However, block 1 was not abandoned. In fact, until it was decided to join all DR’s DAB channels in block 1 and join the commercial channels in block 2, DR was broadcasting on block 1 and on the remaining capacity of block 2.

10 A part of the nationwide FM band (FM5, FM6 and, subsequently, FM4) has been tendered out since 2003 to private commercial broadcasters, with and without public service content obligations, through contract notices.
19. There is not yet date for the switchover from analogue radio to DAB in Denmark. The definitive decision and date awaits a final political decision, which is expected to be made immediately after the 2012 summer holiday. This decision is expected to contain a comprehensive strategy for digital radio in Denmark in the future. In this connection the government expects to fix the date of the switchover from analogue radio to DAB to 2019 with the option of bringing forward the switch-off date to 2017, if it is noted in 2015 that 50% or more of radio listening takes place on a digital platform.

2.3. DAB blocks and channels in Denmark

20. According to international agreements, Denmark has been allocated the following DAB spectrum:

- Block 1: In 1995, DR commenced trial on DAB block 1. However, a more comprehensive expansion of the block 1 transmission network was not commenced until 2002. Block 1 was put into full operation in 2003 with 18 transmitters (by 2005 increased to approximately 30 transmitters). Block 1 is today assigned to DR in its entirety.

- Block 2: The establishment of the block 2 transmission network was commenced in 2003 and it was put into operation in 2004, but transmission of commercial radio did not start until 1 September 2005. Block 2 is today assigned to commercial/private radio companies and is divided into 4 separate broadcasting channels.

- Block 3: DAB block 3 is assigned to local and regional radio. However, expansion of the regional block has not yet started and is awaiting political decision.

- L-band is not utilized as its use for community radio purposes has been questioned.

21. In October 2000, DR started nationwide transmissions on DAB block 1. DR transmitted eight radio channels, only available on DAB for the audience with a DAB receiver. However, already in 2001, DR started transmitting its FM channels simultaneously on both FM and DAB.

22. DAB block 1 is assigned to DR in its entirety for the use of nationwide DAB radio. Today, DR transmits: P1, P2, P3, P5, P6, P7, P8, DR Ramasjang and DR MAMA.11

23. Six of these channels (P5 to P8, DR Ramasjang and DR MAMA) are only available digitally. Furthermore, as a consequence of the loss of FM4 in 2011, P1 and P2 share an FM frequency, but are available separately on DAB. As DR controls the entire block, DR is able to optimize the available capacity and decide how much capacity to be allocated to each radio programme. DR is thus able to transmit nine radio channels in one block.

24. DAB block 2 is intended for commercial/private radio. Currently, the capacity is assigned to FM4 (Radio24syv), FM5 (NOVA fm) and FM6 (Pop FM). A total of 688 kbit/s is pre-disposed to those three licensees out of an available capacity in the block of 1,152 kbit/s.

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11 Cf. the link here: http://www.dr.dk/NR/rdonlyres/A8F76B3B-3DC4-4893-82BF1A356429D07E/3186996/DRs_radiokanaler.pdf.
25. The license\textsuperscript{12} NOVA fm is owned by SBS Radio who also owns the radio channel The Voice. In 2009, SBS Radio decided to reduce the bit rate of NOVA fm to 128 kbit/s, thus making room for yet another channel within the residual DAB capacity in its licence, allowing SBS to transmit The Voice on DAB block 2.\textsuperscript{13} All block 2 licensees have FM frequencies and they all simulcast their channels on both FM and DAB block 2. Therefore, there is currently no unique commercial DAB channel in Denmark, which is not transmitted simultaneously on the FM band.

2.4. Danish radio market

26. The initiation of a nationwide and commercially attractive Danish radio market has been unusually difficult to establish and is still in the process of becoming viable.

27. The Danish radio market was a monopoly until 2003, when the first national commercial channels commenced their broadcast and effectively ended the Danish radio monopoly. A brief description of the development and operators on the Danish nationwide radio market is offered in this section.

28. In 2003, the first national commercial licenses for FM5 and FM6 were auctioned off – for an eight year period. Sky Radio won the first auction for FM5 for 54 million DKK annually, and Talpa won FM6 for 22.5 million annually. Both licenses had DAB capacity attached with an obligation to simulcast the FM-channel on DAB.


30. FM5 was yet again auctioned off in 2006. This time TV2/Denmark won the auction for 23 million DKK annually. TV2/Denmark (TV2 Radio) launched its operation in 2007. However, for a second time FM5 did not reach a sufficient audience to be profitable. As a consequence, TV2/Denmark as well terminated its operation shortly after commencing their broadcast.

31. TV2 Radio was subsequently sold off to SBS Broadcasting. In the transfer TV2/Denmark kept a 20% share. Moreover, TV2/Denmark committed to pay the annual fee of 23 million, while SBS Broadcasting seized general operations. SBS Broadcasting began operation of Nova FM on FM5 in November 2009.

32. In 2009, Talpa, the owner of the FM6 license, filed for bankruptcy after having lost 300 million DKK since commencing operations in 2003. Despite the bankruptcy, a restructuring process of the healthy parts of the company facilitated a continued broadcast of the FM6 channel under new owners and by means of local licenses, as the new owners were not able to obtain the rights to the national FM6 license (and the attached access to DAB). In 2010, following Talpa's bankruptcy, the license for FM6 was once again auctioned off. In recognition of the fragility and lack of continuity of the Danish radio

\textsuperscript{12} The Radio and Television Board (see footnote 33) awards licences to the winners of tendering procedure regarding nation-wide FM and DAB radio channels. In all the licences to transmit on a nation-wide FM frequency, awarded since 2003, there has been an obligation to transmit nation-wide DAB radio and to partake in the DAB distribution costs. According to the contract notices – and the subsequent licences – the payments by the licensees (commercial broadcasters) were to be specified in subsequent agreements concluded between the licensees and DR.

\textsuperscript{13} Until recently, all stations were transmitted on the FM band while only NOVA fm and Pop FM were transmitted on DAB block 2 as well. However, the licence to FM5 (NOVA fm) follows a capacity of 256 kbit/s available to SBS Radio on DAB block 2, allowing the transmission of at least two radio channels. Thus, in May 2010, SBS Radio decided to transmit The Voice on both DAB and the FM band by reducing the bit rate of NOVA fm to 128 kbit/s. Today, all three SBS owned channels are simulcast on DAB and the FM band.
market, the auction for FM6 was this time based on a beauty-contest, which included an
optional variable concession charge (in the same manner as the auction for FM5). The
auction for FM6 was won by a consortium consisting of Berlingske Media (60%) and
SBS Radio (40%). The new channel POP FM was launched on a national basis in October
2010.

33. The fragility and lack of continuity in the commercial radio market is equally present in
relation to the development of the nationwide DAB radio market, due to the
interdependence of FM and DAB (on all licenses to transmit on a nationwide FM
frequency awarded since 2003, there has been an obligation to transmit nationwide DAB
radio, and an obligation to partake in the DAB distribution costs).

34. The first commercial operators on DAB (licenses to FM5 and FM6) did not commence
their broadcast on DAB until 2005 (two years after being awarded the license), since the
DAB block 2 network was not fully established before 2005. Sky Radio merely
broadcasted on DAB for a very short period of time upon returning their license, as Sky
Radio terminated their entire operation in November 2005 due to financial hardship. The
subsequent unproductive attempt by TV2/Denmark and Talpa's bankruptcy on FM6
added to the fragility and lack of continuity in the commercial radio market.

35. After the introduction of the new public service broadcaster on the FM4 channel
(Radio24syv) from 1 November 2011, the Danish market for nationwide radio
transmission consists of the following players.14

36. The analogue FM band consists of 3 public service radio channels (FM1-3) owned by the
public broadcaster, DR, and 3 commercially run radio channels: Radio24syv (FM4), a
public service channel owned by Berlingske People A/S, which is owned by Berlingske
Media A/S and People Group A/S, NOVA fm (FM5) owned by Radio2 A/S, which is
owned by SBS Broadcasting and TV2 A/S, and PopFM (FM6), owned by FM6 A/S,
which is owned by Berlingske Media A/S and SBS Radio A/S.

37. The DAB transmission network consists as of 1 November 201115 of:

- Block 1 which contains 9 DAB channels owned by DR (nationwide radio), of which 7 are
  "new" DAB channels and 2 of the 3 FM channels broadcast by DR will be simulcast16.
- Block 2 which contains 4 commercial DAB channels: Radio24syv (FM4), NOVA fm
  (FM5), PopFM (FM6) and the Voice.
- Block 3 which is not yet utilized but is considered to be introduced at a later stage for
  local and regional radio.

38. The remaining DAB block 2 capacity, which is expected to be tendered out to commercial
broadcasters, allows for up to three further commercial DAB channels.

39. The lack of continuity has had a negative impact on the development of a
commercially attractive radio market, and the transition to such a market is still under
way.

14 For further details on the market for broadcasting in Denmark please refer to section 2.1 of Commission
decision of 23 March 2011 in case SA.32019 Danish radio channel FM4.
15 As regards the ownership of the licences for the channels, please see section 3.3 below. Until 31 October 2011,
the DAB network consisted of 13 DAB channels owned by DR, including simulcast of three of DR's FM
channels, and there were 3 commercial DAB channels (PopFM, NOVA fm and The Voice) owned by SBS
Radio.
16 Simulcast, shorthand for "simultaneous broadcast", refers to programs or events broadcast across both
analogue and digital transmission networks at the same time.
40. A general reference is made to table 1 for a detailed description of the turnover for the Danish radio market.

Table 1: Advertising turnover by media and time (in DKK current prices)

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<th>Media</th>
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</table>

Source: Dansk Oplagskontrol, Reklameforbrugsundersøgelsen i Danmark

2.5. Danish radio advertising market

41. TNS Gallup annually conducts the survey "Trends" among the largest Danish advertisers. In the study, "Trends 2006", the largest Danish advertisers were interviewed about the use of radio as an advertising platform. The interviews were conducted in mid-November to mid-December 2005 (i.e. around the time when Sky Radio had surrendered its license).

42. The advertisers who had not used the radio in 2005 (50%) or would not use in 2006 (50%) were asked why. The replies indicated that the advertisers increasingly began accepting radio as an effective medium for reaching their target audience. This is shown inter alia by the significant reduction from 21% to 5% in the category of “the contract price is too high/Does not get sufficient effect to money”.

2.6. Coverage of the DAB network

43. Basically, there has from the beginning been a scarcity of frequencies to allow increased indoor coverage – especially in urban areas, which was not available until Denmark received the spectrum rights required to further develop the indoor reception of the DAB networks.

44. At the same time while the network was developed to secure outdoor reception, DAB radio receivers were not available in new cars, and used cars would either have to buy a new receiver or buy an add on DAB receiver. There was, however, limited incentive to do so, as the content offerings on DAB was a reduced version of or a supplement to FM, rather than a replacement. Further, channels distributed solely on DAB were only “jukebox” channels (in contrast to host-borne channels on FM), which did not
generate a significant interest from the public. Combined, this meant that there was little interest in DAB from a commercial perspective.

45. In regard to radio receivers distributed in Denmark for mobile personal use, it has been possible to listen to DAB radio since 2002. Consequently, radio receivers for mobile personal use have been distributed for approximately the same amount of time. Notwithstanding, the FM band still accounts for approximately 90% of radio listening today.

46. As regards radio receivers for use in motor vehicles distributed in Denmark, the DAB platform is not presently a component in the standard off-the-shelf equipment of motor vehicles distributed in Denmark.

47. In a few cases car manufacturers (Opel and Ford) offer the DAB platform as an integral component of their various complementary audio and navigation packages.

48. There is, however, no indication that car manufacturers will implement the DAB platform as a standard feature in a near term prospect, inter alia, since the Danish radio market continues to carry both the DAB platform and FM broadcast - and, as noted above, the FM band still accounts for 90% of radio listening today.

49. Moreover, it should be noted, that there is with a high degree of uncertainty regarding whether car manufacturers will even begin to distribute cars with a DAB compatible receiver as a standard component, solely on the basis of a Danish political decision to switch off FM broadcast. A larger market is required to support such a change.

50. A more realistic scenario is that consumers (listeners) will be forced to buy a DAB set-top box to supplement the default receiver or upgrade to audio/navigation package, which allows for reception of both DAB and FM channels. This will also permit FM radio-listening in case of cross border traffic.

3. DESCRIPTION OF THE MEASURE

51. At this moment revenues from radio advertising are insufficient to cover – besides the costs of radio programming - the costs of establishing and running the DAB transmission network in Denmark, particularly in light of the obligation imposed by the Radio and TV Board on the commercial broadcasters to distribute nationwide. These costs are presently financed considerably by the owner and operator of the network, the public broadcaster DR, as part of its public service obligation, and to a minor part by the commercial broadcasters. For the period 2005 to 2012, commercial operators pay a contribution based on penetration levels. For the period 2013-2017 (phasing-in period), they will pay higher contributions as a transition to a cost model based on the FDC method to be in place as of 2018.

52. The objective of the measure is thus to establish a digital platform for public and commercial programming while avoiding “damage” to the development of the commercial DAB radio market in Denmark. Nation-wide coverage is deemed necessary by the Danish authorities in order for DAB to become a realistic alternative to the

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17 For the costs financed by DR, see column 9 (Aid amount) in table 10 below.
18 For the legal basis of the public service obligation entrusted to DR, see paragraph 14.
19 For the costs financed by commercial operators, see column 2 (Total payments received from commercial broadcasters) in table 10 below.
20 No commercial operator transmitted DAB before 2005 since the network was not yet sufficiently established. DAB was only transmitted by DR.
21 As regards the costs created by DAB, reference is made to section 3.2.
analogue FM band, and hereby realizing the full potential of the technology, and to ensure equal access for all users as DAB, over time, is to be the main type of radio transmission. In other words, the measure is intended to facilitate switch-over from analogue to digital radio. However, as the consumers took no interest in DAB and there were only very few DAB transmitters, nation-wide digital broadcasting was not economically viable for the commercial operators. Therefore, as the market could not develop itself, compensation for the obligation to transmit nation-wide has been deemed necessary to address this market failure.

53. The beneficiaries are broadcasters currently broadcasting through the digital network and in future, broadcasters to be selected through an open tender procedure. The duration of the measure is from 1 January 2005 to 31 December 2017. The total budget of the aid is estimated to be approximately DKK 90 million (EUR 12.1 million\(^{22}\)) whereas the annual budget changes every year as shown in table 10 below. The aid intensity reaches the range between 3 % and 100 %.

3.1. **Establishment and development of the DAB transmission network in Denmark**

54. Denmark has submitted a report from May 1998 (“DAB, the future radio?”), which is the result of an analysis by a working group, established by the Ministry, concerning digital radio and TV. Historically, the distribution of radio has mainly taken place via terrestrial signals. With cable and satellite development in the 60s and 70s, however, it was the first time possible to transmit and receive radio via satellite. Due to these new possibilities Denmark gradually opened up for both satellite and cable distribution of radio and television.\(^{23}\) In 1995, DR started trials with digital terrestrial distribution of DAB to test the new technique and the listeners’ interest in digital radio. A working group was formed in December 1997 to clarify the technical, socio-economic and competitive issues related to the introduction of digital terrestrial broadcasting in Denmark compared to digital radio via satellite, cable and other distribution forms. The working group delivered its report in May 1998, and the report was the technical basis for the political decision\(^{24}\) to develop the digital terrestrial transmission network in Denmark in 1998.\(^{25}\)

55. As mentioned in paragraph 14, it has been decided that DR, as part of its public service obligation, should establish and run the Danish DAB transmission network.\(^{26}\) DR has from the beginning been responsible for these tasks. Today, DR owns the DAB transmission network and is directly responsible for the establishment and running of the network.

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\(^{22}\) ECB exchange rate as at 10 July 2012: 1 EUR = 7.4380 DKK.

\(^{23}\) In Denmark, cable and satellite distribution were gradually opened in the mid-1980s. The market for television was opened in 1985 and the first satellite channel, TV 3 was introduced by Viasat (MTG) in 1986. Before, there were only limited alternatives to DR’s radio and television services. Even though the technological development made cable and satellite distribution possible from the 1960-70s, this distribution form first became available after a while as the required infrastructure and regulatory framework was not in place. In practice, DR had a monopoly position on the Danish market for terrestrial distribution of radio until 1983 when local radio was introduced. Local radio and television started on a trial basis in 1983, and were implemented in the Danish radio and television Act in 1986. In 2000, it was decided to introduce commercial radio with nationwide coverage and to impose on the operators an obligation to transmit DAB radio. Thus, as regards nationwide radio, DR’s monopoly continued until 2003 when the first national commercial channels began broadcasting (FM5 and FM6).

\(^{24}\) For the political agreement as a form of a political decision, see footnote 2.

\(^{25}\) See paragraph 12.

\(^{26}\) For the legal basis of the public service obligation entrusted to DR, see paragraph 14.
56. DAB radio has thus been transmitted in Denmark since 1995. In 2002, DR began establishing and transmitting on a regular basis from DAB block 1. The first phase of the establishment of the transmission network was finalized in 2004. In 2002, DR also began the establishment of DAB block 2, and the first phase of this establishment was finalized in 2005. Subsequently, it was decided by the Minister of Culture that DR should be responsible for the extension of DAB block 1 to cover almost 100% indoor reception nationwide. Today, outdoor coverage of DAB in blocks 1 and 2 is fully established. However, work is still underway to improve indoor coverage.

57. Since the transmission networks for blocks 1 and 2 are presently owned and run by DR, it has also been for DR to enter into the necessary agreements with the commercial operators of FM5 and FM6 in order to implement their obligations resulting from their licences to supply DAB radio. These agreements were envisaged in the tendering conditions for FM5 and FM6.

58. In 2003, the actual task of establishing and operating the network was given to Broadcast Service Danmark A/S (“BSD”), a company partly owned by DR and TV2 DANMARK A/S, and established as an in-house service provider of the transmission network. BSD was bought by Teracom A/S on 1 October 2010.

59. Teracom A/S (and before that BSD) is paid by DR for the costs of establishing and operating the network. DR has entered into several agreements with BSD, which have been approved by the national competition authorities. Thus, DR has, inter alia, entered into an agreement regarding the provision of services by BSD and the costs hereof, and an agreement concerning the construction, operation and maintenance of the network.

3.2. DR’s investments in the DAB transmission network and operational costs

3.2.1 Investments in DAB transmission network

60. The costs of establishment of the transmission network, and financing hereof, are undertaken by DR.

61. Presently, DR estimates that its total investment at full deployment of the DAB transmission network (blocks 1 and 2 with indoor coverage) will be DKK 159.1 million.

62. Denmark has provided the following breakdown of DR's investments in the DAB transmission network:

Table 2: DR's investments in DAB (current prices)

27 Before 2002, DAB radio was not transmitted regularly, see paragraph 21.
28 The decision to extend the DAB reception to almost 100% indoor reception nationwide and that DR – as part of its public service obligations - should be responsible for realizing this extension was made by the Minister of Culture. In addendum no. 3 of 17 March 2000 to the media agreement 1997-2000 it was decided to let DR commence nationwide DAB transmissions on the DAB blocks internationally allocated to Denmark. It was also decided that the nationwide broadcasting network (block 1) and the regional broadcasting network (block 2) were to be developed to nationwide outdoor reception.
29 Reference is made to the contract notices where it is stated that the licensee has to enter into an agreement with DR regarding the participation in developing, financing and running of the DAB transmission network. For the outcome of the tenders, please see section 3.3.
30 The agreement between DR and Broadcast Service Denmark A/S (now Teracom A/S) regarding the establishing and operating of DAB block 1 was concluded on 13 March 2003, and the agreement regarding DAB block 2 was concluded on 19 December 2003. However, the establishment of DAB block 1 was done gradually. In the beginning this was done on a trial basis. In 2002, the establishment of the block 1 network was commenced in a more widespread manner. The establishment of DAB block 2 was commenced in 2003.
<table>
<thead>
<tr>
<th>DKK million</th>
<th>Total costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB block 1, outdoor coverage</td>
<td>69.5</td>
</tr>
<tr>
<td>DAB block 1, indoor coverage (based on estimates)</td>
<td>25.0</td>
</tr>
<tr>
<td>DAB block 2 outdoor coverage</td>
<td>31.6</td>
</tr>
<tr>
<td>DAB block 2 indoor coverage</td>
<td>33.0</td>
</tr>
<tr>
<td>DRs total investments in DAB broadcasting</td>
<td>159.1</td>
</tr>
</tbody>
</table>

3.2.2 Financing of investments in the DAB transmission network

63. It is a part of DR's public service obligations to establish and run the DAB network. DR has from the Danish state received a permanent increase in the license fee, and it furthermore received a lump sum from the license surplus yield ("overskydende licensproventu") to finance the DAB network - both are described below in tables 3 and 4. The permanent increase in the license fee to DR has been used for financing running costs.

64. Investments in the DAB network are financed as follows:

  - DR has in 2004 and 2005 taken out two leasing contracts to establish DAB block 1 and DAB block 2 in the total amount of DKK 65.5 million.
  - DR has in 2005 received DKK 10.5 million as a lump sum from the license surplus yield. To cover the rest of the investment DR has been granted a loan by the National Bank of Denmark ("statslige genudlån"). The loan is part of a bigger loan package in broadcasting networks which also covers digital terrestrial television (DTT) networks.

<table>
<thead>
<tr>
<th>Financing</th>
<th>Million DKK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total investment in DAB (table 2) approximately</td>
<td>159.0</td>
</tr>
<tr>
<td>Lump sum from license surplus yield</td>
<td>10.5</td>
</tr>
<tr>
<td>Leasing contract 2004</td>
<td>34.0</td>
</tr>
<tr>
<td>Leasing contract 2005</td>
<td>31.5</td>
</tr>
<tr>
<td>In total</td>
<td>76.0</td>
</tr>
<tr>
<td>Loan * Approximately</td>
<td>83.0</td>
</tr>
</tbody>
</table>

* The loan is part of loan package in total of approximately DKK 151 million that covers both DTT and DAB.

3.2.3 Operating costs in DR

65. As a result of the investments in the DAB transmission network DR expects that at full establishment the annual operating costs will be of approximately DKK 41.4 million after improvement of indoor coverage of DAB block 2 has been established (expected in mid 2012). The amount covers operation costs, interests and depreciation. It should be emphasized that this is only an estimate, since building the network is not yet fully established.

66. DR is yearly charged operating costs in relation to the DAB network by Teracom A/S.

67. DR has received the following amounts to cover operating costs: an annual increase in license fee (DKK 15 million) and revenue from radio broadcasters in DAB block 2 of approximately DKK 1.4 million in 2011.
68. If DR will receive the above mentioned payment of DKK 1.4 million from broadcasters in DAB block 2, DR's yearly costs regarding DAB block 1 and block 2 would be approximately DKK 22 million in 2011. This amount is financed by DR's revenue from the license fee.

Table 4: Estimate of DR's yearly operating costs of DAB network in 2011 (block 1 and block 2)

<table>
<thead>
<tr>
<th>DKK million</th>
<th>Yearly costs 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly payment for operation of DAB networks</td>
<td>22.5</td>
</tr>
<tr>
<td>(installment)*</td>
<td></td>
</tr>
<tr>
<td>Cost Head Ends</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Total operation costs (estimate)</strong></td>
<td>24.6</td>
</tr>
<tr>
<td>Leasing fee from two leasing contracts (estimate)**</td>
<td>5.8</td>
</tr>
<tr>
<td>Interests and depreciation (estimate)***</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Total costs incl. interest, depreciation and leasing fee (estimate)</strong></td>
<td>38.4</td>
</tr>
<tr>
<td>Yearly increase in license fee to DR</td>
<td>15.0</td>
</tr>
<tr>
<td>Revenue from broadcasters (estimate)****</td>
<td>1.4</td>
</tr>
<tr>
<td>DR financing approximately</td>
<td>22.0</td>
</tr>
</tbody>
</table>

* Operation costs will be higher after improvement of indoor coverage of DAB block 2 has been established (expected for mid 2012).
** Regarding the leasing fee, DR has made an estimate of average of last 5 years.
*** An estimate of interest rate of 5% and depreciation 15 years. The interest rates are at the moment lower than 5% because of the historically low interest rates.
**** In 2011, the total payment from broadcasters is expected to be DKK 1.4 million (Nova FM DKK 0.55 million, POP FM DKK 0.55 million and FM4 DKK 0.3 million). In 2012 it is foreseen that there will be additional 3 commercial broadcasters paying each DKK 0.37 million.

3.3. The commercial broadcasters' contribution to DAB distribution costs

3.3.1 Prior and existing agreements – the penetration based payment model

69. In July 2003, two commercial radio broadcasters received the first commercial licenses to transmit on the national FM band: FM5 (Sky Radio) and FM6 (Radio 100 FM (Talpa Radio)). With the FM licenses, the operators received a corresponding DAB capacity, which allowed for up to two DAB channels each.

70. An explicit condition for acquiring the license was that the licensee transmits nationwide DAB radio, and that the licensee "participates in the establishment, financing and running of the relevant DAB distribution net". The terms of this participation were to be agreed with DR subsequently, and if no agreement could be reached, the terms were to be fixed\(^\text{31}\) by the Radio and Television Board ("RTB").\(^\text{32}\)

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\(^{31}\) No terms have ever been imposed by the Radio and Television Board, since DR and the commercial operators have managed, at times with difficulties, to reach an agreement.

\(^{32}\) The Radio and Television Board ("RTB") is the independent regulatory authority in charge of supervising the implementation of the Danish broadcasting legislation. The RTB has the following tasks: 1/ To issue licences to
It should be noted that, since 2005, DR has used its best endeavors to enforce the penetration based payment model. The result of these endeavors was that all agreements with the commercial operators (i.e. excluding TV2 Radio and Radio24syv) were based on the penetration based payment model, and all commercial operators have paid the same amount for the same capacity proportionally based on the extent of operation (e.g. 1/4 year = 1/4 payment). However, as TV2 is 100% owned by the Danish State and as Radio24syv has been entrusted with public service broadcasting DR has from the outset required TV2 Radio and Radio24syv to pay its full share of the distribution costs.33

The penetration based payment model relies on the number of DAB receivers in Denmark at the end of the previous calendar year based on available trade association statistics. However, the commercial operators have always disputed the number of DAB receivers. This is partly because there has been no official trade association statistics, and partly because the commercial operators were struggling financially. Thus, the figures regarding the numbers of DAB receivers have been compromised by surveys conducted mostly by DR or organizations with connection to digital radio in Denmark.

It should, however, be noted that due to the planned State aid proceedings, the payment was 'frozen' at the level of the payment made by NOVA fm in 2009, which was calculated on the basis of the penetration based payment model.

Furthermore, in two exceptional cases (Sky Radio in 2005 and Talpa in 2009) the actual payment was not made due to the bankruptcy and financial hardships of those commercial operators. This, however, does not pursuant to the Danish authorities change the point, that the payment the operators should have paid was calculated on the basis of the penetration based model respectively, and thus does not represent a deviation from or jeopardy of the uniform payment system. The present decision does not cover the amounts not paid in these two exceptional cases.

2005 Agreements with Sky Radio (FM5) and Talpa Radio (FM6)

The two commercial operators transmitted DAB radio on a regular basis from 2005. Initially, they were very reluctant to participate in DAB distribution since only few listeners had DAB receivers, the total distribution costs were high in this initial period, and thus the commercial prospects of the distribution were comparably small.

private national and local broadcasters; 2/ To monitor whether private and public broadcasters are fulfilling their legal obligations; 3/ To administer the grants for non-commercial local radio and television. The RTB consists of eight members that together represent expertise in legal, financial/administrative, business and media/cultural affairs. The Minister of Culture appoints the members for four years. Reappointments are possible. The decisions of the RTB can not be appealed to the Ministry. Please see the link below: http://www.bibliotekogmedier.dk/english/radio-and-tv/radio-and-television-board/. The legal basis for the RTB is chapter 7 of the Radio and Television Broadcasting Act: https://www.retsinformation.dk/Forms/R0710.aspx?id=138757?Kap7 and the executive order on the rules of procedure of the RTB: https://www.retsinformation.dk/Forms/R0710.aspx?id=136148.

33 The full share of the distribution costs of Radio24syv (FM4) and TV2 Radio is indicated in table 10. As regards Radio24syv (FM4), the radio channel is imposed a public service obligation and is (almost) fully financed through licence fees, cf. paragraph 85. In consequence, it was decided that this broadcaster should be imposed an obligation to pay full costs from the beginning, and this was envisaged in the tender material. As regards TV2, it should be noted that TV2 is 100% owned by the Danish State. This is a reason for requiring TV2 to pay full costs from the outset. Apart from these two exceptions, all commercial broadcasters have been treated equally and will be treated equally in the future.

34 See paragraphs 76 to 78.
76. Thus, in 2005, DR agreed with the two licensees on a payment model, which entailed payment according to penetration according to the following model: (DAB penetration\textsuperscript{35} x Total Annual Costs\textsuperscript{36}) / 5 million receivers.

77. Hence, until the number of DAB receivers reached 5 million, the operator would receive a comparable discount on its share of the distribution costs, since the obligation to distribute nationwide was not commercially viable.

78. The payment model thus entailed that the commercial operators would pay their share according to the market value of DAB radio until the DAB radio market became commercially viable.

79. As stated above, this payment model has subsequently been applied to all commercial DAB radio operators, with the exception of TV2 Radio and Radio24syv (FM4).

\textit{2007 Agreement with TV2 (FM5)}

80. Shortly after the 2005 agreements, Sky Radio (FM5) returned its licence. Subsequently, TV2 won the licence in a tendering process in 2006 and began transmitting in February 2007. In this connection, TV2 agreed with DR to pay its full share of the total costs of DAB distribution from the outset.

\textit{2008 and 2009 Agreements with SBS Radio (FM5)}

81. In 2008, TV2 - due to financial hardship - abandoned its radio activities and handed over the licence to SBS Radio, which today broadcasts NOVA fm on the FM5 band. SBS Radio also took over the agreement with DR as regards payment of DAB distribution. When the agreement expired, DR and SBS Radio agreed that from 2009, SBS would pay the same penetration based rate for DAB distribution as that paid by Talpa Radio. DR accepted this in order to avoid discrimination between the two commercial operators.

\textit{2010 Agreement with FM6 A/S (FM6)}

82. Talpa Radio returned its license for FM6 and the connected DAB capacity in November 2009. The Ministry subsequently awarded the license for the FM6 channel with DAB capacity to a new licensee, FM6 A/S.

83. DR has not entered into a formalized agreement regarding the payment with the new licensee FM6 A/S. With reference to the present notification, and in order to avoid discrimination between the commercial operators at the time, DR and FM6 A/S (Pop FM) agreed on a payment based on the penetration model. The payment was fixed at the level of the payment made by NOVA fm.

84. It is stated in the FM6 tender material that the Ministry is in the process of changing the payment model for DAB distribution. Thus, the new licensee must accept to pay its share of the price for the DAB distribution if the envisaged distribution payment model cannot be implemented. However, if implemented DR will require from the new licensee to accept the same payment model for DAB distribution costs as that offered to the new operators on DAB block 2.\textsuperscript{37}

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\textsuperscript{35} DAB penetration is the number of DAB receivers in Denmark at the end of the previous calendar year based on available trade association statistics.

\textsuperscript{36} Total Annual Costs include depreciation, interest and variable costs, and in 2005 they were estimated to be app. DKK 10 million.

\textsuperscript{37} See paragraph 113.
It is envisaged that Radio24syv must pay its full part of the costs related to the capacity allocated to Radio24syv due to the fact that Radio24syv is a public service channel fully financed through license fees. Therefore, in contrast to the commercial DAB channels, the agreement between DR and Radio24syv is based on full costs payments.\(^{38}\)

### 3.3.2 Future payment scheme – the phasing in and the costs payment model according to the FDC method

The Danish radio broadcasting advertising market is annually 2\% of the overall Danish advertising market and amounted to DKK 232 million in 2010; this represents an increase of 6.9\% compared to 2009 (however the number is still below the annual radio advertising revenue from 2005 to 2008 which was DKK 280 million, DKK 283 million, DKK 285 million and DKK 250 million, respectively). Compared to other Member States, the Danish radio advertising market is thus very small, leaving a considerable potential for increasing the market in the long term, including through DAB radio. At this moment, however, revenues from radio advertising are insufficient to cover the total costs of radio programming and of establishing and running the DAB transmission network in Denmark, particularly in light of the obligation to distribute nationwide. The Danish market for radio advertisement is among the smallest in Europe, based on three indicators:

1. Radio advertisement as a percentage of total advertisement revenue (table 5)
2. The scale of radio advertisement in million euro (table 6), and
3. Radio advertisement per capita in euro (table 7).

<table>
<thead>
<tr>
<th>Geography</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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</thead>
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<tr>
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<td>9%</td>
<td>9%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: Euromonitor, based on World Association of Newspapers

\(^{38}\) See footnote 34.
* The figure of the Danish advertisement has been adjusted upwards to equal to correct Danish figures in 2010 of 2 % instead of 1 %, the reason is that the advertisement revenue is reported in the WAN figures to be a bit lower than the actual official amount.

### Table 6: Radio advertisement in million EUR

<table>
<thead>
<tr>
<th>Geography</th>
<th>2005</th>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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<td>76</td>
<td>59</td>
<td>71</td>
</tr>
<tr>
<td>Switzerland</td>
<td>87</td>
<td>87</td>
<td>83</td>
<td>97</td>
<td>109</td>
<td>109</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>648</td>
<td>672</td>
<td>681</td>
<td>544</td>
<td>438</td>
<td>427</td>
</tr>
<tr>
<td>EU</td>
<td>4 953</td>
<td>5 212</td>
<td>5 469</td>
<td>5 427</td>
<td>4 774</td>
<td>4 700</td>
</tr>
<tr>
<td>EuroZone</td>
<td>3 874</td>
<td>4 035</td>
<td>4 223</td>
<td>4 240</td>
<td>3 814</td>
<td>3 715</td>
</tr>
<tr>
<td>OECD</td>
<td>25 200</td>
<td>25 998</td>
<td>24 955</td>
<td>22 414</td>
<td>20 168</td>
<td>20 589</td>
</tr>
</tbody>
</table>

Source: Euromonitor, based on World Association of Newspapers

### Table 7: Radio advertisement per capita in EUR

<table>
<thead>
<tr>
<th>Geography</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>21</td>
<td>20,6</td>
<td>20,5</td>
<td>21,4</td>
<td>20,0</td>
<td>20,2</td>
</tr>
<tr>
<td>Belgium</td>
<td>27,8</td>
<td>31,1</td>
<td>35,5</td>
<td>35,3</td>
<td>32,3</td>
<td>30,1</td>
</tr>
<tr>
<td>Denmark</td>
<td>6,9</td>
<td>6,9</td>
<td>7,0</td>
<td>6,1</td>
<td>4,9</td>
<td>4,4</td>
</tr>
<tr>
<td>Finland</td>
<td>9,0</td>
<td>8,9</td>
<td>8,9</td>
<td>9,6</td>
<td>9,2</td>
<td>9,2</td>
</tr>
<tr>
<td>France</td>
<td>16,2</td>
<td>16,4</td>
<td>15,5</td>
<td>14,8</td>
<td>13,4</td>
<td>12,6</td>
</tr>
<tr>
<td>Germany</td>
<td>8,0</td>
<td>8,2</td>
<td>9,0</td>
<td>8,6</td>
<td>8,2</td>
<td>8,3</td>
</tr>
<tr>
<td>Ireland</td>
<td>25,8</td>
<td>29,5</td>
<td>32,5</td>
<td>33,6</td>
<td>30,8</td>
<td>31,3</td>
</tr>
<tr>
<td>Italy</td>
<td>8,3</td>
<td>8,9</td>
<td>9,5</td>
<td>9,6</td>
<td>8,6</td>
<td>8,7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>15,5</td>
<td>16,0</td>
<td>16,8</td>
<td>16,9</td>
<td>14,7</td>
<td>13,9</td>
</tr>
<tr>
<td>Norway</td>
<td>30,9</td>
<td>30,1</td>
<td>14,6</td>
<td>15,2</td>
<td>12,8</td>
<td>13,4</td>
</tr>
<tr>
<td>Sweden</td>
<td>6,2</td>
<td>7,7</td>
<td>8,3</td>
<td>8,2</td>
<td>6,4</td>
<td>7,6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>11,8</td>
<td>11,6</td>
<td>11,1</td>
<td>12,8</td>
<td>14,2</td>
<td>14,0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10,8</td>
<td>11,1</td>
<td>11,2</td>
<td>8,9</td>
<td>7,1</td>
<td>6,9</td>
</tr>
<tr>
<td>EU</td>
<td>10,1</td>
<td>10,6</td>
<td>11,1</td>
<td>10,9</td>
<td>9,6</td>
<td>9,4</td>
</tr>
<tr>
<td>EuroZone</td>
<td>12,1</td>
<td>12,5</td>
<td>13,0</td>
<td>13,0</td>
<td>11,6</td>
<td>11,3</td>
</tr>
<tr>
<td>OECD</td>
<td>21,2</td>
<td>21,7</td>
<td>20,7</td>
<td>18,5</td>
<td>16,5</td>
<td>16,8</td>
</tr>
</tbody>
</table>

Source: Euromonitor, based on World Association of Newspapers

87. The figures indicate that the Danish market is among the smallest markets measured against the:
- radio advertisement revenue percentage of the total advertisement revenue: the Danish revenue percentage is 2 % while the EU average is 6 %.
- radio advertisement in million EUR in Europe: the Danish is the smallest with a volume below EUR 40 million.
- radio advertisement in EUR per capita: the Danish figure is well below the EU average.
Combined, the three indicators show that the market for radio advertisement in Denmark is among the smallest in Europe, both in relative and more absolute terms.

Against this background, Denmark submits that a tendering out of DAB block 2 capacity on the condition that commercial operators, from the outset, pay their share of the total distribution costs of a nationwide distribution system would be damaging to the development of the market. Such a model could entail that all commercial operators would refrain from bidding, or - perhaps even more damaging - that bidders would not be able to run their activities in an economically viable way due to unrealistic expectations about the potential of the Danish radio market. Both situations would be highly damaging for the development of the fragile commercial DAB radio market in Denmark.

On the other hand, while preparing for the tendering out of three new DAB channels, it has been decided that the commercial radio operators over a period of four years should be able to finance their part of the costs of distributing nationwide DAB radio.

In this light, Denmark was therefore initially planning a gradual introduction of a new payment model, using as a starting point, the penetration-based payment model under the existing agreements. The transitional payment model, which would apply to both new and existing commercial broadcasters, would gradually (over a period of 4 years from 2012 to 2015) phase in the operators’ share of total costs, meaning all variable costs, and a share of the fixed costs for DAB block 2 distribution costs, so that by 2016 the commercial broadcasters will pay their share of the total costs of establishing and running the DAB network.

In the initial notification, the model envisaged the following payments (in million DKK exclusive VAT):

| Table 8: Payments from commercial broadcasters 2012 – 2016 initially notified |
|---|---|---|---|---|
| **Payment 144 kbit/sec** | 2012 | 2013 | 2014 | 2015 | 2016 |
| 366 000 | 486 500 | 647 000 | 860 500 |
| **Payment 288 kbit/sec** | 2012 | 2013 | 2014 | 2015 | 2016 |
| 732 000 | 973 000 | 1 294 000 | 1 721 000 |

In regards to the initial notification submitted to the Commission an important change has been made in relation to the phasing-in payment model.

In the initial notification the Ministry has held that the full costs payment model would be applied from 2016 with the termination of the phasing-in payment model. However, the

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39 Reference is made sections 2.4 and 2.5, describing the fragility of the Danish radio market and Danish radio advertising market. Reference is also made to the section 3.3 in which it is described how making the new licensees pay to the phasing in of the full costs payment model ensures that all commercial operators are treated equal and allowing both existing and future licensees in a vulnerable market sufficient time to adjust their cost structures.

40 Formally, payment is still to be specified in agreements between the parties. However, DR will continue to treat all commercial broadcasters equally. During the transitional period and the phasing in of full costs, the payments are already fixed for present and future commercial broadcasters until 2015, cf. table 10. As regards Radio24syv, reference is made to paragraph 85. As already mentioned, Radio24syv is a public service channel fully financed through licence fees while the operator pays the full costs of the capacity from the outset. Thus, the situation of Radio24syv differs from the situation of the other, present and future, commercial operators. The costs of DAB distribution (i.e. the fixed costs during the phasing in period, and the full cost payment model) will be described in the tender material.
Ministry has decided to adopt a revised phasing-in payment model (full costs payment model will be applied from 2018).

95. The rationale behind the revised phasing-in payment model is that it provides a balanced transition to the full costs payment model:

96. Firstly, the revised payment model incorporates a linear gradual decrease in the aid intensity incurred on the commercial radio market - rather than non-linear aid intensities and an abrupt end.

97. Secondly, the revised phasing-in payment model takes into account the anticipated switch-off of the FM band to a larger extend, as the government expects to fix the year of the switchover from analogue radio to DAB to 2019 with the option of bringing forward the switch-off date to 2017, if it is noted in 2015 that 50 percent or more of radio listening takes place on a digital platform. Thus, the correlation with the termination of the FM-band and the phasing in of the full costs payment model is further improved.

98. The revised phasing-in payment model will be as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue (1/4 DAB capacity)</th>
<th>Revenue (1/8 DAB capacity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>569.329</td>
<td>284.665</td>
</tr>
<tr>
<td>2012</td>
<td>550.000</td>
<td>275.000</td>
</tr>
<tr>
<td>2013</td>
<td>1.000.000</td>
<td>500.000</td>
</tr>
<tr>
<td>2014</td>
<td>2.000.000</td>
<td>1.000.000</td>
</tr>
<tr>
<td>2015</td>
<td>3.000.000</td>
<td>1.500.000</td>
</tr>
<tr>
<td>2016</td>
<td>4.000.000</td>
<td>2.000.000</td>
</tr>
<tr>
<td>2017</td>
<td>5.000.000</td>
<td>2.500.000</td>
</tr>
<tr>
<td>2018</td>
<td>full costs</td>
<td>full costs</td>
</tr>
</tbody>
</table>

99. From the date of the switch-off of the FM-band the commercial operators will carry their full share of the distribution costs, also if it occurs prior to 2018.41

100. The transitional payment model as well as the final costs payment model are based on estimates from DR. DR’s estimate of the total annual expenses of DAB block 2 – fixed and variable costs including interest and depreciation – are shown in table 4.

101. The intention is for the costs to gradually rise to the costs-model based on the FDC methodology so that commercial operators do not experience a disproportionately high rise in costs from when the existing scheme is phased out and until the phasing-in of the

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41 It is anticipated that by 2018 the commercial broadcasters will pay their full share of the total costs of establishing and running the DAB network. Moreover, the commercial operators also pay costs relating to the investment, such as its amortisation. On average DR returns (interest) and writes off investments over a period of 15 years. As noted in section 3.3.2, the Ministry has previously held that the full costs payment model would be applied from 2016 with the termination of the phasing-in payment model. However, the Ministry has adopted a revised phasing-in payment model (full costs will be applied from 2018).
“FDC costs”-model, yet still have the ability to adjust to market conditions and possibly invest in the marketing of the DAB platform during the transitional period.

102. After the transitional period, the running of the DAB transmission network will no longer be a public service obligation for DR, but will be a part of DR’s “other activities”. Accordingly, the precise payments from each commercial operator will be based on fixed and variable costs and likely adjusted with the network price index. Accordingly, the price will cover the actual annual costs each year and profit.

103. In addition to the above payments, all new commercial operators will be subject to a variable concession charge when their turnover exceeds DKK 75 million, gradually increasing from 5 to 15 %.

3.4. Amount of aid

104. As described above, DR has as part of its public service obligation been given the task of establishing and running the nationwide DAB radio in Denmark. DR established the DAB block 2 in 2005. It was politically decided at that time, that 50% of the capacity should be disposed for commercial broadcasters. DR has for the obligation partly been compensated e.g. through an increase in the license fee and the payment of a lump sum.

105. In 2005 DR entered into an agreement with two commercial broadcasters (Sky and 100FM). The broadcasters were required to use half of the capacity in DAB block 2 corresponding to approx 512kb/s (25 % of total capacity each).

106. From 2005 until today the 50% capacity have been used by two commercial broadcasters in DAB block 2 (Sky Radio later TV2 Radio/Nova FM and Talpa Radio (100 FM), after Talpa's bankruptcy overtaken by SBS (POP FM)). The commercial operators thus have 25% each of the capacity in DAB block 2.

107. The payments would have been significantly higher if the two broadcasters were to pay the actual cost. The total payments for 25 % capacity if costs are to be covered are shown in table 10 which includes in particular the following columns: Column 2 shows what the commercial broadcasters actually paid or in the future, are supposed to pay according DR's rough estimates for their presence in DAB block2 year by year. Column 5 shows the network costs for 25 % capacity and therefore the amount to be paid by a commercial broadcaster for this capacity if the network costs are to be covered. Column 6 shows the costs based on capacity utilized by the commercial broadcasters. Column 8 shows the annual aid intensity and column 9 the annual aid amounts.

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42 The licensees of FM5 and FM6 are also subject to the variable concession charge. Thus, all commercial operators, incumbent as well as future, are subject to the same in-discriminatory concession charge.
Table 10: Payments received, costs, aid intensity and aid amount

<table>
<thead>
<tr>
<th>Year</th>
<th>Broadcaster</th>
<th>Total payments received from commercial broadcasters</th>
<th>Duration of SGEI obligation (in months)</th>
<th>Utilized capacity of DAB MUX 2</th>
<th>Total annual costs for 25% capacity</th>
<th>Total costs based on utilized capacity by commercial broadcasters</th>
<th>Aid intensity pr. broadcaster</th>
<th>Total Aid Intensity</th>
<th>Aid Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Talpa</td>
<td>6.749,00,00</td>
<td>12,00</td>
<td>25%</td>
<td>2.511.000,00,00</td>
<td>2.511.000,00</td>
<td>99,73</td>
<td>99,77</td>
<td>2.922.751,00</td>
</tr>
<tr>
<td></td>
<td>Sky Radio*</td>
<td></td>
<td>2,00</td>
<td></td>
<td>2.511.000,00</td>
<td>418.500,00</td>
<td>100,00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>Talpa**</td>
<td>107.145,00</td>
<td>12,00</td>
<td>25%</td>
<td>3.191.000,00</td>
<td>3.191.000,00</td>
<td>96,64</td>
<td>96,64</td>
<td>3.083.855,00</td>
</tr>
<tr>
<td>2007</td>
<td>Talpa</td>
<td>301.825,77</td>
<td>12,00</td>
<td>25%</td>
<td>3.759.000,00</td>
<td>3.759.000,00</td>
<td>91,97</td>
<td>48,65</td>
<td>3.505.207,56</td>
</tr>
<tr>
<td></td>
<td>TV2***</td>
<td>3.397.716,67</td>
<td>11,00</td>
<td>25%</td>
<td>3.759.000,00</td>
<td>3.445.750,00</td>
<td>1,39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Talpa</td>
<td>418.316,00</td>
<td>12,00</td>
<td>25%</td>
<td>3.865.000,00</td>
<td>3.865.000,00</td>
<td>89,18</td>
<td>45,73</td>
<td>3.534.658,60</td>
</tr>
<tr>
<td></td>
<td>TV2/NOVA****</td>
<td>3.777.025,40</td>
<td>12,00</td>
<td>25%</td>
<td>3.865.000,00</td>
<td>3.865.000,00</td>
<td>2,28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>Talpa****</td>
<td>240.000,00</td>
<td>12,00</td>
<td>25%</td>
<td>3.972.000,00</td>
<td>3.972.000,00</td>
<td>93,96</td>
<td>89,81</td>
<td>7.134.670,08</td>
</tr>
<tr>
<td></td>
<td>* NOVA</td>
<td>569.329,92</td>
<td>12,00</td>
<td>25%</td>
<td>4.096.000,00</td>
<td>4.096.000,00</td>
<td>85,67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>NOVA</td>
<td>569.329,92</td>
<td>12,00</td>
<td>25%</td>
<td>5.326.000,00</td>
<td>5.326.000,00</td>
<td>86,10</td>
<td>86,13</td>
<td>4.556.864,22</td>
</tr>
<tr>
<td></td>
<td>PopFM</td>
<td>164.472,53</td>
<td>3,50</td>
<td>25%</td>
<td>4.096.000,00</td>
<td>1.194.666,67</td>
<td>86,23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>NOVA</td>
<td>569.329,92</td>
<td>12,00</td>
<td>25%</td>
<td>5.326.000,00</td>
<td>5.326.000,00</td>
<td>89,31</td>
<td>89,31</td>
<td>9.513.340,16</td>
</tr>
<tr>
<td></td>
<td>PopFM</td>
<td>569.329,92</td>
<td>12,00</td>
<td>25%</td>
<td>5.326.000,00</td>
<td>5.326.000,00</td>
<td>89,31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>2.200.000,00</td>
<td>12,00</td>
<td>100%</td>
<td>5.387.000,00</td>
<td>18.854.500,00</td>
<td>88,33</td>
<td>16.654.500,00</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td>4.000.000,00</td>
<td>12,00</td>
<td>100%</td>
<td>5.448.000,00</td>
<td>19.068.000,00</td>
<td>79,02</td>
<td>15.068.000,00</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td>8.000.000,00</td>
<td>12,00</td>
<td>100%</td>
<td>5.508.326,00</td>
<td>19.279.141,00</td>
<td>58,50</td>
<td>11.279.141,00</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>12.000.000,00</td>
<td>12,00</td>
<td>100%</td>
<td>5.714.700,00</td>
<td>20.001.450,00</td>
<td>40,00</td>
<td>8.001.450,00</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>16.000.000,00</td>
<td>12,00</td>
<td>100%</td>
<td>5.800.421,00</td>
<td>20.301.473,50</td>
<td>21,19</td>
<td>4.301.473,50</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td>20.000.000,00</td>
<td>12,00</td>
<td>100%</td>
<td>5.887.427,00</td>
<td>20.605.994,50</td>
<td>2,94</td>
<td></td>
<td>605.994,50</td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td>12,00</td>
<td>100%</td>
<td>actual ann. full costs.</td>
<td>actual ann. full costs.</td>
<td>actual ann. total costs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"actual ann. full costs."
1. The total costs in column 5 are based on rough estimates.
2. It is assumed that from 2012 DAB MUX 2 will be fully utilized.
3. Column 6 contains only the commercial operators' share of the total costs of MUX2. From 2005 to 2011, column 4 relates to 100% of utilized capacity of DAB MUX 2. From 2012, when FM4 starts broadcasting, the total annual costs from commercial broadcasters will be 7/8 of the total MUX 2 capacity. The reason is that FM4 will pay its full share of the costs already from November 2011.
4. After 2017 the payment will be adjusted to reflect the actual annual total costs.
5. The aid intensity is calculated on the basis of actual payments.
6. From 2005 to the end 2011 the costs are based on a net increasing up to 55 transmitter positions. From 2012 to 2016 the network is based on 63 transmitter positions.

* Sky Radio was imposed the SGEI obligation from 1 September 2005 until it returned the license in November 2005 due to financial hardship. No payment was thus collected for those 2 months.
** In 2006, Talpa was the only licensee.
*** In 2007, TV2 began transmitting from February 2007. The aid intensity is based on the license being valid, and the SGEI obligation thus imposed on the broadcaster, throughout 2007.
**** TV2 continued broadcasting until 30 June 2008, when they handed over the license to NOVAfm due to financial hardship.
***** Talpa returned its license in November 2009, but Talpa only paid for Q1 and Q2. The Ministry subsequently awarded the license for the capacity to a new licensee, FM6 A/S. Therefore it is considered that the capacity was used throughout 2009.
It follows from the table that the estimated sum of the annual aid amounts for 2005 to 2017 equals DKK 90 161 905.62.

3.5. The tender procedure

The remaining DAB capacity on block 2, allowing for up to three commercial DAB radio channels, will be awarded in a beauty contest where bidders compete on both qualitative and quantitative parameters. In light of past experiences, it has been decided that the tender should not include any element of price competition.

The beauty contest criteria are described in the draft contract notice, which - in its present form - provides for the following five award criteria: 1/ Overall diversity in the DAB block 2 transmission network, i.e. based on a comparison with the existing channels on DAB block 2 (50%); 2/ The quality of the bidder's business plan (20%); 3/ The bidder's competence to operate broadcasting undertakings or other media undertakings and knowledge of the media market (10%); 4/ The bidder's use of studio hosts (10%); 5/ The bidder's provision of programmes, which do not merely consist of transmitting programmes, which are already transmitted on analogue radio channels (10%). These criteria will be further specified by the RTB in the tendering material.

The licensees of these new licenses will be required to pay their share of DAB distribution costs. Thus, the only payment required from the licensees will be their contribution to the DAB transmission network.

In addition, a variable concession fee will be imposed, which however is only activated if the licensee’s revenue exceeds DKK 75 million annually. The Ministry does not expect to receive any concession fee remuneration during the license period as it is not expected that the turnover of any of the licensees exceeds DKK 75 million.

The licenses will have the duration of 8 years, corresponding to the average FM license. It is expected that larger broadcasting undertakings will want to bid, meaning a potential number of bidders in the order of three to six. This number can, however, prove to be less. Nothing prevents undertakings from other Member States from bidding for broadcasting rights, though the tender materials will most likely be drawn up in Danish.

3.6. Technology

The report mentioned in paragraph 54 was used as the technical basis for the political decision to develop the digital terrestrial network in Denmark in 1998. The report lists the advantages and disadvantages of the different types of distribution and compares them against the cultural political considerations that was accorded significant weight in the decision to develop digital radio in Denmark, i.e. making digital radio available for the entire population without the use of advanced equipment in order to ensure Danish produced radio programs targeting Danish listeners, and to ensure the dissemination of emergency messages nationwide on radio channels with public service obligations.

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43 See paragraphs 99 and 100.
Furthermore, unlike satellite distribution, a terrestrial network makes regional division possible. By comparison, satellite distribution also entails copyrights-related issues since this form of distribution can be received outside Denmark. Finally, the report emphasizes that Denmark’s neighbouring countries at the time already had decided - or were in the process of deciding - on a strategy for the transition to digital terrestrial radio.

The report estimates the yearly costs of a digital terrestrial radio transmission network to be approximately DKK 10 to 16 million (with 25 to 40 transmitters), while the yearly costs of a digital satellite /cable distribution would be approximately DKK 5 to 6 million and up-link of the signal from the ground. So, the digital terrestrial radio transmission network costs were estimated higher than the costs of the digital satellite/cable distribution.

The actual establishment of the digital terrestrial radio transmission network has proved more expensive than estimated in the report (approximately a yearly cost of DKK 20.5 million for 63 transmitters in 2011). However, the present network is based on a requirement of almost 100 % indoor coverage.

Although the report estimates the costs of digital satellite distribution below the costs of digital terrestrial distribution, the actual requirement for the coverage of the digital terrestrial network (almost 100 % indoor coverage) entails unexplored challenges for a digital satellite network, which would increase the costs of a digital satellite transmission network considerably.

To establish indoor coverage on a satellite transmission network equal to the DAB network, terrestrial ground receivers would be required. In practice, a ground receiver network similar to that established for digital terrestrial radio would probably be necessary on top of the costs of leasing transponder capacity (capacity in the satellite through the combined transmitter and receiver inside the satellite which would probably entail additional annual costs of approximately DKK 20.5 million in addition to the estimated costs of digital satellite distribution in the report of DKK 5 to 6 million).

The report states, inter alia, that broadcast of radio signals via terrestrial transmitters is the most known and used form of distribution of radio programs. The typical reception form is simple antennas built into the receiver unit. The advantage of terrestrial distribution compared to other forms of distribution is that it is suitable for mobile reception, which is important since most radio listening takes place by mobile reception by the consumers. For instance, a satellite signal is quite easily lost if one

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44 Including only costs of transponder capacity (combined transmitter and receiver inside the satellite).

45 This is still the case and mobile reception is expected by Denmark only to be more important for the consumers in the future. Thus after the political decision to establish a digital terrestrial radio network in Denmark it was decided based on the fact that the amount of terrestrial frequencies are limited resource that the establishment of DAB block 1 and 2 should cover almost 100 pct. of the territory. The political decision to establish a digital terrestrial network has not precluded interested radio stations from distributing digital radio via cable or satellite. However the interest for these types of distribution has been limited and restricted to redistribution of FM-stations for reception in places with fixed receivers. Furthermore the political decision to establish DAB block 1 and 2 was made based on the assumption that analogue broadcast nationwide and regional radio would cease in 10-15 years hence the focus on establishing nationwide coverage of the networks. It is presently discussed at the political level to set a final date for closing of analogue terrestrial radio in Denmark.
drives into a tunnel, parking garage or in general where reception is disrupted, especially, if the satellite network does not have ground receivers. Therefore a terrestrial network was considered more prudent.

4. **ASSESSMENT**

121. This decision only deals with the State aid related aspects of the measure and does not prejudice its assessment under EU rules on public procurement.

4.1. **State aid within the meaning of Article 107(1) TFEU**

4.1.1 **Presence of public resources**

122. The investments made by DR in the DAB network are financed with DR’s yearly revenue from the license fee. More precisely, these investments are based on a loan and two leasing contracts taken by the public broadcaster, all financed from DR’s overall license fee, as well as a lump sum from the license surplus yield. The instalments under the loan and leasing contracts as well as the lump sum from the licence surplus yield is paid out of Danish State resources to a single undertaking and, therefore, the funds thereby obtained are granted by the State within the meaning of Article 107(1) TFEU.

123. This case is about the approval of aid granted to the commercial broadcasters (and not of the financing of DR).

4.1.2 **The favoring of certain undertakings**

124. Any financial measure granted by the State to an undertaking which, in various forms, would mitigate the charges normally included in the accounts of the undertaking, has to be considered an advantage within the meaning of Article 107 TFEU. In this particular case, the aid granted to the commercial broadcasters constitutes a direct cash inflow, for which the undertaking does not need to compete on the market. It can be claimed that the commercial broadcasters would not invest in DAB as the market is too small. With the funding from DR, they gain access to advertising revenues connected to the small but growing market of listeners with digital (rather than analogue) radio. The aid is therefore selective and does confer an advantage on the commercial broadcasters (and a disadvantage to the analogue market). In this sense, there is no doubt that the aid, providing an economic and financial advantage to the beneficiary compared with other competitors not receiving the same funds, has to be regarded as favoring an undertaking within the meaning of Article 107 TFEU.

125. As regards the cost model which should be in place in 2018, the Commission considers that given that the commercial broadcasters will fully cover their share of the costs, no State aid in favour of the commercial broadcasters will be involved.

126. Nevertheless, the Danish authorities do not consider the measure to be State aid to the commercial broadcasters as according to them, no State aid is involved, neither in the existing model (the "penetration" based model) nor in the future "FDC cost" model.

127. As the Danish authorities see it, the existing agreements concluded since 2005 do not entail any State aid: DR owns and runs a DAB transmission network as part of its public service obligations and the commercial operators' presence on the network does
not involve additional costs for DR. The penetration based payment model in the agreements reflects the market value of DAB distribution: The commercial operators should pay for the transmission network, but only to the extent that the network is of commercial value to them. Against this backdrop, DR and the commercial operators have agreed on a formula, which expresses the market value of DAB capacity - based on the number of DAB receivers. The rest of the distribution costs are financed by DR. Pursuant to the Danish authorities, these costs are irrelevant to the commercial operators since they reflect those parts of the total costs, which do not (yet) have a market value, and thus the part of the transmission network, which has been set up and financed by DR for public service reasons.

128. The assumption of the Danish authorities that the existing model does not constitute State aid is based on the premise that the commercial operators have not obtained an advantage or benefit which would not have been received in the normal course of business. Denmark believes that the reasoning used in the Chronopost case\(^46\) can be applied \textit{mutatis mutandis} to the existing payment model for DAB distribution costs: As regards the establishment of a transmission network for DAB radio services and the provision of distribution on that network, DR is pursuant to the Danish authorities in a position similar to that of La Poste.\(^47\) The obligation to set up and run a nation-wide DAB transmission network involves the provision of a universal service obligation on the part of DR. According to the Danish authorities, such a network would not have been established on normal market conditions. DR had to acquire substantial infrastructures and resources, enabling - and obliging - it to provide DAB radio service to all users, even in sparsely populated areas, where the provision of DAB radio is not commercially viable. The provision of distribution services is inseparably linked to the DAB network, since it consists precisely in making available that network which has no equivalent on the market. In this light, the Danish authorities have argued that it is not possible to assess how much a private undertaking in a situation comparable to DR would have required commercial operators to pay to gain access to the transmission network.

129. When it comes to the penetration model including the phasing-in, the Commission takes the view that it involves State aid given that the commercial broadcasters using the digital network of DR do not cover their share of the costs of creating and running \(\frac{1}{2}\) of block 2, i.e. the capacity of the network reserved for the commercial broadcasters. They therefore benefit from an advantage.

130. The Danish authorities' argument that the special situation in Chronopost is fulfilled and therefore no State aid is involved must be rejected. In the special situation in Chronopost, the Court held that the price under normal market conditions could be determined on the basis of the costs borne by La Poste.\(^48\) In the present case, the commercial operators would not accept to pay their share of variable and fixed costs of the DAB transmission network already from 2005 as this was not considered commercially viable, and thus - as regards the existing payment model - it is not possible to apply by analogy the Chronopost judgment.

131. As regards the tendering out of the remaining capacity on DAB block 2, the Danish authorities submit specifically that no State aid is involved.

\(^{46}\) Joined cases C-83/01 P, C-93/01 P and C-94/01 P Chronopost and others v UFEX and others, ECR 2003 I-6993.

\(^{47}\) Judgment referred to in footnote 48, paragraphs 34 to 38.

\(^{48}\) Judgment referred to in footnote 48, paragraphs 39 and 40.
132. The Danish authorities argue that compliance with the procedures stipulated in the public procurement directives and with the general principles of public procurement law usually excludes the presence of State aid.49 The objective, transparent and non-discriminatory award criteria would ensure that the licenses will be awarded to the licensees providing the best, including notably sustainable, radio value in the present Danish radio market. This should ensure that the bidders who are awarded the licenses do not receive overcompensation.50

133. However, the Commission has found that the commercial broadcasters selected under the tender procedure for the remaining capacity of block 2 will not pay their part of the full costs of the DAB transmission network until 2017. Indeed, they will cover the same amount of costs of the network as the existing commercial broadcasters do under the phasing in payment model (see section 3.3.2).

134. Therefore, the Commission considers that an advantage is involved in the reduced participation in the costs of the DAB transmission network which will be granted to the commercial broadcasters to be chosen following the tendering procedure.

135. In order to ascertain whether the reduced payments born by the commercial operators for the establishment and operation of the DAB transmission network between 2005 and 2017 could constitute aid within the meaning of Article 107(1) TFEU, the Commission has also to assess whether it distorts or threatens to distort competition, and whether it affects trade between Member States.

4.1.3 Distortion of competition and effect on Union trade

136. The third condition to be met for State measures to fall under the provision of Article 107 TFEU is that they have a real or potential effect on trade between Member States.

137. The commercial operators using the DAB transmission were or will be competing with other commercial and public radio channels in Denmark not benefiting from support foreseen under the measure. In particular, these commercial operators are in direct competition with local FM channels, FM4 and DR’s DAB channels and FM channels, which do not receive the same benefits. The presence of commercial digital radio channels may potentially influence the preferences of viewers to switch from other channels - whether analogue or digital - to listen the commercial radio based on DAB service. Moreover, the Danish commercial DAB channels compete, at least potentially, with radio channels (e.g. internet radio channels) from other Member States.

138. It is not necessary, in order to evaluate the impact on trade between Member States, to demonstrate whether or not the reduction of penetration suffered by other channels after the launching of the DAB transmission network was a direct consequence of the presence of the channel subject to a payment not covering the full costs. It is sufficient to argue that the possibility for an undertaking to offer a service on conditions which

49 Denmark refers to Commission decision in case N 117/2005 Broadband in Scotland, paragraph 21(1).
cannot be matched by any other commercial operator may put other undertakings in an unfavorable position.

139. In addition, it must be noted that, according to the Court of Justice, for a State measure to be relevant under Article 107 TFEU, a direct impact on actual trade between Member States is not necessary. It is sufficient that the measure puts the recipient in a more favorable position compared with other undertakings which are competing in intra-Union trade.\(^{51}\)

140. Furthermore, some of the commercial DAB broadcasters in the relevant period (from 2005) are broadcasters with a foreign or international company structure (e.g. SBS Radio, which is a part of ProSiebenSat1 group) and are in competition with foreign public radio programmes. Also, the beneficiaries can participate in the international market of the purchase and sale of programme rights.

141. The distortion of trade may thus be envisaged in consequence of the aid to commercial broadcasters exploring a new transmission network in relation to other channels, such as the channels run on the aforementioned analogue and digital networks. In this sense, it can be concluded that the measure under examination may distort competition and have an effect on trade between Member States.

142. Therefore, the measure as implemented between 2005 and 2017 constitutes State aid in the meaning of Article 107(1) TFEU.

4.2. **Compatibility of the aid with the internal market**

143. Having determined that the measure as implemented between 2005 and 2017 constitutes State aid within the meaning of Article 107(1) TFEU, the Commission has to assess whether this aid could be declared compatible with the internal market under the provisions of Article 107(2) and (3) TFEU, or of Article 106(2) TFEU.

144. The Danish authorities have indicated that if the commercial operators’ payment for the DAB transmission network was State aid it could be declared compatible with the internal market with reference to Article 106(2) TFEU and the Community framework for State aid in the form of public service compensation.\(^{52}\)

145. The Commission considers Article 107(3) TFEU a more appropriate legal basis than Article 106(2) TFEU for assessing the case at hand, taking into account that no public service obligation has been duly entrusted to the commercial broadcasters and the terms of the financing have been established through commercial negotiations between DR and the commercial operators.

146. Furthermore, the Danish authorities have indicated that if the measure was State aid it could also be declared compatible with the internal market with reference to Article 107(3)(c) of the TFEU. The latter Article states that “aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest” may be considered to be compatible with the internal market.


\(^{52}\) 2005/C 297/04.
In order to assess whether a measure is compatible with the internal market under Article 107(3)(c) of the TFEU, the Commission balances positive effects of the aid measure in reaching an objective of common interest against its potential negative side effects, such as distortions of trade and competition. In applying the balancing test, the Commission assesses the following questions:

1. Is the aid measure aimed at a well-defined objective of common interest (i.e. does the proposed aid address a market failure or other objective)?
2. Is the aid well designed to deliver the objective of common interest? In particular:
   (a) Is the aid measure an appropriate instrument?
   (b) Is there an incentive effect, i.e. does the aid change the behaviour of firms?
   (c) Is the aid measure proportional, i.e. could the same change in behaviour be obtained with less aid?
3. Are the distortions of competition and the effect on trade limited, so that the overall balance is positive?

Below, the Commission elaborates further on the reasoning supporting the position that (a) the penetration based payment model and (b) the phasing in of full costs can be declared compatible with the internal market with reference to Article 107(3)(c) TFEU.

4.2.1 Objective of the aid measure

The circumstances described in paragraphs 29 to 39 have not contributed positively to the promotion the main objective of the measure, notably a switch-over from analogue FM radio to digital DAB radio.

The Commission considers that any possible State aid granted through the two payment models has a well-defined objective in line with EU policy, addresses a market failure and has, in fact, a cohesion objective as well.

4.2.1.1 The digitisation of broadcasting is in line with EU policy

There are several well-known reasons for furthering the digitisation of broadcasting. From a Commission's perspective, there are two main reasons for ensuring nationwide distribution of both public service and commercial DAB radio in Denmark:

Firstly, DAB is a technological improvement compared to the FM band. It increases transmission capacity and efficient use of frequency spectrum, thus allowing for an easier access and a stronger competition among broadcasters. However, in order to realise the potential of this technology, DAB must become a realistic alternative to the analogue FM band, which is considered impossible without ensuring full nationwide coverage.

53 When (c) the full costs model is in place in 2016, it is obvious that no State aid is involved, and the Commission will not elaborate any further on this.
54 As the Commission has noted inter alia in paragraph 8 in its decision in case N 107/2007 Digital TV in Italy.
55 If DAB does not offer at least the same possibilities and features as the FM-band, e.g. nationwide coverage, the incentives for the consumers to switch over to DAB are severely weakened. Furthermore, if nationwide
153. Secondly, since DAB is expected eventually to become the main type of radio transmission in Denmark, equal access for all users must be ensured, in particular for users living in thinly populated areas where investments in distribution would not be profitable for commercial broadcasters, thereby avoiding a digital divide between population centres and rural areas.

154. Consequently, all commercial operators have been imposed the obligation to transmit nationwide DAB radio with a view to facilitate the creation of a realistic alternative to the FM band and facilitating a future switchover from analogue to digital radio broadcasting for all users.

155. The importance of the switch-over from analogue to digital transmission has been recognized by the Commission in Action Plan eEurope 2005\(^{56}\) and in the Switchover Communications\(^{57}\), in which the Commission further points out that the switchover will involve significant costs and difficulties and that government intervention might be necessary in cases where general public interests are at stake or in cases of market failure. Furthermore, the Commission has recognized digitisation of TV transmission as a policy objective in line with Union interest and priorities.\(^{58}\)

156. The Commission considers that this must also be the case as regards digitisation of radio transmission, and that the penetration based payment model and the phasing-in period facilitates an economic activity (digital radio services) within the scope of Article 107(3)(c) and in line with EU policy.

4.2.1.2 The aid facilitates cohesion and equal access to information

157. In order to become a realistic alternative to the FM-band, along with a wide range of DAB channels, full nationwide coverage is deemed necessary in order to create incentives for the consumers to switch over to DAB and hereby secure equal access to information for all consumers.\(^{59}\)

158. It is obvious that commercial broadcasters of DAB radio would not by themselves establish a DAB transmission network with nationwide coverage, since the costs of establishing and running the network in the outer regions of Denmark cannot be covered by expected advertisement revenues.

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\(^{56}\) COM(2002) 263 final, eEurope 2005: An information society for all

\(^{57}\) COM(2003) 541 final, Communication on the transition from analogue to digital broadcasting (from digital “switch-over” to analogue “switch-off”) and COM(2005) 204 final, Communication on accelerating the transition from analogue to digital broadcasting.

\(^{58}\) Case N 671b/2009 Switch-over to digital TV broadcasting in Slovakia, in particular paragraphs 32 to 33 and 36 to 40.

\(^{59}\) DAB will ultimately become the main type of radio transmission in Denmark and the analogue transmission will eventually be switched off. However, nationwide coverage is not economically viable in thinly populated areas since commercial prospects of the distribution was/is very small (unviable) in these areas. In order to guarantee equal access to information, commercial operators were obligated to provide nationwide DAB coverage even if there is no economic incentive to do so. Otherwise, equal access to information would be threatened without the aid, in particular for thinly populated areas, for the reason that commercial operators would not by their own motion transmit DAB to these unviable areas based on economic reasoning (lack of economic incentive).
159. In order to ensure coherence and access to information, a licence to transmit on the nation-wide FM band has been made conditional upon an obligation on the licensee to transmit nationwide DAB radio and participate in the establishment, financing and running of the DAB transmission network on terms to be specified subsequently in agreements with DR.  

160. This obligation to transmit on DAB has been considered necessary in order to attract consumers in a transitional switch-over period, as is also clear from the report from May 1998 submitted by the Danish authorities.

161. The Commission approved compensation for the additional costs arising from the obligation imposed on the TV broadcasters to simulcast their programmes both analogue and digitally in the switch-over period in order for the users to choose while not risking to lose access to information.  

162. Furthermore, compensation in order to provide equal access for all users, thus avoiding a digital divide between population centres and rural areas from widening, has also been accepted by the Commission in broadband deployment cases.

163. The aim of the DAB network is to provide equal access throughout Denmark to the main public service and commercial radio channels. In addition, the primary objective of the DAB transmission is to secure freely accessible radio broadcasting as one of the main sources of information for the population. Indeed, it has been politically decided to secure that the listeners of terrestrial radio do not lose access to information and that the pluralism of the radio media is secured after the digital switch-over.

4.2.1.3 The aid addresses a market failure

164. In regard to the necessity of the aid and the existence of a market failure it should be recalled that neither the contract notices nor the licences fixed a method for calculating the costs for the DAB distribution to be paid by the licensees. The contract notices and licences only provided that the operators would be obligated to contribute equally and proportionally to the development of the DAB network.

165. At the outset, it was politically assumed that the commercial operators would pay their full share of the DAB distribution costs. However, upon the commencement of DAB broadcast, and for all the reasons given in the previous sections, it became evident that full payment of the DAB distribution costs was not commercially possible and did not reflect the actual market value of DAB.

166. For the following reasons the penetration-based payment model is considered to address a market failure and necessary in order to obtain the objectives mentioned in section 4.2.1:

167. First, the commercial prospects of DAB proved to be very weak. The Danish radio market for digital radio broadcasting turned out to be much less profitable than expected. This was primarily due to the fact that listeners (customers) took no real

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60 Cf. section 3.3.
61 Case N 671b/2009 Switch-over to digital TV broadcasting in Slovakia, in particular paragraphs 36, 56 and 60.
62 See e.g. case N 115/2008 Broadband in rural areas, in particular paragraphs 45 to 47.
interest in DAB, i.e. there was no revenue base for commercial operators, who relied heavily on advertisement fees.

168. Notwithstanding, DAB is able to become a technological improvement in relation to FM broadcast, the Danish DAB platform was commercially incomplete. DAB broadcasting did not match the performance and features of the FM band in a few albeit customer-important aspects. In particular, the lack of receivers in motor vehicles, poor indoor coverage, and the lack of original content (content not also available on FM) severely weakened the switchover from FM radio to DAB radio and the commercial attractiveness.

169. Today, the FM band still accounts for approximately 90% of radio listening today due to these flaws. Accordingly, maintaining and developing nationwide digital broadcasting was not economically viable for commercial operators, and, as a consequence, payment at full cost proved impossible.

170. In addition, the wide range of public service content from DR on DAB radio, which consisted of mainly "jukebox" channels, was insufficient to set off and sustain a switch-over from analogue FM radio (host-borne channels) to digital DAB radio, as the listeners continued to consider FM as their principal and preferred radio platform.

Table 11: Audience share development on DR channels per platform

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>91%</td>
<td>90%</td>
<td>89%</td>
</tr>
<tr>
<td>DAB</td>
<td>7%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>NET</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 12: Average weekly reach

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>83,9%</td>
<td>83,4%</td>
<td>82,6%</td>
</tr>
<tr>
<td>DAB</td>
<td>19,6%</td>
<td>23,4%</td>
<td>22,9%</td>
</tr>
<tr>
<td>NET</td>
<td>8,8%</td>
<td>11,1%</td>
<td>11,4%</td>
</tr>
<tr>
<td>Total</td>
<td>86,3%</td>
<td>86,8%</td>
<td>86,0%</td>
</tr>
</tbody>
</table>

171. The tables illustrate the development of audience listening on different platforms, where the limited impact of DAB even in 2011 is evident. Since the introduction of DAB channels in 2002 (DAB-bloc 1) there has been a limited improvement measured by consumer choice. However, DR has now implemented a significant change to its DAB channels whereby the “jukebox” channels have been largely replaced by either specific “normal” DAB radio channels or by DAB equivalents to FM channels. These initiatives should improve the consumer perception of DAB over time. Overall, however, the audience data indicates that FM continues to be the primary and preferred platform and that the move towards digital is a slow process.
Second, there was an overall financial hardship in the sector on top of the general financial crisis, which was further exacerbated as the Danish market for radio advertisement is among the smallest in Europe. In general the radio advertisement market is around 2% which is below the European average of 6%, cf. section 2.4 (Table 1) for a full description of the Danish radio market. These poor financial conditions resulted in a sharp decline in revenue.

Third, the development of the DAB network was contingent upon political decision-making, which created a degree of uncertainty in the market. Since commencing digital broadcast there has not been a specific long-term plan for the switch-over from analogue FM radio to digital DAB radio. The uncertainty concerned, inter alia, replanning of the FM-networks, the development of coverage on the DAB blocks and the conditions for the switch-over from analogue FM radio to digital DAB radio.

Fourth, the coverage and expansion of the DAB network has all along been politically dictated. Thus, the positioning and number of DAB transmitters to be constructed and maintained was decided irrespective of commercial interests in order to further the objective - a switch-over from analogue FM radio to digital DAB radio.

These activities incurred a relative increase in distribution costs for the operators due to higher construction and maintenance fees. This variation and fluctuation in the full distribution costs could not be reflected in the commercial operators' cost structures and DAB advertisement fees. This made a full cost model inapt for the development of a viable commercial market. As noted above, the cost structures and DAB advertisement fees had already been further diluted by an overall financial hardship and general financial crisis.

Fifth, the manner in which the digitalisation was to be attained - a gradual transition from analogue to digital radio with the continued existence of both the analogue FM platform and digital DAB platform - turned out to be problematic. In effect, the continued existence of the FM band has created a very significant barrier for the successful development of an independent DAB radio market, because the FM radio market continued to be much more commercially attractive than DAB radio channels.

This fact in combination with the points made under sections 2.4 and 4.2.1.3, made it necessary to have a relatively long transitional period before switching over to digital radio entirely, in order to ensure stability and continuity for the commercial market, as well as securing that the DAB network in the meantime would be developed and reach its full potential.

In sum, it was necessary in 2005 to introduce a (penetration based) payment model that would accommodate the difficult economic climate and address a market failure while facilitating the gradual transition from a viable analogue radio market to a (viable) digital radio market, without causing irreparable harm to the entire commercial radio market in doing so.

The payment models aim at contributing to the commercial operators' costs arising from the obligation to transmit nationwide DAB radio and not only in areas where it is economically viable. Since radio listeners have shown little interest in the new

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63 The payment models contain an obligation to transmit nationwide DAB radio in its entirety. Accordingly, the market failure concerns market failure as a whole. It does not make sense to divide the market geographically in
technology and only a limited number of consumers have so far acquired a DAB receiver, nationwide digital broadcasting has proven economically unviable for the commercial operators.

180. This is evidenced by the financial hardship, which the commercial operators experienced in the first years of transmission after 2003, and by the small Danish radio advertisement market.64

181. Thus, a market failure prevented the development of a nationwide market for commercial DAB radio without State intervention.

4.2.2 Design of the aid measure

4.2.2.1 The aid is an appropriate instrument

182. The Commission considers that the payment models are appropriate instruments for achieving the above objectives.

183. Initially, i.e. in the first political agreements, it was assumed that the commercial operators would pay their full share of the DAB distribution costs. However, in light of the financial hardship in the sector,65 the Ministry realized that this was not in accordance with the market value of the DAB radio network.66

184. Accordingly, as described above, based on the contract notices and the licences, the penetration based payment model was introduced.67 This model appeared, at the time it was introduced, as transparent and well-balanced: On the one hand, the payments, which in this model depended on the number of DAB receivers in Denmark, reflected the net value of the distribution services provided to the commercial operators.

185. Thereby, the commercial operators were given an incentive to act on market terms even if there was not yet a real market.68 On the other hand, the payment model entails that payments from the commercial operators would increase with the increase in the number of DAB receivers, thus ensuring that the payment would follow the development in the value of the transmission network.

profitably (i.e. mainly urban) and non-profitable areas. This would contradict the very logic of the digitalisation of the whole Danish radio market.

64 Cf. paragraphs 86 to 88 above.

65 Cf. section 3.3.1.

66 Reference is made to paragraph 72 above.

67 Cf. paragraph 75.

68 When DAB transmission commenced there were only very few radio listeners holding a DAB receiver. Therefore, the commercial operators had no interest in paying their full share of the distribution costs as the commercial prospects of the distribution were very limited. With the introduction of the penetration based payment model the payment was calculated on the basis of the actual number of DAB receivers, and consequently the payment did reflect the market value of DAB as it imitated the net value of the distribution services provided to the commercial operators, which would gradually increase along with the increase in number of DAB receivers. The incentive effects are described below.
Furthermore, within the media area, payment based on penetration is common practice, and it was used to certain extent in connection with the introduction and financing of digital terrestrial television in Sweden.\(^{69}\)

The fact that the penetration based payment model subsequently turned out to be very difficult to enforce, as explained in the above paragraph 72, does not bring into question the appropriateness of the measure at the time it was introduced.

As a result of the future tender of the remaining DAB block 2 capacity and the enforcement problems described above, the penetration based payment model is to be replaced by gradually phasing in an actual full cost payment model (i.e. irrespective of the market value of the transmission network).\(^{70}\)

The phasing-in payment model (2013 - 2017) is also appropriate in light of the above objectives and the previous situation during the transitional period: The model, which entails fixed and gradually increasing costs during the transitional period, provides a balanced transition from the penetration based model to the actual full cost model, thus allowing both existing and future licensees sufficient time to adjust their cost structures. Moreover, it ensures that all commercial operators are treated equally. Further, the revised phasing-in payment model takes into account the anticipated switch-off of the FM band.

It is expected that the prospective tenders and an extension of the coverage of the DAB block 2 transmission network will result in an increase in the number of DAB receivers and thus an increase in the commercial value of DAB transmission, which may also bring forward the FM-band switch-off.

For these reasons, both the penetration based model and the phasing in model are appropriate instruments, which contribute to the objectives identified above.

4.2.2.2 The aid provides the right incentives for the commercial operators

(i) General characteristics of the market

As explained in paragraph 7, radio frequencies are a limited resource, and the introduction of DAB enables an increase in the available number of radio channels. The digital platform - and the digital switch-over - should thus increase competition on the radio market in general.

Presently, all commercial operators who transmit DAB radio also transmit FM radio channels, and all commercial DAB radio channels are simulcast from FM channels.

In particular three characteristics make it practically impossible to switch-off the analogue network while requiring the commercial operators to pay their full share of the costs: (1) Only a limited number of the Danish population has DAB receivers (the FM band accounts for approximately 90% of radio listening today), (2) block 2 was not fully developed as regards in-door coverage, and (3) DAB block 3 (reserved for regional DAB radio) has yet to be built.

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\(^{70}\) Cf. section 3.3.2.
Hence, the Danish radio market continues to carry both DAB and (regional and nationwide) FM broadcast. This reduces the commercial value of the DAB capacity. The continued existence of regional and nationwide FM radio channels, which are much more commercially attractive than DAB radio channels, creates significant barriers for the successful development of the commercial DAB radio market.

As experience shows, the commercial broadcasters have had no incentive to develop and utilize the DAB capacity, since the benefits of DAB in the beginning were extremely limited and the fixed and operational costs are very high.

The lack of incentives to partake on market terms in the digital switch-over is also a consequence of the limited market for radio advertising in Denmark, as explained in paragraphs 86 to 88, and thus the limited prospects of receiving significant long-term financial benefits on the DAB radio market.

It should also be noted that the radio advertising market is a total market where advertisers make decisions on how best to reach their target audience. Thus, when the listening of DAB is inadequate the value of DAB vis-à-vis FM is limited.

Therefore, it is still the conditions on the FM radio market, which determine the behaviour of the commercial broadcasters. In reality, the DAB radio market is, presently, considered an add-on to the FM market. Therefore, commercial decisions are guided solely by the broadcasters' transmission on the FM band.

(ii) Incentives for the commercial operators

As mentioned above, initially it was assumed that the commercial operators would be able to pay their full share of the DAB distribution costs. However, due to the lack of consumer interest and the resulting very modest advertisement revenues combined with the obligation to transmit nationwide DAB radio, this was not in accordance with the commercial market value of the network.

Since it is the intention to gradually create such a commercially viable market, the penetration based payment model was introduced. The model provides the commercial operators with incentives to act in accordance with market principles.

In regard to the incentive effect of the penetration based model, it should be recalled that experience showed that the continued existence of the FM band, which proved to be much more commercially attractive than DAB radio channels, and the fact that the full utilisation of the DAB network was to some extent impaired, created significant barriers for the successful development of a nationwide (commercially viable) DAB radio market.

To further the abovementioned objective and in order to prevent the switch-over from analogue to digital radio from falling apart at the outset, it was necessary to adopt a payment model, which would create an incentive and the necessary impetus to sustain and facilitate the continuous development of a commercially viable digital DAB platform.

As noted above, neither the contract notices nor the licences fixed a method for calculating the costs to be paid by the licensees. The contract notices and licences only suggested that the operators would be obligated to contribute equally and
proportionally to the development of the DAB network, although it was initially assumed at political level that the commercial operators would pay their full share of the DAB distribution costs.

205. However, upon the commencement of DAB broadcasting it became evident that paying full share of the DAB distribution costs did not reflect the actual market value of DAB. The lack of consumer interest and the resulting very modest advertisement revenues combined with the obligation to transmit nationwide DAB radio, meant that the commercial operators had no incentive to contribute to the development, expansion and utilisation of the DAB capacity (irrespective of their contractual obligations).

206. Given the specific circumstances on the radio market, the Commission considers that the penetration based payment model has an incentive effect on the commercial operators, which changes their behaviour in ways, which further the above objectives. This follows from the agreements between the commercial broadcasters and DR, in which the commercial broadcasters engaged themselves to promote the use of DAB to listeners at their own cost71, and from the following points.

207. First, the payment model facilitates the development of an independent DAB market by reducing the commercial operators' costs according to the estimated relative commercial value of their access to DAB capacity. The higher the number of households with DAB receivers, the higher the value for the broadcasters of their DAB access.

208. The penetration based payment model was intended to create an incentive for the broadcasters to utilize their DAB capacity and act on market terms, despite the fact that an actual market for DAB does not yet exist. Since the penetration based payment model refers to the number of DAB receivers, the market would gradually mature and payments from the commercial operators would gradually increase as the number of DAB receivers increases.

209. Secondly, without a high degree of indoor reception many households across the country would not be able to listen to DAB. As mentioned above, the commercial broadcasters do not have an incentive to invest in the establishment of a high level of nationwide indoor reception (in remote areas of Denmark), since the costs for the last percentages of the network would be significantly higher than the benefits of increased advertising revenue. This also suggests that a compensation model was necessary in order to create a commercial nationwide DAB market and thus further the digital switch-over.

210. Thirdly, if the commercial operators had been required to pay the actual full costs of DAB distribution from the beginning, the commercial operators would have been much more reluctant to enter the market for nationwide DAB radio (and possibly also FM radio). Moreover, this would most likely have resulted in even more financial hardship for the sector as a whole.

211. Fourth, the penetration based model provided transparency and predictability, which was needed in a vulnerable radio market.

71 E.g. point 6 of the agreement of DR with Sky and Talpa dated 21.06.2005.
212. For these reasons, the Commission considers that the penetration based payment model created the right incentives for the commercial operators from 2005 onwards.

213. In sum, given the specific circumstances on the radio market as a whole, the Commission considers that the penetration based model was necessary and has had an incentive effect on the commercial operators with positive changes to the commercial operator's behaviour and was necessary to further the primary objective - a gradual transition to digital radio.

214. As a general remark, the Commission considers that the fact that the penetration based payment model subsequently proved very difficult to enforce does not bring into question the necessity or the intended incentive effect of the measure at the time it was introduced.

215. In addition, it may be asserted that the transition from the FM band to DAB could have been achieved more successfully by other means, e.g. forcing customers to acquire the receivers by a complete and simultaneous switch on/off of the DAB broadcast/FM band without a transitional period. However, the Danish government analysis from 1997 on the transition from the FM band to DAB did not indicate this to be the best solution for the digitisation of Danish radio at the time.

216. Due to the lack of reliable data on the number of DAB receivers and the slow development of the DAB radio market, it has now been decided that the penetration based payment model should be abandoned and substituted with other measures, which together better facilitate the development of a nationwide DAB radio market.

217. Therefore, along with other measures - including notably the tendering out of three new DAB radio channels on block 2 and the extension of the block 2 coverage - the penetration based payment model will be replaced by a payment model phasing in the full costs from 2012.

218. In the transitional period, the phasing in model will create the right incentives for both existing and future commercial operators.

219. On the one hand, the increasing payments during the transitional period will give existing operators a smooth transition and time to prepare for paying the full costs. At the same time, other measures are taken to speed up the development of the DAB market – such as more commercial channels on block 2 and better indoor coverage - thus making it realistic to expect that the commercial operators will consider a DAB radio market economically viable in 2018 on market terms, even if they have an obligation to transmit nationwide, and an obligation to pay their full share of the distribution costs for this transmission.

220. In light of the above, the penetration based payment model initially created the right incentives for the commercial operators to invest in DAB radio broadcasting in a start-up phase and correctly reflected the market terms at that time. However, these incentive measures have for various reasons become inadequate.

221. Therefore, new measures are introduced in order to speed up the transition from FM radio to DAB radio. Among these is the phasing in of full costs payment model, which

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72 See paragraph 75 above.
creates the right incentives for commercial operators to participate on the DAB radio market in a transitional period.

222. The Danish authorities expect that, by the end of 2017, the DAB radio market has been developed to such an extent that the commercial operators should be able to carry their full share of the distribution costs.

223. In regards to the present and revised phasing-in payment model the Commission considers that the payment model is necessary, inter alia, for the reasons stated above as the DAB platform to a similar extend still suffers from the same market failures such as lack of commercial prospects, coverage, listeners, receivers and original content.

224. The linear increase in payments made by the commercial broadcasters during the transitional period will give existing operators a smooth transition and ample time to prepare for paying the full costs. At the same time, other measures are taken to speed up the development of the DAB market - more commercial channels on MUX 2, better indoor coverage - thus making it realistic to expect that the commercial operators will consider a DAB radio market economically viable after 2017, even if they have an obligation to transmit nationwide, and an obligation to pay their full share of the distribution costs for this transmission.

4.2.2.3 The aid is proportionate

225. In the Commission's view, any aid contained in the payment models is proportionate, since the objectives they are intended to achieve, notably a switch-over from FM radio to DAB radio, could not have been obtained with less public support.

226. Generally, the aim of the two payment models is to make transmission of nationwide DAB radio commercially attractive on market terms as quickly as possible and thus to move towards a situation where commercial operators are able to pay their full share of the distribution costs of nationwide DAB radio.

227. In regards to the penetration based model, any aid contained in this payment model must be considered proportionate in light of the objectives:

228. First, the mechanism in this payment model ensures that the aid element is balanced and corresponds to the market value of nationwide DAB radio transmission. Thus, the commercial operators have not been able to make unreasonable profit from the DAB radio market while receiving support in the form of reduced payments for distribution costs. Moreover, according to this payment model, when the number of DAB receivers reaches 5 million, the aid would disappear completely.

229. Second, as a matter of fact, the commercial operators have not been overcompensated as a consequence of the penetration based payment model: The commercial radio operators have since 2005 been in a difficult financial situation, and some of them have had difficulties in paying even the small amounts that were charged on the basis of this model. 73 The same behaviour from the commercial operators could not have

73 Cf. paragraph 74 above and table 10.
been achieved with less aid without the risk of causing more damage to the development of the DAB radio market.\textsuperscript{74}

230. In this light, high intensities during the period of the penetration based payment model are justified, and any aid granted through the penetration based payment model is proportionate.

231. In relation to the revised \textit{phasing in payment model}, the aid intensity, if any, will follow a gradual linear decrease from approximately 80\% to 0\%.\textsuperscript{75} Moreover, the phasing-in payment model takes into account the anticipated switch-off of the FM-band. Overall, the aid intensity is much lower than under the penetration based model, and, for similar reasons, the Commission considers that the aid to be granted during the transitional period is proportionate.\textsuperscript{76}

4.2.3 Distortions of competition

232. In the Commission's view, any possible distortion of competition resulting from the aid is minimal and outweighed by the positive effects described above.

233. As mentioned, the Danish authorities conducted an analysis of the market and possibilities for developing digital broadcasting before introducing the payment models. To identify the technical and social aspects of the introduction of terrestrial digital radio and TV, in December 1997, a working group was established by the Minister of Culture.

234. In the final report, the working group concludes that the switch-over from analogue to digital broadcasting is supposed to take place within a timeframe of 10 to 20 years, but that a shorter timeframe should be pursued in order to minimize the significant costs of FM transmission by either making DAB more attractive to the listeners (increase the number of channels) or by government measures. Furthermore, the report also recognizes the broadcasters' significant costs due to building up attractive DAB services and the potential need for government intervention.

235. However, the unwillingness of the population to switch-over and acquire DAB receivers was greater than expected and, consequently, the radio market for digital radio broadcasting was less profitable than expected.

236. In this light, the \textit{penetration based payment model} was introduced, which ensured maximum payment from the operators while creating a DAB radio market, which was economically viable and thus allowed them to act according to market principles.

237. This payment model ensures the least distortion of competition while making it possible to operate on market terms. First, as described above, the penetration based model has been used in other situations, and it was considered an appropriate compromise at the time. Secondly, the payment model has not had any significant distortive effects on competition.

\textsuperscript{74} Reference is made to section 4.2.2.3 above regarding the proportionality of the aid measures.
\textsuperscript{75} Cf. table 10
\textsuperscript{76} Cf. linear decrease of the aid presented in table 10.
In principle, any impact on competition resulting from the penetration based payment model would result from the fact that the commercial operators could use the compensation to distort competition on the DAB radio market or other adjacent markets.

In theory, commercial DAB radio competes with all undertakings selling national advertisement, for instance national newspapers and television companies. However, the Commission considers that the main relevant markets are (1) the nationwide DAB radio market, and (2) the nationwide FM radio market, and (3) the local/regional FM radio market, and relevant upstream and downstream markets, including notably the markets for radio advertisement.77

It is obvious that the penetration based payment model has not affected competition on (1) the nationwide DAB radio market, since the payment model was available to all commercial operators. The exceptions (TV2 and FM4) have specific reasons,78 which ensure that the commercial operators have not had a commercial advantage vis-a-vis these two operators.

Moreover, the penetration based payment models has not had any impact on competition on (2) the market for nationwide FM radio channels, since all commercial operators on the FM band had an obligation to transmit DAB radio, and since all the operators transmitted simulcast. Thus, they all received the same discounts.

In this respect, it should be remembered that the FM channels were sold (through auctions or tenders) to commercial operators, and that the obligation to transmit DAB was primarily considered an add-on cost with an initial minimal limited value, due to lack of original commercial content as well as the limited number of DAB receivers.

Naturally, penetration based payment model had the main effect on this market of increasing competition vis-à-vis the dominant national broadcaster, DR's FM and DAB channels. This was a main purpose of developing a stronger commercial nationwide radio market in Denmark. However, this was an intended effect, since one of the aims of the tendering out of nationwide FM and DAB channels is to increase competition on the Danish radio market.

Finally, the penetration based payment model had, at most, a very insignificant effect on (3) the market for regional/local FM radio due to the special characteristics of the radio advertising market. Generally, from an advertisement perspective, national and local markets must be distinguished. A national commercial radio broadcaster competes against other national advertisement providers (notably nationwide radio platforms), while a local commercial broadcaster competes with other local advertisement providers. Few local advertisers (for example local supermarkets, cinemas or music events who tend to use advertisement space on the local commercial broadcasters) have any interest in paying for a target audience outside their area of business interest. Similarly, it would usually not make sense (because it would be too costly) to use multiple local radio advertisement platforms for advertisement, which has a nationwide target (such as consumer goods and internet shopping).

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77 The identification and description of the most relevant markets is based in rational economic considerations and not based on a detailed empirical market analysis.
78 Cf. paragraph 72 above.
245. In principle, radio stations compete for advertisement revenue with other platforms like newspapers, television, internet, cinemas and outdoor commercials. However, the only noticeable effect on competition stemming from the aid is on the nationwide (1) DAB and (2) FM radio market (and upstream and downstream markets). The Commission considers it self-evident that no other markets are affected in any significant way by the aid. The Commission also recalls that the market for radio advertisement is relatively limited in Denmark (2 % of the total), that the competition on this market is hard, and that the commercial DAB penetration is limited. In particular, the aid mainly influences the public service provider DR negatively in competition with the private national radio channels.

246. Overall, the penetration based payment model does not adversely affect trading conditions to an extent contrary to the common interest.

247. Even today, commercial broadcasters show a very limited interest in the DAB platform, as a recent public consultation on the Danish digital radio strategy has shown. The profitability of commercial broadcasting continues to be relatively short-sighted and based on where the audience is presently listening. This continues to be the FM band, which still holds 90% of the total listening. Distortion of competition as a consequence of the reduced payment for DAB should thus be perceived as significantly limited.

248. Also the phasing-in of full costs payment model does not adversely affect trading conditions to an extent contrary to the common interest, since the payments in this transitional period will be higher than previously, and since the purpose of the model is to gradually move towards a full cost payment model.

249. The decision to start phasing in the full costs is made in order to speed up the process towards a full cost payment model and to avoid the difficulties which the penetration based model has created.

4.2.3.1 Technological neutrality

250. As is explained in detail above, there is no real alternative to developing the digital terrestrial platform in Denmark, taking into account that almost 100 % indoor coverage is required. Pursuant to the Danish authorities, this platform is the most appropriate radio broadcasting infrastructure from an economic, technological and social perspective.\(^\text{79}\)

251. The Commission therefore considers that the measure complies with the principle of technological neutrality. It does not unduly favour any technology or transmission platform.

4.2.4 Balancing of positive and negative effects

252. The considerable positive effects of a switch-over from the analogue FM band to DAB have been listed above: DAB is a technological improvement, \textit{inter alia} as regards audio quality, mobile reception, efficient use of frequency spectrum and transmission

\(^{79}\) Cf. section 3.6 above.
costs, and as DAB is expected, eventually, to become the main type of radio transmission in Denmark, equal access for all users must be ensured. Furthermore, as the aid measure addresses a market failure and ensures cohesion on the market for DAB radio broadcasting, the aid measure aims at a well-defined object of common interest.

253. The payment models are designed in such a way that they address the identified market problems in the switch-over phase. While the penetration based payment model provides financial incentives for broadcasters even when there is no real market for DAB radio, the phasing in of full costs payment model provides incentives for the commercial operators to invest in DAB, while speeding up the process towards a full costs payment model. Both payment models respect the principles of proportionality and transparency - even if it turned out to be difficult to enforce the penetration based model.

254. In this light, the negative effects on competition are modest: Even if the payment models may have some effects on competition in the short run, these effects will take place on a very small and underdeveloped radio market where profitability is generally very low. By contrast, the overall impact on competition and technological development is positive, as the payment models facilitate the technological development of DAB as a realistic alternative to the FM band.

255. The Commission therefore considers that, on balance, the overall effects of the payment models are positive and comply with the objectives of Article 107(3)(c) TFEU. Thus, the payment models can be declared compatible with Article 107(3)(c) TFEU.

5. CONCLUSION

256. The exemption of the commercial broadcasters from paying their share of costs for the use of DAB transmission network constitutes State aid. However, on the basis of the foregoing assessment, the Commission supports the position that (a) the penetration based payment model (2005 to 2012) and (b) the phasing in of costs based on the FDC methodology (2013 to 2017) can be declared compatible with the internal market with reference to Article 107(3)(c) TFEU; and that (c) the cost model which should be in place as of 2018 does not constitute State aid.

257. The Commission notes that no aid will be granted by Denmark under this measure as of 2018. Should the Danish authorities extend the aid scheme in any way or grant any form of aid other than covered by the present decision, the Commission cannot exclude that this would be not compatible with the internal market.

6. DECISION

258. The Commission regrets that Denmark awarded aid for the DAB transmission network before the date of this decision, in breach of Article 108(3) TFEU. This is an important element in the assessment of compatibility of the measure. In addition, the

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80 Cf. sections 2 and 4.2.1.1 above.
81 cf. section 4.2.1.2 above.
Commission regards the costs model to be in place in 2018 as not involving State aid. Consequently, the Commission has decided not to raise any objection to the measure at issue.

259. If this letter contains confidential information which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site:

http://ec.europa.eu/competition/elojade/isef/index.cfm

Your request should be sent by registered letter or fax to:

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Yours faithfully,

For the Commission

Joaquín Almunia
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