



Discussion Paper
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A COST PERSPECTIVE ON TELEVISED SPORT

“The Optimal Economic Utilisation of Sport’s Media Rights”

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1. INTRODUCTION

Sport media rights have most commonly been sold to television companies that themselves have produced the sport programmes. Usually all games from a league or an association were sold in one bundle to one buyer, for example the state monopolist or a commercial broadcaster with monopoly power in that market. At the same time, production was an expensive and complicated process requiring investment that could only be undertaken by the broadcasting companies. As the value of the rights were suppressed by the lack of competition among broadcasters, there was quite simply not economic motivation for the rights holders either to differentiate their product, and even less to get involved in the production process.

Today we see a very different television landscape, which in turn has altered its importance to the rights holders, i.e. the football leagues and associations. While the value of the rights have risen drastically, additional revenue has also grown as the increased media exposure has led to greater sponsor and advertising revenue. With several different broadcasting technologies and the exploitation of media exposure to attract sponsors, the factors needed to be taken into consideration in productions have become more complex. Hence, the production process itself has become a matter of dispute in certain markets. There has been disapproval of the quality of production from the football associations as well as complaints about having to show too many unattractive games from broadcasters. This essay is an attempt to discuss how different aspects of cost in programme production affects the television channels' motivation for showing programmes, and how the holders, in this case the football association, can sell the rights in different manners.

2. SPORT'S BROADCASTING REVENUE FUNCTION

The football industry has grown at a very fast rate over the last decade or so. Television has had a major say in that development. Today, income from sale of media rights constitutes the one most important source of revenue in some European countries and is still growing in others¹. When the football industry is trying to

¹ Deloitte & Touche (2001)

maximise its revenue from television, it has to take several elements into consideration. There are first and foremost three factors that influence the choice of the rights holders².

Firstly, the value of the rights themselves. This is a direct source of media revenue. The greater the number of games sold, the greater is the revenue generated from this source up to a certain level. This level is decided by the degree of competition in the television market and the position and strength of football compared to other programmes in the actual market.

Secondly, revenue from sponsors and advertisers. The level of this revenue is depends on media exposure as well as other non-media factors. Media coverage is of paramount importance to sponsors when they decide to sponsor a football club³. The range of the media penetration has two directions; broad and extensive. Broad penetration, i.e. reaching a mass audience is best achieved through football being shown on free channels with high viewing ratings. Extensive penetration, i.e. getting greater coverage by a larger number of games, has hitherto been the domain of pay channels. The audience reach is then much more limited, but the people reached are subject to a more extensive penetration. This group is often socio-economically reasonably homogenous. Hence, targeted sponsoring may be effective towards this group. Be that as it may, sponsor revenue is positively related to both types of exposure, both reaching the maximum number of viewers, and a maximum number of televised games.

Thirdly, ticket income is also a function of television exposure. While the attendance of the individual televised game may be negatively affected, the long-term relationship between television coverage and attendance figures is less clear. Football, being an activity that competes with other activities for people's spare time and attention, need to be visible for interest to be sustained. The most efficient way to keep a high profile is through exposure on television. Potential spectators may be convinced of watching football live by being reminded of its existence on television. Hence, there are two factors at play, and the conclusions to be drawn will remain inconclusive.

² See Johnsen (2001-a) and Cowie & Williams (1997)

³ See Johnsen (2001-b)

Thus, of the three factors discussed, two; direct and sponsor revenue are both positively related to television exposure, while we cannot conclude that its relation with ticket income is negative. Hence, the overriding implication is that it is in the football industry's interest to maximise television exposure. For the remainder of this essay, we will assume that this holds true. Let us now turn to a discussion on a television company's cost structures, and how they may influence programme choice.

3. COSTS OF PRODUCTION

A company's total cost consists of two categories; fixed and variable costs. The two different types have characteristics that affect the production decisions of the firm in different manners. While certain cost elements have to be decided upon for years at the time, others occur daily and can easily be altered to accommodate circumstances. Let us have a closer look at the two cost categories.

3.1. Discussion of variable costs

Variable costs change as output change.⁴ In the longer run, all costs are variable. In the short run, only some of the cost elements can be varied, while the fixed costs can not be changed to suit market conditions (see below). A profit maximising firm will alter the variable costs so as to remain at any time at the optimal level of production. Variable costs will be kept at the level where an increase or decrease will lead to a fall in profits, i.e. at the point where marginal revenue equals marginal costs. In other words, at the point where an increase in output will lead to a rise in costs greater than the rise in revenue, and thus a fall in profits. Similarly, a decrease in production costs will lead to an even greater decrease in revenue, as a result of the fall in output. This will either lead to fewer programmes being made and broadcasted, or that the quality of each production will fall. In both cases, the number of viewers will, *ceteris paribus*, fall as well. Let us now turn our attention to variable costs in the production of football games.

⁴ Begg, Dornbusch and Fischer (1987)

Variable cost of broadcasting. For televised football games, the variable costs must be considered in relation to the number of games broadcasted. If we assume that the television company ranks the game according to attractiveness, the games will become increasingly less and less appealing propositions. Hence the income generated from the most attractive games will be greater than revenue attracted from subsequent ones. At one point, games will not be interesting enough as television programmes and the broadcaster will not want to show more matches. Hence, the marginal revenue from football games is decreasing the less attractive the games are.

<u>Ranking of games</u>	<u>Revenue</u>	<u>Prod.cost⁵</u>	<u>Profits</u>
Game 1	1 000 000	300 000	700 000
Game 2	800 000	300 000	500 000
Game 3	600 000	300 000	300 000
Game 4	400 000	300 000	100 000
Game 5	250 000	300 000	-50 000
Game 6	150 000	300 000	-150 000

Table 1. Illustration of the attractiveness of each game

The broadcaster would, if they had the choice, produce the four most attractive games from which they would earn profits, while they will choose not to produce games number 5 and 6. In this illustration, production costs are assumed the same for all games.

Variable cost of production. Furthermore, there are variable costs for each individual production, i.e. televised football game. The better the production, ceteris paribus, the greater the revenue from making it. The greater the number of cameras used on a football game, the better the overall production will become (assuming the producer has the sense to use the cameras correctly). This will, in turn, attract a greater number of viewers, and hence contribute to greater revenue for the broadcaster. As long as the increased income is higher than the additional cost by the greater number of cameras, it makes sense to use a higher number of cameras. At one point, the greater income for additional use of cameras etc. will be equal to the increased cost from using the last camera. The television company will not improve the production beyond this point. Hence, for both number of games and the quality of each production, the

⁵ Excluded fixed costs. All these costs are assumed variable.

television broadcaster will produce up to the point where marginal revenue equals marginal cost.

So, instead of having a fixed production cost of 300 000 per game, as assumed above, these costs can fluctuate so as to maximise profits. If we for example take game 1 from the table above, we found that the profits from this game was 700 000. We do not examine the relationship between revenue and costs. There is such a relationship, where the revenue is positively related to costs. The table below illustrates a possible situation.

<u>Cost of prod</u>	<u>Revenue</u>	<u>Profits</u>	<u>Marginal costs</u>	<u>Marginal rev</u>
100 000	720 000	600 000		
150 000	820 000	650 000	50 000	100 000
200 000	890 000	670 000	50 000	70 000
250 000	950 000	690 000	50 000	60 000
300 000	1 000 000	700 000	50 000	50 000
350 000	1 040 000	690 000	50 000	40 000
400 000	1 070 000	670 000	50 000	30 000

Table 2. Illustration of the relationship between cost, revenue and profit.

In the situation depicted in the table above, the profit maximising firm will choose production costs at 300 000 and revenue at 1 000 000. At this level, profit is maximised at 700 000 and marginal revenue equals marginal costs at 50 000. If the broadcaster decide to spend more money on the production, for example 350 000, revenue will not rise by the same amount and the profit shrinks to 690 000. At this level marginal costs are greater than marginal revenue and hence not an optimal position for the broadcaster.

Opportunity cost. Finally, we also ought to discuss the opportunity cost of broadcasting football. The opportunity cost is the value of the foregone revenue from alternative actions. For a production one needs personnel, equipment and transmission time, the use of which incurs costs that vary with the level of production. Their input could be used in alternative productions of other programmes. If the conditions for football productions should worsen, resources previously devoted to football would be allocated to other categories of production, or laid off in case of a fall in the level of production. Should the production rise, further resources would be used on football programmes. The size of a station's sports division tends to vary over the course of

the year. The regular staff is supplemented with free-lancers employed on short-term contracts. The resource directed towards this element ought to be considered as variable costs⁶.

Assuming that television channels are profit maximisers, they will always want to broadcast the programme that yields the greatest profits. Hence, football games are competing with all other kind of programmes for transmission time (on one particular channel). While the overall spectrum has increased drastically in recent years, and there is no shortage of transmission space as such, each channel has only a limited capacity and is hence subject to constraints in programme choice. This may be further exaggerated by the fact that television channels are not perfect substitutes. Most programmes can not easily be moved from a company's main channel (f. ex TV3, NRK1) to a minor channel (ViaSat Plus, NRK2) without losing a considerable number of viewers. The implication of moving a programme from a broadcaster's major to a minor channel, is that the programme has to compete against whatever programme is shown on the broadcaster's major channel in addition to all the other channels. Hence, broadcasters have to make programme choices motivated by the opportunity cost of each show.

3.2. Discussion of fixed cost

Fixed costs can be defined as follows: Costs that do not vary with output⁷. Whatever level of production, these costs can not be altered easily in the short-run. Some of the fixed cost can not be changed at all irrespective of production. The long run is thus defined as being the time required for the producer to vary all the factors of production. There are three different categories of fixed costs (Hoel and Moene: 1993, chapter 3).

Production cost. Firstly, we have fixed costs conditional on production (Fp). This cost element is brought about by the production itself, and disappears when production closes. The level of the cost remains constant irrespective of production level.

⁶ Blumenthal and Goodenough (1998) p. 231 -232

⁷ Begg et al, op. cit

For firms, the fixed part of the electricity bill, telephone subscriptions and certain administrative cost are examples of this type of fixed cost.

Facility cost. Secondly, we have fixed cost incurred by use of facilities (F_f). This cost element does not depend on whether the firm is producing or not. It is only when the facilities are closed down that this cost element will vanish. Insurance policies, rent of localities and transmission time are examples of cost that are that will still be there in the short run even if production is closed down.

Sunk cost (F_s). These costs are irretrievable. When they have been paid there is no economic regain for the producer from closing down production and leaving the industry. If he chooses to do so, this money will be lost, unless the firm manages to resell the sunk cost element to some other producer. The main implication of sunk cost is that when they have been paid, the producer ought to forget about them when he is making production decisions. The commitment of the producer towards the utilisation of the sunk cost element may influence his production decisions. This may lead to an inefficient use of resources on part of the producer. In the long run, such behaviour will lead the producer to exit the industry, as his product will be less than optimally profitable. Hence, sunk costs are sunk costs, and when they are paid for they should have not influence whatsoever on subsequent decisions taken by the firm.

Contracts for sport rights are an example of sunk cost. They are often signed for several seasons, with the payment agreed upon at the beginning of the period. A contract gives the buyer, in this case the television company, the right to broadcast a certain number of games over the course of the period. The money is paid in advance, and the payment is thus based on expected revenue generation from the programmes in the future rather than realised profits.

Other examples of sunk costs are resources devoted to research and development. New programme ideas and concepts have to be created before production can start. Hence, money spent in these areas will not be recovered if the broadcaster decides not to make programmes based on the ideas. If the production of a series or programme concept is done before the show is broadcasted, as often is the case for television drama series with a limited number of episodes, the production cost is in itself also

part of the sunk cost. Hence, television companies may invest heavily in programmes before recapturing any of their expenses from showing it on the screen.

The first element of fixed cost may influence the decision making of the producer, even in the short-run. If production is closed down, these costs will disappear and reduce the cost burden of the producer. The other two elements, however, can not be changed in any way in the short-run.

4. PROGRAMME CHOICES OF THE TELEVISION CHANNEL

When television channels make their programme choices, commercial channels will opt for shows that yield the greatest expected profit. Programmes may either satisfy this condition by being extremely successful with high viewer ratings, or they may be cheap in production. Both for channel financed by advertising as well as pay channels, the economic aim is profit maximisation. In addition we have PSB channels with either a more complicated profit function, as is the case for those financed by advertising or they may have a utility function based on other criteria, such as channels financed by a licence. Be that as it may, all the channels have in common that they have to maximise the production from scarce resources. In other words, they all have to get as much as possible out of their resources.

Cost wise, we can divide programmes into three broad categories; those fully created and produced by the broadcaster, those produced, but not created by the broadcaster, and those the broadcaster buys as finished products from other companies. Let us briefly go through these three kinds of programmes.

4.1. In-house productions with high variable cost

The first category, programmes that are invented and produced by the broadcaster are usually programmes such as news, discussion programmes, self-made drama series and documentaries etc. Again, among this group we have programmes that are running indefinitely, such as news, soaps and discussion programmes, while other programmes are finished and completed products when they reach the screen. Drama series are typically made before they are shown, and hence can not be altered as such

during the broadcast season. The same applies to documentaries, which are individual productions made in advance of transmission.

For programmes that run indefinitely, variable costs constitute a huge part of total costs. If a programme turns out to be highly successful, additional resources and a prime viewing time may be given to the programme. Similarly, if the programme fails to live up to expectations, alterations may be done instantly to accommodate the situation, such as reducing the resources spent on future productions and reallocating the programme to a less favourable time of the day. If a programme turns out to be an absolute disaster, it can be taken off the screen and closed down instantly, again assuming the staff and equipment can be used in other production areas at no additional cost.

Hence, for such programmes, the broadcaster can vary both the resources spent on the programme and the viewing time for it. Hence, this is in itself a favourable position to be in for the broadcaster.

4.2. mixed productions - both variable and fixed costs

This is a common situation for programmes where the idea for it has been conceived externally, but where the production takes place in-house. This category includes reality television and quiz shows, i.e. so-called concept television. Rather than buying a fully finished programme from a production company, the broadcaster buys the rights to the concept and produces the programme itself. The broadcaster's need to adjust the programme to cater for national tastes prevents the making of just one version to be televised pan-nationally. Hence, each country, or market, has its own version of "Big Brother" and "Who Wants To Be A Millionaire?".

This is the most common way for domestic sport events to be produced for television. While the sport association owns the rights, they just sell these on to television companies for several seasons at the time. While the rights holders provide the game, race or tournament, the transformation of that spectacle into a television product is most commonly done by the broadcaster. Hence, in addition to the cost of the rights, there are also costs of production.

Hence, we have a sunk cost element in the purchasing of the rights. This money can not be allocated in other directions when the investment first has been made. The only way to maximise the utilisation of these resources is to produce as many programmes as possible of the concept or sport. Still, this is not economically optimal. As a matter of fact, the resources spent on acquiring the rights should not be taken into consideration by the broadcaster at all. The popularity of the programme itself should be the sole decisive factor.

This arises as a problem if the broadcaster has misjudged the popularity of a programme and paid way above the right price for the rights. The temptation to throw good money after bad is certainly present and may obscure the rationality of the broadcaster. Having paid a lot of money up front, it will be a bitter pill to swallow not to produce and show the programmes. Such escalation in commitment will, however, only incur greater losses. Thus, as long as there are variable costs associated with the production, the broadcaster is essentially faced with the same situation as discussed above. The marginal principle, i.e. produce up until the point where marginal revenue equals marginal cost should be the guiding light in decision-making. In deciding how much to produce in the short run, the firm must ignore its fixed costs, as these can not be changed anyway. Sometimes no production is the best possibility for the loss-minimising broadcaster.

4.3. External productions - fixed costs only

This is the case for programmes that have been purchased as finished products from external producers. This includes films, dramas, soaps, foreign sport and other programmes for which cost is not varying with broadcasting. Hence, a fixed amount is paid, and whether the broadcaster chooses to show one or a hundred of those programmes does not affect the price. For some programmes, there may be certain additional cost, such as a studio host and a commentator at sport events. These costs are still limited, both because such production costs are low and given the assumption that staff and equipment can be used in other productions.

Hence, the only variable cost of consideration is the opportunity cost of alternative programming. Given the low variable cost, which we already has identified as the

decisive factor in determining a programme's profitability, it becomes clear that these programmes do not need the same audience to be broadcasted as do shows with considerable variable production cost. This short discussion has highlighted some features of different cost structures in television production. It is now time to turn to television football specifically and discuss ways of selling such programmes most effectively.

5. A SHORT ANALYSIS

Let us now turn our attention to a graphical discussion of the same problem. In order to achieve a general understanding, it is necessary for us to make certain assumptions about the problem at hand.

Firstly, we will assume that the television broadcaster is a profit maximising actor. Hence, they will spend resources on a programme until marginal cost equals marginal revenue. Past investment is not considered important by the broadcaster. It is only interested in the present and the future possibilities for each programme. Hence, there is no escalation in commitment on part of the broadcaster.

Secondly, we will assume that the price for the maximum number of the three different types of programmes is the same. Hence, while the costs are at the same level, the proportions of variable and fixed cost will differ between the different types of programmes. We assume that the costs are identical for each individual programme, and that costs vary with the number of programmes made of each category by the size of variable costs.

5.1. Scenario 1 – high variable costs

Let us assume that the broadcaster acquires the rights to show one specific sport event. This may be an individual event or part of a series of events. For this right, the broadcaster may have paid the rights holder or they may have got the rights for free. In some extreme cases, the rights holders may even pay the broadcaster for showing the programme. In this situation, no investment has been made in advance by the broadcaster. They can continuously evaluate the attractiveness of the sport event. The

only fixed costs to be considered are those incurred by the total level of broadcasting, such as wages, expenses on equipment etc. and costs from use of facilities. Both the production staff and the equipment are assumed perfectly suitable for use in other productions, and are thus utilised in one way or another irrespective of the actual production of this one sport event.

Hence, no fixed cost occurs as a result of this one production. All the costs are variable, and the broadcaster has the freedom to decide whether or not to produce the event for television on short notice. Alternatively, the broadcaster can buy the entire programme from an external production company. In this case, no own resources are spent on the actual production, which given our assumption does not matter. The broadcaster will however, pay the production company for the programme. We then have a situation as depicted in the diagram below.

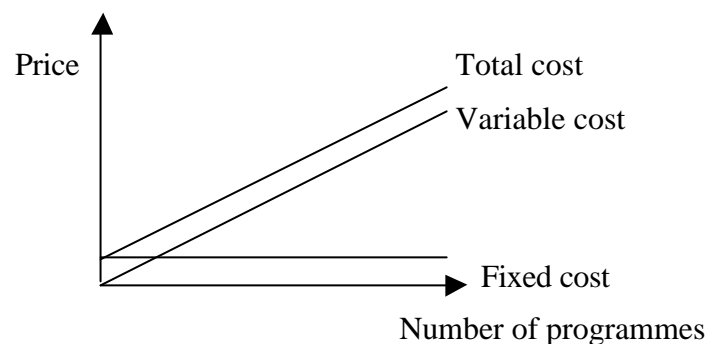


Diagram 1: No sunk costs, low total fixed costs.

When fixed costs are low, we see that costs rise in proportion with quantity produced, i.e. number of programmes made from this particular sport. Production cost per programme unit is assumed identical. This is depicted in the diagram above. If the revenue generated from these programmes is smaller than anticipated, the broadcaster will stop producing further versions of this sport show. The fact that the broadcaster can vary the production will lead to the programme having to justify its existence continuously. If other programmes are more profitable, they will stop showing this sport show.

Hence, the situation can be expressed as follows:

if $P_s = (R_s - VC_s) > P_a = (R_a - VC_a)$, then the sport programme will be shown,

if $P_s = (R_s - VC_s) = P_a = (R_a - VC_a)$, then there is no definite solution,

if $P_s = (R_s - VC_s) < P_a = (R_a - VC_a)$, then the alternative programme will be shown,

where P_s = Profit sport programme, R_s = Revenue sport programme, VC_s = Variable costs sport programme, P_a = Profit alternative programme, R_a = Revenue alternative programme and VC_a = Variable cost alternative programme.

One crucial aspect here is the size of the variable costs. These can be altered in the short run, and if they are too high, the broadcaster will not make, or buy, this programme. If other programmes yield greater profits, the sport programme will vanish from the screen.

A more sophisticated approach would be to assess the value of a whole programme schedule rather than individual programmes. Sport is a highly time sensitive type of programme (Gaustad: 1999). When the sport contest is over, so is virtually all the interest for it. If the results are known, not that many people will have an interest of watching a sport event. Hence, live productions are almost a necessity, or at any rate, highly preferable to delayed transmission. Thus, sport can not that easily be pushed around in a programme schedule without affecting the value of the sport programme significantly. Hence, other types of productions are more likely to give way to sport than the other way round.

5.2. Scenario 2 – both types of costs

In this case, the broadcasting company is producing the programmes itself, but has paid for the right to produce and show these programmes. In addition, we assume that the rights holders cover some of the production costs.

Concept television programmes, such as reality TV, quiz shows and several other types of entertainment productions are examples of this cost mixture. Rather than the broadcaster making new shows from scratch, they buy ideas from companies specialising in the field, and basically only adjust the concepts to suit their respective markets. Domestic sport is another area where the same economic processes are at

play. For the most popular sports, the broadcasters have to pay for the television rights. The sport associations usually construct the contest design, and hence have the same function for sport programmes as other companies have for conceptual television. In sport, often the concept, or structure of a tournament is a mixture of tradition and new ideas aimed at making the sport more attractive for television.

The league structure, which is common in team sports, is an efficient way to maximise the number of games from a certain number of teams, and hence have a longer and more extensive diet to offer the public. The cup format is inefficient concerning number of games per team, but has a tremendous quality when it comes to create excitement in every game being played. For this reason, the cup format is often preferred in major championships, such as the World Cup or Champions' League in football, for the last decisive games of those tournaments, while the league format is used for the early rounds. In domestic markets, it is common to have one top league competition and one or two separate cup tournaments.

Unlike the television concepts discussed above, football only sells the finished football product to television. They do not sell the idea to a football game, but the actual game itself. However, the broadcaster carries out the transformation of a football game into a television programme.

While the amount of money paid for the rights are sunk cost, which can not be recaptured, there are variable costs associated with the production of each game, and these will be influenced by the popularity of the sport on television. The broadcaster will make a forecast of the sports television value to anticipate profits before acquiring and paying for the rights. The total cost function will be influenced by the number of games televised, as shown in the diagram below.

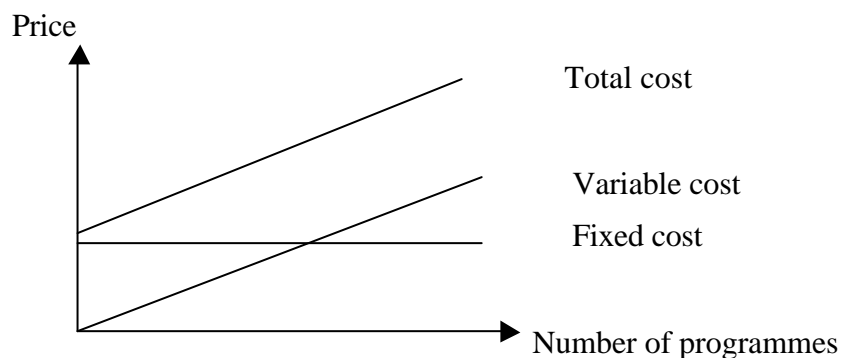


Diagram 2: Sunk cost and variable cost

The variable costs constitute a smaller proportion of total cost in this scenario than in the one discussed above. Thus, the fixed cost part is greater. The fixed cost is mainly made up of sunk cost, i.e. the money spent on paying for the rights, which includes the production input from the rights holder. The optimal utilisation of total cost is to produce as many games as possible, as the greater the number of games, the smaller the average cost per production unit. We have, however, assumed that the broadcaster will not take past investment into consideration when making their broadcast choices, only beliefs about the present and the future.

The assumption that the cost of the total number of these programmes is the same and that the rights holder carries some of the production costs implies that the variable cost for each show is smaller than for the case discussed above, where all the costs were variable. Hence, each single production in this case is cheaper than above. As sunk cost is sunk cost, as soon as the rights have been paid for, programme choice decisions will not be affected by the sunk cost incurred at an earlier stage. Hence, when comparing the two scenarios, applying our assumptions, we find that

$$\text{if } TC_1 = (FC_1 + VC_1) = TC_2 = (FC_2 + VC_2)$$

$$\text{and } FC_2 > FC_1$$

$$\text{then } VC_2 < VC_1.$$

where $TC1$ = total cost sport in scenario 1, $FC1$ = Fixed cost in scenario 1, $VC1$ = variable cost in scenario 1, $TC2$ = Total cost in scenario 2, $FC2$ = fixed cost in scenario 2 and $VC2$ = variable cost in variable 2.

As the relationship between revenue and variable cost determines the profit function, the lower variable cost in scenario 2 makes this option more attractive to the broadcaster than scenario 1. Using the same argument as in the discussion in scenario 1, we find that this sport programme is more favourably positioned against alternative programmes. The possibility of increasing the number of games shown is thus greater in this scenario than when all the costs were variable.

5.3 Scenario 3 – no variable cost

The broadcaster is not only buying the rights for the programme from the holder, but also the production. The rights holder is thus selling a finished product. We then have a situation similar to the one for dramas with a limited number of episodes and other programmes that are produced in its entirety in advance of transmission. Often a drama series is made for one season, and if it is popular, another season of it may be produced. All the costs associated with the first season are paid for before any money is earned from transmission. Hence, for one season, there are no variable costs when the episodes are already made.

The same logic is also applicable to sport. If the holder produces the programmes and sells them to a broadcaster in a package, the broadcaster does not have any production costs itself. This is often the case with foreign sport shown domestically. One such example is the transmission of English football on Norwegian television. These rights are bought for several seasons at the time, and do include the complete visual production of the games.

Foreign sport also has to be adjusted for domestic markets and that there are certain variable costs still, with a studio hosts, expert panel, a commentator, a cameraman in the studio etc. Our simplifying assumption that personnel and equipment can be used with the same utility in other productions enables us to ignore this element. These costs are also negligible compared to the amount of money paid for the actual

television rights. Let us see how this affects the proportion between fixed and variable costs.

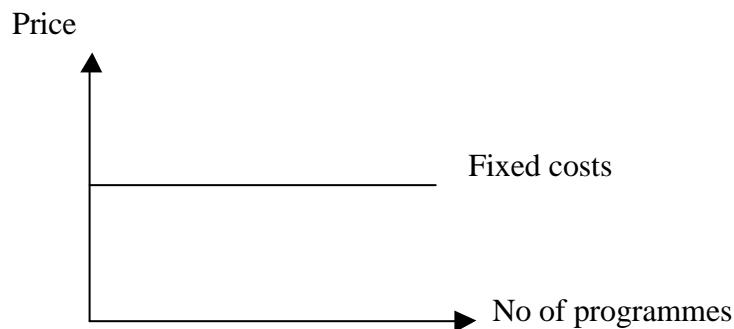


Diagram 3: Fixed costs only

As the graph illustrates, in this scenario all the costs are included in the fixed cost element, and there are no variable costs conditional on further production by the broadcaster. The only cost element is then foregone revenue from broadcasting alternative programmes. A comparison of the profit margins for the sport production and the alternative programme will then reveal which of the two is the most attractive to the broadcaster. Given that all the costs associated with the sport programme are sunk, variable costs equal zero. Hence, the broadcaster gets to keep all the revenue from the sport programme when it is being showed. Hence, an alternative programme must either have equally low or no variable cost and attract the same number of viewers, or it must get a considerably larger number of viewers to cover production cost element for the broadcaster.

Thus, if $P_s = (R_s - VC_s)$, and $VC_s = 0$, then $P_s = R_s$

and $P_s > P_a = (R_a - VC_a)$

Then the sport programme will be shown.

If $P_s = P_a$, then sport programme will be shown in the time spot if the time sensitivity of the sport programme is greater than that for the alternative programme. Given the discussion above, very few programmes are more time sensitive than sport programmes. Hence, it is very likely that the sport programme will be given prominence in such a situation. The alternative programme may very likely have an

alternative equally valuable transmission time that the sport programme does not have.

The fact that there are no variable costs gives such productions an edge over other types of programmes. As all the money earned from showing these programmes are pure profit, these programmes need lower viewer ratings than productions with variable costs. Hence, at the time of transmission, programmes produced this way will be attractive to the broadcaster and will less be subject to continuous evaluation compared to programmes with high variable costs. Hence, programme maximisation is the best strategy for the broadcaster.

5. CONCLUSIONS

This essay's emphasis has both directly and indirectly been focused on how sport rights can be sold. This had been done by analysing how a broadcaster's programme choice is influenced by the different cost elements. The overriding implication is that, *ceteris paribus*, the rights holder's are better off by producing the programmes themselves and hence sell a finished product to broadcaster. This obviously requires that the programmes are attractive to television channels. Popular sports, such as football, ought to fit into this category.

Hence, the rights holders may on the one hand achieve a greater product control, as they take charge themselves of the productions. Hence, the possibility of a production tailor-made to maximise the exposure value to sponsors and advertisers as well as more qualitative criteria concerning the way the sport is depicted is present.

We have assumed that media exposure has a positive value in itself to the right holders. The greater is the fixed cost element of total cost, the more the broadcaster minimises costs by maximising the number of programmes purchased. Hence, there is a tendency on the broadcaster's part to show more game, races or tournaments when there are no variable costs involved.

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