13 FEBRUARY 2020

BAUER MEDIA

A REPORT FOR JOHNSON WINTER & SLATTERY

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1 INTRODUCTION

1.1 The task

We have been asked for our opinions on the concerns expressed by the ACCC in its Statement of Issues of 19 December 2019 concerning Bauer Media – proposed acquisition of the business assets of Pacific Magazines (the SOI).

1.2 The ACCC's preliminary views

The SOI nominates two issues of concern in relation to the supply of content to readers:

(a) the loss of competition between *Woman's Day* and *New Idea*; and

(b) the loss of competition between *Take 5* and *That's Life*.

The SOI states:

> Based on its inquiries to date, the ACCC's preliminary view is the competition between Bauer's and Pacific Magazines' titles is important in maintaining the lower prices and ensuring investment in compelling content production. The ACCC accepts that there are other constraints in the magazines industry, and this if prices go too high or investment in content goes too low, many readers will reduce or cease buying the magazines. However, our preliminary view is that the competition between Bauer's and Pacific Magazines' titles acts as a significantly stronger competitive constraint than these other constraints.[1]

The ACCC's issues of concern in the SOI are based on a standard analysis of unilateral effects. The ACCC's preliminary view is that "Women's interest" magazines constitute a market separate from digital media channels.[2] Within this purported market, *Woman's Day* and *New Idea* "have the strongest sales, compete head-to-head and are very similar in terms of content, cover price history, promotional activity, target demographics and distribution channels."[3]

The SOI reaches similar views about the Real Life Category. The ACCC's preliminary view is that these magazines constitute a market separate from digital media channels and *Take 5* and *That's Life* are the only products that compete within this purported market. [4]

The SOI applies the standard future-with-and-without test to each of these markets: the Women's interest magazine market and the Real Life magazine market. It assumes that the future without the proposed acquisition is that the two principal titles within each market would continue to be produced and sold by independent businesses. It states:

> The ACCC's preliminary view is that absent the acquisition, both parties will continue to produce and supply *Woman's Day*, *New Idea, Take 5* and *That's Life* at least in the medium term.[5]

1 SOI, para 59.

2 SOI, paras 35 and 36.

3 SOI, para 47.

4 SOI, paras 35 and 36.

5 SOI, para 30.

This future without the proposed acquisition is contrasted by the future with the acquisition in which the two principal titles within each market would be produced and sold by the same business (Bauer Media). A comparison of the state of competition in the future without the proposed acquisition and the state of competition in the future with the proposed acquisition leads to the conclusion that the proposed acquisition would substantially lessen competition.

1.3 Content of this report

Section 2 of this report shows that the counterfactual proposed by the SOI seems to run counter to the internal strategy documents of Pacific Magazines. To the extent that it is consistent with those documents, the counterfactual is likely only to apply for the next one or two years. That is, the counterfactual proposed by the SOI implies a very short time horizon for the analysis of effects of the proposed acquisition on competition.

Section 3 of this report outlines the theory of unilateral effects which is the basis of the issues of concern outlined in the SOI. This theory says that the ACCC's concerns are based on the key assumption that within each of the pairs of magazines (*Woman's Day* and *New Idea)* and *(Take 5* and *That's Life)* there is a high degree of substitution. A high degree of substitution means a high cross elasticity of demand. The SOI bases its assumption of this high level of substitution on the physical characteristics of the products.

Section 4 examines the evidence from the behaviour of consumers and suppliers of magazines. This evidence does not support the key assumption on which the ACCC's theory of harm is based.

Section 4 presents our conclusions. The markets defined in the SOI are inappropriate; they are based on a very short time horizon and they are based on an assumption of a high cross elasticity of demand between titles within a particular print magazine category. In our opinion, there is no particular reason why a very short time horizon should be adopted; and we can find no evidence to support the assumption of a high cross elasticity of demand between titles within a category.

2 THE SLC TEST

In order to determine whether a proposed acquisition is likely to substantially lessen competition, two matters must be clear:

1. the counterfactual - one must be able to say what the lessening is compared with; and
2. the time horizon - one must be able to say over what period one is looking.

2.1 The counterfactual

The counterfactual adopted in the SOI is clear. The ACCC's preliminary view as to the counterfactual is that current trends and practices will continue 'at least in the medium term'. The SOI states:

> The ACCC's preliminary view is that absent the acquisition, both parties will continue to produce and supply *Woman's Day*, *New Idea*, *Take 5* and *That's Life* at least in the medium term.[6]

The obvious problem with this counterfactual is that it seems to run counter to evidence that is before the ACCC. The evidence is noted in the Confidential Annexure to this report.

The ACCC's preliminary view as to the counterfactual seems to be based on the idea that extrapolations of recent trends in the profits of Pacific Magazines are poor indicators of future profits. The SOI suggests that there is a hard core of consumers who would continue to purchase magazines even if the price were to increase – and that this will be true with and without the proposed acquisition. The SOI states:

> However, the decline in magazine demand is not necessarily indicative of the degree of substitutability between print and online. Many customers still view magazines as a highly differentiated product and that online content is not substitutable because of the physical format of magazines, the packaging together of stories, puzzles, prizes and other content, and the style of the articles produced by magazines. They are willing to pay $3.60 or $4.80 for the relevant magazines, when similar information is available for free online. Notably, the cover stories for New Idea are available for free on its website online, yet significant numbers of customers still purchase the magazine.[7]

This assumption of a hard core of consumers would imply, if it were true, that reductions in demand over the last few years will not continue.

In order to assess the SOI's assumption of a hard core of consumers we sought to investigate whether this hard core consisted of middle-aged and elderly readers who were committed to hard copy content – despite similar content being available online. We examined data concerning the characteristics of readers of Woman's Day and Take 5 from Roy Morgan Single Source Australia. These data showed the extent to which readership had declined over the past six years. The data are repeated in Table 1 below.

6 SOI, para 30.

7 SOI, para 38.

Table 1: Changes in readership of *Woman's Day* and *Take 5* since 2015

YEAR	*WOMAN'S DAY* NUMBERS	*WOMAN'S DAY* % CHANGE	*TAKE 5* NUMBERS	*TAKE 5* % CHANGE
2015	1,432,000		542,000	
2016	1,314,000	- 8.2%	529,000	- 2.3%
2017	1,304,000	- 0%	496,000	- 6.2%
2018	1,168,000	- 10.4%	498,000	+ 0.4%
2019	983,000	- 15.8%	496,000	- 0.4%

Source: Roy Morgan and Frontier Economics

Table 1 indicates that, although the rate of decline of *Take 5* seems to have decreased in the last 2 years, the rate of decline of *Woman's Day* has increased markedly. To examine the extent to which the reductions in the readership of *Woman's Day* may have been confined to marginal readers as distinct from a hard core, we examined the Roy Morgan data concerning on the age of its readers. These are recorded in Table 2 below. They show that, over the last five years, readership has declined in all age groups. However, declines in readership aged over 50 has been concentrated in the last two years.

Table 2: Woman's Day readers, '000s

AGE GROUP	2015	2016	2017	2018	2019
14-17	89	80	81	69	47
18-24	112	105	101	96	82
25-34	175	138	161	121	103
35-49	326	292	258	234	198
50-64	367	347	342	285	235
65+	363	352	361	363	318

Source: Roy Morgan

In our opinion, the SOI's assumption of a hard core of magazine readers is inconsistent with the data of trends in readership over the last five years. There is no evidence to indicate that the rate of decline in readership that has occurred over the last five years will not continue in the medium term.

We conclude that the preliminary counterfactual of the SOI seems to be inconsistent with the evidence of recent trends. A more plausible counterfactual is that:

1. Bauer Media and Pacific Magazines will continue to eliminate titles over the next year or two; and
2. in FY 2021 or FY2022 Pacific Magazines will either close its operations completely or will seek, once again, to sell its remaining titles to Bauer Media.

2.2 The time horizon

In its decision of *QCMA*, the Tribunal opted for a long time horizon when considering the effects of an acquisition on competition:

> Competition is a process rather than a situation. Nevertheless, whether firms compete is very much a matter of the structure of the markets in which they operate. The elements of market structure which we would stress as needing to be scanned in any case are these:
>
> (1) the number and size distribution of independent sellers, especially the degree of market concentration;
>
> (2) the height of barriers to entry, that is the ease with which new firms may enter and secure a viable market;
>
> (3) the extent to which the products of the industry are characterized by extreme product differentiation and sales promotion;
>
> (4) the character of 'vertical relationships' with customers and with suppliers and the extent of vertical integration; and
>
> (5) the nature of any formal, stable and fundamental arrangements between firms which restrict their ability to function as independent entities.
>
> Of all these elements of market structure, no doubt the most important is (2), the condition of entry. For it is the ease with which firms may enter which establishes the possibilities of market concentration over time; and it is the threat of the entry of a new firm or a new plant into a market which operates as the ultimate regulator of competitive conduct.[8]

As the Tribunal indicates in the final paragraph of this quotation, barriers to entry are critical for competition outcomes because they influence the possibility that market concentration may decrease or increase over time.

The Tribunal illustrated the importance of taking a long-run view of competition in *Re: AGL Cooper Basin Natural Gas Supply Arrangements* (1997) ATPR 41-593. The Tribunal had to consider the appropriate time horizon for considering the effects on competition of the arrangements among the producers of natural gas in the Cooper Basin for access to the pipeline from Moomba to Sydney. A key aspect of the dispute before the Tribunal was the time horizon the Tribunal should adopt in assessing the effects of the arrangements on competition. The producers urged the Tribunal to adopt an outlook 'much greater than five years'. The Commission submitted that the appropriate time horizon was 'approximately one year'.[9] The Tribunal found that, in defining the market and in assessing patterns of competition in the market they had to take account of the changing bounds of gas supply and the evolving structures of those markets. For these reasons, The Tribunal decided to consider the market in the future – "perhaps ten or fifteen years hence".[10]

8 *Re QCMA and Defiance Holdings* (1976) ATPR 40-012, p 17,246.

9 *AGL Cooper Basin*, p 44,210.

10 *AGL Cooper Basin*, p 44,210.

The long-run view of competition in *Re AGL* was adopted and applied extensively by the Tribunal in *Qantas Airways Limited* (2005). The Tribunal stated:

> Prices will not last for long at supra-competitive levels in the absence of barriers to entry or barriers to expansion. We believe that such an outcome is likely in both the factual and the counterfactual.
>
> Competition is a long-run phenomenon, a process whose ultimate benefits may not always be immediately apparent.[11]

These views of the Tribunal were not adopted by the ACCC when it drafted its Merger Guidelines. Paragraph 3.14 of those Guidelines states:

> Section 50 requires a forward-looking analysis into the effects or likely effects of a merger, since analysis is generally conducted before the impact of a merger on competition can be observed. The ACCC therefore focuses on the foreseeable future (generally within one or two years) when considering market definition and each of the merger factors to determine whether a substantial lessening of competition is likely to occur.

From the point of view of public policy, it is fortunate that the ACCC has been quite flexible in implementing this guideline. Although it is true (as the Guidelines suggest) that it is often difficult to see further than a year or two into the future, there are cases where longer-term trends are reasonably clear and, in these cases, the ACCC has followed the Tribunal and adopted a longer time horizon when assessing the impact of conduct on competition.

In our opinion, the proposed acquisition is one of these cases. Just as the Tribunal in *AGL Cooper Basin Natural Gas Supply Arrangements* found it appropriate to take into account the changing bounds of gas supply and evolving structures of gas supply markets, the ACCC should take into account the changing bounds of magazine supply and the evolving structures of the delivery of information and entertainment when assessing the effects on competition of the proposed acquisition. This is not a case where the evolving structures of the industry are difficult to discern.

2.3 The relation between the counterfactual and the time horizon

As the SOI acknowledges, the ACCC's preliminary views of the counterfactual are contingent on its time horizon. When the SOI adopts the view that, absent the acquisition, both parties will continue to produce and supply *Woman's Day*, *New Idea*, *Take 5* and *That's Life* at least in the medium term, it is acknowledging that both parties may well not continue to produce and supply these titles if one adopts a long time horizon.

For the reasons discussed above, we have concluded that:

(a) in thinking of the counterfactual, it is not reasonable to assume that both parties will continue to produce and supply these titles beyond the next year or two;

(b) it follows that the SOI's reference to the 'medium term' must refer to the next year or two; and

(c) such a short time horizon is far too short for assessing the impact on competition of this acquisition.

[11] *Qantas Airways Limited* (2005) ATPR 42-065, paras 420-421.

3 THEORY OF HARM IN THE SOI

As we observed in the preceding section, the reference to the 'medium term' in the SOI must be a reference to the next one or two years. Although we consider this is an inappropriately short time over which to analyse the effects of the proposed acquisition on competition, we shall direct our attention to this period of time in this section of the report.

As we observed in section 1.2 above, the SOI's analysis of the effects of the proposed acquisition on competition is based on the standard theory of unilateral effects. The SOI states:

> Based on its inquiries to date, the ACCC's preliminary view is the competition between Bauer's and Pacific Magazines' titles is important in maintaining the lower prices and ensuring investment in compelling content production. The ACCC accepts that there are other constraints in the magazines industry, and this if prices go too high or investment in content goes too low, many readers will reduce or cease buying the magazines. However, our preliminary view is that the competition between Bauer's and Pacific Magazines' titles acts as a significantly stronger competitive constraint than these other constraints.[12]

This reference to potential increases in prices or decreases in quality is consistent with the ACCC Merger Guidelines which state:

> The most obvious and direct manifestation of an increase in market power is the ability of one or more firms to profitably raise prices post-merger for a sustained period. Market power can, however, be exercised in other ways. For example, a firm with market power may:
>
> - lower the quality of its products without a compensating reduction in price
> - reduce the range or variety of its products
> - lower customer service standards, and/or
> - change any other parameter relevant to how it competes in the market.
>
> While the exact nature of competitive detriment caused by a merged firm's increased market power will vary depending on the particular circumstances of the matter, the ACCC often characterises an increase in market power as the ability to raise prices. References to 'raising prices' in these guidelines should therefore be read as implicitly incorporating the exercise of market power in other non-price ways.[13]

In this section of the report, we shall follow the ACCC Guidelines (and the practice of many commentators) by analysing the effect of the proposed acquisition on the market power of Bauer Media in terms of an increase in its ability to raise prices. However, we acknowledge that an increase in market power may be manifest in other ways – such as a decrease in quality for a given level of prices.

For the purpose of this section we investigate, on the assumption that the proposed acquisition were to occur today, whether Bauer Media would be likely immediately to charge prices higher than would be the case if the acquisition were not to occur.

[12] SOI, para 59.

[13] ACCC, *Merger Guidelines*, November 2008, para 3.4.

3.1 The theory of unilateral effects

As we observed in section 1.2 above, the ACCC's issues of concern in the SOI are based on a standard analysis of unilateral effects. It assumes that *Woman's Day* is a close substitute for *New Idea* and that *Take 5* is a close substitute for *That's Life*. It then applies the standard analysis of unilateral effects and concludes:

> Based on its inquiries to date, the ACCC's preliminary view is the competition between Bauer's and Pacific Magazines' titles is important in maintaining the lower prices and ensuring investment in compelling content production. The ACCC accepts that there are other constraints in the magazines industry, and this if prices go too high or investment in content goes too low, many readers will reduce or cease buying the magazines. However, our preliminary view is that the competition between Bauer's and Pacific Magazines' titles acts as a significantly stronger competitive constraint than these other constraints.[14]

The theory of unilateral effects suggests that an increase in (retail and wholesale) cover prices is likely to have the following effects on Bauer Media's profits:

a. margins will be increased;

b. sales volume will be reduced; and

c. printing and distribution costs will be reduced because of the reduction in sales volume.

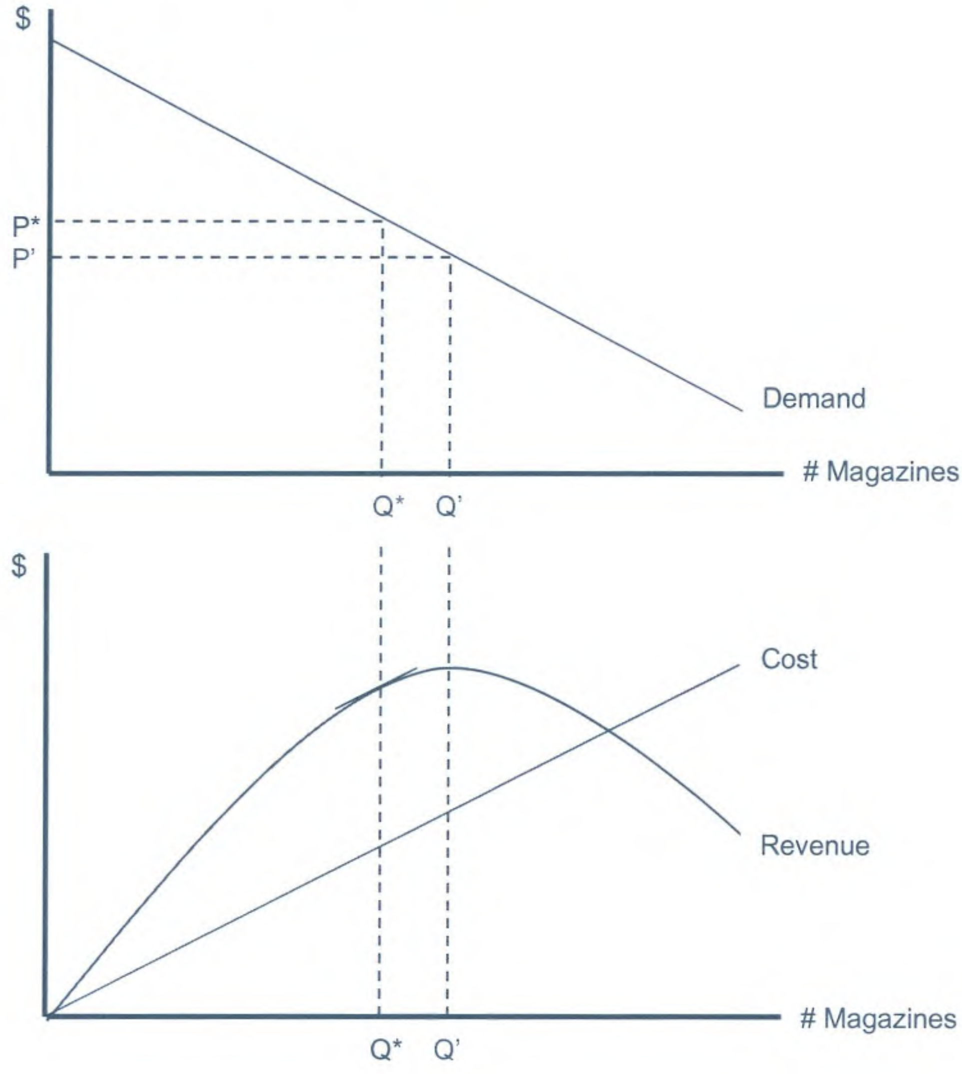
The theory assumes that, in the absence of an acquisition, each business will be setting prices at the levels that maximise its own profits. The relationship between price and profit is depicted in Figure 1. The horizontal axes of the two parts of the diagram are the same; each measures the number of magazines of a particular title (for example, *Woman's Day*). The upper part of the Figure shows a standard demand curve and the lower part shows the total cost and total revenue curves for the quantities of the title produced and sold. The profit-maximising price is P^* and the profit-maximising quantity is Q^*.

The upper part of the Figure shows that if Bauer Media were to raise price above P^*, the quantity sold would fall below Q^*. The lower part of the Figure shows that, if the quantity produced and sold were to fall below Q^*, both cost and revenue would decrease; but the decrease in revenue would be greater than the decrease in costs, so that the net effect would be to decrease profits.[15]

[14] SOI, para 59.

[15] First-order conditions for profit-maximising require that the slope of the Revenue curve be equal to the slope of the Cost curve at Q^*.

Figure 1: Relationship between price and profit



Source: Frontier Economics and any basic text in microeconomics

Although the prices currently set by Bauer Media may be profit-maximising, the theory of unilateral effects adopted by the SOI suggests that this may change if the proposed acquisition were to occur. In particular, if *Woman's Day* were a close substitute for *New Idea* and *Take 5* were a close substitute for *That's Life,* theory predicts that their prices would be likely to increase as a result of the proposed acquisition.

On the basis of the ACCC's assumptions concerning patterns of substitution, the proposed acquisition would lead to changes in the calculations of the following kinds:

a. margins would increase by the same percentage for any given price increase as would be the case without the proposed acquisition;

b. the reduction in sales volume caused by the increase in prices would be less than would be the case without the proposed acquisition, because part of the volume that would have been lost to Pacific Magazines will now be captured by titles owned by Bauer Media;

c. the reduction in printing and distribution costs caused by the reduction in sales volume would be less than would be the case without the proposed acquisition, because there will be a reduced loss in volume.

Because of these effects, price increases that would not have been profitable in the ACCC's counterfactual become profitable in the event of the proposed acquisition. This is the basis of the concern expressed in the SOI.

These changes can be represented on Figure 1 by considering the number of magazines as not being a single title (such as *Woman's Day*) but as the sum of two titles (such as *Woman's Day* and *New Idea*) which one can assume will sell at the same price in the event of the proposed acquisition. However, in the event of the proposed acquisition, the pre-merger price would be below the profit-maximising level because the loss of sales would not lead to such a large reduction of quantity as would be the case without the proposed acquisition. That is, if Figure 1 is read as the sum of *Woman's Day* and *New Idea* post acquisition, P will be less than P*. We might assume, for example, that price and quantity could now be depicted as P' and Q'. Any increase in price will now lead to a reduction in quantity; however, the reduction in quantity reduces revenue by less than it reduces cost. For this reason, it will pay Bauer Media to increase price from P' to P*.

The above reasoning leads to the conclusion that, if there is a merger between producers of close substitutes, and the merger fails to reduce marginal costs, it must lead to an increase in prices. However, we note two caveats to this conclusion.

1. The first is that it is based on the assumption that the products of the two producers are close substitutes. In the context of the theory of unilateral effects, the assumption of close substitutes means that the cross elasticity of demand between the two goods is large. That is, as the price of one good rises, a substantial number of consumers switch to the other good and the quantity sold of the other good increases.
2. The second point is that, although a merger between producers of close substitutes (without any reduction in marginal costs) will lead to an increase in prices, the increase is not necessarily of the order that would be consistent with the lessening of competition being substantial.

3.2 Evidence from the physical characteristics of the products

The SOI nominates two issues of concern in relation to the supply of content to readers:

(a) the loss of competition between *Woman's Day* and *New Idea*; and

(b) the loss of competition between *Take 5* and *That's Life*.

This implies that the SOI's concern with the unilateral effects of the proposed acquisition must be based on evidence that the cross elasticities of demand between the pair (*Woman's Day* and *New Idea)* and between the pair (*Take 5* and *That's Life)* are large.

The SOI suggests that the ACCC infers large cross elasticities of demand between these pairs of products from the similarities in their physical characteristics.

The SOI states:

> The ACCC considers there is a category of magazines which include a mix of entertainment, fashion, beauty, food, and health and fitness content. They usually include several stories on Australian celebrities or events. International stories are written by Australian journalists for an Australian audience.
>
> ...

> The ACCC's main concern in this category is in relation to the loss of competition between *New Idea* and *Woman's Day*, which have the strongest sales, compete head-to-head and are very similar in terms of content, cover price history, promotional activity, target demographics and distribution channels. The ACCC's view is that *New Idea* provides a strong competitive constrain on *Woman's Day* and vice-versa.[16]

When the SOI argues that online sources are weaker substitutes for the magazines at issue than other magazine in the same category, the SOI again relies on similarities and differences in the physical characteristics of the products. It states:

> As mentioned above, the relevant magazines include a range of entertainment, fashion, beauty, food and health and fitness content. Information for each of these sub-categories can be found readily online, either via specific websites or social media sites, or via digital platforms such as Google and Facebook.
>
> However, there appears to be only a few websites that offer the same or similar combination of content, including Australian content, as the parties' magazines. Websites that offer such content include *Mamamia* and *With Her In Mind* (whimn.com.au). General news or media websites, such as news.com.au, also contain similar content. Overseas websites and content suppliers do not tend to cover Australian content, and are not written specifically for Australian audiences (eg, referring to overseas television shows or pop culture, using US spelling, referring to overseas currency or brands, etc). The ACCC's preliminary view is that most of these sites exert a low degree of constraint on Woman's Day and New Idea compared to the constraint that those titles impose on each other.[17]

Beginning with the famous article by Stocking and Mueller, "The Cellophane Case and the New Competition" (1955),[18] economists have consistently warned against inferring degrees of substitution from consideration of the physical attributes of products. For example, Motta's textbook states:

> Physical characteristics of products and their use might give some indication as to the possible degree of substitutability between products, but only insofar as this information is used in the framework of the hypothetical monopolist test. The fact that both mineral waters and soft drinks are consumed with the purpose of quenching one's thirst does not necessarily imply that these products should be included in the same relevant market. Conversely, the fact that two products obviously differ does not mean that they cannot be included in the same market: trains and buses are indeed different products, but to the extent that they provide a similar service in transporting people from city A to city B they might well be included in the same market.[19]

Because cross elasticities of demand are estimates of the extent to which consumers switch from product A to product B in response to a change in the price of product A, one should look to evidence of switching in response to changes in relative prices. As the Cellophane Case famously showed, it is dangerous to try to infer cross elasticities in demand from consideration of the physical characteristics of the products.

[16] SOI, paras 44 and 47. Similar reasoning is to be found in paras 61 and 64.

[17] SOI, paras 54 and 55. Similar reasoning is to be found in paras 67 and 72.

[18] George W Stocking and Willard F Mueller, "The Cellophane Case and the New Competition", *American Economic Review*, Vol 45 (1955) pp 29-63.

[19] Massimo Motta, *Competition Policy, Theory and Practice*, Cambridge University Press (2004) p 110.

4 EVIDENCE FROM MARKET BEHAVIOUR

This section summarises the range of evidence of cross elasticities of demand that Frontier Economics has examined over the last few months.

4.1 Price correlation tests

Stigler and Sherwin proposed price correlation as a test of close substitution in a well-known paper in 1985.[20] Subsequent writers have pointed to a number of problems with the test in this simple form. As Motta observes, the most-serious problem is spurious correlation:

> Finally, a serious difficulty with price correlation tests is that common factors might induce a similar movement in prices of products that are in different markets. Imagine for instance that there exist variations in cost or demand conditions which depend on a common cause (for instance, inflation, an increase in property prices or in a common input). If this is the case, then we would observe price correlations even between products which are clearly not in the same industry. This is the problem of spurious correlation ...[21]

[redacted]

4.2 Response of sales to changes in relative prices

In Attachment A to a Market Feedback Letter to Johnson Winter & Slattery dated 22 November 2019 the ACCC referred to evidence from the behaviour of consumers. It stated:

> [redacted]
>
> [redacted]

After receiving this letter, Johnson Winter & Slattery asked Frontier Economics to undertake a preliminary statistical analysis of scan data on sales volumes for print magazines published by Bauer Media and Pacific Magazines to test the propositions in this passage. [redacted]

[20] G J Stigler and R A Sherwin, "The Extent of the Market", *Journal of Law and Economics*, Vol 28,1985, pp 555-585.

[21] Massimo Motta, *Competition Policy, Theory and Practice,* Cambridge University Press (2004) p 108.

[redacted]

[redacted]

[redacted]

4.3 Changes in demand in response to closures

This opinion of senior managers of Bauer Media can be tested with the data recently requested by the ACCC through s 155 notices issued to Bauer Media and to Pacific Magazines. These notices request scan data of sales around the time that five titles were deleted. These data can be used to test whether the deletion of a title leads to an increase in sales of other titles with similar physical characteristics. The parties provided Frontier Economics with the data they had provided to the ACCC.

The deletion of a title might be characterised as a very-large (infinite?) increase in the price of that title. If the cross elasticity of demand between titles within a category is high, one would expect that when a title is deleted, the sales of other titles within that category will increase.

We understand that the ACCC requested the following:

> *Provide weekly supermarket scan data (volume/units), or other similar data relating to sales of the following magazines made in supermarkets, for 12 months before and 12 months after the following magazine closures:*
>
> *(a) Regarding the closure of Famous: Famous (prior to its closure), NW, OK, Who;*
>
> *(b) Regarding the closure of Your Garden: Your Garden (before its closure), Homes+ (before its closure), Better Homes & Gardens, Australia House & Garden; Home Beautiful, Gardening Australia, Inside Out, Country Style;*
>
> *(c) Regarding the closure of Homes+: Your Garden (before its closure), Homes+ (before its closure), Better Homes & Gardens, Australia House & Garden; Home Beautiful, Gardening Australia, Inside Out, Country Style;*
>
> *(d) Regarding the closure of Cleo: Cleo (before its closure), Cosmopolitan (before its closure), Elle, Frankie, Marie Claire; and*
>
> *(e) Regarding the closure of Cosmopolitan: Cleo (before its closure), Cosmopolitan (before its closure), Elle, Frankie, Marie Claire.*

[redacted]

[redacted]

- [redacted]
- [redacted]

[redacted]

[22] For some titles, the closure provided to us by Bauer Media differs from the date provided by Pacific Magazines. In those cases we have chosen the date provided by the publisher of the closing title.

We sought to determine the extent to which the closure of a magazine may lead to increased sales of magazines in the same segment that remained open. To determine the impact of closure on magazines in the same segment, we examined the following:

- The impact of the Famous closure on sales of NW, OK! and Who;
- The impact of the Your Garden closure on sales of Homes+, Better Homes & Gardens, Australian House & Garden, Home Beautiful, Gardening Australia, Inside Out and Country Style;
- The impact of the Homes+ closure on sales of Better Homes & Gardens, Australian House & Garden, Home Beautiful, Gardening Australia, Inside Out and Country Style
- The impact of the Cleo closure on sales of Cosmopolitan, Elle, Frankie and Marie Claire; and
- The impact of the Cosmopolitan closure on sales of Elle, Frankie and Marie Claire.

To estimate the impact of closure, we first estimated the following model using the least squares estimation technique:

$$Sales_t = \beta_1 + \beta_2 * Trend_t + \beta_3 * Closure_t + \epsilon_t$$

where $Sales_t$ is the total sales of magazines in the same segment that remained open during week t, $Trend_t$ is a weekly trend series (set equal to zero in the week of closure), and $Closure_t$ is an indicator variable, which is equal to zero in the weeks before closure, and one from the week of closure onwards.

The sample used in each estimation was restricted to the sales in the 52 weeks before the week of closure and the 52 weeks after closure. To avoid potentially unusual sales activity in the period leading up to closure, and just after closure, having an impact on the estimation results, we excluded from the estimation sample the week of closure, as well as the 4 weeks immediately before, and immediately after the week of closure. Each estimation therefore consists of 48 weeks of sales data before closure and 48 weeks of sales data after closure.[23]

We also considered models featuring higher order trend variables; such models were rejected in favour of the simple model above on the basis of the Bayesian information criterion (BIC, commonly used in model selection).[24]

[redacted]

[redacted]

[redacted]

[redacted]

[25] The counterfactual curve is obtained in the same way as the fitted curve but setting the deletion variable to zero for all observations. This represents the best prediction of what sales would have been had the closure not occurred.

[redacted]

[redacted]

We also estimated models that allow the trend to differ before and after the closure, and essentially fit two lines through the data: one for the pre-closure period and one for the post-closure period.[26] More specifically, we estimated the following using least squares estimation:

$$Sales_t = \beta_1 + \beta_2 * Trend_t + \beta_3 * Closure_t + \beta_4 * (Trend_t * Closure_t) + \epsilon_t$$

[redacted]

[26] More specifically, weeks -52 through to -5 and weeks 5 through to 52.

[27] The joint restriction test, that both $\beta_3 = 0$ and $\beta_4 = 0$, is not rejected at the 10% level for all cases except the closure of Cleo using Pacific Magazines data (p-value of 1.0%). This appears to be caused by a highly significant decrease in sales as a result of the closure, such a result is not intuitive.

[redacted]

[redacted]

5 CONCLUSION: OUR OPINION OF THE REASONING OF THE SOI

5.1 No evidence of likely unilateral effects

[redacted]

- [redacted]
- [redacted].

[redacted]

[redacted]

[redacted]

5.2 Markets defined in the SOI are inappropriate

[redacted]

[redacted]

[redacted]

6 CONFIDENTIAL ANNEXURE

Document referred to in section 2.1: Pacific Magazines Business Plan (April 2019).

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