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Quality Adjustment paper on:

ISIC 7310 Advertising

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1 Introduction

Advertising services can be considered to be made up of two distinct activities: creative and media placement services, as discussed previously at Voorburg group meetings (Pegler, Berger & Sulc (2009)). One of the major problems encountered when developing an SPPI for the media placement component is whether a quality adjustment should be made to account for changes in the size of the audience that will view the advertisement. The aim of this paper is to address this issue and will therefore consider only the activity of the sale and purchase of media space and time. Creative activities and any other services that may be offered by media agencies such as planning and market analysis will not be discussed.

2 Identifying the service

2.1 The market place

Within the media placement component of advertising, there are two main types of company operating, who offer slightly different services, the media (or advertising) agency and the media marketer (fig. 1).

2.1.1 Media (or advertising) agency

The media agency buys media space on behalf of their client. Since they are able to negotiate a better rate than their client would be able to if they approached the media directly, due to the quantities of space that the agency purchases, this alone is a valuable service. Media agencies may charge for this service in one of two ways, either as a commission charge of the total advertising spend or, increasingly, as a fixed fee, often based on the time spent in negotiation. In some countries like the UK the agency never actually owns the media space (although they will sometimes take the legal responsibility for the transaction) and are therefore media buyers and not media sellers. As a result, they are trying to minimise the cost of the purchase on behalf of their client. In other countries like Germany the media agency takes over property rights of the media space it buys on account of its customer.

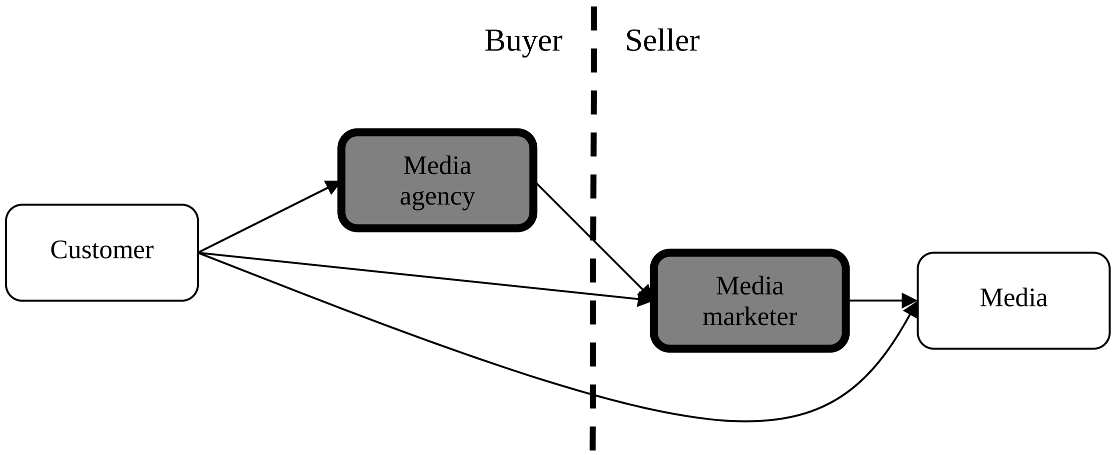
Media agencies may charge their client on either a net (as a broker) or a gross (as a wholesaler) basis. On a net basis, the agency charges their client purely for the service of negotiating the best rate with the media owner, the client will then pay the price for the media space itself directly to the media owner. On a gross basis, the client will pay the media agency both the service fee and the price of the media space. These two methods of billing may differ between countries and also between agencies within the same country. To ensure that an SPPI can be used as a suitable deflator in the national accounts, it is imperative that the billing method used is determined and matched to the turnover that is collected.

In addition to this media purchase activity, these agencies offer a whole range of additional services from planning where best to place the advertisement through to business analysis to demonstrate the effect of the campaign on their client's product sales. However, since these activities are not within the scope of this paper, they will not be discussed here.

2.1.2 Media marketers

The media marketer operates in a slightly different way. They purchase media space in bulk directly from the media and re-sell it and may either be affiliated to a particular media company or operate independently, purchasing space from all media companies. Since they are selling the media space, the fee they charge will be based on the attributes of the media space itself where audience or circulation figures are often an important price determining characteristic. Media marketers may offer additional planning services but these tend to be a lesser part of the activity compared to media agencies.

Figure 1. The main types of company involved in the media placement component of advertising (adapted from Wirsing (2009)).



2.2 *Difficulties with classification*

The precise nature of the service of media placement varies significantly between countries, but these differences are not always reflected in international classifications. One such difference is whether it is possible for advertising space to be bought and then re-sold. In Germany, this is possible and media marketers buy and then sell space on to their clients. However, in the UK, this does not occur and instead, media agencies purchase media on behalf of their clients but never own the media space themselves. Many of the international industrial level classifications, including the International Standard Classification (ISIC Rev 4) and the Statistical Classification of Economic Activities in the European Community (NACE Rev 2) only mention "sale of advertising space or time" when in practice, this activity does not take place in the UK.

Another difficulty with the classification of advertising services is determining exactly which enterprises are in scope of an advertising index. NACE (Rev 2) specifies that the sale of advertising time or space by the owners of the time or space such as publishers should be excluded. Whereas, ISIC (Rev 4) explicitly excludes the publishing of advertising material and the production of commercial messages but makes no mention of the sale of the material space by the publisher or broadcaster. The CPC (2.0) makes no mention of excluding particular media sales at all.

Here, it is considered that the following activities are in scope of a media placement SPPI:

- Negotiation and purchase of media space/time carried out by an advertising agency on behalf of its client
- Re-sale of media space/time by a media marketer or agency

The sale of media space or time directly by the media company who will ultimately broadcast or publish the advertisement is considered to be out of the scope of advertising services.

2.3 Terminology used in this paper

Given the gap between international classification and industry practice, it is necessary to label the different types of business model so that they may be considered separately (regardless of what the advertising firms actually call themselves, or how they are classified using the different industrial classifications). In this paper:

- ***Broker-type*** will refer to an advertising firm that is primarily engaged in the negotiation and purchase of media space/time on behalf of its client; and
- ***Reseller*** will refer to an advertising firm that is primarily engaged in the purchase and re-sale of media space/time.

Since it is more important to consider quality adjustment of the services, rather than the establishment themselves, these terms will be used independently of (and instead of) the classification of the advertising firm itself as an advertising agency or an advertising marketer.

It is also important to note that there is frequently a range of different billing methods employed throughout the advertising industry, which differ within given markets, and also across national borders.

- ***Net basis***, where the agency charges their client purely for the service of negotiating the best rate with the media owner; this method is generally only applicable to broker-type advertising firms.
- ***Gross basis***, where the client will pay a service fee and the price of the media space. Note it is possible for both broker-type and reseller advertising firms to charge on a gross basis; in the case of the broker-types, the media space is immediately transferred to the end client, and for resellers the advertising firm obtains ownership of the media space. It is important to note that for firms employing the gross basis that the cost of the media appears in reported turnover.

Different pricing mechanisms are also employed by advertising firms of different types, using different billing methods.

- ***Commission, contract fee, fee for service, and pricing mechanisms based on working time etc.*** are frequently employed by broker-type advertising firms. This type of pricing mechanism is used as part of the net basis billing method.

- ***Pricing mechanisms based on expected audience size*** can be employed by both broker-type advertising firms and resellers. This type of pricing is common in cases where the billing method is on a gross basis.

- ***Pricing mechanisms based on achieved audience size*** can only be employed by resellers. Again, this type of pricing mechanism is common in cases where the billing method is on a gross basis.[1]

While many different combinations of establishment type, billing method and pricing mechanism can exist conceptually, the actual practices observed in advertising markets of different countries exhibit considerable variation. The UK notes that their market mostly consists of broker-type advertising services using set fees or hourly rates, for services provided on a net basis[2]. On the other hand, Germany notes that the majority of advertising placement activity in their market is provided on a gross basis with the achieved audience size an explicit part of the pricing mechanism.

3 Quality adjustment

3.1 What is quality adjustment?

Changes in the price of a service can be considered to be made of two components: pure price change and quality change. Quality adjustment adjusts for these changes in quality to ensure that only pure price change is reflected in the price index. Ensuring that the price index only measures pure price change is essential if the index is to be used as a deflator in the national accounts, since all changes in quality need to be reflected in the output of the industry and not be removed as part of the price change.

3.2 What is the industry output?

The output of a media agency or media marketer is difficult to define. The activities of a broker-type advertising firm are similar to stock broking. The activities of the reseller type might be considered as a margin service, such as wholesale, retail trade or perhaps financial intermediation.

But perhaps a more relevant question for the Voorburg Group is "How is the industry output treated in the national accounts?" The 2008 System of National Accounts does not specifically address the output of advertising industry. The Eurostat Handbook on

[1] Note that the industries in both cases (expected and actual audience size) might refer their price to cost per thousand viewers (CPT).

[2] The "fixed fee for placement" services in the UK can be seen as a variation on "expected audience size", where clients don't so much purchase "media space expected to attract 2 million viewers", but instead "media space during Coronation Street" or "media space during X-Factor", where the purchaser is making an assessment or judgment as to the expected audience size (and composition).

Price and Volume Measures indicates that placement activities as the “selling of advertising space, whatever the media”. Yet this does not distinguish between selling of the media by broadcasters and publishers, and placement activities.

Possible measures of output could include the number of campaigns broadcast, the amount of time broadcast or the size of audience reached. However, none of these possible measures are clearly correct and it is important that what we consider to be output is directly influenced by changes in the production function of the industry itself and not by other industries.

In the UK national accounts and in the accounts of other countries, no attempt is made to define such an output measure for the advertising industry but it is taken to be deflated turnover.

In the case of gross accounting, deflated turnover might be heavily affected by the resale of media space. In Germany, media agencies may exhibit a share of self-produced turnover to traded turnover of 1 to 10. Countries with predominant gross accounting also face an inflated turnover due to this practice, since media space turnover is double counted every time media marketers and media agencies trade the media space.

3.3 Is audience size important?

Audience size may be an important price determining characteristic of media space, but what effect, if any, does audience size have on the price of the service offered by media agencies or media marketers?

The price of the service provided by media agencies or marketers is likely to be higher when purchasing media space that will reach a larger audience. However, neither the media agency nor the media marketer have any direct control over the audience figures actually achieved by media space or time purchased or sold. Nevertheless, achieving a greater audience can be attributed to the seller of the media space as qualitative higher service since the media agency or marketer selected this kind of media space for the customer. This point of view tends to be correlated with the assignment of media space ownership in industry’s transactions. In a country where the media agency or marketer takes full responsibility of media space, the media space performance is an important price characteristic. For example, the media agency or marketer may put together a portfolio of different media space for a customer to achieve an agreed audience size (in other countries such as the UK, the media agency just acts a broker for the customer). As a result, a change in audience size is in this case seen as a change in production function for the media company actually broadcasting or publishing the advertisement.

To sum up, whether audience size affects the price of advertising depends on the kind of accounting, types of producers (broker vs. reseller) and industry conventions (CPT according to estimated or actual audience size). According to that, the following text will present simple examples how quality adjusting by audience size may affect price and output indices.

We begin with the fixed-input output price index (FIOPI)[3], the conceptual basis for an SPPI. Here, all inputs are assumed to be fixed so that any change in revenue can be taken to be pure price change. For the **'net' approach (broker type)** this is fairly straight forward. When buying or selling media space, the inputs required for the service are likely to be the same. Therefore, on this net basis, an increase in audience size would be considered a pure price change in the service offered by the media agency or marketer.

Example 3.3.1 – Broker type, net basis

Using a 'broker type' as an example, in the first quarter of the year a media agency negotiates a price for 10 slots on a particular television channel for £1000 each. In the second quarter, they negotiate another 10 slots on the same channel but this time the price for each slot is now £1500. The service being offered has remained the same in this case (that is, brokering a price for the 10 media slots).

If no quality adjustment is used then the price index would show an increase, since the price per slot has risen from £1000 to £1500. The resulting increase in total turnover would be removed in deflation so that no change in the media agency's output would be reflected in the national accounts.

Table 3.3.1

	Price	Quantity	Turnover	Price Index	Output (constant prices)
Q1	1000	10	10,000	100	100
Q2	1500	10	15,000	*150*	*100*

For the 'gross' approach (reseller or broker type), the decision to quality adjust using audience size depends both on how the activity of the industry is viewed and the pricing mechanism's used and different viewpoints will call for different solutions. In the following sections we will consider two different examples, the first where a media marketer buys and sells media space using a pricing mechanism based on 'expected' audience size. The second example will consider a case where a media marketer buys and sells media space using a pricing mechanism based on an 'achieved' audience size.

Example 3.3.2 – Reseller and broker type (gross basis) – 'expected audience'

In our first example we consider the case where a reseller buys and resells media space based on expected audience or a broker includes the media space in the billing method. In effect, in this example the media agency is like a wholesaler whereby they buy and resell media space to deliver an **expected** audience size agreed with the client. In Q1 the price per slot is £1000 based on an expected audience size of 1 million viewers. The media space sold happens to achieve 1 million viewers in Q1. In Q2

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[3] http://www.imf.org/external/pubs/cat/longres.cfm?sk=16966.0

the price per slot is now £1500 based on an expected audience size of 1 million viewers. In Q2 however, the achieved audience size increases to 1.5 million. In this example the expected audience size has remained the same so effectively the product and service being provided remains the same even though the achieved audience size has increased. The output of the media marketer remains constant but the price of the media space has increased. In this example, using a pricing mechanism based on expected audience size, no quality adjustment is required as the change in audience size actually achieved is not a function of the industry.

Table 3.3.2

	Price £	Quantity	Turnover	Expected Audience	Achieved Audience	Price per *expected viewer*	Price index	Output (constant prices)
Q1	1000	10	10,000	1 million	1 million	0.001	100	100
Q2	1500	10	15,000	1 million	1.5 million	0.0015	*150*	*100*

Example 3.3.3 – Reseller type (gross basis) – achieved audience size

In our second example, we now consider a case where a reseller or broker uses a pricing mechanism based on **achieved** audience size. This reseller will buy a range of different media slots (such as different channels, peak/off peak periods etc) and offer an appropriate portfolio of media slots to achieve a certain outcome (i.e. the client buys '1.5 million audience achieved' so the reseller puts together the best package to deliver this). In this example, the reseller is adding value to the service by ensuring they deliver an expected outcome. A drop in the achieved audience figure reflects poor portfolio management and can be deemed a change in quality (or as a change in the output of the industry). For example, in Q1 the reseller sells a portfolio of ten slots at £1000 each to achieve an audience size of 1 million viewers. In Q2, through better portfolio management, the achieved audience size increases to 1.5 million viewers with a resulting increase in the price per slot to £1500. This now represents a better product (or an increase in the quality of service offered) and therefore the price per achieved viewer is used to quality adjust the index. This removes the price effect and an increase in output is reflected as desired.

Table 3.3.3

	Price £	Quantity	Turnover	Expected Audience	Achieved Audience	Price per *achieved viewer*	Price index	Output (constant prices)
Q1	1000	10	10,000	1 million	1 million	0.001	100	100
Q2	1500	10	15,000	1 million	1.5 million	0.001	*100*	*150*

In countries where media agencies have the role of a broker, a price mechanism based on achieved audience size is not likely. The service provided by the broker would effectively be identical in both periods (see example 3.3.2).
In countries where business models rely on adding value to the reselling of media space as in the previous example, the increase in output is necessary to account for media marketer's success in selecting effective media space for their customers.

4 Further practical considerations

4.1 Discounts for poor portfolio management

When advertising space or time is purchased, it is traditionally done so on a cost-per-thousand (CPT) viewers basis. Since an SPPI should measure changes in the money actually received by the service provider, it is necessary to determine whether any recompense is made to the customer to account for differences in achieved audience and who makes this recompense.

In some cases, the reseller or broker may give a refund to their client if the achieved audience size is less than expected. Where this occurs, it is imperative that this refund is deducted from the price originally charged, since the money actually received by the agency or marketer is less as a result of the lower than expected audience figures.

An example might highlight how audience size and discounts due to less than expected audience size are intertwined:

Assume in the third quarter the afore-mentioned reseller (in example 3.3.3) wants to sell again 10 slots on the television channel. Industry-wide a CPT price of £1,000 is established. The reseller assumes that audience of his selected portfolio of TV slots will reach again 1.5 million, so the media marketer sells for £15,000 each. However, actual audience size is only 1.45 million. Industry convention now forces the reseller to give a discount of £500 to his customers so that the previous appointed CPT is reached.

The price index should in this case be constant since the CPT did not change but the quality of service has decreased (poor portfolio management). Therefore industry output decreases.

Table 4.1.1

	Price	**Quantity**	**Turnover**	**Achieved Audience**	**Price per 10^3viewer**	**Price index**	**Output (constant prices)**
Q2	1500	10	15,000	1.5 million	10	100	100
Q3	1450	10	14,500	1.45 million	10	*100*	*97*

If however, no refund is given or the refund is not given by the reseller or broker, then no adjustment of the original price is required, regardless of the achieved audience size. This is because the fee received by the reseller or broker is exactly the same as the fee initially charged, even if the achieved audience size is higher or lower than expected. An example of where a refund is given by someone other than the reseller or broker is when the media broadcaster or publisher gives a financial refund or free additional media space to compensate for the failure to achieve the expected audience. Any discount given by the broadcaster or publisher will have no effect on the money received by the reseller or broker.

4.2 Discounting

The price paid for advertising space or time is heavily negotiated so that discounting is commonplace and amounts to significant dimensions. Since an SPPI aims to measure the price received by the service provider for offering a particular service, all discounts need to be taken into account.

There are generally two types of discount used in the sale of advertising space: discounts that are given as a result of successful negotiations, as in many other industries; and those given to clients as compensation for failure to achieve predicted audience figures, as described above.

Due to the size of discounts given in the industry the latter is seen as only a minor factor contributing to the overall discounts. At least in Germany, discounts are an effective instrument to strategically discriminate prices, to skim consumer surpluses and to react on the overall economic situation the industry heavily depends on.

To expand our example to non-audience-related discounts, we assume a sudden economic downturn in the fourth quarter. Again the reseller sells 10 slots on the television channel. The CPT has not yet changed from £1,000. Audience size stays the same: 1.45 million. The customers of the reseller are affected by the economic crisis, so that they negotiate discounts from the reseller between 5 and 15 percent. In total the reseller gives a discount of £1,450 and has a turnover of £13,050.

Table 4.2.1

	Price	**Quantity**	**Turnover**	**Achieved Audience**	**Price per 10^3viewer**	**Price index**	**Output (constant prices)**
Q3	1450	10	14,500	1.45 million	10	100	100
Q4	1305 (avr.)	10	13,050	1.45 million	9	*90*	*100*

The effective price for the reseller's customers decreases. Output is not affected.

If the economic downturn would have happened in the third quarter, we would have observed a total discount of £1,950. Turnover would be £13,050. By looking on audience size development and actual charged prices, we can display both the price and the output effect presented in the last two examples.

	Price	**Quantity**	**Turnover**	**Achieved Audience**	**Price per 10^3viewer**	**Price index**	**Output (constant prices)**
Q2	1500	10	15,000	1.5 million	10	100	100

Q3	1305 (avr.)	10	13,050	1.45 million	9	*90*	*97*

Although the latter example is given here for resellers, its effect on turnover and output is the same for brokers.

5 Conclusions and recommendations

The service of buying or selling media space or time is mainly provided either by a media agency or a media marketer. Media agencies and media marketers offer slightly different services with a media agency usually purchasing media on behalf of their client and a media marketer buying and re-selling media space on to their client. As a result in these differences, there are also differences in the pricing mechanisms used, with agencies tending to base their fee either on the amount of time spent negotiating with the media owner or as a commission fee based on the total price of the media purchased but the fees charged by media marketers tend to be based on the attributes of the media space itself.

For an agency who charges its client purely for the service of purchasing the media space and where the fee is based on the number of hours worked, it appears to be fairly clear that an increase in the size of the audience reached by the media is not a change in the quality of the service provided by the agency. However, this is not so clear when considering a media marketer or a media space owning media agency who will receive more money if they manage a portfolio of media space that will reach a larger achieved audience.

The question whether audience size can be used for quality adjustment depends on industry conventions. If we believe that the output of the industry is like a wholesaler whereby the media marketer buys and resells media space based on expectations of audience size then variations due to audience size should be seen as price effects. If we believe that the industry adds value beyond the wholesale activity (such as managing a portfolio of space to achieve higher audience) then it is appropriate to remove the effect of the change in audience size.

Discounts are also an important part in the pricing of advertising services and it is crucial that they are taken into account to accurately measure the actual fees received for the provision of the service of media purchase or sale. However, where a discount is given by the media broadcaster or publisher in respect of media purchased from a media marketer or by a media agency, this should not be taken into account as the fee received by the agency remains unchanged.

Therefore, it is recommended that:

- Audience size is only used to quality adjust an SPPI for advertising media placement services if media space characteristics play an important role in industry’s business models;
- All discounts offered by the media agency or media marketer, both as a result of negotiations and to compensate for lower than expected audience size, are taken into account;

- Any sales of media space or discounts offered by the broadcaster or publisher of the media space or time are excluded.

6 References

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