

**An Analysis of
Market Provision of Public Service Content
and an Evaluation of Funding Options
for Content in At-Risk Genres**

A report by Capgemini UK plc for the BBC

Contents

Executive Summary	3
1 Introduction and Overview	4
1.1 Context.....	4
1.2 Objectives	4
1.3 Methodology.....	4
1.4 Limitations of the analysis.....	6
2 Market provision of content in at-risk genres	7
2.1 Network contribution to originated public service content in 2007.....	7
2.2 How might commercial PSBs respond if content obligations are removed?	11
2.3 Impact on commercial PSB gross margins.....	13
3 Evaluation of direct funding options.....	15
3.1 The funding options.....	15
3.2 Evaluation of the funding options.....	17
3.3 Limits of contested funding solutions.....	24
4 Conclusions	25
4.1 Market provision of content in at-risk genres	25
4.2 Evaluation of direct funding options	25

Executive Summary

This report has been prepared by Capgemini for the BBC. Its objectives are:

- To estimate the profitability of different genres and to hypothesise how much originated first run output would be reduced if content obligations on commercial PSBs were lifted; and
- To evaluate different funding mechanisms as a means of replacing the shortfall in originated output in at-risk genres.

We have identified six broad at-risk genres in which commercial PSBs have strong incentives to reduce their output of originated first run content: quality drama, current affairs, network news, specialist factual, Nations & Regions and children's. In 2007 the commercial PSBs together produced about 4,800 hours of originated content in the six at-risk genres; approximately 500 originated first run hours of network news, 375 hours of quality drama, and 300 hours of specialist factual and current affairs. ITV1 and Five broadcast 240 hours of originated children's in non-peak, and ITV1 broadcast 3,400 hours of N&R. We have estimated that the combined spend by the commercial PSBs in the six at-risk genres was approximately £0.5 billion in 2007.

We have created a 'counterfactual' of the programme hours that would be broadcast by the commercial PSBs if obligations were lifted in order to identify specifically the reduction in originated first run output and spend in at-risk genres. We believe that there would be a loss of about 40% of the first run originated hours in at-risk genres broadcast by the commercial PSBs compared with 2007; there would be a reduction of about 1,890 hours in peak time (a 68% reduction) and about 1,920 hours in non-peak (a reduction of over 90%). The corresponding reduction in spend in at-risk genres would be almost £200m.

We have estimated that the gross margin of commercial PSBs could increase by £220m or 20% as a result of these changes. This is the effective opportunity cost of PSB on the commercial channels, i.e., the profit they forgo by following a PSB schedule. The opportunity cost should remain approximately the same between now and 2012 even if overall profitability falls.

We then determine the reimbursement that commercial PSBs and thematic channels might require to commission and broadcast content in at-risk genres under two direct funding models:

- Bargained funding – long-term, negotiated agreements with broadcasters
- Contested funding – medium term funding for which broadcasters bid

To examine how bargained and contested funding options might work in practice, we modelled what would happen if there was public intervention to support an extra hour per of peak time specialist factual programming above that which the market would provide without intervention. We also looked at how BBC1 might increase supply.

We have found that an increase in provision by the BBC would be the most cost effective way of increasing output because the extra programming could be met from within the existing BBC1 licence fee funded programme budget. However, the BBC1 solution does not increase plurality. An increase in plurality would be achieved by entering into a bargained agreement with ITV1, for example, which we estimate would cost about £21 million per annum for 52 hours of specialist factual output. The cost of plurality is the difference between the BBC and ITV solutions; in this example it is about £8 million.

Contested funding is a more expensive means of allocating funding than bargained funding because bidders would charge a higher risk premium and the overhead costs of a funding body to distribute funds would need to be met. In our assumptions, the cost of contested funding solutions is 13.5% higher than bargained funding options. The benefits of a contested solution – transparency, competitive pricing, effective monitoring of outputs, etc – should be measured against the extra cost.

In a contested funding model, channels with higher audience share (ITV1, for example) would seek more direct funding than a channel with smaller audience share (Five or a thematic channel) because of the higher opportunity costs of lost advertising revenue. We have estimated that the total cost of funding ITV1 to provide the specialist factual programming under a contested funding model would be £24 million per annum; for Channel 4 and Five it would be £13.5 million and £7.9 million respectively.

On a cost per hour basis, the most expensive contested funding option – ITV1 – is also the most efficient in delivering a public service audience at a cost of 14 pence per viewer hour, increasing to 25 pence per viewer hour for the thematic channel.

1 Introduction and Overview

1.1 Context

This report has been prepared by Capgemini for the BBC in support of its submission to Phase 2 of Ofcom's second public service broadcasting review¹.

A key question in the context of Ofcom's review is the extent to which the commercial public service broadcasters (PSBs) – ITV1, Channel 4 and Five – will continue to commission (that is, to fund the production of) programmes in public service genres such as specialist factual, current affairs, and Nations & Regions (N&R) in the future, as audiences continue to fragment and the advertising revenues earned by the commercial PSBs fall².

Ofcom has identified potential institutional and competitive approaches to allocate public funding directly to broadcasters to provide public service content if existing funding models are no longer sustainable³. A second key question is the likely cost and effectiveness of options to fund directly the provision of public service content in the future.

This report seeks answers to those questions by establishing: First, the current level of provision of public service programming: Second, the level of public service programming that the commercial PSBs might provide in a profit maximising 'counterfactual' and: Third, the relative cost of alternative funding solutions to support content provision⁴.

1.2 Objectives

The objectives of this report are:

- To estimate the profitability of programming in different genres and, from this, to hypothesise by how much the originated first run output of public service programming would be reduced if public service content obligations on commercial PSBs were lifted (Section 2); and
- To evaluate different funding mechanisms as a means of funding originated public service content (Section 3).

Together the BBC and the commercial PSBs contribute 90% of originated first run hours and so our analysis inevitably focuses mainly on their output⁵. However, we do also consider whether thematic channels are in a position to make a significant contribution to the hours of new public service content broadcast in the UK and the direct funding they might require to provide public service content.

1.3 Methodology

The first step in our methodology is to define and quantify the hours of first run originated public service content broadcast by BBC1, BBC2 and the commercial PSBs. We have used a dataset provided by BARB as our starting point and we have taken as our time period the latest calendar year – 2007⁶. We have estimated the spend on programming by each of the broadcasters in each genre and – in the case of the commercial PSBs – the advertising revenue generated. This has enabled us to estimate the profitability of each genre.

¹ Ofcom's Second Public Service Broadcasting Review; Phase Two: Preparing for the Digital Future (2008).

² Throughout this report when we refer to 'advertising' we mean 'net advertising revenue' which is total advertising spend minus sales commission and agency costs (i.e. minus the cost of sales). This is the revenue the broadcasters receives.

³ Ofcom's Second Public Service Broadcasting Review; Phase Two, section 4.

⁴ Our 'counterfactual' is a hypothesis about how broadcasters would behave if public service content obligations did not exist – it is so-called because it runs counter to the fact that there *were* obligations in place in the year we are looking at (2007). Its purpose is to enable us to compare behaviours under the actual and the counterfactual and reach a conclusion about the impact of the obligations on the provision of public service content.

⁵ Ofcom's Second Public Service Broadcasting Review; Phase One: The Digital Opportunity (2008), p55.

⁶ BARB is the British Audience Research Bureau, a source of data on TV viewing. We have used a dataset of three months of programme and audience data (January to March 2007) as the basis for our full year estimate.

We have defined eleven groupings of content, the first six of which are traditionally designated 'public service broadcasting':

- **Quality drama** – high cost per hour drama singles and series with original script and high production values
- **Current affairs** – intelligent, challenging programming examining issues of the day in a rounded way; might include international segments
- **Network news** – national and international news bulletins
- **Specialist factual** – documentary programming covering history, the arts, science, music and religion
- **Nations & Regions (N&R)** – content shown in specific Nations and Regions of the UK only. Audiences see the provision of news and information about where they live as among the most important of all areas of public service content⁷
- **Children's** – first run UK originated content for children aged up to 15
- **Other peak time originations** – 'commercial' output such as continuing drama (soaps), factual entertainment, general entertainment (chat shows, quizzes etc) and hobbies and leisure programming (cookery, DIY etc)
- **Sport**
- **Peak time acquisitions** – the purchase of a programme that has already been made and broadcast by another channel. Commercial PSBs acquire content mainly from the United States
- **Peak time repeats** – content shown previously on the same channel and repeated again. The ability of commercial PSBs to repeat output in peak time is limited by their licence obligations
- **Other non-peak time output** – commissioned and acquired programming (whether first run or repeated) that is shown outside of peak-time – excluding first run children's originations and N&R.

Our focus in this report is on originated first run output broadcast in peak time because this is when the majority of TV viewing takes place and hence the opportunity cost of broadcasting public service content is highest (or, put another way, the incentives for commercial PSBs to switch to more commercial or popular programming are greatest)⁸. However we include N&R and children's programming outside of peak time in our analysis because it is when this content is viewed extensively. This methodology captures 76% of all viewing to originated first run content in the six 'public service broadcasting' genres identified above (95% if viewing to network news outside of peak is excluded).

Having estimated the profitability of public service output broadcast by the commercial PSBs, we then scope out the adjustments that commercial PSBs would make in the volume of originated programming they would commission if public service content obligations were lifted. The difference between the 2007 actual output and the profit maximising 'counterfactual' enables us to identify those genres which are at risk and which policy makers might wish to support through direct funding.

We then determine the reimbursement that commercial PSBs and thematic channels might require to commission and broadcast public service content under a new, direct funding model. Analysis by Ofcom suggests that direct funding would work best as a small number of ongoing contracts to deliver public service content. This offers certainty to broadcasters and minimises

⁷ Ofcom's Second Public Service Broadcasting Review; Phase Two, Section 5.

⁸ An 'opportunity cost' is the benefit that could be enjoyed by pursuing an alternative course of action. In this example, the alternative course of action would be to pursue a purely commercial schedule, which would probably result in an increase in advertising revenue. The opportunity cost is the difference in the gross margin (advertising revenue minus programme cost) of the two courses of action.

bureaucracy. Also, editorial control and creative control would remain in the hands of the provider⁹.

We have evaluated two direct funding models:

- **Bargained funding** – a negotiated outcome with broadcasters about public service content needs and funding requirements, leading to long term agreements to provide certain content. This is similar to the current position, where commercial PSBs agree to provide certain public service programming in return for regulatory assets (including spectrum and a privileged position on Electronic Programme Guide (EPG) listings¹⁰).
- **Contested funding** – broadcasters are invited to bid for funds to commission and broadcast public service content for the medium term (3-6 years). The contested funding model introduces what could be significant additional costs to administer the distribution of public funds in a bid process; we have looked at the overheads of existing funding agencies distributing public monies as a basis for determining what these extra costs of administration might be.

We have found that the commercial PSBs experience significant opportunity costs in both bargained and contested funding models. In the counterfactual, the broadcasters can optimise their commissioning and scheduling decisions to maximise gross margin (total advertising minus total direct programme spend). To reinstate public service programming they would need reimbursement to the same level of gross margin. We have made informed estimates about the costs of content and estimated the likely audiences using 2007 data as a baseline to calculate advertising revenues and gross margin. Given that public service content might be expected to cost more than the content it replaces in the schedule and attract a lower audience (hence earning less in advertising), the opportunity costs are likely to be high.

We would also expect commercial PSBs to require a 'risk premium' in both the bargained and contested funding options. The premium reflects the increase in risk which occurs when a broadcaster takes on a public service obligation (for example, the broadcaster no longer has complete freedom to adjust its schedule in response to new programming or schedule changes by competitors). The premium shifts the cost of that risk onto the public purse.

Having established the likely cost of funding replacement public service content, we can compare funding options to determine their cost and the impact on viewing, and the cost per viewer hour of public service content under each option.

1.4 *Limitations of the analysis*

The analysis presented here is designed to show the likely order of magnitude of cost and the relative differences between bargained and contested funding mechanisms.

We have made certain simplifying assumptions to clarify the analysis – for example in the counterfactual our assumptions about the cost per hour of programming, the likely audience, and resulting advertising revenues are driven by our understanding of revenues and costs today; we have not attempted to capture secondary impacts such as the increase in the cost per hour of commercial programme genres and acquired programming that might be expected if demand were to increase as commercial PSBs shed their public service obligations.

Our methodology looks at 2007; hence we do not capture the substantial deterioration in the revenue position of the commercial PSBs and the advertising market more generally resulting from the downturn in the global economy in the second half of 2008. However, we do not expect the relative economic position of the genres to change.

⁹ Ofcom's Second Public Service Broadcasting Review; Phase Two, Section 4, pp60-62.

¹⁰ The Electronic Programme Guide (EPG) is the TV listings available to viewers on digital TV platforms. A high listing tends to increase viewing to a channel.

2 Market provision of content in at-risk genres

In this section of the report we look first at the provision of public service content by BBC1 and BBC2 and the commercial PSBs, and then at the volume of first run originations by genre that might be provided if public service content obligations on the commercial PSBs were lifted. This enables us to identify those genres which could be vulnerable to a reduction in provision.

2.1 Network contribution to originated public service content in 2007

2.1.1 Content obligations on commercial PSBs

Public service broadcasting has developed as a series of obligations applied to broadcasters who benefit from regulatory assets provided by the government. In return, public service broadcasters are subject to requirements about the hours of content they broadcast in certain genres, the volume of output that is originated, and the source of originated content (to promote production in the Nations and Regions, for example, and to promote independent production).

Our interest is in those obligations that artificially boost production and the broadcasting of originated first run content:

- In some genres – specifically network news and Nations & Regions programming – there are direct quotas on commercial PSBs which appear in their licence
- Production in other genres by commercial PSBs is based on weaker tier 3 quotas which will not protect output if it becomes unviable to broadcast at current levels

Our hypothesis is that, without these obligations, originated output in certain genres would shrink as commercial PSBs use their greater freedom to shift spend into genres with more audience appeal, increase acquisitions spend and increase repeat rates.

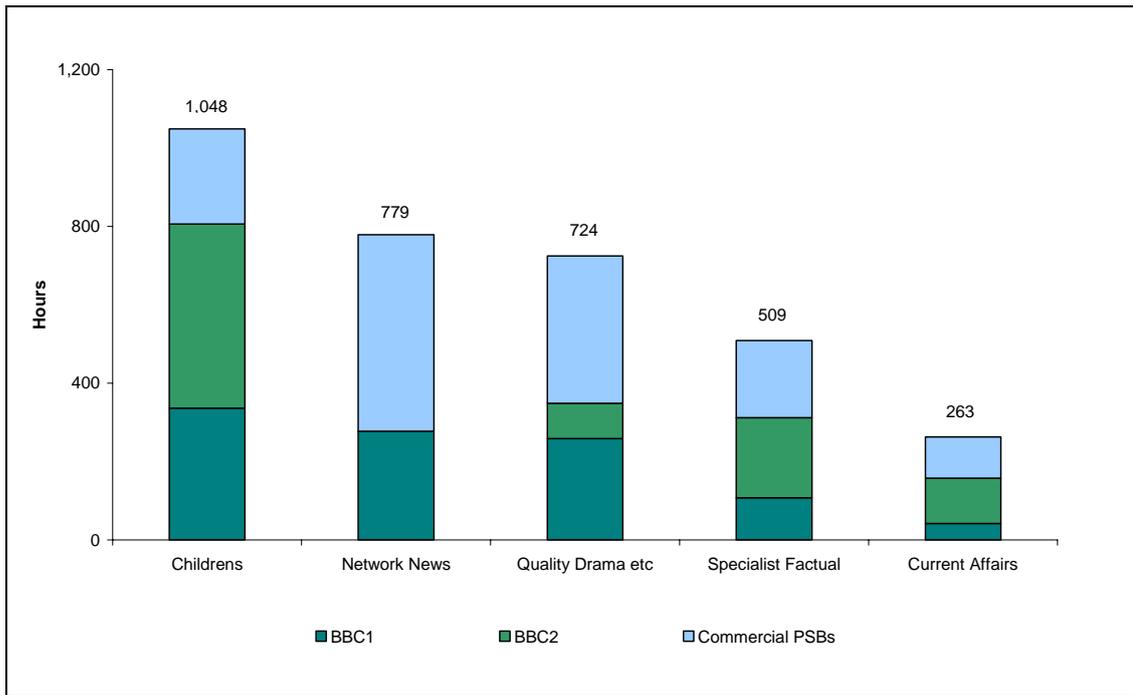
2.1.2 Current network hours

In 2007 the PSBs together produced approximately 2,275 hours of first run public service output in peak time in network news, quality drama, specialist factual and current affairs, and over 1,000 hours of children's programming in daytime (Figure 1). The PSBs also broadcast 7,600 hours of N&R news and non-news annually in peak and non-peak (Figure 2)¹¹. Commercial PSBs are major contributors of quality drama, network news, specialist factual and current affairs. In 2007 the commercial PSBs together produced about 4,800 hours of originated content in the six at-risk genres; approximately 500 originated first run hours of network news, 375 hours of quality drama, and 300 hours of specialist factual and current affairs. ITV1 and Five broadcast 240 hours of originated children's in non-peak, and ITV1 broadcast 3,400 hours of N&R¹².

¹¹ The volume of Nations and Regions hours produced is substantially higher than for other genres due to the duplicative effect of broadcasting local programming in different regions in the same slot.

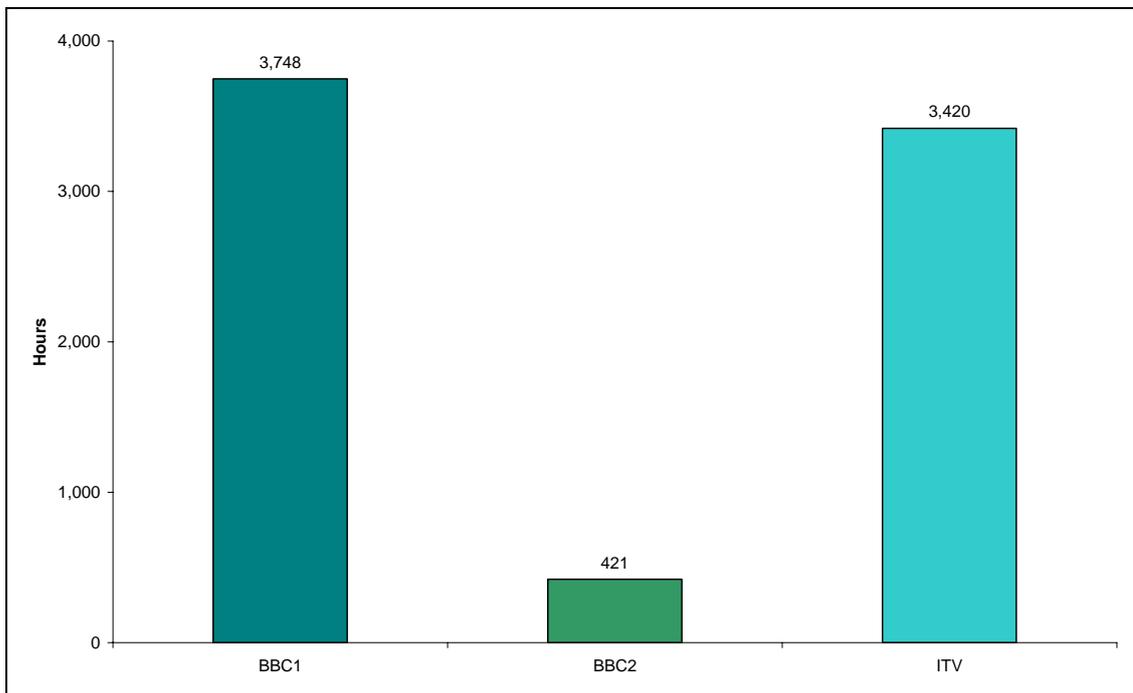
¹² Source: BARB

Figure 1: Originated first run hours of public service content (2007)



Source: BARB

Figure 2: Originated first run hours of Nations and Regions content (2007)

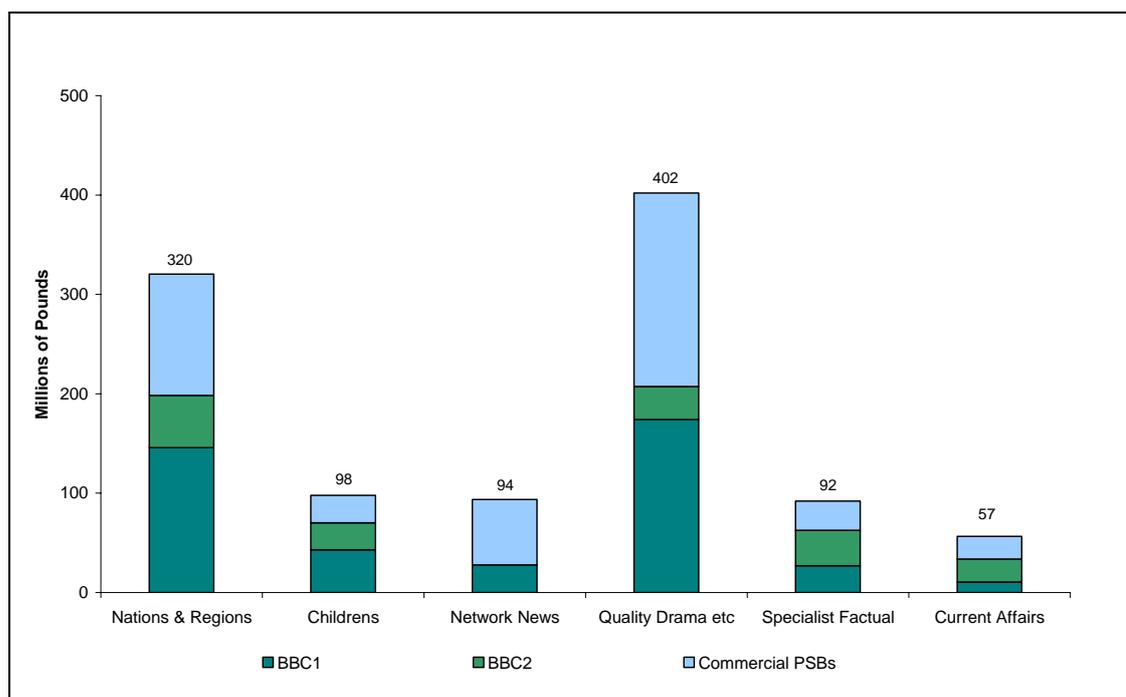


Source: BARB

2.1.3 Estimated commercial PSB returns in different programme genres

To estimate the commercial PSBs' returns from different content genres we have estimated their content spend in each genre – presented in Figure 3 below. We do not have access to the spend by commercial PSBs on individual genres or the cost per hour they pay for programming, so we have used industry knowledge and published data sources to piece together their likely spend. Based on this analysis, we believe that the combined spend by the commercial PSBs in the six at-risk genres was approximately £0.5 billion in 2007.

Figure 3: Originated spend on public service content (2007)



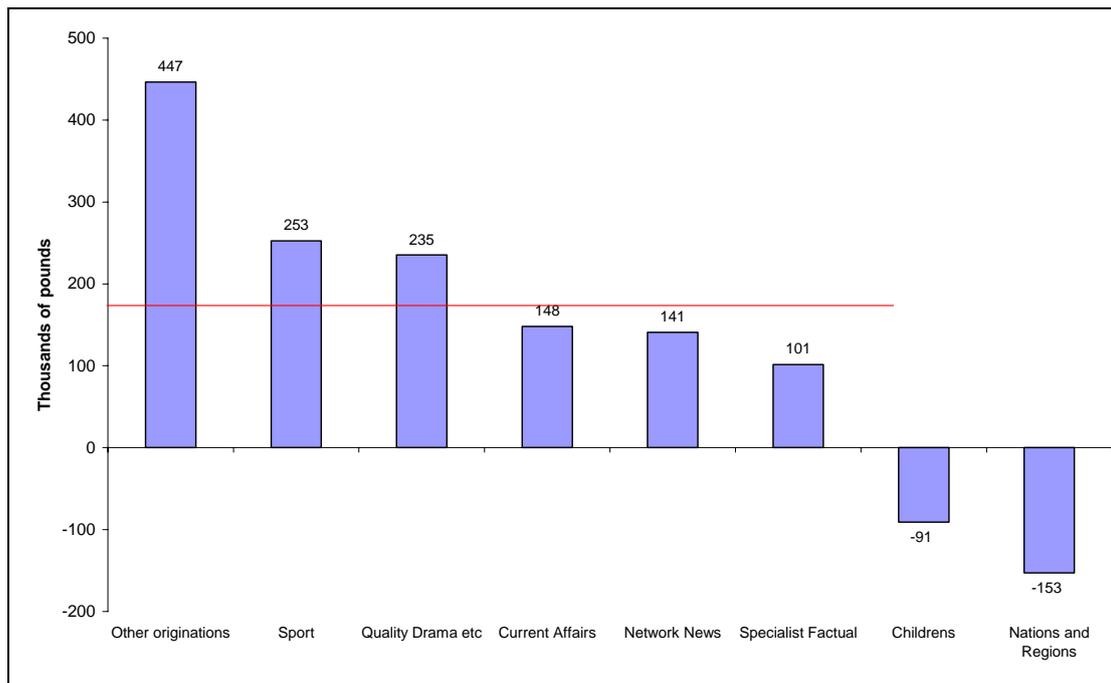
Source: Caggemini estimates

We have estimated the advertising revenue earned by the commercial PSBs on the programming; this is the product of average audience, the number of ad slots and the sell-out rate (to give total impacts sold), multiplied by the cost per thousand impacts (CPT – the price advertisers pay for every 1,000 viewers who see their advert). We have good visibility of the average audience and the number of ad slots per hour; we have estimated the sell-out rate and modelled the likely CPTs achieved for programming in different genres and the variation in CPT between peak and non-peak.

The gross margin per hour of programming in each genre is the contribution each programme hour makes to overheads and profit; it is calculated by subtracting spend per hour from revenue per hour. We have presented in Figure 4 below a gross margin for each genre for the commercial PSBs combined; our findings are directionally consistent with Ofcom's estimates of the profitability of different genres¹³. We have estimated that the minimum gross margin per hour that each hour of the schedule needs to generate to cover overheads might be about £165,000 per hour in peak time.

¹³ Ofcom's Second Public Service Broadcasting Review; Phase Two, Figure 32 p 89. The calculations are not directly comparable because we have constructed a counterfactual for 2007 whereas Ofcom presents estimates of the profitability of public service genres in 2012 and 2015 – but they are consistent directionally. We would expect a reduction in the opportunity cost of broadcasting programmes in at-risk genres between 2007 and 2012, driven by reductions in commercial PSB audiences and a short-term deterioration in TV advertising revenue which will depress the profitability of commercial PSBs. We have assumed that there would be a pro rata effect on both at-risk content and more commercial scheduling, so the opportunity cost will still be there in 2012.

Figure 4: Estimated commercial PSB gross margin per hour on example genres (2007)



Note: The red line denotes the estimated £165,000 per hour required contribution to gross margin in peak time
 Source: Capgemini estimates

From Figure 4 it is apparent that key public service genres tend to be either marginal (i.e. they deliver a positive gross margin but it does not cover the minimum required contribution to overheads – for example current affairs, specialist factual and network news) or unprofitable (they have a negative gross margin – children’s and N&R output).

We call these the ‘at-risk genres’ because commercial PSBs have strong incentives to reduce their output hours of originated first run content in these genres.

2.1.4 Thematic channel commissioning

‘Thematic’ channels (channels, typically broadcasting on cable and satellite, which provide programming in a single genre – kids, music, documentary, etc) have historically made little contribution to commissioning of new output¹⁴. This is a function of their business model, which is based on acquiring content cheaply and repeating it heavily.

Thematic channels have two main sources of revenue – advertising and the subscription fees paid by the pay TV platforms which distribute the channels. Their business model is based on appealing to a small audience with targeted content acquired from other broadcasters and aggregated into a thematic schedule. A channel with a 0.2% audience share (not untypical for a thematic channel in the basic pay tier on Sky and Virgin) would have an average audience of about 20,000 viewers. Total channel income might be £10 million per annum – made up of £6 million – £7 million in advertising revenues (nine minutes of advertising per hour selling at a CPT of £2.75) and £3 million – £4 million in sub fees (2.5 pence per household per month for each of 11.5 million pay TV homes).

The main cost to a thematic channel is likely to be programming; let’s assume in this example that the channel spends about £4m per annum (40% of revenues) on programming. To fill 24 hours a day, 365 days per year, the channel would have a budget under £500 per broadcast hour to spend on content. The channel is likely to achieve this by acquiring content from other broadcasters and repeating it heavily. Content is acquired from two main sources – UK PSBs and from US broadcasters. Content might be purchased for £8,000-£10,000 per hour and repeated up to 20 times to bring the cost per hour down to under £500.

¹⁴ We have already referred to Ofcom’s estimate that 90% of commissioned output is by the public service broadcasters.

Contrast this with the cost of commissioning; a basic specialist factual commission might cost £170,000 per hour (at least 17 times as expensive per hour as the acquired content); drama and high end documentaries could exceed £500,000 per hour. Even by doubling the repeat rate, the cost per broadcast hour to a thematic channel of a programme commissioned at £170,000 per hour would still be over £4,000 per hour; this would be outside the budget of our channel with 0.2% audience share and also those few thematic channels with audience share greater than 1.0%.

It is possible that, through co-production deals (to share the costs of production) or by selling the built programming to other broadcasters internationally, the thematic channel could bring down costs or increase the return on programme spend. However, there are high risks involved which discourage thematic channels from commissioning; a relatively small number of commissioned hours would form a high proportion of the channel's overall programme budget; the impact of the programme failing would be greater than on a larger channel with a broader portfolio of commissions.

Acquired programming is a lower risk strategy – it is cheaper than commissioned programming, and it has two other clear advantages – it can be watched before buying and it has already been broadcast on another channel so its popularity is known.

This position is unlikely to change in the short to medium term; revenue growth prospects for thematic channels are not great (digital switchover, which has driven multichannel TV penetration over the last ten years, is almost complete; Sky and Virgin are squeezing sub fees aggressively; and TV advertising revenue has been flat in real terms for the last five years). The impact of on demand viewing could be neutral or negative for thematic channels (viewers seem unwilling to pay for it, the TV platforms will try to carve out a greater share of the revenues for themselves, and the appeal of content bought by the thematic channels may already be exhausted in catch-up and on-demand windows).

A shift onto Freeview, which opens up larger audiences and the potential for a significant uplift in advertising revenue, has historically not been an affordable route for thematic channels given the high prices for Freeview slots and the increase in programme costs when competing with other channels for the rights to air acquired programmes in a free TV window¹⁵. Overall, therefore, we feel that significant new commissioning by thematic channels is unlikely without direct intervention.

2.2 *How might commercial PSBs respond if content obligations are removed?*

If the obligations identified in paragraph 2.1.1 above were removed, we expect that commercial PSBs would use their greater freedom to shift spend into genres with more audience appeal, with the result that originated output in 'at-risk' genres could shrink significantly¹⁶. We have created a 'counterfactual' of the programme hours that would be broadcast by the commercial PSBs if obligations were lifted in order to identify specifically the reduction in originated first run output and spend in at-risk genres.

We would expect ITV1 to drop completely its N&R output as this is clearly expensive on a slot hour basis and loss-making overall. We would also expect ITV1 to drop specialist factual and children's programming. ITV might also halve its current affairs output. We might also expect a combined reduction of about 100 hours (40%) in first run originated hours of specialist factual and current affairs on Channel 4 and Five, and a reduction of 120 hours (about one third) in network news output across the three commercial PSBs.

We assume in this analysis that the BBC's output remains constant.

These changes in patterns of genre commissioning by the commercial PSBs would still leave them with a mixed schedule. As can be seen from Figure 5, there would still be a contribution

¹⁵ Discovery has recently purchased a slot on Freeview, suggesting that prices are moderating. It will be interesting to see what impact this has on their ability to afford to commission new programming. As slots are limited on Freeview, and free satellite penetration is only 0.9 million households, there will be few opportunities for other thematic channels to make the same switch.

¹⁶ We will continue to use 'commercial PSBs' as the term to describe ITV1, Channel 4 and Five even though they no longer have public service obligations in the counterfactual.

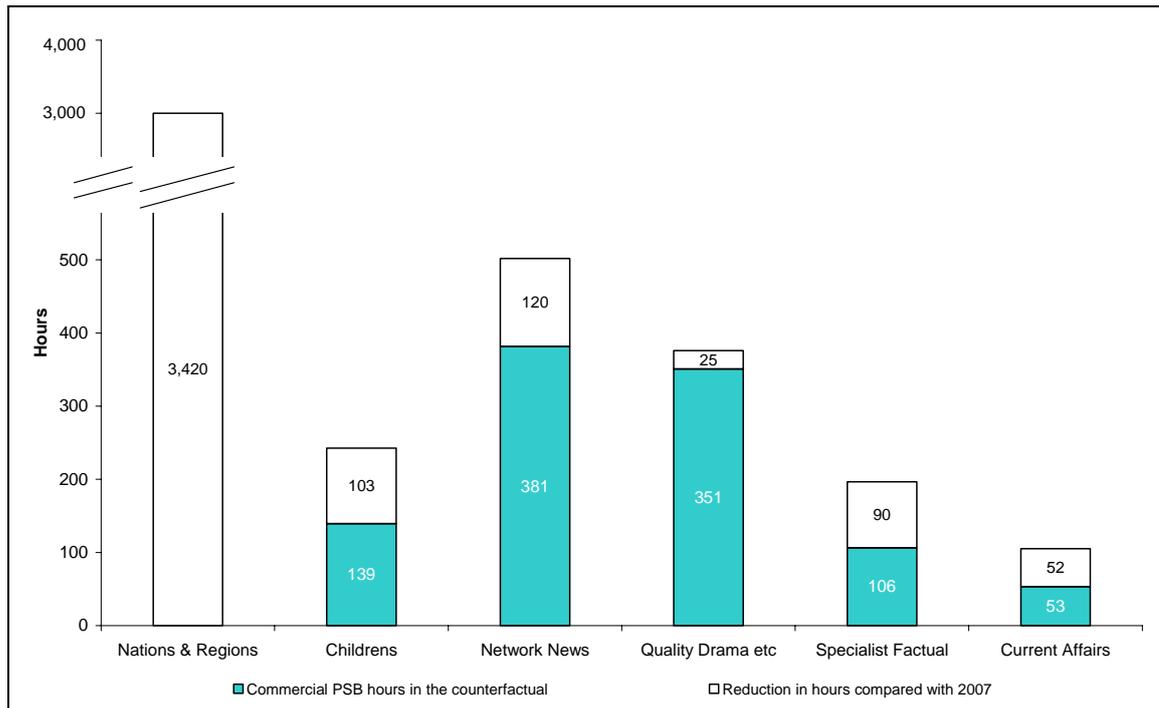
from the commercial PSBs of over ten hours a week of network news, specialist factual and current affairs (spend totalling around £80 million). We estimate that commercial PSBs would continue to spend over £180 million per annum on high quality drama and that Five, as the only commercial PSB provider of children's after ITV1's withdrawal from the genre, would continue to invest in over 100 hours per annum of kids' programming.

We believe that there are strong reasons why commercial PSBs would maintain a mixed schedule; most importantly, it gives them relatively high audience share and reach which in turn enables them to charge a premium to advertisers. In the case of network news, it contributes to the audience of a channel both directly and by a halo effect on the rest of the schedule because it enhances credibility and contributes to a sense of relevance and immediacy. ITV, which has an internal production capability, also makes a production margin on internally produced output and retains the rights in these productions so production of high quality drama, for example, which may not pay for itself in a first run, can be exploited as archive, online and internationally.

Evidence from the US market, where the networks are subject to fewer public service obligations, would tend to support this. The four US networks – ABC, CBS, Fox and NBC – have mixed schedules including originated drama, comedy, news, current affairs and other factual programming. All four networks have regular daily news bulletins featuring national and international news, including in peak time, and they dedicate airtime to events of national importance (at the time of writing, end October 2008, all four are providing coverage of the forthcoming US Elections). Examples of other factual programming run by the networks includes *20/20*, a current affairs show on ABC, a medical information programme on CBS, and religious programming on Fox.

Overall, the changes described above would result in a loss of about 40% of the first run originated hours in at-risk genres broadcast by the commercial PSBs compared with 2007; there would be a reduction of about 1,890 hours in peak time (a 68% reduction) and about 1,920 hours in non-peak (a reduction of over 90%) (Figure 5). The corresponding reduction in spend in at-risk genres would be almost £200m.

Figure 5: Reduction in commercial PSB originated first run hours in at-risk genres



Source: Capgemini estimates

2.3 Impact on commercial PSB gross margins

The reduction in output of at-risk genres would give commercial PSBs greater freedom to schedule more popular programming in its place or programming that attracts a similar audience at lower cost. Hence there would be a positive impact on gross margin (total advertising revenue minus total direct programme spend) resulting from a combination of changes in programme spend and advertising revenue.

Our assumption is that the commercial PSBs would adjust their schedule to include more commercial programming – chat shows, quizzes and other general entertainment, hobbies and leisure, and soaps, for example; we assume that they would also increase their repeat hours by up to three hours per week (10%) and acquisitions by about 30%¹⁷. In non-peak, ITV1 in particular would benefit from a reduced spend on N&R and children’s. We estimate that the effect of these changes could be to reduce the net programme spend of commercial PSBs by over £100 million per annum.

We believe that there would be an overall uplift in audience arising from the changes in the schedule and hence an uplift in advertising revenue¹⁸. We have estimated that the uplift in commercial PSB advertising revenue could be £120 million per annum.

We have estimated that the gross margin of commercial PSBs could increase by £220m or 20% after public service content obligations are relaxed (Figure 6). This estimate for opportunity cost (i.e., the profit forgone by commercial PSBs by accepting PSB obligations) is lower than the £330m that Ofcom has estimated as the loss by commercial PSBs on public service broadcasting, albeit that Ofcom is estimating the shortfall in 2012 whereas our estimate is for 2007¹⁹. The opportunity cost should remain approximately the same between now and

¹⁷ Programme repeats are not completely cost-free and we have assumed a small per hour cost for repeated content. Increasing significantly the volume of acquired output would in practice have the effect of increasing the cost of acquisitions; we have ignored this effect because we do not believe it alters the fundamentals we are describing.

¹⁸ Both total viewing and total market gross advertising revenue are held constant in our analysis; hence increases in the audience of the commercial PSBs result in audience losses to the BBC and other commercial channels, and increases in net advertising revenue are at the expense of other ad-funded channels.

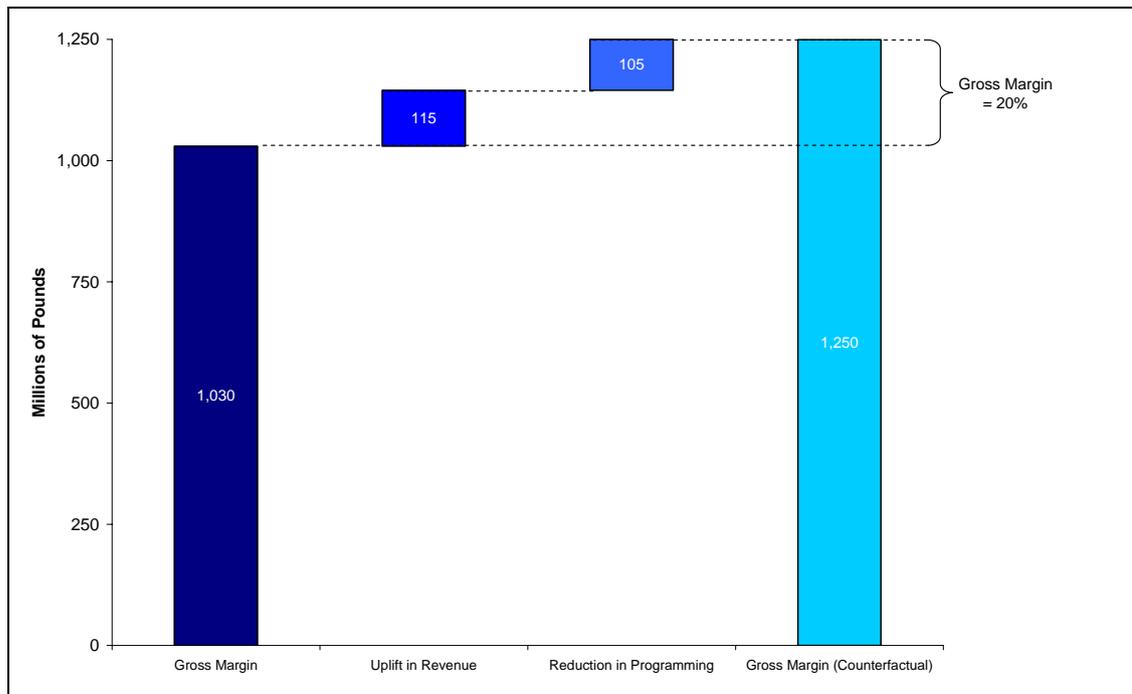
¹⁹ Ofcom’s Second Public Service Broadcasting Review; Phase Two, pp90-91. Ofcom’s approach is to imagine that public service provision is held constant to 2012, by which time commercial PSBs make a loss of £145m per annum even

2012 even if overall profitability falls; the gap could even be reduced if falling advertising revenues depress gross margins and reduce the real terms difference between the public service and profit maximising strategies.

These costs are unevenly distributed between genres. The methodology we have used does not allow specific analysis of the cost of each genre as it assumes a broad average in terms of replacement programming. However, we can make some general statements around the volume of programming likely to be replaced and the losses that these programmes make.

- The removal of regional news is likely to make the largest difference to the economics of the commercial PSBs, perhaps around half of the total opportunity cost. For example, if ITV1 replaced peak time N&R programming with a continuing drama or entertainment title, the audience might increase and programme spend would either be static or fall slightly. The impact could be to improve gross margin by over £400,000 per hour.
- Elsewhere, the biggest savings are likely to come from replacing national news content, specialist factual and children’s content as relatively large volumes of PSB content could be replaced by more economic programming. In all cases the exact nature of the increased profits would be determined by the channel, slot and the specific characteristics of the content

Figure 6: Comparison of commercial PSB gross margins (2007)



Source: Capgemini estimates

after receiving regulatory assets (spectrum etc) worth £185m per annum – i.e. the total ‘cost’ of public service provision is £330m. In practice, of course, the commercial PSBs would take action earlier to address the loss. Our methodology by contrast assumes a counterfactual enabling us to compare actual performance in 2007 with how we would expect the commercial PSBs to behave if the content obligations were lifted. This implies that, before taking account of the risk to their business model of so large a change, they would be better off by handing back the regulatory assets and making a commercial return.

3 Evaluation of direct funding options

In its response to Phase 1 of Ofcom's inquiry, the BBC argued that there are two choices of direct funding for content provision in at-risk genres – “institutional” and “competitive”²⁰. Ofcom has developed these ideas in its phase 2 report²¹. According to Ofcom, the institutional funding model, in which commercial PSBs receive resources in return for a negotiated commitment to supply programme outputs, has worked well in the UK historically, while competitive funding could help secure a greater contribution from a range of new providers and improve accountability. In this analysis, we are seeking to estimate the relative costs of providing content under different direct funding options.

3.1 The funding options

3.1.1 The options

The funding options which might be employed to promote production of content in at-risk genres are summarised in the table below:

Table 1: Summary of funding options

Funding option	Key features	Duration
BBC option	<ul style="list-style-type: none"> An “institutional” solution BBC increases output in at-risk genres Funded from existing programme budgets – so potentially some cuts in other output Potentially some reduction in audience compared with output that is substituted 	Long term
Bargained option (existing commercial PSBs)	<ul style="list-style-type: none"> An “institutional” solution Negotiated agreement between the budget holder and a broadcaster Agreement defines obligations and direct funding Price payable to broadcaster likely to include a ‘risk premium’ Negotiation costs accommodated in existing regulatory budgets 	Long term
Contested option (existing commercial PSBs)	<ul style="list-style-type: none"> A “competitive” solution Broadcasters are invited to bid for funds to commission and broadcast public service content Bids could be made by the commercial PSBs (ITV1, Channel 4, Five) Bid price likely to include a ‘risk premium’ Significant additional costs to administer the distribution of public funds in a bid process 	Medium term

²⁰ BBC response to Ofcom's Second Public Service Broadcasting Review, Phase 1; BBC Trust, 2008.

²¹ Ofcom's Second Public Service Broadcasting Review; Phase Two, Section 4, pp59-66.

Contested option (thematic channels)	<ul style="list-style-type: none"> • A “competitive” solution • Bids by thematic channels (Discovery, Sky Arts, etc) 	Medium term
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We believe that in bargained and contested options the broadcasters would charge a premium for risk – the rationale and the level at which the risk premium might be set is explained below (3.1.2). In the contested option there are also likely to be significant costs of distribution which we have benchmarked against existing funding distribution bodies as explained in section 3.1.3 below.

3.1.2 Calculation of the risk premium

It might be assumed that a guaranteed revenue stream represents a *reduction* in risk; however because a broadcaster has a limited schedule there is always an alternative programme that has to be dropped to accommodate the public service content, and hence there is always the risk that the broadcaster is saddled with obligations which prevent it from maximising gross margin. We believe that commercial broadcasters would require a premium in both the bargained and contested options to cover this risk.

Sources of increased risk include:

- Difficulty estimating the likely ‘opportunity cost’; broadcasters would expect some reduction in gross margin when they substitute commercially optimal programming for public service strands – estimating this would pose some challenges for commercial PSBs in a world without public service obligations and it would be even more difficult for broadcasters without experience of programming public service output in peak time; and
- Reduced freedom to schedule against competitors; broadcasters will typically monitor the schedules of competitors and adjust their schedule in response – this ability is constrained if they enter into binding obligations with the regulator – this impact will be felt particularly in peak time.

We believe that the risk premium would be somewhat larger under the contested funding option than the bargained funding option because of the additional risks involved in a competitive bidding process. We have assumed a risk premium of 15% under the contested funding option and 10% for the bargained option.

3.1.3 Funding body costs

In bargained options the funding is allocated after negotiations between the broadcasters and the regulator; we assume that the time and costs of negotiations can be accommodated in the existing budgets of regulatory bodies. In contested options we envisage that a permanent independent funding body would be required. The funding body would incur overhead costs in preparing invitations to tender for direct funding, evaluating bids received, contracting with the winning bidder(s) and monitoring the ongoing provision of content against the agreement.

To determine what the cost overhead of the funding body might be we have looked at existing distribution bodies in the UK – the Arts Council England, the Heritage Lottery Fund, and Sport England – and in Ireland we have looked at the Broadcasting Commission of Ireland.

Table 2: Funding Body overheads (2007/08)

Body	Function	Funds distributed (£m)	Funding body costs (£m)	Costs as a % of funds distributed
Arts Council England	<ul style="list-style-type: none"> Champions, develops and invests public money in art projects 	437	32	7%
Heritage Lottery Fund	<ul style="list-style-type: none"> Distributes National Lottery proceeds to heritage projects and activities 	217	20	9.5%
Sport England	<ul style="list-style-type: none"> Distributes National Lottery proceeds to sports projects and activities 	135	22	16%
Broadcasting Commission of Ireland	<ul style="list-style-type: none"> Distributes 5% of total TV licence fees to independent TV and radio production 	8 (Millions of Euros)	0.6 (Millions of Euros)	8.5%

Source: Company accounts

The overhead of these funding bodies is between 7% and 16% of funds distributed. Each of these bodies has a fixed cost base of permanent staff and office accommodation to perform their duties; other significant cost items include professional fees (audit, legal) and marketing/communications costs. We have assumed that the funding agency overhead in contested funding options is £20 million to £25 million per annum (based on an 8% overhead on public funding in the region of £250 million - £300 million per annum). None of the major funding bodies mentioned have administrative costs lower than £20m.

3.2 *Evaluation of the funding options*

To examine how bargained and contested funding options might work in practice, we have modelled what would happen if there was public intervention to support an extra hour per week (52 hours per year) of peak time specialist factual programming above that which the market would provide without intervention.

We examine first how the BBC would fill the gap via a commitment to provide an extra hour a week on BBC1. We then estimate the direct funding that ITV1 would seek to provide 52 hours of specialist factual under (a) bargained and (b) contested options, and compare the cost to the public purse of the BBC and ITV options.

We then compare the ITV contested funding requirement with the likely range of bids from other channels under a contested funding model, and we estimate the likely effectiveness and efficiency of these interventions with reference to the volume of viewing that the programming would attract and the cost per viewer hour on each channel.

Finally, we consider some of the limitations of contested funding, looking specifically at how the high fixed costs of N&R might dissuade broadcasters from bidding.

3.2.1 *Comparison of BBC and ITV funding of specialist factual*

We assume that the BBC increases the supply of specialist factual output by reducing first run originated output in factual entertainment, leisure programming (gardening, cookery etc), and

other general entertainment programming broadcast in peak time²². The BBC might spend an average of £250,000 per hour on the new specialist factual programming, a total spend of £13 million; assuming programming of similar cost was substituted, the impact on overall programme spend would be neutral.

There would be an opportunity cost to the BBC because the average peak time audience for specialist factual is typically lower than that of the more popular genres being substituted. Using 2007 audiences as a benchmark, we have estimated that the average audience for the specialist factual programming could be 36% lower than for the genres it replaces (in 2007, peak time specialist factual attracted an average audience of about 4.1 million on BBC1 compared with 6.4 million for originated output in non at-risk genres)²³.

The BBC solution does not address plurality because it does not increase the number of different providers. In our counterfactual we assumed that ITV1 dropped entirely its output of specialist factual; therefore direct funding for ITV1 would be a means of increasing plurality by bringing ITV1 back into the provision of specialist factual.

We have modelled ITV1 introducing an extra 52 hours of specialist factual into the peak time schedule; we estimate that it would make an £8 million saving in programme costs due to the replacement of more expensive entertainment programming with the specialist factual output. Our analysis suggests that the opportunity cost of lost advertising would be the biggest element in ITV's bargained and contested funding requirements; the drop in advertising revenue could be as much as £27 million per annum, driven by the lower average audience for specialist factual compared with the content being replaced (in 2007, specialist factual in peak time on ITV1 attracted an audience of about 3.2 million compared with an audience of about 6.7 million for originated content not in at-risk genres).

Taking account of both the change in programme spend and the change in advertising, the opportunity cost to ITV1 would be in the region of £19 million per annum; this is the injection of direct funding that ITV would require to bring it back to the same level of profitability as it earned under a purely commercial schedule.

We believe that ITV would also seek reimbursement for the increase in risk – almost £2 million in this case assuming a risk premium of 10% on the opportunity cost incurred. Overall therefore, we estimate that ITV would negotiate funding of approximately £21 million per annum to show 52 hours of specialist factual in peak time under a bargained solution.

In Section 3.1 we identified two additional costs to factor into contested funding options:

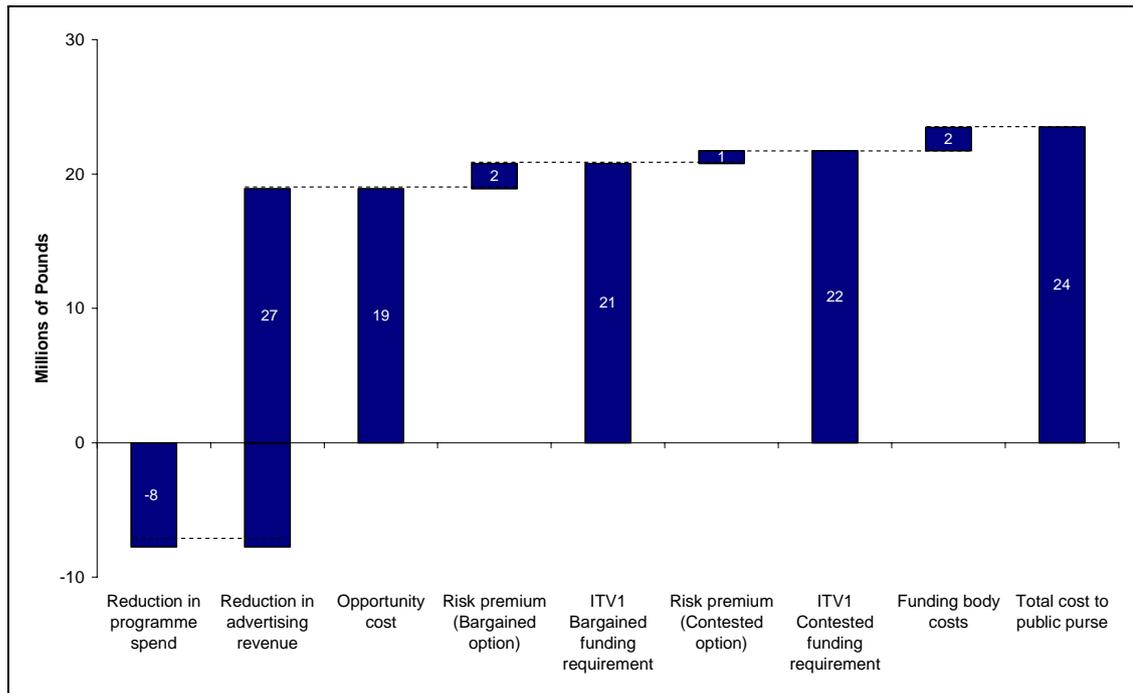
- We would expect ITV to increase the risk premium from 10% to 15% of the opportunity cost due to the shorter duration of the agreement and the additional costs of compliance, adding about £1 million per annum to the bid price
- Funding body overheads would be about £2 million (8% of ITV1's contested bid price)

In summary, we estimate that ITV would require £21 million under a bargained solution and £22 million under a contested solution, with an additional £2 million funding body overhead incurred under the contested option, making the total cost to the public purse £24 million. These are presented in Figure 7.

²² In this (as in every) example it would be necessary to determine that the content was additional and not simply something that the broadcaster was doing already – we assume in all cases that measures can put in place to establish this fact.

²³ Continued replacement of more appealing content by less appealing content would, eventually, reduce the BBC's audience and "reach" to a point where questions were raised about the legitimacy of the licence fee; however, in this report we assume that the changes we are making are marginal and do not lead to a significant overall deterioration in the BBC's appeal.

Figure 7: ITV1 bargained and contested funding needs for specialist factual



Source: Capgemini estimates

From the analysis above it is clear that the BBC offers the lowest-cost solution to the taxpayer overall. The BBC1 solution would inject £13 million extra into production in specialist factual, to be met from within the existing BBC1 licence fee funded programme budget. BARB data indicates that an average BBC1 audience for specialist factual programming was 4.1 million in 2007 and for ITV1 it was 3.2 million, hence the BBC1 solution could be expected to drive over 25% more viewing to the public service content than ITV1. A BBC solution is also more cost effective; on a cost per viewer hour basis, the ITV1 bargained solution would cost about 12 pence per viewer hour while the BBC1 option cost 6 pence²⁴.

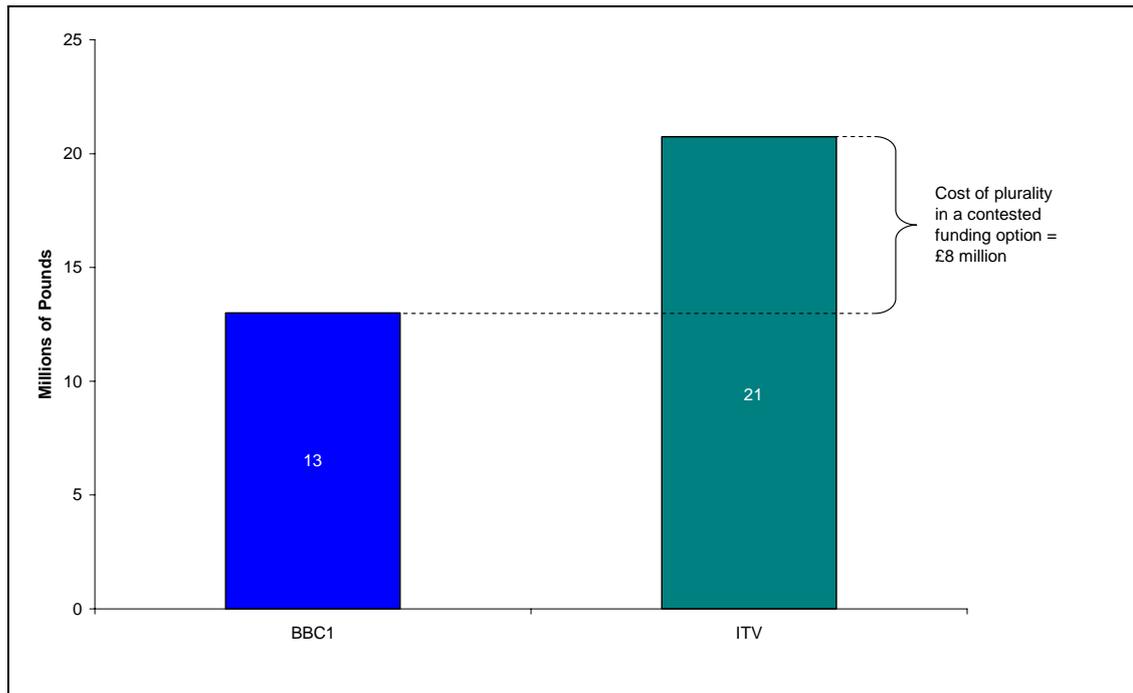
But while the solution is cost effective, it does not increase plurality. To increase plurality while ensuring that the programming reaches an audience similar in size to the BBC1 audience would mean entering into a bargained agreement with ITV1. The cost of plurality is the difference between the BBC solution and a bargained ITV1 solution; in this example it is about £8 million (Figure 8)²⁵.

Contested funding is the highest-cost means of allocating funding; we anticipate that bidders would charge a higher risk premium than in bargained options and the overhead costs of the funding body would need to be met. In our assumptions in the example above, the cost of funding ITV1 to provide the specialist factual programming is 13.5% higher in the contested funding model than in the bargained approach (£24 million per annum versus £21 million). The benefits of a contested solution – transparency, competitive pricing, effective monitoring of outputs, etc – should be measured against the extra cost of the funding option compared with a bargained solution.

²⁴ Cost per viewer hour is a measure of the efficiency with which spend is converted into audience. It is calculated by dividing the cost of a programme by cumulative viewing to that programme. To calculate the cost per viewer hour we have taken as the cost base for ITV1 the bargained cost to the public purse, while for the BBC we have used the production spend. Note that if, for ITV1, we used the production spend and not the cost to the public purse, the cost per viewer hour would be 8 pence instead of 12 pence – the difference is the net opportunity cost of changes in programme spend and advertising, and the risk premium.

²⁵ Figure 8 shows BBC production costs and ITV1 bargained funding need – the comparison is made because they are the respective costs to the public of the content; the difference is that the former is included within the licence fee while the latter would be an additional draw on public funds payable as direct funding.

Figure 8: The cost of plurality in specialist factual



Source: Capgemini estimates

3.2.2 Comparison of contested funding options for specialist factual

It is likely that Channel 4 and Five would also bid for contested funding to provide content in at-risk genres, and the structure of their bid would be similar to ITV1's. In our example of 52 hours of specialist factual, Channel 4 and Five might spend slightly less on a cost per hour basis (say £200,000 per hour). In the case of Five, this might represent an *increase* in spend because their spend on programming is lower than the other commercial PSBs. They would experience some reduction in audience; for Channel 4 this might mean a reduction in average audience in the slot from 2.7 million to 1.7 million, and for Five a reduction from 1.1 million to 0.8 million. Advertising revenue would fall as a result – by perhaps £11 million for Channel 4 and £2.5 million for Five. Both would require a risk premium.

Using these assumptions, we estimate that Channel 4 might seek contested funding of £12.5 million per annum and Five £7.3 million to provide 52 hours of originated peak time specialist factual output (a total cost after including funding body costs of £13.5 million and £7.9 million respectively). This is presented in Figure 10 below. Five's relatively low opportunity cost is thus driven mainly by smaller audiences (and hence lower replacement cost of advertising), but also from a lower programme budget (£200k per hour versus £250k on ITV1 or BBC1).

A contested funding process could also appeal to thematic channels who previously have not been subject to public service obligations but who see an opportunity to enhance their on-screen content and audience appeal by bidding for funding. To calculate the funding requirement for a thematic channel, we have modelled a documentary channel in the basic tier on all pay TV platforms which attracts an audience share of 0.2% to 0.5% of multichannel viewing. The channel receives revenues from two sources – advertising and the subscription fees distributed by the pay TV operator.

We assume that the channel owner commissions specialist factual at £170,000 per hour; we further assume that the channel would broadcast the content on a rapid repeat cycle – showing it maybe 8-10 times over a 48 hour period in the "first run" – and we have assumed a cumulative audience of 600,000 for the eight showings²⁶.

²⁶

When we look at originated content broadcast on the networks we are concerned only with the first run; however, the economics of thematic channels are based on a high repeat rate so we feel that this is a reasonable approach to take.

The opportunity cost of broadcasting public service content is smaller for a thematic channel than it is for a commercial PSB because the new content is likely to be more attractive to audiences than the content it replaces (it is likely to be both newer and more expensive on a cost per hour basis; it will also be UK originated and it is likely to replace acquired content from the US). Hence it is likely to attract a higher audience than the content that is substituted, which translates into higher advertising yields²⁷.

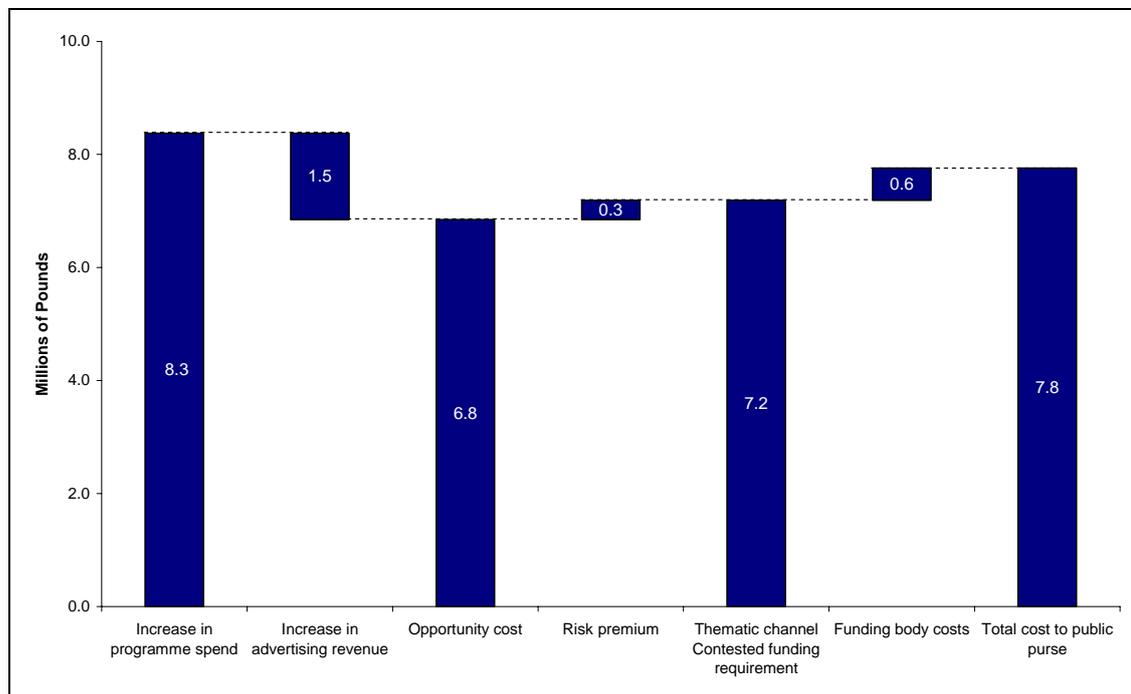
The risk premium is also likely to be lower for a thematic channel than for a commercial PSB, for a number of reasons:

- The opportunity cost and hence the potential risk of entering into a funding agreement is lower
- Given that thematic channels' business model is to offer targeted programming to niche audiences, the ability to access public funding is actually likely to increase audience
- Thematic channels are less reliant on peak time audiences or scheduling against their competitors to secure their audience and so the loss of freedom after entering into obligations with the regulator is less significant

In our example, the thematic channel might incur extra net programme costs of £8.3 million – the difference in cost between the low cost per hour, highly repeated content in the existing schedule and the high cost per hour of first run originated specialist factual that is replacing it. The uplift in advertising revenue is likely to be about £1.5 million, reflecting the relatively low audience and CPT of thematic channels – even with originated first run content. This is the opposite of ITV1, where the loss of advertising revenue is the highest cost and the difference in programming spend is less significant.

The risk premium is likely to be small (it might only be 5% or £0.3m) and so the funding required by the operator may be £7.2 million. The funding body overhead attributable might be £0.6 million. Hence the total cost to the public purse might be £7.8 million per annum.

Figure 9: Thematic channel contested funding needs for specialist factual



75,000 is the average audience for a specialist factual programme on a thematic channel in our BARB dataset; we are assuming that this is achieved for each of the eight showings giving a cumulative audience of 600,000.

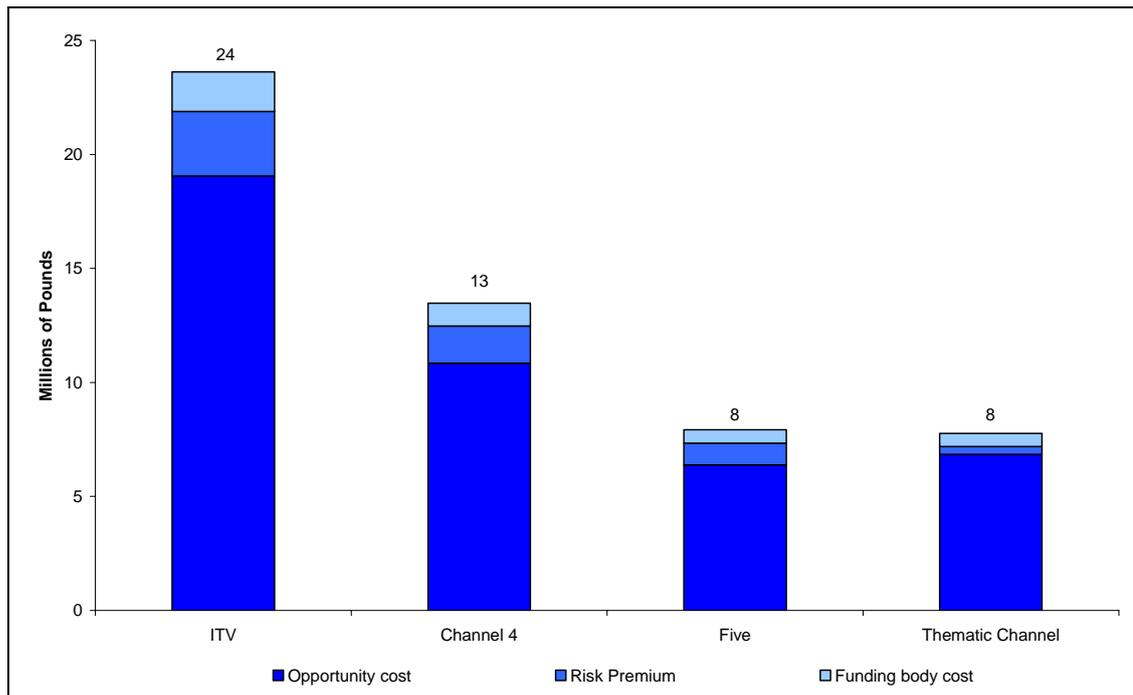
²⁷

In the longer term, the higher audience appeal could enable the channel to negotiate higher subscription fees from its distributors, but we have ignored this because sub fees are negotiated on a multi-year deal and it would take some time for the benefits of an increase in audience to impact on sub fee negotiations.

Source: Capgemini estimates

Figure 10 compares the costs of direct funding to different commercial broadcasters to provide 52 hours of specialist factual under a contested funding model. It shows that, in contested funding options, the bigger the channel audience, the higher the opportunity cost of providing additional output in at-risk genres and hence the higher the cost to the public purse. Under the contested funding option, it is cheaper to fund production on channels with smaller audience share (Five or a thematic channel) than it is on a channel with higher audience share (ITV1, for example). This is because of the higher opportunity costs of scheduling on commercial PSBs.

Figure 10: Cost to the public purse of contested funding options



Source: Capgemini estimates

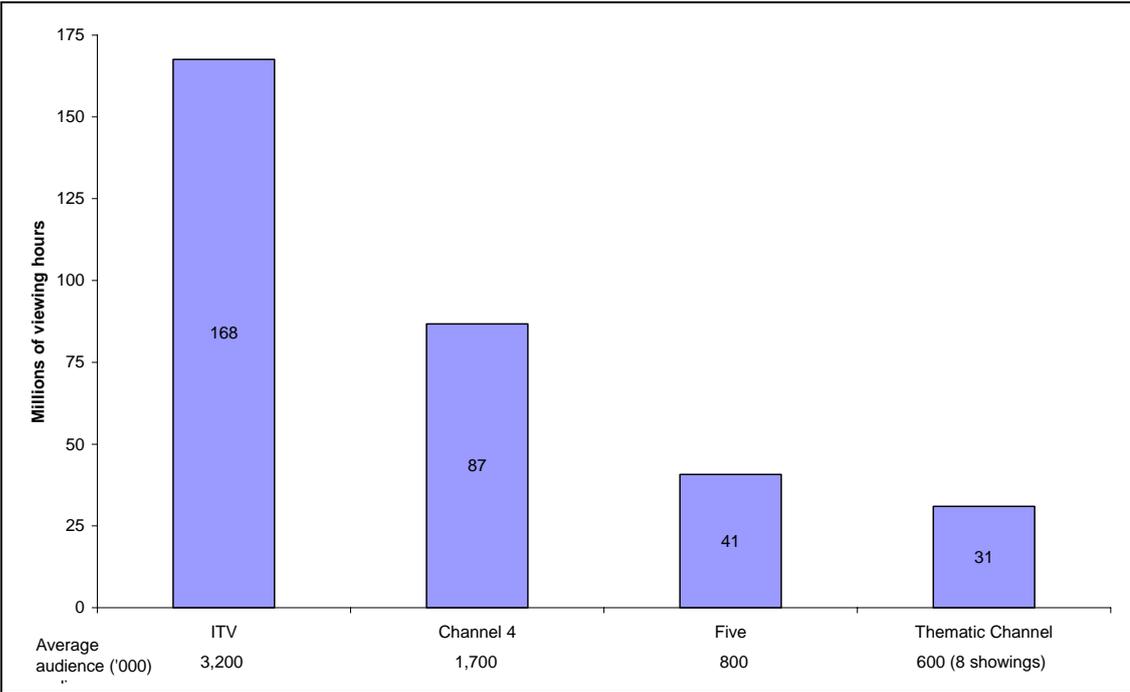
To measure the effectiveness of contested funding we should consider the audience to the content. What we find is that 52 hours of specialist factual on ITV1 reaches a higher cumulative audience than the same content on Channel 4, which in turn reaches a higher audience than Five or a thematic channel (Figure 11)²⁸. A contested option involving a thematic channel, while lowest cost, delivers less viewing compared with mixed schedule free TV channels like ITV1. This is because the free TV channels have the reach, prominence and cross-promotion muscle to attract high audiences to originated content in at-risk genres. Thematic channels have smaller reach and hence would not secure as large an audience as a free TV channel, even given the repeat rates assumed in this analysis.

Cost per viewer hour is a measure of the efficiency with which spend is converted into audience. Using this metric we find that the most expensive contested funding option – ITV1 – is also the most efficient at a cost of 14 pence per viewer hour. The costs increase up to 25 pence per viewer hour for the thematic channel (Figure 12).

²⁸

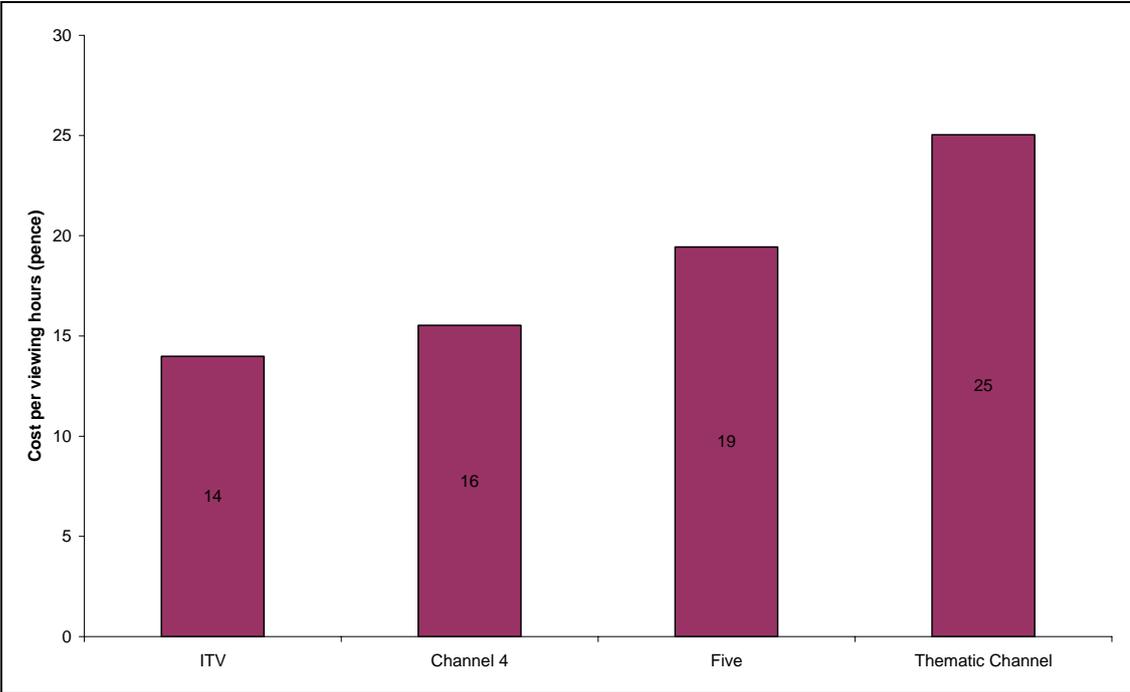
The cumulative viewing on the thematic channel is based on eight repeats in the “first run”.

Figure 11: Cumulative audience for 52 hours of originated specialist factual



Source: Capgemini estimates

Figure 12: Cost per viewer hour of 52 hours of originated specialist factual



Source: Capgemini estimates

3.3 *Limits of contested funding solutions*

As Ofcom acknowledges, there are difficulties associated with contested funding²⁹:

- The limited number of bidders might prevent true competition
- The ‘deadweight’ cost of funding for content that would have been produced anyway
- The difficulty in defining the desired outputs and holding broadcasters to them

We believe that contested funding may not be a workable solution for Nations & Regions programming. If ITV1 removed all N&R programming from the schedule, it would make little sense to involve the BBC in a bargained solution (the BBC already broadcasts over 4,000 hours a year and there would be no increase in plurality if it broadcast any more). Hence the options would be to negotiate a bargained solution with ITV1 or seek a contested solution.

The high fixed costs of N&R programming (regional offices and news gathering functions) would discourage other broadcasters from bidding for contested funding and / or inflate bid prices substantially due to the risk premium required³⁰. The shorter timescale of contested funding would also deter bidders from putting in a regional infrastructure, and N&R programming would increase distribution costs for any broadcaster that does not already broadcast regional feeds.

Contested funding solutions could be extended to UK web sites providing news, entertainment and information or to dedicated web sites set up specifically to deliver public service content. The economics would be somewhat different to broadcasting:

- the content might be of shorter duration and less expensive on a cost per hour basis
- the main revenue streams would be search advertising – particularly local search around regional news, for example – and banner advertising (we believe that subscription models would be unlikely to bring significant revenues)

Regional news groups might bid for contested funding to deliver regional news services – a patchwork of regional groups could replicate national provision while utilising their existing news gathering assets and sharing the risks. This would increase significantly the plurality of directly funded offerings. However, the audience and reach of online providers would be significantly lower than that of a TV channel and those households without broadband would be disadvantaged. Hence, a bargained solution with ITV1 might be the only means of safeguarding plurality in N&R news.

The pool of broadcasters who might put forward bids for contested funding is likely to be limited in some other genres. In the case of current affairs, for example, thematic channels may not be interested in submitting a bid because current affairs is not programming that can be repeated regularly – it rapidly loses its ‘currency’. Thus, it does not fit neatly with the thematic channel business model of high programme repeat rates.

One genre where thematic channels may play an important role as a commissioner is in children’s programming; this is typically expensive to broadcast on commercial PSBs and does not fit with the rest of the schedule. However, children’s programming can work well on dedicated thematic channels, which become destinations for children’s viewing, where scheduling is not a problem and where there can be a high repeat rate to bring down the cost of programming.

²⁹ Ofcom’s Second Public Service Broadcasting Review; Phase Two, Figure 22 p61

³⁰ Similar arguments apply for network news.

4 Conclusions

4.1 *Market provision of content in at-risk genres*

We have identified six at-risk genres: network news, quality drama, specialist factual, current affairs, Nations and Regions (N&R) and children's. Commercial PSBs have strong incentives to reduce their output hours of originated first run content in at-risk genres.

In 2007 the commercial PSBs together produced about 4,800 hours of originated content in the six at-risk genres – approximately 500 originated first run hours of network news, 375 hours of quality drama, and 300 hours of specialist factual and current affairs. ITV1 and Five broadcast 240 hours of originated children's in non-peak, and ITV1 broadcast 3,400 hours of N&R. We have estimated that the combined spend by the commercial PSBs in the six at-risk genres was approximately £0.5 billion in 2007.

The gross margin of commercial PSBs could increase by £220m (20%) if public service content obligations are relaxed; this figure for opportunity cost is significantly lower than the £330m that Ofcom has estimated as the loss by commercial PSBs on public service broadcasting, albeit that Ofcom is estimating the shortfall in 2012 whereas our estimate is for 2007.

We would expect ITV1 to drop completely its N&R output and children's programming (while possibly continuing to fund a small volume of originated output on its digital-only children's channel). ITV1 might also halve its specialist factual and current affairs output. We might also expect a combined reduction of about 100 hours (40%) in first run originated hours of specialist factual and current affairs on Channel 4 and Five, and a reduction of 120 hours (about one third) in network news output. We have estimated that the resulting reduction in spend on originated programming in at-risk genres would be about £200m, of which about half is accounted for by savings in ITV N&R.

4.2 *Evaluation of direct funding options*

We have evaluated two models to fund directly originated content in at-risk genres:

- Bargained funding – long-term, negotiated agreements with broadcasters
- Contested funding – medium term funding for which broadcasters bid

In both bargained and contested options the bidders would add a risk premium to reflect the difficulty in estimating the opportunity costs of bidding for funding; we believe that it would be higher in the contested than the bargained funding options. In a contested model a permanent independent funding body would also be required.

To examine how bargained and contested funding options might work in practice, we modelled what would happen if there was public intervention to support an extra hour per week (52 hours per year) of peak time specialist factual programming above that which the market would provide without intervention. We also looked at how BBC1 might increase supply.

The BBC1 solution would inject £13 million extra into production in specialist factual, to be met from within the existing BBC1 licence fee funded programme budget, meaning that there would be no extra cost to the taxpayer. There would be an opportunity cost to the BBC because the average peak time audience for specialist factual is typically lower than for the more popular genres being substituted.

The BBC1 solution is cost effective but it does not increase plurality. To increase plurality while ensuring that the programming reaches an audience similar in size to the BBC1 audience would mean entering into an agreement with ITV1; we estimate that a bargained agreement with ITV1 would cost the taxpayer about £21 million per annum. The main cost element is the high opportunity cost of lost advertising revenues, which is driven by the lower average audience for specialist factual compared with the content being replaced.

The cost of plurality is the difference between the BBC solution and the ITV1 solution; in this example it is about £8 million per annum.

Contested funding is the highest-cost means of allocating funding; we anticipate that bidders would charge a higher risk premium than in bargained options and the overhead costs of the

funding body would need to be met. In our assumptions, the cost of contested funding solutions is 13.5% higher than the cost of bargained funding options. The benefits of a contested solution – transparency, competitive pricing, effective monitoring of outputs, etc – should be measured against the extra cost of the funding option.

Under contested funding, it is cheaper to fund production on channels with smaller audience share (Five or a thematic channel) than it is on a channel with higher audience share (ITV1, for example) because of the higher opportunity costs of scheduling on larger channels. We have estimated that the total cost of funding ITV1 to provide the specialist factual programming under a contested funding model would be £24 million per annum; for Channel 4 and Five it would be £13.5 million and £7.9 million respectively. The cost to the public purse of funding a thematic channel would be about the same as the cost for Five.

The obverse is that the smaller broadcasters deliver lower audience. Hence, on a cost per hour basis, the most expensive contested funding option – ITV1 – is also the most efficient in delivering a public service audience at a cost of 14 pence per viewer hour, increasing to 25 pence per viewer hour for the thematic channel. By contrast, although not strictly comparable, BBC1 is around 6 pence per viewer hour.

Contested funding may not be a workable solution for all genres. For example, the high fixed costs of N&R programming (regional offices and news gathering functions) would discourage broadcasters from bidding. In current affairs, thematic channels may not be interested in submitting a bid because current affairs is not programming that can be repeated regularly – it rapidly loses its 'currency'. Thus, it does not fit neatly with the thematic channel business model of high programme repeat rates.

Contested funding solutions could be extended to UK web sites providing news, entertainment and information or to dedicated web sites set up specifically to deliver public service content. However, the audience and reach of online providers would be significantly lower than that of a TV channel and those households without broadband would be disadvantaged.