

Research Memorandum

No 174

Commercial Publishing - A quiet life?

Market power and performance on the Dutch market
for consumer magazines

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1. Introduction

The rapid emergence of new information and communication technologies (ICT) during the 1980s and 1990s has led a long line of observers to point to the "drastic" changes that are expected to result from a broad adoption of innovations such as the PC and the Internet. A common observation in the literature is, for example, that ICT leads to a structural break in the way firms conduct business. The publishing industry is a natural choice to examine how ICT affects business strategies and market structure because this industry produces information goods (IGs). IGs are characterised by a high fixed - low marginal cost production technology. Furthermore, in many markets for information goods, advertising is important to subsidize content. The first point implies that average unit cost declines in circulation. The second point suggests that revenue from selling advertising space can be used to cover fixed costs. Given these two characteristics, business strategies of publishers in these markets may be different from what traditional industrial organization models predict for (perfectly delineated) single-product markets.

In this study¹, we present a simple model of a monopoly publisher to understand pricing behaviour on the connected markets for readership and advertising. The implications of the model will then be tested empirically by applying a panel data set of 71 Dutch consumer magazines over the period 1990 - 1998. Our analysis contributes not only to the theoretical and empirical literature on the functioning of markets for newspapers and magazines but also allows us to draw more general conclusions which can be expected to hold for information goods markets where advertising is important².

The study is organized as follows. Section 2 describes the characteristics of information goods and how they relate to consumer magazines. Section 3 introduces a simple model to make the link in pricing behaviour between the two connected markets explicit. Section 4 describes the Dutch market for consumer magazines and the panel data set. Section 5 presents the empirical evidence and section 6 concludes with a discussion of the antitrust implications.

¹This paper is based on Hakfoort and Weigand (2000) which describes the Dutch market for consumer magazines in more detail.

²See Rosse (1970), Bucklin, Caves and Lo (1989) and Dertouzos and Trautman (1990) for formalized models of a profit maximizing newspaper publisher. These models however are not used to discuss the subsidization issue we are going to highlight but rather provide the starting point for deriving systems of regression equations.

2. Consumer magazines as information goods

At first glance, the market for consumer magazines³ may not seem to be worth investigating in greater detail. However, consumer magazines exhibit some of the characteristics of information goods which are centre stage in the discussion on the Information Economy or the New Economy (see Shapiro and Varian, 1999; Canoy (ed.), 2000). Information goods have a strong experience component, can often be consumed by more than one consumer at the same time, the cost structure exhibits high fixed cost - low marginal cost and they can be financed through advertising. In some cases, information good markets also experience network and hardware/software effects.

A magazine is the prototype of an experience good, the value of which is only recognized by the consumer after it is consumed. Consumer magazines are non-rival goods. After having been read by one consumer it can be read by another consumer at negligible costs⁴.

Producing the original, particularly when setting up a new magazine, may involve high fixed costs resulting from investing in and maintaining cost-intensive printing facilities, editorial staff, distribution channels etc. "First-copy" costs can therefore be expected to be high but may decrease rapidly as circulation increases. By contrast, the marginal cost of production, that is the cost of producing copies from the original, and the marginal cost of distributing the magazine to downstream suppliers or readers may be very low compared to the fixed costs of creating the original. No detailed information on the cost structures of Dutch consumer magazines is publicly available. However, it is possible to present averages for the magazine publishing industry and compare it to e.g. newspaper publishing and the average manufacturing firm. Over the period 1978 to 1992, magazine publishers had a substantially lower payroll/turnover ratio (22.2 %)

³Consumer magazines are "targeted at a (very) general readership of women, men, youths, children, or families. The content is informative and/or entertaining. The magazine must be commercially exploited by sale on the free market for readers and/or advertising space. Consumer magazines include magazines for women (the so-called glossies), the family, and the youth as well as special-interest magazines." (NUV, 2000, <http://www.nuv.nl>). Consumer magazines thus cater to a non-professional audience and are determined for sale on the free market nation-wide. By contrast, professional magazines target a specific profession, trade (including free professions, services, institutions, government), or field of science (e.g. economics). For some magazines the distinction between the two groups is blurred.

⁴The non-rival character is recognized in the Netherlands by the popularity of the so-called "leesportefeuille". This portfolio is a collection of magazines distributed immediately after the issues are published and redistributed week after week until the final household becomes the owner of the *leesportefeuille*. The price of a subscription to the *leesportefeuille* decreases with the time elapsed since the issues' publication dates. In some cases, magazines depend for more than 40 % of their circulation on this distribution channel, typically if the content has no "news" component (e.g. comics).

but a higher share of expenses for input factors (raw materials etc., 49.8 %) than both newspaper publishers (30.8 %, 47.2 %) and the average manufacturing firm (32.7%, 45.1 %) ⁵. In sum, the "high fixed, low marginal cost structure" characteristic of information goods is less pronounced in the market for consumer magazines than in some other markets (such as computer software). Although publishers certainly have to incur fixed costs to launch a magazine (including format, styling, advertising, and so on), these fixed costs do not seem to be dramatically different from the average manufacturing firm. Further, marginal cost, even if not directly observable, will not converge to zero with increasing the number of copies because costs of materials (paper, ink, etc.), editorial work, and distribution have to be incurred.

Another feature of information goods is the possibility to subsidize or sponsor content by advertising. Mixing content and advertisements is a general strategy of publishers in the market for consumer magazines. Advertising is the most important source of revenue for most publishers ⁶. In general, the advertising market is more volatile than the readership market. In the market for advertising expenditures, magazine publishers compete with other media such as newspapers, radio, television and billboards. Over the period 1990 - 1998, the share of press media (i.e. newspapers, door-to-door magazines, consumer magazines and professional magazines) in total advertising expenditures in the Netherlands decreased from 67 % in 1989 to 58 % in 1998 (BBC/VEA, 1999). The share of consumer magazines within this category has slightly gone up from 12 % in 1989 to 14 % in 1998. Over the whole range however, advertising expenditures allocated to consumer magazines have been decreasing, while expenditures spent on ads on TV or in address books have been on the rise. Magazine publishers have thus been trying to reduce the dependency on advertising revenues.

Network effects and hardware dependency may not be quite obvious to exist. However, in the case of launching a magazine, publishers use a variety of strategies

⁵These averages are calculated from confidential plant-level data collected by the Dutch Statistical Office (CBS, The Hague). For that reason, it is not possible to distinguish between publishing of consumer and professional magazines or to report more specific descriptive statistics. Interestingly, the payroll share of 22.2 % very closely corresponds to the 22.8 % average payroll share that Heinrich (1994) reports for German magazine publishers. For German publishers, Heinrich (1994) finds a fixed costs/turnover ratio of 38 % for magazine publishing and 53 % for newspapers. Payroll accounted for 60 % of fixed costs of magazine publishing and for 75 % of fixed costs of newspaper publishing. Payroll accounted for 60 % of fixed costs of newspaper publishing. Costs that varied with circulation amounted to 46 % of turnover for magazines and 34 % for newspapers.

⁶Heinrich (1994) found that, in 1990, German publishers of daily newspapers made on average 64.8 % of total revenue from selling advertising space. For opinion magazines the share was 62.8 %, and for general interest titles 42.1 %. Barely any information is available on Dutch publishers' share of advertising in total revenues. For 1998, the publishing group De Telegraaf reported 51 % of total revenues to be obtained from advertising in its newspapers and magazines.

similar to those in markets with network effects. These strategies include giving away free copies, free subscriptions, or revealing parts of the content to build up a readership base which, in turn, is attractive for advertisers⁷. Offering favourable advertising rates to advertisers that "take the gamble" to advertise in a newly launched magazine is a similar strategy to give the new magazine momentum. Furthermore, some experiments with the electronic delivery of magazines are also being undertaken. Therefore, the new hardware feature may become much more important in the future.

3. The economics of magazine publishing

This section focuses on the advertising feature and its impact on pricing. A newspaper or magazine satisfies the demands of two customer groups simultaneously. News or entertainment is sold to readers and advertising space to advertisers. Conventional wisdom holds that newsstand and subscription prices are "subsidized" through the revenue from selling advertising space (see Lacy and Simon, 1993; Belch and Belch, 1995). As argued by Corden (1953) in a pioneering study on the economics of newspaper publishing, the price charged for advertising space depends on the circulation of the magazine, that is, the amount of copies sold to the readership per issue of the magazine. To make the link in pricing between the two markets, the market for readers and the markets for ads, more explicit, we will use a simple model of a monopoly publisher. For simplicity, we assume that the monopoly publisher produces a single magazine under perfect information and certainty regarding costs and demands. Readers are perfectly informed about the quality of content⁸. We will use the following notation:

p	cover (newsstand) price of the magazine
r	ad-rate, i.e. price for full-page ads
q	circulation of the magazine
n	number of pages per issue allotted to editorials
a	number of pages per issue allotted to ads
k	$n/(n+a)$
C	total costs
π	profit

⁷See Canoy (ed.) (2000) for a more thorough discussion.

⁸These simplifications do not alter any of the key insights of the model but reduce notational efforts substantially.

We assume also that the space dedicated to editorials (news, entertainment) and ads can be measured in full pages so that $n + a$ yields the total number of pages per issue of the magazine. The publisher maximizes the profit function given by (1)

$$\max_{q,a,n} \pi = p(q,k)q + r(a,q) - C(q,a,n) \quad (1)$$

by choice of circulation as well as editorial and ad space. The cover price is assumed to be a function of circulation and the share of editorial pages in total pages. Since the monopolist faces a downward sloping demand curve, a higher circulation can only be sold to the readership at a lower cover price, implying the standard inverse price-quantity relation.

Readers are assumed to be willing to pay more for a magazine if the editorial share increases so that p and k are positively related. The ad rate depends inversely on ad-space. As argued above, circulation is important for advertisers. One would suspect that advertisers demand more ad-space or are willing to pay a higher ad-rate per ad-page if circulation is higher, because they can reach a bigger audience. However, a positive relationship is not the only plausible possibility. Advertisers usually target readership groups with specific characteristics (income, age etc.). With increasing circulation the readership demographics may change such that the impact of ads on targeted groups may be diluted. Under these conditions, ad-rate and circulation are inversely related.

Total cost, C , is a positive function of circulation, ads and editorials. We further assume marginal cost of circulation, ads and editorials to be positive and, for simplicity, constant. The partial derivatives of the cost function are given by

$$c_q = \frac{\partial C}{\partial q} \quad \text{marginal cost of circulation,}$$

$$c_a = \frac{\partial C}{\partial a} \quad \text{marginal cost of creating an ad-}$$

page,

$$c_n = \frac{\partial C}{\partial n} \quad \text{marginal cost of creating a news-}$$

page.

Using the definitions

$$\varepsilon_p := -\frac{p}{q} \frac{dq}{dp} > 0$$

price elasticity of readership demand;

$$\varepsilon_r := -\frac{r}{a} \frac{da}{dr} > 0$$

price elasticity of advertising demand;

$$\alpha := \frac{q}{r} \frac{\partial r}{\partial q} > (\leq) 0$$

"circulation" elasticity of ad-rate,

the first-order conditions of maximising (1) through choice of q , a and n can be written (after rearranging) as

$$\frac{p - c_q}{p} = \frac{1}{\varepsilon_p} - \frac{ra}{pq} \alpha \tag{2}$$

and

$$\frac{r - (c_a + kc_n)}{r} = \frac{1}{\varepsilon_r} \tag{3}$$

Equation (2) describes pricing in the readership market. The relative mark-up of cover price over marginal cost in circulation is inversely related to the readership's demand elasticity as in the standard monopoly case. At a given demand elasticity ε_p , the mark-up now depends on the ratio of revenues from selling advertising space to revenues from selling the circulation as well as on the circulation elasticity. Thus, if circulation positively affects the demand for advertising, the publisher will set a lower cover price to increase circulation, attracting more advertising demand which raises revenue from

selling advertising space. The cover price will be lower the more revenue can be made from advertising relative to the revenue from circulation.

If revenue from advertising is relatively high compared to the revenue from circulation, or alternatively, the circulation elasticity of ad-demand is positive and large, the monopolist will set the cover price below marginal cost of circulation. Therefore, as conventional wisdom holds, readers benefit from the presence of ads in a magazine by being charged a lower price than they would have to pay for an ad-free magazine. If there is no impact of circulation on demand ($\alpha = 0$) equation (2) reduces to standard monopoly pricing. If advertisers do not like high circulation but prefer niches, the publisher will set a higher cover price to reduce readership demand.

Equation (3) describes pricing in the advertising market. Here the publisher charges a higher price than in the standard one-product monopoly case. Advertisers thus pay for the (marginal) costs of producing editorial content. The impact of competition in the advertising market on both ad-price and cover price can be easily concluded from (3).

Competition in the form of new publishers entering the market and offering close substitutes to the established magazine means that advertisers have opportunities to advertise in competing magazines. With competition the price elasticity of advertisers' demand will increase, reducing the publishers' pricing power in the advertising market and squeezing her revenues. The established publisher must then charge a higher cover price, given that the price elasticity of readership demand remains unchanged. Raising cover price will be harder for a single publisher the more magazines compete for the same readership, that is, the more magazines are close substitutes from the reader's perspective.

Equation (3) also depicts the impact of the editorials-to-ads ratio on cover price. Extending editorials at the expense of ad-pages, that is, raising k , gives rise to higher marginal costs, all else equal, reducing monopoly profits in the advertising market. For an ad-free magazine, $a = 0$, and (2) reduces to the standard one-product case, while (3) is not relevant in this case. The publisher sets the monopoly price in the readership market. For sponsored magazines, very low values of n or k may be observed. In the extreme case, $n = 0$ implies that (3) reduces to the standard monopoly case, while (2) is not relevant.

The above results for the advertising market change somewhat if one assumes that readers value the total number of pages rather than the proportion of editorials to ads. In the profit function, circulation then depends on $n + a$ instead of $k = n/(n+a)$. Equation (3) is altered as shown in (3a)

$$\frac{r - (c_a - c_n)}{r} = \frac{1}{\epsilon_r} \quad (3a)$$

Marginal cost of producing ads are not added up as in (3) but subtracted. Equation (3a) thus implies that the publisher will set an ad-rate that is lower than the monopoly ad-rate if readers value the number of pages of a magazine rather than the proportion of editorials to ads, and thus value advertising as information or entertainment. As before, however, competition in one or both markets has a price-lowering effect.

This simple model has shown that magazine pricing and ad pricing are connected. Further, it adds the insight that this link depends on

1. how readers value total magazine space and editorials vs. ads;
2. how advertisers react to changes in circulation.

Because markets are connected, pricing behaviour of publishers may deviate from the standard one-product-one market textbook case. Particularly, below-marginal cost pricing may emerge in the readership market as a natural outcome of pricing in connected markets rather than that it is evidence for predatory pricing.

4. The Dutch market for consumer magazines

This section describes the Dutch market for consumer magazines during the period 1987 to 1998. The market for consumer magazines can be considered a saturated market. Although the average income of the Dutch population has risen, the average time spent reading magazines has decreased⁹. Over the last two decades, publishers have gradually switched from publishing general-audience magazines towards special-interest magazines due to this demand saturation. Only a very limited number of today's magazines reach a circulation exceeding 500,000 copies. The main growth of circulation in the market results from the publication of (new) special interest magazines¹⁰. The

⁹In the period 1975 - 1995, the average time spent on reading magazines has decreased by 30 %, compared to 20 % for newspapers and 25 % for books. The main reason for this reduction is a drop in the number of readers, not a general decline of the average reading time. Explanations for this drop include the wider supply of television programs, an increase in the number of people that have day duties and therefore have no time or energy left at night to read, as well as the increasing competition from other leisure activities (SCP, 1998, p. 707).

¹⁰According to VNU, the leading Dutch publisher, this reflects the trend of individualization in Dutch society. The publication of more magazines is considered the only way to maintain the level of circulation (interview with Theo Bouwman in *Adformatie*, quoted in Hemels, 1998, p. 145).

main characteristic of the market is thus a high degree of product differentiation, or in other words, market segmentation.

4.1 Data and variables

Circulation-related information (paid circulation, subscriptions, newsstand copies etc.) is available from the Dutch publishers' association (NUV, Nederlands Uitgeversverbond) annual reports. Information on newsstand prices (*cover price*), prices for a standard one-year subscription, and prices for standardized forms of advertising (full-page black-and-white, full-page color ads, *advertising rate*) can be obtained from the so-called "tariefkaarten" (Nederlandse Standaard Tarief Documentatie, NSTD)¹¹.

The demographic and socio-economic profile of a magazine's readership can be found in the SUMMO Scanner¹², which investigates in bi-annual panel surveys the reading habits of Dutch consumers. For 1998, the SUMMO Scanner includes about 100 established consumer magazines, providing magazine-specific information on the share in the readership (total, by gender, main provider of household income ("kostwinner"), main shopper ("doet boodschap"), regional distribution of readers (top cities, North, West, South and East) as well as the age and income structure of readership.

Unfortunately, none of the resources collects magazine-specific information on the number of pages allotted to editorial and advertising. Issues of NUV-reports and the SUMMO Scanner were available to us from 1987 on, "tariefkaarten" from 1991 on. Based on the annual reports of NUV and own research we were able to identify 214 Dutch consumer magazines during the period 1987 to 1998¹³. However, only for 71 of these magazines complete information on circulation, prices and readership characteristics could be collected for at least two consecutive years during the period

¹¹By law, these price lists are only available to NUV members. Media Center Group, a commercial media agency based in Amsterdam, allowed us access to their archive of *tariefkaarten*. Luckily, Media Center Group has not discarded "out-dated" price lists but has kept them safely stored away since 1991. These price lists have a (nearly) standardized format ("card"), contain magazine information relevant to advertisers (prices for different ad-formats, publication frequency, print-related information, minimum circulation, target groups etc.) and are sent to media agencies (who place ads for clients) by the publishers.

¹²SUMMO is the abbreviation for "Samenwerkingsverband voor het uitvoeren van multimedia onderzoek", an organization based in Amsterdam that conducts regular surveys on media coverage and the demographics of the respective media consumers (readers of newspapers and consumer magazines, TV and radio audiences).

¹³The 1998 list of magazines as reported by NUV contains 553 titles, of which about 170 can be defined as consumer magazines.

1991 to 1998. This panel data set will be used in the regression analysis to be presented in Section 5. Table 1 summarizes variables and data.

Table 1: Summary of variables and data sources

Variable	Definition	Source
Cover price	Newsstand price in the 1 st quarter of each year	Nederlandse Standaard Tarief Documentatie (NSTD) (1991 - 1998)
Subscription price	Price per issue charged in the 1 st quarter of each year (standard one-year mail delivery subscription/number of issues)	Nederlandse Standaard Tarief Documentatie (NSTD) (1991 - 1998)
Advertising rate	Full-page black-and-white ad, single-issue placement; Full-page colour ad, single-issue placement	Nederlandse Standaard Tarief Documentatie (NSTD) (1991 - 1998)
Circulation	Paid circulation per issue (annual average)	NOD, Nederlandse Standaard Tarief Documentatie (NSTD) (1987 - 1998)
Newsstand copies	Copies sold at newsstands/average paid circulation per issue	Own calculation from NOD & NSTD data
Subscriber share	Copies sold via subscriptions/average paid circulation per issue	Own calculation from NOD & NSTD data
All readers	Percentage of the SUMMO population of age 13 and older that reads the respective magazine	SUMMO Scanner (1987 - 1998)
Income receiver	Household's main income provider/total readership (as captured by SUMMO)	SUMMO Scanner (1987 - 1998)
Shopper	Household's main shopper/total readership	SUMMO Scanner (1987 - 1998)
Top cities	Readers living in Amsterdam, Rotterdam, or the Hague/total readership	SUMMO Scanner (1987 - 1998)
High(low) income readers	Readers with high (low) income/total readership	SUMMO Scanner (1987 - 1998), based on "Sociale Klasse" definition of the Vereniging van Marktonderzoekbureau's (VMO) (1987 - 1998)

4.2 Market segments, magazines and publishers

Table 2 lists all magazines with complete data included in our panel data set. Further, except for *Avenue* which ceased to exist in 1994, the table provides 1998 information on the publisher, the publication frequency ("Freq."), market segment identification ("Seg."), paid circulation, cover price, ad-rate, and the magazine's share in the total

readership as captured by the SUMMO Scanner. The market segments are defined at the end of the table.

Table 2: Sample of Dutch consumer magazines, selected characteristics, 1998

Magazine title	Publisher	Freq.	Seg.	Circulation	Cover price	Ad-rate	Readership
Avrobode	AVRO	52	1	783652	1.75	22432	9.3
Mikrogids	KRO	52	1	466081	1.45	8384	7
NCRV-gids	NCRV	52	1	403585	1.75	13328	7.1
Televizier	AVRO	52	1	257219	1.95	9.896	5
Troskompas	Audax	52	1	506800	1.5	10935	9.4
TV-Krant	Audax	52	1	152423	1.25	6100	3.1
TV-Studio	KRO	52	1	220524	1.75	7488	3.4
Vara TV-Magazine	Vara	52	1	525699	1.5	16760	9
Veronica	Veronica	52	1	1113116	1.95	25020	25.4
Visie	Visie	52	1	165911	1.85	5000	3
VPRO	VPRO	52	1	246298	2.5	4116	4
Elsevier	Elsevier	52	2	133042	6.5	11365	4.6
HP/De Tijd	Audax	52	2	41493	6.5	5970	1.9
Vrij Nederlnad	Weekbladpers	52	2	79718	6.75	8664	2.9
FEM	Elsevier	24	3	17436	13.95	5570	0.9
Intermediair	VNU	52	4	247177	5.95	11480	4
Opzij	Weekbladpers	11	5	80979	7.95	6283	2.2
Flair	VNU	52	6	119224	3.2	9664	4
Libelle	VNU	52	6	684076	3.25	39432	21.3
Margriet	VNU	52	6	478088	3.25	31224	16.8
Viva	VNU	52	6	136224	3.2	11160	4.7
Yes	VNU	52	6	144456	2.95	11168	4.6
AvantGarde	Audax	12	7	55399	5.95	8800	2.9

Table 2: Continued

Avenue (1994)	VNU	12	7	22091	9.5	7272	0.8
Beau Monde	VNU	12	7	115781	6.45	8648	1.7
Elegance	De Telegraaf	12	7	62693	9.95	10200	3.1
Marie Claire	VNU	12	7	97102	8.5	11736	2
Nouveau	VNU	12	7	131239	8.25	15152	3.8
Knipmode	VNU	12	8	144975	8.5	11192	5.3
Prive	De Telegraaf	52	9	381817	2.7	13530	15.6
Story	VNU	52	9	291671	2.55	13184	14.7
Weekend	Audax	52	9	261671	2.5	7725	11.7
Mijn Geheim	Audax	52	10	77043	2.95	2900	3.6
Aktueel	Audax	52	11	112443	2.95	6650	10.7
Nieuwe Revu	VNU	52	11	127802	3.95	13528	11.1
Panorama	VNU	52	11	180311	3.5	16400	14.6
Penthouse	Maga Sell	12	12	70100	8	10000	2.4
Playboy	VNU	12	12	113158	8.25	13288	4.3
Man	De Telegraaf	10	13	26431	9.95	5000	1.1
Autovisie	De Telegraaf	26	14	57173	7.25	4882	2.8
Autoweek	VNU	52	14	131487	2.85	9448	6
Moto 73	VNU	26	14	44036	6.75	3500	2
Motor	Wegener	52	14	24281	4.95	3195	1.5
Break Out	VNU	52	15	76509	3.45	8944	3.4
Fancy	VNU	12	15	127681	4.95	9080	3.1
Hitkrant	De Telegraaf	51	15	70237	3.5	5413	3.4
Kijk	VNU	12	15	90938	7.35	11640	3.7
Oor	De Telegraaf	24	15	35877	6.75	4725	1.4
Tina	VNU	52	15	113024	2.5	6912	3.8
Donald Duck	VNU	52	16	353805	2.35	17712	13.4

Table 2: Continued

Kinderen	VNU	12	17	108765	6.95	9496	5
Ouders van nu	VNU	12	17	98676	7.95	11700	6.9
Santé	Quote	12	18	105000	5.95	9650	2.8
Top Santé	VNU	12	18	76163	6.95	9088	3.3
Ariadne	VNU	12	19	159668	7.25	9976	4.7
Doe het zelf	VNU	12	19	143596	6.95	11.816	8.4
Eigen Huis & Interieur	VNU	12	19	64844	9	9000	9.5
Residence	De Telegraaf	10	19	48195	12.5	8066	1.5
VT Wonen	VNU	12	19	220272	8.25	17416	11.2
Mijn Tuin	VNU	10	20	186841	7.5	10408	5.6
Tip Culinair	VNU	13	21	125239	6.95	12720	6
Voetbal International	Weekbladpers	52	22	200763	4.65	11073	8
Sport International	Weekblad pers	12	23	54101	6.5	4394	5.6
Bingo	VNU	12	24	74839	5	5200	2.4
Grasduinen	VNU	12	24	49517	7.95	7352	2.9
Het Beste	Reader's Digest	12	24	322956	7.5	16000	8.7
Autokampioen	ANWB	26	25	56341	6.5	5136	4.4
Kampeer en Caravan	ANWB	12	25	134903	8.95	5904	5.5
Kampioen	ANWB	12	25	3333357	0	55584	42.3
Reizen	ANWB	12	25	50589	8.95	3872	3.3
Waterkampioen	ANWB	24	25	51791	8.95	4628	1.7

Definitions:

Freq. = publication frequency, issues per year (e.g. "52" means "weekly")

Seg. = market segment

1- 5 TV guides, opinion magazines, business press, business-to-business, women's opinion

6-10 women's weekly, women's monthly, women's hobby, gossip I (incl. VIP stories), gossip II (private tragedies) 11-15 men's I, men's II (incl. nudity), lifestyle, motoring, youth
 16-20 comics, family & upbringing, health, interior design & home improvement, gardening
 21-24 dining & wining, sports football, sports general interest, miscellaneous (very specific niche magazines)
 25 ANWB bladen
 Others music & movies, sports special interest, computers and software, travel, hifi & video, arts & antiques (not included because of insufficient information on magazines)

Circulation	= Paid circulation per issue, number of copies sold at newsstands or via subscriptions
Cover price	= newsstand price in Dutch guilders
Ad-rate	= standard one-page black & white advertisement, one-time placement, no discounts, no VAT, in Dutch guilders
Readership	= magazine's share in total readership, in per cent

Market segmentation, or horizontal product differentiation, is a pronounced feature of the market for consumer magazines. We have refined the SUMMO classification of magazines to define product groups that are as homogenous as possible regarding target groups and content. We identified 29 different market segments plus two groups collecting miscellaneous magazines. Two categories do not define a "homogenous" sub-market in which titles can be seen as close substitutes. The first category refers to the magazines published by the Dutch Touristic Association. It is unclear with which consumer magazines the ANWB titles compete. The ANWB titles are basically membership magazines with newsstand sales of less than 10 % of paid circulation. The second category has been named "miscellaneous". Magazines in this category cater to very different "niche demands" and cannot be defined as close substitutes that approximately cater to the same readership.

Table 2 shows that circulation, prices, and readership shares vary substantially across market segments. Glossy and gossip magazines as well as the comic Donald Duck have the highest share in total readership.

The Dutch market for consumer magazines is characterized by a small number of large players and a large number of very small players. Table 3 lists the leading publishers as presented in the sample, the number of magazine titles included but also excluded due to missing data, and the number of market segments served. Eight independent publishers produced 60 of the 71 sample magazines and 81 of the 143 magazines which could not be considered.

Table 3: The leading Dutch publishers

Publisher	Number of magazines		Market segments	
	included	excluded	included	excluded
1 VNU	33	33	16	3
2 Audax	7	11	9	3
3 De Telegraaf Groep	7	6	7	1
4 ANWB Media	5	2	2	-
5 Weekbladpers	4	6	5	1
6 Reed-Elsevier	2	5	3	1
7 Wegener-Arcade	1	13	1	3
8 Quote Publishing -Hachette/VDB	1	5	5	1
	60	81		
Other publishers	11	62		
	71	143		

4.3 Profitability, entry, and strategic behaviour

Economic reasoning implies that entry will occur whenever positive economic profits can be expected. Dutch publishers are rather silent on the returns on invested capital to be earned in the market for consumer magazines. Table 4 therefore can only provide descriptive statistics at the industry-level regarding profitability, as measured by industry gross profits (turnover minus payroll and expenses for raw materials) divided by industry turnover, firm size, measured by the number of employees, and the number of firms that reported to the Dutch Statistical Office (CBS) in each year of the observation period from 1978 to 1992. This industry data is aggregated from confidential plant-level information collected by the Dutch Statistical Office¹⁴.

¹⁴Data is also available for 1993 to 1996. However, due to substantial changes in the industry classification as well as reporting procedures it is not directly comparable to the earlier period.

Table 4: Summary statistics

	Profit ability			Employees			Firms		
	M	N	MANF	M	N	MANF	M	N	MANF
Mean	27.95	21.81	22.13	124	186	106	26	38	6976
Median	27.79	21.41	22.26	112	177	102	28	39	7836
Maximum	30.22	26.72	23.96	176	276	132	34	54	8176
Minimum	25.94	20.08	19.99	77	87	82	18	29	4936
Std. Dev.	1.54	1.88	1.24	36	59	19	5	7	1260

M	Magazine publishers, industry no. 2722, Dutch standard industry classification1973
N	Newspaper publishers, industry no. 2721, Dutch standard industry classification1973
MANF	All manufacturing firms
Profitability	$[(\text{Turnover} - \text{payroll} - \text{expenses for raw materials})/\text{turnover}] * 100$

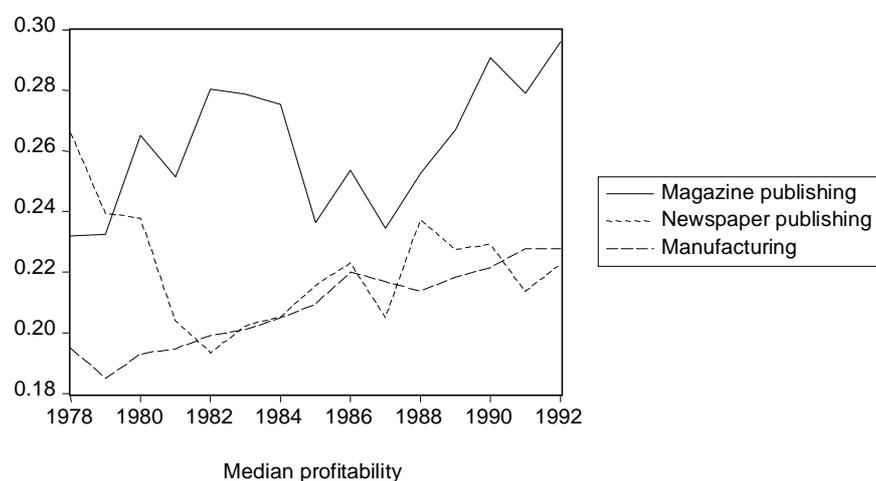
Source: own calculations based on four-digit industry data provided by the Dutch Statistical Office (CBS)

Table 4 reveals that the average and median profitability of magazine publishers was clearly higher than the respective profitability of both newspaper publishers and the average manufacturing firm. Newspaper publishers were slightly less profitable than the average manufacturing firm. The following graph shows that median profitability of magazine publishers was substantially higher than the median profitability of the average manufacturing firm during the whole observation period and also higher than the median profitability of newspaper publishers after 1981.

A large number of new magazines is launched on the Dutch market every year. Of the 214 magazines identified during our data collection 62 magazines have been launched since January 1997. In many cases, it has been one of the leading publishers listed in Table 3 or another well-established publisher rather than an entering new publisher who launched a new magazine¹⁵. Entry by new or small independent publishers has occurred very rarely and only in growing market segments such as "lifestyle" or in specific niches such as "sports special interests". Given the profitability depicted above, established publishers apparently have sufficient market power to keep costs of entry high for potential entrants.

¹⁵For a detailed description see Hakfoort and Weigand (2000).

Graph 1: Median profitability of Dutch publishers, 1978-1992



It is difficult to assess whether magazine publishers enjoy substantial economies of scale. The scale economies argument has been readily advanced in the literature to justify horizontal concentration and mergers or acquisitions in the publishing industry. With the tremendous technical progress due to the ICT revolution the scale argument has lost its persuasiveness at least with respect to production. Desktop computer publishing techniques, outsourcing of printing facilities and, most recently, information gathering and exchange via the Internet favor both the existence of small publishers and the entry of new publishers. Although launching a new magazine is associated with set-up costs and other fixed costs, a high fraction of the costs incurred for each issue can be expected to be marginal.

Absolute cost advantages of incumbent publishers in the magazine market may result from a variety of sources. First, magazine publishers established in a specific market segment, say women's weeklies, have superior information about this market compared to potential entrants. This experience obtained from learning-by-doing is also relevant to launching a new magazine in the same differentiated market. Second, cost advantages may be the outcome of well-established distribution channels to retail outlets¹⁶. Third, incumbent magazine publishers may enjoy cost advantages through established contacts with suppliers of input factors, printing companies (if not owned by the publisher) and advertisers.

¹⁶The three leading Dutch distribution companies are subsidiaries of the leading publishers VNU, Audax and De Telegraaf, respectively.

Incumbents may also have first-mover advantages from product differentiation. By cornering a certain niche market and building up brand loyalty it is difficult for potential entrants to enter the same market segment. The effect is strengthened by an incumbent's strategy of multi-title publishing.

Finally, launching a new magazine may require "deep pockets", that is, at any time sufficient funds, either generated internally or acquired externally, have to be available to finance the venture without putting other activities at risk. Incumbent firms usually have not only a higher volume of internally generated funds but also better access to external capital (bank loans etc.)¹⁷. Therefore, it is not surprising that most new magazines in the Netherlands have been launched by incumbent publishers.

Industrial organization theory highlights several entry-detering strategies, such as predatory and limit pricing or excess capacity¹⁸. Looking at the anecdotal evidence, none of these strategies seems to have been used by Dutch publishers of consumer magazines¹⁹. However, strategies resembling incumbents' behaviour discussed in the literature on the economics of innovation have been used by the publishers. As shown in this literature, it can pay off for the incumbent to wait with the introduction of an innovation and "milk" his cash-generating established product, until entry is an immediate threat. The incumbent has to be prepared to counter innovative entry immediately as it takes place, that is, he himself has to take away demand from the entrant. This "shelving" strategy is in its effects similar to predatory pricing. It may also be used in the market for consumer magazines. New magazines are often targeted at creating a new market segment. The launch can therefore be seen as an attempt at product differentiation. For an incumbent firm, launching a new magazine is not very attractive because in the face of stagnant advertising budgets and consumer demand for magazines (which is the relevant situation for the Dutch market) it merely dilutes its circulation and advertising revenues. However, if a new firm enters the market with a

¹⁷Incumbents' better access to external finance is in general the result of being around for a longer time which allows for building up a track record, reputation etc. with potential financiers.

¹⁸See standard IO textbooks such as Tirole (1988) or Scherer and Ross (1990) for a detailed discussion. In the case of predatory pricing, the incumbent sets a price below the rival's average cost to drive him from the market. In the case of limit pricing, the incumbent sets a price that is not attractive for potential rivals to enter the market.

¹⁹There is evidence of an attempt not to accommodate entry but defend market share by reducing prices. In 1995, an incumbent publisher Wegener-Arcade launched the gossip magazine *Party* which competes with gossip magazines published by De Telegraaf, VNU and Audax. Before *Party* entered the market, these publishers had raised ad-rates of their magazines continuously despite declining circulation. With the entry of *Party* we observe substantial ad-rate reductions, first by De Telegraaf, then by VNU, while Audax kept the ad-rate almost constant.

"new format" magazine, it is rational for the established publishers to offer a substitute and drive the rival out of the market.

In contrast to the "undercutting price" argument of predatory pricing, "predatory product imitation" need not be based on charging a price that is lower than, in the extreme, the entrants marginal cost. It is sufficient to launch the substituting product, charge the same price, and steal away demand from the new entrant to make entry unprofitable. In addition, there is a long-run effect. The publisher can build up a reputation for retaliating whenever an entrant attempts to establish a new magazine. The (credible) threat of retaliation may discourage potential future entrants already from the start²⁰.

5. The empirical relationship between cover price, ad-rate and circulation

The theoretical model outlined in Section 3 has highlighted that circulation constitutes a link between the readership and the advertising market, thus affecting pricing behaviour in both markets. In this Section, we explore the empirical relevance of this link and try to answer the following questions: Are cover prices and ad-rates determined by circulation? Do prices feed back on circulation?

The bottleneck of any empirical analysis that is guided by a theoretical model like the one presented in Section 3 is always the availability of data to construct empirical variables implied by the theoretical model. Unfortunately, important variables of the theoretical model such as marginal cost, revenue from selling advertising space, or the amount of space dedicated to editorials are not available for individual magazines. We

²⁰There is anecdotal evidence that VNU, the market leader, has used the shelving strategy. In 1986, De Telegraaf launched *Vrouw in Beeld*, a women's weekly. A few days after the launch, VNU came on the market with a magazine of the same format aimed at the same target group, *Vrouw Nu*. After only a few months, *Vrouw in Beeld* disappeared from the market. VNU then decided to stop publishing *Vrouw Nu* (Bakker and Scholten, 1999, p. 41). In 1994, Quote Media launched *Santé*, a health magazine. A few days later, VNU came on the market with *Top Santé*, in a very similar format. To this day, both magazines are still on the market. On September 9, 1998, Audax launched *Vriendin*, a women's magazine aimed at the lower-income groups. Again VNU responded quickly by launching *Vrouw Vandaag*, targeting exactly the same readership (Hemels, 1998, p. 188), on September 17, 1998. In all three cases, VNU introduced a very close product to make post-entry performance unprofitable or at least less profitable for the other publisher. Clearly, from the perspective of VNU, defending its market position in such a way may be a legitimate and smart business strategy. Whether a business strategy is legitimate from the perspective of competition policy, however, depends crucially on how dominant a market player is, as the case against Microsoft shows. In the case of VNU, at least some worries are warranted. This phenomenon is not unique to the magazine market. In the newspaper market, the launch of the free newspaper *Metro* in 1999 led to the launch of the free newspaper *Spits* by De Telegraaf.

do not even have sufficient balance sheet information on costs (to approximate marginal costs by average variable costs) or revenue sources at the publishers' level. However, the panel data structure of our data set, that is, the combination of cross-sectional and time-series information, allows us to control for systematic but unobservable influences by including specific effects such as publisher- and time-specific effects.

5.1 The empirical model

The empirical model

$$y_{it} = a_i + \lambda_t + \sum_{k=1}^K b_k x_{kit} + u_{it} \quad (4)$$

relates the endogenous variable y , for which we will insert cover price, ad-rate, and circulation, to a set of right-hand side variables x , among which will be, for instance, readership characteristics.

The subscript $i = 1, \dots, 71$ identifies the individual magazine and the subscript $t = 1991, \dots, 1998$ denotes time periods. The parameter a indicates dummy variables that stand for individual publishers ($j = 1, \dots, 17$) or magazines ($j = i$), whereas λ denotes time-specific effects, u is a standard regression error. The k coefficients b will be estimated by Least Square techniques (2SLS-instrumental variable, to account for the potential simultaneity of right-hand side variables). All price variables have been deflated by the implicit deflator of the Dutch Consumer Price Index (1991 prices).

5.2 The results

Table 5 reports the regression results for our preferred model specification in which we assume cover price, ad-rate, and circulation to be jointly determined by a set of exogenous (predetermined) variables to be discussed below. The upper part of the table names the right-hand side variables included in the respective regression equations for which the estimated regression coefficients are presented in Columns 2 to 4. The lower part of the table contains test statistics which indicate (1) whether circulation, ad-rate, or cover price are endogenous in the respective regression equations in which they are

included as "explanatory" variables ("Wu-Hausman" test statistic), given a statistically appropriate (valid) set of predetermined variables (instruments, "Sargan" test statistic)²¹.

Pricing in the readership market (Table 5, Column 2)

We have specified cover price as a function of circulation, ad-rate, rivals, newsstand copies, share of low income readers as well as publisher- and time-specific effects.

The empirical relationship between cover price and **circulation** might give some further indication of whether substantial scale economies exist. As costs for maintaining printing facilities, editorial staff etc. do not vary with circulation, and as these costs have been claimed to be huge, it can be expected that the average cost curve declines rapidly at low levels of sold circulation and flattens out with increasing circulation. Economic theory predicts that competition will force publishers to pass cost savings on to the readership and to advertisers in form of lower prices. If higher circulation reflects lower per-copy costs, and competition is effective, magazines with a higher circulation should have a lower cover price (Stigler, 1964). The regression coefficient on *log circulation* should then be negative. This prediction is fully supported by the statistically significant coefficient in Table 5.

If the ad-rate indicates that selling advertising space contributes significantly to a publisher's total revenue, we expect a negative relation between cover price and ad-rate. As shown in the theoretical model in Section 3, cover prices should be higher without revenues from advertising. In our regression the coefficient on the ad-rate is significantly positive. Magazines that charged high ad-rates also charged high cover prices. This seems to contradict the prediction from the model if we equate a higher ad-rate with higher ad-revenue relative to the revenue from selling the magazine. However, a higher ad-rate may rather indicate a *lower* share of ad-revenue. If the publisher exerts market power in the advertising market by setting a higher price he will lose (some) ad-demand given the standard negatively sloping demand curve. The ratio of advertising revenue to revenue from selling the magazine may then become smaller, implying in the terms of our model an increase in the cover price *ceteris paribus*.

²¹ For details on estimation techniques and specification tests we would like to refer the interested reader to econometric textbooks such as Hsiao (1986) and Baltagi (1995).

Table 5: Prices, circulation and competition

	Estimated regression coefficients		
Variables	Cover price equation	Ad-rate equation	Log circulation equation
Log circulation	-2.1200 (12.19) ***	916.74 (3.06) ***	-
Cover price	-	630.10 (6.73) ***	-0.0596 (3.11)
Ad-rate	0.0003 (6.42) ***	-	-
Rivals	0.0288 (1.46)	-105.06 (4.89) ***	-
Subscriber share (t-1)	-	1611.01 (2.80)***	-
Newsstand copies (t-1)	1.5424 (4.05)***	-	-
Total readership (t-1)	-	-	0.0276 (1.64)
High-income readers (t-1)	-	270.15 (6.50)***	-
Low-income readers (t-1)	-0.1412 (5.74)***	-	-
Top cities (t-1)	-	-	0.0222 (1.38)
Shopper (t - 1)	-	562.09 (10.91)***	-
Constant	24.4168 (12.70)***	-9450.68 (2.83)***	12.0519 (119.17) ***
Publisher-specific effects	F (16, 489) = 99.35***	F (16,488) = 119.89***	-
Magazine specific effects	-	-	F (69,438) = 5829.92 ***
Time-specific effects	F (7,490) = 6.19 ***	F (7,488) = 16.47***	F (7, 490) = 10.74 ***
Sargan	Chisq(101) = 94.56 [0.6613]	Chisq (101) = 100.09 [0.5069]	Chisq (101) = 86.64 [0.8449]
Wu-Hausmann	Chisq (3) = 48.18 [0.0000]	Chisq (3) = 91.55 [0.0000]	Chisq (2) = 44.90 [0.0000]

Notes:

Endogenous variables: cover price, ad-rate, log circulation

Exogenous variables: rivals, subscriber share (t-1), newsstand copies (t-1), total readership (t-1), high-income readers (t-1), low-income readers (t-1), top cities (t-1), shopper (t-1)

Specific exogenous effects: magazine dummies, publisher dummies, time dummies (included as stated above)

Heteroscedasticity-consistent absolute t-values in parentheses

*** (**, *) 0.01 (0.05, 0.10) level of significance

Sargan: test of instrument validity (p-values in brackets). Wu-Hausman: test of exogeneity of right-hand side variables (p-values in brackets)

The re-formulated profit maximization conditions of the theoretical model do not imply any *causal* relationships per se but rather simultaneity. We tested whether circulation and ad-rate can be considered exogenous to cover price in this regression. The so-called Wu-Hausman test statistic does indicate simultaneity between cover price, circulation, and ad-rate²².

We have included the variable **rivals** which counts the number of independent publishers - as far as it was possible to identify them - in each market segment and each year. Our theoretical model implies that more competition in the form of a higher number of independent suppliers in one of the two connected markets should lead to lower prices in this market but may raise price in the other market - *ceteris paribus*. If the market for readership is the competitive market, the opposite relationship between cover price and rivals is implied. Then at the same time, however, we should observe a negative impact of rivals on ad-rates.

The coefficient on rivals in the cover price equation is indeed positive but not significantly so at conventional levels of significance. A look at the ad-rate equation, which will be discussed in more detail below, shows that the number of rivals affects the ad-rate significantly negatively. Taken together, these results below support the impression that price competition takes place in the advertising market, whereas publishers exercise market power in the readership market to raise prices.

A high **share of newsstand copies** in total paid circulation implies that a relatively large part of circulation is subject to uncertain and fluctuating demand which may be affected by cover price changes. Following standard price theory, we expect that under demand uncertainty, the publisher sets a lower cover price than under perfect foresight. Therefore, an inverse relationship between cover price and the share of newsstand copies is implied.

However, as a higher subscriber share gives publishers more planning security, the publisher has an incentive to set a higher cover price to reduce newsstand demand, but to simultaneously reward magazine subscribers by offering substantially lower per-copy prices via subscriptions. The implication of this argument is a positive relationship between cover price and the share of copies sold via newsstands. For our data set we indeed find a significantly positive coefficient which supports the latter argument.

We included the **share of low-income readers**, since magazine which attract more readers from the low-income spectrum should have lower cover prices. This prediction is also borne out by the empirical evidence. The coefficient on low-income readers is negative and statistically significant.

²²In more technical terms: The null hypothesis that cover price and log circulation are simultaneously determined can *not* be rejected, given a Chisquare statistic of 3.83 and using a valid set of instruments (indicated by an insignificant Sargan test).

As we do not have any information on publishers' costs, we have included publisher- and time-specific dummy variables to control for these unobservable but systematic differences. These specific effects turn out to be highly significant as the summary test statistics show²³.

Ad-pricing (Table 5, Column 5)

Ad-price is hypothesized to depend on circulation, cover price, rivals, subscriber share, share of high-income readers, the share of shoppers, publisher-specific effects, and time-specific effects.

Based on the economies of scale argument, we expect ad-rates to decline in **circulation**. However, higher circulation may also attract more advertising. At a given space dedicated to advertising, ad-rates should increase in circulation²⁴. Empirically, circulation is indeed significantly positively related to the ad-rate. **Cover price** is also positively related to the ad-rate. The Wu-Hausman test statistic confirms that cover price and circulation are endogenous in the ad-regression. We have already discussed the inclusion of **rivals** in the ad-equation in connection with the cover price equation above.

The **subscriber share** can be seen as an indicator of readers' brand loyalty. Magazines with a large share of subscribers and known readership characteristics should be particularly attractive for advertisers, since uncertainty about reaching the targeted readership is reduced. Magazines with a higher share of subscriptions can therefore be expected to have a higher demand for advertising space so that advertising rates are higher at any given circulation. The subscriber share has the predicted positive coefficient which is also statistically significant.

The readership characteristics of a magazine should be extremely important for advertisers. To capture the discretionary spending power of readers, which is what advertisers are basically interested in, the ad-rate regression equation contains the **share of high-income readers** as well as the share of readers identified as those mainly doing the household's shopping (**shopper**). For both variables a positive impact on ad-rates can be expected and is supported by our estimates.

²³As there are general differences in prices charged from newsstand buyers and from magazine subscribers, we replaced cover price in an alternative regression run by a weighted average of cover price and subscription price per issue. The weights are the shares in total paid circulation of copies sold at newsstands and copies sold via subscriptions. The results are qualitatively the same and are not reported here.

²⁴This hypothesis is equivalent with a positive circulation elasticity in the theoretical model.

Publishers offer not only discounts on repeated advertising but, more importantly, also "package deals" and very customer-specific arrangements on which we do not have information. The ad-rate we are using might thus not fully reflect that publishers which are operating in different market segments may have cost advantages (scope economies) and, due to a larger portfolio of magazines, are more attractive for advertisers altogether. To account for such potential bias we have again included publisher-specific dummies together with time dummies. Both sets of dummy variables are statistically highly significant so their inclusion is clearly warranted.

Circulation regression (Table 5, Column 4)

The circulation equation includes the **cover price** but not the ad-rate, since there is no logical argument for a *direct* link between the price charged for ad-space and readership demand. Why should readers stop to buy a magazine when the ad-rate is raised? Of course, there is the *indirect* link our theoretical model has highlighted. As argued above, a higher ad-rate may reduce the share of ad-revenue relative to the share of revenue from selling the magazine, thus affecting the cover price positively. The potential indirect effect on circulation emanating from publishers' pricing decisions in the advertising market can therefore be expected to be picked up by the cover price.

Magazines with a higher cover price tend to have lower circulation. The coefficient of cover price is statistically significant. Again the Wu-Hausman test statistic is highly significant, or put differently, cover price is not exogenous to circulation. This result completes the picture. Cover price, ad-rates, and circulation are jointly determined.

The regression equation also includes the magazine's share in the total readership which should have a positive impact on paid circulation. Also a higher share of readers from the big cities Amsterdam, Den Haag and Rotterdam (*top cities*) can be expected to affect total paid circulation positively. Both coefficients have the expected sign but are not statistically significant.

Of course, the quality and scope of content should affect readership's demand and thus circulation. As shown in the theoretical model, the number of editorial pages per issue or, respectively the proportion of editorial pages to ad-pages, may be a reader's most important decision variable. As data on the allocation of pages to editorials and ads were not available, we have included magazine-specific effects to pick up these differences. The magazine-specific effects turned out to be highly significant²⁵.

²⁵The alternative circulation regression equation with the weighted price-per-copy as right-hand side variable is not depicted here for reasons for space. The estimates are qualitatively identical to the one with the cover price.

What can be learned from the regression results?

We tried to test the link between circulation and prices empirically. Given data constraints, we could only explore some relationships implied by the theoretical model of Section 3. To mirror the simultaneity of potential links between variables, as reflected in the re-formulated profit-maximization conditions, we used a simultaneous equations set-up for the regression analysis. In sum, the empirical evidence supports the view that cover price, circulation and ad-rate are linked in ways consistent with the theoretical predictions. The basic result is that publishers charge lower cover prices but higher ad-rates for magazines with a higher circulation. There is also evidence that a large number of independent publishers in a market segment reduces ad-rates but not necessarily cover prices. Put differently, competition in the ad-market does not mean that publishers compete on prices also in the readership market.

6 Conclusion

This study has empirically investigated the Dutch market for consumer magazines. As shown in a simple theoretical model, it is profit maximizing for a publisher to use pricing power in the advertising market to subsidize the price charged from the readership if readers value content. The results from our regression analysis basically support the strong link between circulation and pricing in the readership and advertising market described by the theoretical model. Indeed, Dutch magazines with a higher circulation are sold at lower cover prices, while ad-rates tend to be higher for these magazines. As no magazine-specific cost data are available, it remains unclear whether Dutch publishers exploit readers or advertisers by charging unduly high prices. Still, as Dutch magazine publishers have not integrated other media like TV or radio to the extent observed in other European countries, both consumers and advertisers have independent alternatives to satisfy their demands.

Some activities of the leading Dutch publishers do raise concerns and definitely warrant more attention in the future. Our study shows that magazine publishers have enjoyed substantially higher profits since the late 1970s than either newspaper publishers or the average manufacturing firm. On the cost side, our analysis does suggest that magazine publishers are burdened with a fixed cost load that is not very different from manufacturing. The case for highly concentrated market structures to cope with fixed costs is thus not very strong. The market structure in Dutch magazine publishing can be characterised as oligopolistic. Product differentiation in the form of publishing special-interest titles is ubiquitous and on the rise, since the market has been stagnating for quite some time. However, and contrary to what you expect following economic theory, product differentiation has not led to something like a

monopolistically competitive market structure (in the sense of Chamberlin). Rather, a few large publishers produce almost all the magazine titles. In some market segments, as for example opinion magazines or glossies, a market structure with only a few large suppliers can be found to exist. More worryingly, it seems to have been existing for many years without really challenging entry from new suppliers. In the mentioned market segments, we find some evidence that is more consistent with tacitly collusive pricing behaviour than with Bertrand price competition (Hakfoort and Weigand, 2000). Further, anecdotal evidence suggests that the key players in the market have substantial market power to shield their profits from being eroded by entry. The example of VNU's reaction to the launching of new magazine titles by rivaling publishers makes clear that powerful publishers need not fight costly price wars but can resort to effective non-price weapons to discourage new entrants. Even without such a more sophisticated analysis, the general picture of barely any entry of new publishers, fairly stable market shares of established magazines, and indications of higher than average profit margins at least point at a lack of competition. The general picture is: why bother about a saturated market that is well-protected by incumbents' strategies? Therefore, publishers of consumer magazines seem to enjoy a relatively quiet life.

Potential new publishers hoping to enter because of the ICT revolution facilitates producing a magazine at lower cost than in the past, face at least two major entry barriers. First, by producing substituting and complementary titles ("multi-title publishing") the leading publishers have already occupied market niches that may have been attractive for potential newcomers. Multi-title publishing and cross-media activities (e.g. books, business information, TV etc.) enlarge the publisher's "visibility" and thus the ability to offer attractive "packages" of advertising opportunities to advertisers. For example, if an advertiser wants to target a specific group of readers he almost certainly finds a VNU magazine that has the preferred readership profile. If advertising plays a major role for a new publisher to bring a magazine to the market, he has to be prepared to enter two connected markets, the readership market and the advertising market. But that may not be good enough to be viable in the longer term because the magazine needs to be distributed.

Here the second entry barrier comes into play. Control over certain distribution channels and outlets makes it harder for new publishers without deep financial pockets to enter the market. Established publishers may block new rivals by simply having well-functioning distribution systems at their disposal²⁶. In sum, new publishers, by using

²⁶In 1998, the Dutch antitrust authority (NMa, 1998) investigated Audax for not allowing a new entrant access to the distribution channel. At the moment of writing, the decision by the NMa is still pending. This example highlights the potential for anti-competitive behaviour.

advanced IC technologies, might be able to produce a magazine at low cost but marketing and selling the printing magazine may be quite a different venture.

Taken together, policy makers should be on the look-out for anti-competitive actions taking place in upstream or downstream markets. They should not be blinded by arguments that support concentrated market structures based on the specificity of information goods or by the argument sometimes advanced that diversity in content can only be guaranteed by suppliers which have pricing power to cross-subsidize otherwise unprofitable minority demands²⁷.

²⁷In a saturated market into which entry is discouraged (e.g., by niche predation and advertisers who seem more interested in mass than niches) a tendency towards the lowest common denominator content may exist. Incumbents do not want to occupy all niches because the niches cannibalise on the profits from their core magazines. However, even less wanted for incumbents is when other firms occupy these niches. This can lead to unoccupied, potentially profitable niches at the expense of diversity.

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Abstract

The study analyses the Dutch market for consumer magazines. Magazines share a number of characteristics with other information goods: they are experience goods, non-rival, have high fixed and low marginal cost, and content can be subsidized or sponsored by advertising. We develop a simple theoretical model to show that, if readers value content, it is profit maximising for publishers to use pricing power in the advertising market to subsidise the price charged from readers. The empirical analysis is based on a panel data set of 71 Dutch magazines over the period 1990 - 1998. The regression results suggest that magazines with a higher circulation are indeed sold at lower newsstand prices, while ad rates tend to be higher for these magazines. The analysis of the market indicates that policy makers should be on the look-out for anti-competitive actions taking place in upstream or downstream markets.