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Behavioral Biases Meet the Market: The Case of Magazine Subscription Prices

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Sharon M. Oster and Fiona M. Scott Morton

Abstract

Using data from American magazines, we explore the relationship between newsstand and subscription prices and magazine characteristics. In particular, we distinguish between magazines that provide benefits in the future (investment magazines) versus those that are simply fun to read now (leisure magazines). A consumer with a present bias at the newsstand discounts the future payoff of the investment good but fully values the leisure good. This difference does not exist for subscriptions. Thus, the ratio of the subscription to newsstand willingness to pay for a magazine should differ between investment and leisure goods. We find that for magazines whose payoff is in the future, subscriptions are relatively more costly, ceteris paribus. This finding suggests that publishers reflect the present bias preferences of consumers in their price setting behavior.

KEYWORDS: time-inconsistency, commitment, magazines, subscriptions

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1. INTRODUCTION

Recent work in behavioral economics argues that consumers have time-inconsistent preferences. If a desired behavior or product has upfront costs and delayed benefits, at the moment of action or purchase, the consumer will procrastinate because she weights the current costs too highly. Thus the future self and the current self may not share the same view about optimal consumption choices at a particular moment in time. Classic examples include the current self expecting that the future self will exercise, or save for retirement. (DellaVigna and Malmendier (2002); Caplin and Leahy (2001)). When the future arrives, the person has a tendency to feel the action at hand is costly to undertake, and does not engage in the behavior she rationally wanted to engage in the day before. In some cases, consumers may be naïve and not realize that their future selves will act differently than their current selves wish they would. In other cases, consumers may be "sophisticated" (O'Donoghue and Rabin (1999a) and (1999b)) in that they are aware the future self will not behave optimally from the present self's point of view. The self-control problem leads these sophisticated consumers to take actions in the present to alter the consumption patterns they adopt in the future. (O'Donoghue and Rabin (1999a), Laibson (1997), DellaVigna and Malmendier (2004)). For example, a consumer might join a health club or arrange for automatic direct deposit into a retirement account. An experimental demonstration of this behavior is in Read *et al* (1999), who run an experiment allowing for pre-commitment to video rentals. They show that consumers who select movie titles several days in advance choose more 'highbrow' films than consumers choosing a movie for immediate viewing.

While the characterization of behavior as having a present bias certainly resonates with many of us, to date the topic has mainly been addressed in the theoretical and experimental literature. Empirical work testing the behavioral model in real markets is sparse, with the notable exception of DellaVigna and Malmendier (2002) and Wertenbroch (1998). DellaVigna and Malmendier (2002) examine a health club that offers different payment forms: a membership and a per-use charge. They find that many customers who have a membership use the club sufficiently few times that they would be better off paying the per-use charge. Their model demonstrates that when a consumer suffers from present bias, her current self may want to subsidize the consumption of the product she knows her future self will 'under-consume.' A membership accomplishes this by lowering the marginal cost of using the club. Wertenbroch (1998) examines the response to price cuts on different sizes of investment and leisure – or in his terminology, virtue and vice – supermarket products. Vice goods are those such as cigarettes or potato chips where the pleasure is now but the cost is in the future, while a virtue good has less current payoff but future benefits, e.g. laundry detergent. He finds that consumers respond much less to a cut in the price of a

large size of a vice good than a large size of a virtue good. This makes sense if a forward-looking consumer with self-control problems rationally does not want to have a large bag of potato chips in her house. She will require a larger price cut to purchase such a product than she would to purchase the large size of laundry detergent. The expensive small package serves as a commitment device.

It seems likely to us, based on the evidence above and introspection, that profit-maximizing managers quickly learn about the behavioral biases of their customers and design their products and choose their prices to exploit those biases.[1] If behavioral phenomena exist in consumers, and are of any significant magnitude, they should affect outcomes, such as prices, in real markets. By examining many products (or firms) in an industry, we can find evidence of how important these behavioral traits are. We hope that by looking at a whole industry, rather than one firm or one example, we can use advances in behavioral economics to enrich the field of Industrial Organization.

This paper applies a simple behavioral model of consumer decision-making in a setting where firms have market power to help explain pricing in the magazine industry. In particular, we are interested in the question of whether there is any evidence that the pricing structure adopted by publishers reflects the expected present bias preferences of consumers. The magazine market provides an exceptionally rich setting in which to explore the behavioral model. Most magazines are offered at both single newsstand price and at subscription prices, providing all issues of the magazine for a fixed future time period at a single fee. The existence of these two price forms means that the potential consumer can either make a simultaneous purchase/read decision or, by buying a subscription, can purchase now, for delivery and reading in the future. In this way, the magazine market is similar to the health club market explored by DellaVigna and Malmendier (2002) in which both spot prices and memberships are available.

At the same time, magazines are themselves quite heterogeneous along quality dimensions that are likely to influence the level of preference inconsistency over time. Some magazines – for example the *New York Review of Books* or *Foreign Policy* – may involve learning and thus realize most of their benefits in future periods, while other magazines – perhaps *The National Enquirer* or *Star* – may instead generate their benefits in the here and now. With time inconsistent consumers, these differences in the timing of benefits could potentially be important.

In the modeling section of this paper, we focus on the simple hyperbolic discounting story assuming sophisticated consumers, which gives rise to clean

[1] Gabaix and Laibson (2004a) and Spiegler (2004) similarly explore the relationship between behavioral consumers and profit-maximizing firms in a theoretical way. Related work also includes Gabaix and Laibson (2004b) who use information suppression to help model aftermarket pricing.

predictions about the quantity sold on subscription as well as the optimal structure of prices for a firm faced with consumers who are hyperbolic discounters. We show that if publishers recognize differences across magazines in these behavioral characteristics, they will set higher subscription prices relative to newsstand prices for investment good magazines. Subscriptions to these magazines require a lower discount than subscriptions to less 'worthy' magazines to induce purchase of the subscription. Investment good magazines will also be purchased by subscription more often than leisure magazines.

Using a data set of almost three hundred U.S. magazines, we find strong evidence of higher subscription prices relative to newsstand prices for investment-type magazines. The product heterogeneity in this market allows us to look across magazines to see whether or not the expected level of consumer time inconsistency is connected to differences in the extent of a subscription discount and in quantity sold by subscription. Increasing our measure of 'investment-ness' one standard deviation raises the ratio of subscription fees to newsstand prices by 4% on average. Alternatively, moving from a non-investment genre to one that has investment characteristics increases the ratio of subscription to newsstand prices by about 12%.

The rest of the paper proceeds as follows. Section 2 provides a simple model in which firms, producing different magazine types, use a mix of subscription prices and single-issue prices to discriminate across their consumers. We then add an assumption of hyperbolic discounting by consumers to the model and trace the effect on the relative subscription prices across magazine types. Section 3 describes our empirical strategy for testing the model and the data we have collected on magazine prices and characteristics. In Section 4 we describe our results, and Section 5 concludes.

2. A SIMPLE MODEL

There are several papers in the literature that focus on the pricing structure of magazines, particularly on the existence of subscriptions (Glazer and Hassin, 1982; Gabszwewicz and Sonnac, 1999). In order to account for the co-existence of subscriptions and single newsstand prices in equilibrium, it is necessary to introduce some heterogeneity in consumers. The previous literature introduces heterogeneity in two forms. First, consumers vary in the shape of their willingness-to-pay curve as a function of number of issues. In this case, subscription-pricing looks like bundling, and single, relatively high newsstand prices are offered to consumers with relatively steep demand curves while those with relatively flatter demand curves buy the bundle via subscription. Alternatively, or in addition, consumers may vary in the transactions costs they face in purchasing single issues, perhaps because of their location. Consumers in isolated towns may have higher costs of finding a particular magazine, for

example. In this case, publishers can capture part of the benefits of serving high transactions costs consumers via subscriptions.

Our approach will be to begin with a relatively simple, stylized model in which subscription prices and newsstand prices coexist as a consequence of price discrimination, and then ask whether or not hyperbolic discounting by consumers changes the profit maximizing ratio of subscription prices to newsstand prices. We will focus on the consumer side of the picture, and wait to consider the firm cost issues in the empirical specification. In particular, we will assume that the marginal cost of producing magazines is zero, and that publishers have market power in setting prices.

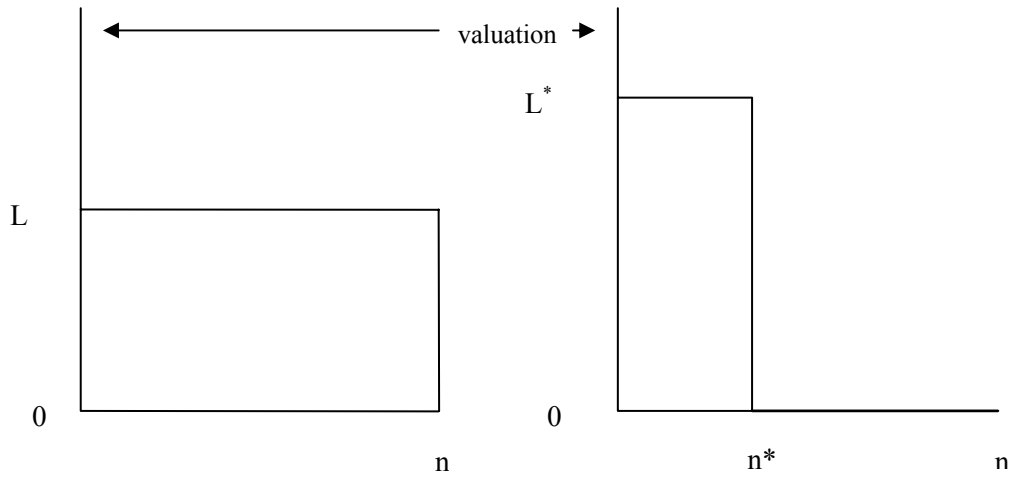
Assume there are two types of magazines. Investment magazines generate reading costs of c in the period in which they are read, and investment benefits, $I>0$, in the subsequent period. Leisure magazines generate consumption benefits of $L>0$ only in the period in which they are read and may have future costs, c. A negative future payoff defines a 'vice' good. We do not think that many magazines are vice goods, but the symmetry is instructive, other goods to which this model applies could be vice goods, and we can always set $c=0$ and recover the leisure case.[2]

There are two types of consumers. For high frequency consumers, willingness to pay per issue is constant per issue at the level of I and L, respectively for the two magazine types. For low frequency readers, willingness to pay declines with the number of issues. We specify a particular functional form for willingness to pay for low frequency readers: I^*>I (or L^*>L) for the first n^* issues and is then zero for any more issues beyond n^*. We provide a simple graph in Figure 1 for the leisure magazine with a single representative consumer of each type.

Before proceeding, it is worth pausing to consider the reasonableness of our assumptions on relative valuations of the two reader types. In this model, the high-frequency reader has a lower average value per issue read than the low-frequency reader buying at the newsstand. One way to motivate this value difference is to think of the low-frequency reader as someone who has very strong issue-specific valuations so that a well-matched specific issue has very high valuation, while other issues are considerably less valued. Alternatively, the low-frequency reader experiences a random shock (train is late, checkout line is long) that increases her valuation for a single issue but does not raise her value of many issues of the magazine.

[2] One could think of this case as a magazine that causes a consumer to become more interested in an issue (should J Lo marry Ben) and therefore waste time on it in the future. In other industries, such as the supermarket goods studied by Wertenbroch, products with future adverse health consequences like potato chips are vice goods.

FIGURE 1: Leisure magazine with no discounting



We are interested in the case where the valuations of the two consumer types are such that they can be completely separated with appropriate prices. The publisher has market power and so will extract the full surplus from both types. Therefore, the subscription discount will reflect the relative values of the low and high frequency users in the two markets. Prices for the subscription (s) and newsstand (p) for the two types of products, investment (I) and leisure (L) will be:[3]

[3] Inducing each type to buy the correct product requires satisfying two incentive compatibility and individual rationality constraints:

$$n^*(I^* - c) - S^I \le n^*(I^* - c - p^I)$$

$$n(I - c - p^I) \le n(I - c) - S^I$$

where n^* is the number of issues the low frequency consumer buys at this single issue price, n is the number of issues in the subscription, and H and L are the number of each type in the population. The first condition ensures that the subscription price designed for the high frequency user will not be attractive to low frequency users. The second condition ensures that high frequency users will not be attracted to single issue prices set in the newsstand market. In both cases, the publisher sets the right hand side to epsilon to create the individual rationality constraints. These two expressions can be simplified to $n(I - c) > n^*(I^* - c)$ and $I^* > I$ which indicate that the rectangle of surplus for the high-frequency user is larger than that of the low-

$$S^I = n(I - c) \qquad S^L = n(L - c) \qquad (1)$$

$$p^I = I^* - c \qquad p^L = L^* - c \qquad (2)$$

Now consider the effect of hyperbolic discounting by consumers. In particular, following Laibson (1997), and O'Donoghue and Rabin (1999) assume that consumers have a bias in favor of the present, creating a discontinuity in valuation between now and the future. For simplicity, we will, using the usual notation, assume that the long run, standard discount rate, δ, is one, while β, the measure of present bias, is less than one. This creates a setting where a consumer values fully all utility arriving this period, but discounts utility arriving in any future period by β.

Given that we have introduced discounting, the timing of the decision process becomes important. In the case of a newsstand purchase, we assume that readership happens simultaneously with purchase (in period 1), while any investment gains occur in the following period. In the subscription market, consumers contract for a stream of magazines in period 1, which are then delivered and read in period 2, and earn investment gains or pay costs in period 3.

While this timing may seem artificial – consumers do not actually stand in front of the newsstand making this tradeoff – it does reflect the fact that consumers choose subscriptions in contexts in which they will not be consuming the magazine that minute. Consumption, investment returns, and (often) payment for subscriptions are all in the future and must be discounted appropriately. However, the choice a consumer makes at the newsstand includes present consumption and payment. Thus the comparison between the two forms of reading must be made with the appropriate timing for each built in to the choice.

Let us consider the case of subscriptions first. Under the hyperbolic discounting assumptions, immediate pleasure from reading, reading costs, and future investment gains or costs are all discounted at the same rate, β, because they all occur in the future. In fact, if we make the assumption that the payment for the subscription is also in the future (a frequent feature of this market), then it is discounted by β also and the subscription conditions are the same as those for a rational consumer. We conclude that discounting the sum of the returns and the reading cost does not change the consumer surplus or the optimal price, and therefore does not change the decision to purchase a subscription.

Likewise, the purchase of a leisure magazine at the newsstand is unchanged because no feature of the transaction is subject to hyperbolic

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frequency user, while the low-frequency user's rectangle is taller. The last condition, $Hn(I - c) + Ln^*(I^* - c) \geq (H + L)n^*(I^* - c)$ ensures that it is profit maximizing for the monopolist to separate the markets, rather than charging the lower subscription price that would appeal to the low frequency consumers and selling only subscriptions.

discounting. However, the newsstand purchase of an investment magazine or a vice magazine looks quite different. The value to the marginal low frequency buyer, and thus the (non-discounted) price will be:

$$P^I = \beta I^* - c \tag{4}$$

for an investment magazine. Hyperbolic discounting reduces only the portion of the expression that fall in the future, the investment returns, while the full negative cost of reading is born today. This asymmetry reduces the attractiveness of the investment magazine at the newsstand relative to on subscription.

The opposite happens to the vice magazine:

$$P^L = I^* - \beta c$$

The newsstand price rises relative to the rational case. The implications of the model thus far lead to our first hypothesis: investment magazines will be more likely to be sold on subscription than leisure/vice magazines because investment magazines' net valuations are perceived to be higher when the reading and returns both occur in the future; the product appears more attractive when viewed as a subscription. Or, alternatively, leisure/vice magazines are more likely to be sold at a newsstand because at the moment of purchase their future costs are discounted and so they appear more attractive.

Looking now at the ratio of subscription to newsstand prices under hyperbolic discounting, we find:

$$\frac{S^I}{p^I} = \frac{n(I - c)}{\beta I^* - c} \qquad \frac{S^L}{p^L} = \frac{n(L-c)}{L^* - \beta c} \tag{5}$$

We see that compared to the rational case, hyperbolic discounting causes the newsstand price of the investment magazine to fall, and the newsstand price of the vice magazine to rise, so the relative subscription price rises for the investment magazine. In the case of the leisure magazine since all benefits happen in the period of payment, hyperbolic discounting has no impact on the subscription/newsstand ratio. Empirically therefore, we expect the ratio of subscription to newsstand prices to be higher for an investment magazine than for an otherwise equivalent leisure magazine. This is the central empirical proposition we will test.

In considering the optimal ratio of subscription to newsstand prices in this market, it is necessary to make sure that the incentive compatibility and individual rationality constraints hold in the case of hyperbolic discounting. Only one incentive compatibility constraint poses any problem for the publisher of an investment magazine. Because the publisher must lower the newsstand price in order to induce purchase from the time-inconsistent consumer, the consumer who

is considering a subscription must check to see if she can spend less by purchasing all *n* issues at the new lower newsstand price:

$$n(I - c - p^I) \leq n(I - c) - S^I \quad (6)$$

It turns out that the condition required for this *not* to be optimal for the high frequency sophisticated consumer is:

$$\beta I^* > I \quad (7)$$

This result appears to weaken the conclusions of the model as there is a region where (7) does not hold and therefore the new price ratio may not successfully separate the two types ($I^* > I$ but $\beta I^* < I$). Clearly (7) becomes harder to satisfy as β becomes smaller.

However, if we examine the decision of the sophisticated consumer more closely, we realize this is not the case. The sophisticated high-frequency consumer will only purchase at the newsstand if she has positive net surplus there:

$$\beta I - c - (\beta I^* + c) > 0,$$

which is $\beta(I - I^*) > 0$, which contradicts the initial assumption of the model.

Thus the sophisticated consumer will not give up the subscription because she realizes that at the moment of transaction she will not actually purchase the investment magazine at the newsstand, even at the reduced price. In this sense the subscription acts as a commitment device for the sophisticated consumer. A subscription lowers the marginal cost of reading, and the forward-looking self understands that this subsidy is needed given the way the future self values the benefits of the investment magazine. Thus the apparently tighter constraint in (7) is not, in fact, relevant for the publisher, and the original incentive compatibility constraints are all that are necessary to support the higher price ratio that occurs when buyers are time-inconsistent and sophisticated.

Note that the subscription works for the sophisticated buyer in the sense that the marginal price is zero, so the consumer does read the magazine whenever $\beta I > c$. Also note that we are assuming a population of sophisticated, time-inconsistent consumers. When buyers are naïve, they imagine their newsstand purchase condition is not affected by discounting, so they expect that they will purchase all *n* issues at the newsstand, and then do not. Thus, the publisher has an interest in lowering the ratio of subscription to newsstand prices to reflect the constraint relevant for naïve consumers.[4]

For the case of vice magazines we must again return to the incentive compatibility constraints to insure that they continue to hold in the case of full surplus extraction. In particular, the newsstand consumer may consider

[4] The ratio of subscription to newsstand prices that induces separation of types for naifs is higher than the ratio for rational consumers, but lower than the ratio for sophisticated consumers.

purchasing a subscription, even though she only wants to read n* issues, in order to obtain the lower per issue price. She will not do this if:

$$n^*(L^* - c) - S^L \leq n^*(L^* - c - p^L)$$

With hyperbolic discounting, the condition becomes stricter,

$$n(L - c) \geq n^*(L^* - \beta c) \quad (8)$$

As β falls, it becomes more worthwhile for the low-frequency reader of the vice magazine to buy the subscription rather than pay the relatively high newsstand price, even though she is only reading n^* issues.

We would like to show – as we did for the investment magazine above – that there is a commitment reason that constraint (8) does not bind for the publisher and therefore the new price ratio holds. Technically, this is not possible in our model as written because of the stark functional form of valuation we assumed for the low frequency readers. However, the intuition is straightforward. Suppose, for the low frequency reader, we increase the value of an issue beyond n^* from zero to a positive, small value such as ε, as shown in Figure 2.[5] Now the valuation function is more smoothly declining and there is a role for temptation to read additional magazines.

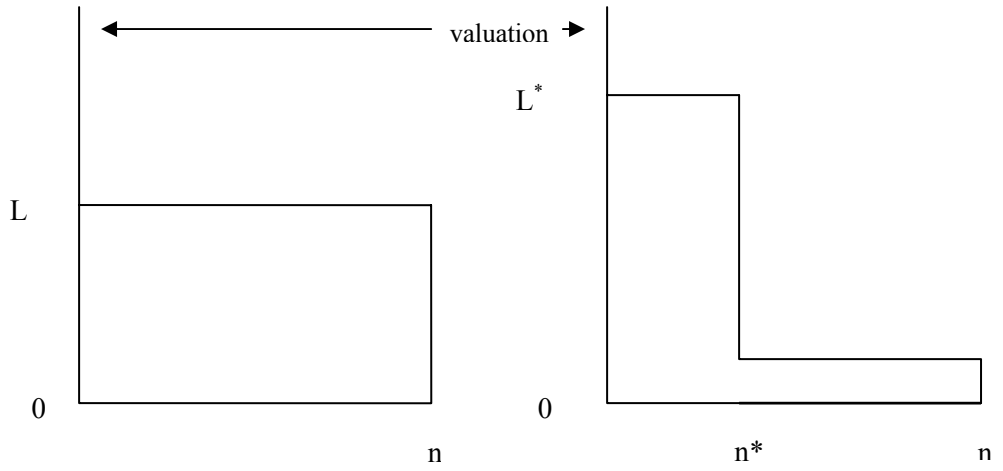
The low frequency reader buys too many vice magazines from the point of view of her long-run self. Because future costs are discounted, and price captures that surplus, the consumer purchases the magazine at the newsstand when her long-run self would not; her long-run self values the magazine less than her current self. Thus she knows she will often regret reading and wishes she could commit her future self to read less. Now suppose this consumer has a subscription, so there is no marginal price to reading additional issues, and a small benefit.[6] Now she will read more magazines. Her problem is that buying a subscription lowers the marginal cost of reading, raises the number of magazines read, and lowers total utility.[7] One can see that a low-frequency reader of vice magazines may have a commitment reason not to purchase the subscription even though it appears to be cheaper than buying expensive newsstand issues. Intuitively, the ability to read more issues for a person who is aware of her self-control problems makes the vice magazine subscription less attractive. This motive relaxes the constraint in (8).

[5] ε is small enough that the publisher would not choose it for a newsstand price and thus it does not alter the previous results of the model.

[6] When ε>βc, she reads, but only gets positive utility if ε>c, which becomes less likely as β declines.

[7] Depending on the parameters of the model.

FIGURE 2: Leisure magazine with ε valuation for additional issues



The central predictions of our model are: a) in equilibrium, time-inconsistent consumers purchase investment magazines via subscription but buy leisure/vice magazines at the newsstand, and b) the relative price of a subscription, all else equal, will be higher for investment magazines than for leisure/vice magazines. These are the propositions that we test in the next section of the paper.

3. EMPIRICAL STRATEGY AND THE DATA

We test our behavioral model of subscription and newsstand pricing using a sample of U.S. magazines. Setting up a full structural model of the magazine industry with heterogeneous consumers and publishers who generate revenues both from advertising and from readership is quite complex.[8] Our goal is to make

[8] Work specifically focused on published entertainment (newspapers, magazines) includes Dertouzos and Trautman (1990), Koschat and Putsis (2002), Ferrando et.al. (2003), and Wright and Kaiser (2004). Dertouzos and Trautman estimate a system of five equations reflecting newspaper operations: advertising demand, circulation demand, and profits of the newspaper. These are estimated with price, circulation, readership, and cost data from US newspapers. The authors find a feedback relationship between advertising and circulation, as theory would imply: raising the cost of advertising lowers advertising and also lowers circulation, and so on. Koschat and Putsis estimate a hedonic regression for advertising rates in magazines, but do not explicitly consider consumer pricing. Ferrando et. al. develop a model in which readers care about differentiation and advertising, and advertisers care about the number of readers but can only publish in one newspaper. The authors show there are equilibrium prices chosen by publishers such that expectations by consumers and advertisers are fulfilled. Wright and Kaiser's basic setup and findings are similar, but their methodology is novel. Rysman (2003) develops a demand equation for advertisers, a demand equation for readers, and the publisher's profit-maximization

a simpler point: that the behavioral characteristics of consumers may be another important input into the pricing problem. Consistent with this more modest goal, our empirical tests will initially be unconditional tests of means and correlations of magazine characteristics. In the second empirical section, we draw on the previous literature to develop a reduced form specification of the important features of magazine cost and demand. Finally, we must be confident that our behavioral measures are not themselves correlated with other unobserved variables. We discuss this issue in detail in the third section of the results.

In order to test whether or not subscription prices for magazines can be in part explained by a simple behavioral story, we collected data on almost 300 magazines published within the US. The principal sources of our data on magazine prices and circulation were: ABC, the Audit Bureau of Circulation, and MRI, Mediamark Research, Inc. Both are standard sources for work on magazine pricing (Koschat and Putsis, 2002). ABC collects data on readership and pricing from magazines, audits them for accuracy and then sells access to the audited data on their web site. The variables collected from ABC in the fall of 2002 form the core of the dataset. MRI is a standard source for demographic information on magazine readership. In the case of a few magazines, subscriptions appeared to require membership (e.g. *Audubon*, *American Legion*, *VFW Magazine*). We also found one magazine, *Mass Transit,* that, while it has a subscription and cover price, is mostly given away to people who work in the industry.[9] These were eliminated from the sample.

The magazines in the sample vary considerably in terms of the use of subscription sales. The mean proportion of magazines sold on subscription was 0.81, with a range between 0.05 and 1. Note, of course, the percentage of magazines sold on subscription overstates the number of unique readers in a given year who are subscribers, given that subscribers by definition buy all issues of a magazine. Magazines with low use of subscriptions include many in the categories of weddings, gossip, women's general interest, and youth.

In addition to the ABC and MRI sources, we obtained some of the variables used from issues of the magazines themselves. Using research funds and donations from friends, we assembled a magazine collection of 118 physical copies. The remaining magazines in the sample were examined either at major public libraries, large news carriers, or on web sites. Appendix A contains a

problem for the case of the yellow pages industry. The system can be used to solve for the structural parameters of the model. However, subscriptions play no role in the yellow pages industry, nor do any of the other studies address the role of subscription pricing. We are not aware of empirical work on the magazine/newspaper industry that estimates a structural model of publishers, consumers, and advertisers and includes subscriptions as a purchasing option. Additionally, we do not have all the data one would need for such a study (e.g. ad quantities).

[9] *Mass Transit* has a circulation of 20,500 of which 400 are paid and the rest free. (Conversation with Cignus Publications 9/8/03.)

listing of the magazines in the data set; the range of magazines is quite large, including large circulation, well known magazines like *Time* and *Business Week* as well as more esoteric magazines like *Quilter's Digest* and *Gun Dogs*.

DEPENDENT VARIABLE

Our model makes a very simple prediction: all else equal, the ratio of subscription to newsstand prices should increase with the degree of 'investment-ness' of a magazine. Thus, our dependent variable is a measure of the regular annual subscription price per issue divided by the cover price of the magazine.

It is important to emphasize that the empirical analysis in the paper centers on the size of the subscription discount, the ratio of the subscription price per issue to the newsstand price. Using this ratio allows us to abstract from the variables that might well affect *levels* of subscription and newsstand prices, but not the ratio of those prices. We will thus avoid empirically measuring these characteristics and greatly simplify the reduced form specification.

In practice, many magazines have multiple subscription prices, which depend both on the duration of the subscription and on special offers. In this paper, we use a one-year regular subscription price, as identified in the ABC data. The dependent variable in the regression *SubRatio* is defined as the subscription price divided by the annualized newsstand price. Thus, a higher *SubRatio* denotes a lower discount rate. In the data, *SubRatio* varies from 0.16 to 1.25.

BEHAVIORAL VARIABLES

We turn now to the variables of most interest, those capturing the magazine characteristics relevant to the behavioral distinctions we have made. Constructing such a variable is clearly very difficult; a magazine that seems like consumption to an economist, e.g. *The Economist*, may feel like investment to a small businessperson. In this work, we have relied on three separate indices of magazine character.

Our first variable, *Expert***,** is used to distinguish between magazines by many libraries. In distinguishing popular magazines from more serious or scholarly magazines, librarians ask whether the credentials of the author of the feature articles are provided, either in the header of the article or in a footnote. For our measure, the listed credentials must be relevant to the subject at hand, and not simply biographical. For example, in a quilting magazine an expert footnote would read "Mary Smith has won three national prizes for her quilts," as compared to "Mary Smith lives in Connecticut with her husband and three children." This measure seems quite close to what behavioral economists might think of as an investment feature: if readers expect to learn from an article, they may well want to know the credentials of the source. *Expert* is an indicator variable, with one denoting the presence of expert content. It was generated by a research assistant who examined each magazine and applied the criteria described.

A second behavioral measure of magazine type used in one specification is the magazine's genre. ABC provides extremely specific genres (e.g. 'Golf,' 'Auto general interest: consumer,' 'fashion'). We combined these into more meaningful larger groups (e.g. hobbies, autos, women's) until we were left with 25 genres. Of these genres, several, such as *Religion* and *Intellectual,* appeared *ex ante* to be investment-type categories. In addition, using ABC categories we identified a number of magazines with content specific to a particular trade. The *Trade* category does not include business magazines that are multi-purpose. All three of these genres are included in one of the final specifications. All three variables are indicators taking the value one if the magazine is designed for a particular career, (government worker, early childhood education, journalism for example), is about religion/spirituality (*Theology Today*, *US Catholic, Yoga Journal*), or is a magazine of ideas (*Foreign Policy, Scientific American*). In our sample, 32% of the magazines have *Expert* content, 5% are *Trade* magazines, 4% are religious magazines, and 10% are intellectual magazines.

The third variable used, *FutureGain***,** was constructed from survey results of expert readers. We chose expert readers from the Yale English Department PhD program on the grounds that these students are both very intelligent and trained to distinguish subtleties in written publications. The English Department PhD students, two women and one man, were trained by the authors and then asked to inspect all 300 magazines on the list and answer the following question:

> "Some magazines can be thought of as pleasures of the moment, while others teach us something important for the future. Consider for each magazine how much of the value of reading that magazine comes now versus in the future. Please rate the magazine as a 1 if all or most of the benefit of the magazine comes at the point of reading, up to a rating of 5 if virtually all of the benefits come in the future."

This question is intended to get at the issue of impatience or time-inconsistency. We selected male and female readers to avoid any gender bias associated with rating different genres. In fact the three ratings were relatively highly correlated with each other, at a level of above 0.5 for all combinations of readers. In the empirical work, the ratings of the three readers were summed to form our rating variable. *FutureGain* varies from 3 to 14, with a mean of 7 and a standard deviation of 2.4.

Table 1 provides a list of magazines in the upper and lower tails of the rating distribution using the combined reader variables. Gossip and pornography magazines (e.g. *Cosmopolitan*, *Playboy*, and *People*) are at the bottom of the scale, with principal benefits coming in the form of current pleasure. *National*

Geographic and *Diver* magazine are both pleasant to read yet contain content that is meritorious or useful in the future, so they are rated in the middle. *The New York Review of Books*, *Kiplingers*, and *The Nation,* all are rated quite high.

Table 1: A Sample of Magazine Ratings

FutureGain=3	FutureGain>12
Penthouse	*Forbes*
Playboy	*Fortune*
The Rolling Stone	*HBR*
Spin	*Kiplingers*
Vibe	*Astronomy*
The Source	*Worth*
Entertainment Weekly	*Money*
Interview	*New York Review of Books*
Movieline	*The Nation*
National Enquirer	*Venture Reporter*
National Examiner	*E-The Environmental Magazine*
People	*Red Herring*
Premiere	*American History*
Soap Opera Digest	*Inc*
Soap Opera Weekly	
Star	
Starlog	
Ttrue Story	
US Weekly	
Advocate	
Details	
Maxim	
Jet	
ESPN	
Amazing Spiderman	
Mad	
Realms of Fantasy	
Teen People	

Clearly *FutureGain* suffers from the same defects as all subjective rating measures. The reasonably high correlation across readers was comforting, however.[10] In addition, *Expert* and *FutureGain* are positively correlated (0.27).

[10] The authors also rated the magazines and found their ratings correlated well (above .6) with the PhD student results.

The means of the dependent and independent variables used are provided in Table 2 along with the data sources for each variable.

Table 2: Summary statistics and sources

Variable Name	***Mean***	***Std Dev***	***Min***	***Max***	***Source***
	Number of observations=298				
SubRatio	.553	.200	.163	1.24	ABC
Circulation	855910	1472923	7600	1.6E7	ABC
Ln(circulation)	12.7	1.46	8.94	16.56	ABC
Available	4.74	2.84	0	12	Research assistant
Number of issues	14.6	12.6	4	52	ABC
Number of issues * change content	4.47	11.67	0	52	ABC & authors
Intro subscription/ regular subscription	.821	.278	.219	2.84	Research assistant
Ad rate	.060	.100	0	1.57	ABC
FutureGain Rating	7.02	2.42	3	14	Reader rating
Expert	.322	.468	0	1	Reader rating
Trade	.050	.219	0	1	ABC & authors
Religious	.040	.197	0	1	ABC
Intellectual	.097	.297	0	1	ABC

Demographic	***Mean***	***Std Dev***	***Min***	***Max***	***Obs.***	***source***
Pct Female	.505	.288	0	1	N=210	MRI
Median Income	65152	24501	25984	202800	N=194	MRI

4. RESULTS

Tables 3a and 3b summarize the unconditional tests of the relationship between subscription levels and pricing and the set of behavioral variables. In each case, a higher level of 'investment-ness' is associated with a greater fraction of the magazines being sold by subscription except for two genres in column (2).

In column (2), only one of the three genres – *intellectual* – significantly predicts percent sold on subscription. The effects of most of the behavioral variables are statistically significant. A magazine with *Expert* content that is otherwise equivalent to another magazine is predicted to have a 6.5% higher percentage sold on subscription. The coefficients imply that a one-standard

deviation increase in *FutureGain* will raise the percent sold on subscription by about 6%.

Table 3a: Unconditional Regression Results: Subscriptions

Dependent Variable: Percentage sold on subscription			
Variable	***(1) Expert***	***(2) genre***	***(3) FutureGain***
Expert	6.54**	---	---
	(2.77)		
Trade	---	2.10	---
		(7.5)	
Religious	---	2.30	---
		(9.9)	
Intellectual	---	10.0**	---
		(4.57)	
FutureGain	---	---	2.62**
			(.489)
Constant	79.4**	80.4**	63.2**
	(1.49)	(1.36)	(3.60)
Obs /Adj R^2	238/.02	238/.01	238/.10

** denotes significance at the 5% level or better. Standard errors are in parentheses.

The second part of Table 3 shows the unconditional regressions of the subscription to newsstand price ratio. Again we see that each of the measures of the investment nature of the magazine significantly predicts a higher ratio of subscription to newsstand prices. Again, the weakest column is (2) where one of the genres, *intellectual*, fails to predict the price ratio. However, both *trade* and *religious* are significantly associated with higher subscription prices. Moving from not having expert content to having expert content is predicted to increase the subscription price ratio by 8% (or from about .54 at the mean to .58). Likewise, a one-standard deviation increase in *FutureGain* increases subscription price ratios by about 2.5% (or from about .54 at the mean to .555). The r-squareds in these regressions are very low, of course, and so we turn to a more complete empirical model in the next section.

Table 3b: Unconditional Regression Results: Price Ratio

Dependent Variable:
*One year subscription price/(newsstand price*number of annual issues)*

Variable	***(1) Expert***	***(2) genre***	***(3) FutureGain***
Expert	.080**	---	---
	(.024)		
Trade	---	.145**	---
		(.052)	
Religious	---	.194**	---
		(.058)	
Intellectual	---	.043	---
		(.038)	
FutureGain	---	---	.011**
			(.0048)
Constant	.528**	.534**	.474**
	(.014)	(.012)	(.035)
Obs/ Adj R^2	298/.03	298/.052	298/.02

** denotes significance at the 5% level or better. Standard errors in parentheses

5. Conditional Regression Specification and Results

Clearly, the specification in Table 3b is not complete. As noted above, the economics literature on subscription pricing suggests two sources of variation in subscription price discounts: variation in the heterogeneity in the consumer willingness to pay function and variation in the transactions costs of newsstand purchase. We also expect that the attractiveness of the magazine's target audience is important due to the incentives created by advertising. In this section, we explore whether or not the results hold once we control for these factors.

To proxy the transactions costs of acquiring particular magazines, we construct a variable called *Available***.** We sent research assistants to six cities across the US: New York City, Boise, Chicago, Los Angeles, Tulsa, and Houston. In each city, the research assistant noted whether the magazines were available at the largest public library and at a randomly chosen newsstand. The index runs from 0-12, with a mean of 4.7; the higher the index, the lower transactions costs of newsstand purchase. A second measure of magazine availability is the circulation level. All else equal, large circulation magazines will be available in more places. (As we will argue shortly, there is an offsetting effect on subscription prices from large circulation on the cost side.) The mean of

circulation is 855,910, with a standard deviation of 1,472,923. Because of the large range of the circulation variable, we use *ln(circulation)* in the specification as well to capture non-linearities.

Measuring the underlying heterogeneity of the potential buying population is more difficult. Here, we look at several features of magazines. *NumberOfIssues* is the number of issues of the magazine published in a given year, with a range from 4 to 52. For magazines with numerous issues all on the same topic, inducing purchase of all issues would be expected to require a deeper discount. Modifying this effect is the variable *NumIssues*Change,* which is the number of issues interacted with an indicator variable for whether the genre experiences a change in content regularly. We somewhat arbitrarily decided that these genres are news magazines, sports magazines, gossip magazines, magazines about technology, trade magazines, and general business magazines, comprising 21% of the total sample. We judged that the material in, for example, hobby, religion, and women's and men's general interest magazines was more static. For magazines with ample new content, we would expect less need for discounting as the number of issues rise, as those issues are less substitutable one for another.

As we noted earlier, magazines often have introductory offers for subscriptions as well as standard subscription prices. In cases in which publishers believe the valuations of their magazines are likely to grow with reader familiarity, low introductory prices, followed by higher subscription prices may be a preferred strategy. Since we expect that investment magazines might be more likely to manifest this dynamic pattern of reader valuation, it will be important to control for this in the regression. We take the ratio of the introductory offer to the regular offer, *Intro***,** as a measure of how habit-forming, publishers believe their magazine to be. If this effect is important, low levels of *Intro* (deep introductory discounts) will be associated with high levels of regular subscriptions relative to newsstand prices. The introductory offer was taken from either the paper insert in the physical magazine, or the price offered on the website.

In addition to the demand variables just described, there is a small trade literature that suggests that publishers of low circulation magazines may offer subscription discounts to improve product run planning insofar as subscriptions generate more certainty about optimal production levels. (Round and Bentick, 1997). As the circulation of the magazine grows, demand from newsstands becomes smoother, and the benefit to having subscription sales for creating smooth demand falls somewhat. This literature provides a second interpretation of the coefficient on the circulation variable that is the opposite sign from the availability effect. To the extent that the constructed variable *availability* already completely captures the effect of transactions costs, we would expect this production smoothing effect to dominate and subscription prices relative to newsstand prices to rise with circulation.

Table 4: Empirical Specification of Subscription Ratio

Dependent Variable: *One year subscription price/(newsstand price*number of annual issues)*			
Variable	***(1)*** ***Expert***	***(2)*** ***Genre***	***(3)*** ***FutureGain***
Circulation	4.22E-08**	3.76E-08**	4.19E-08**
	(9.25E-09)	(9.14E-09)	(9.26E-09)
Ln(Circ)	-0.53**	-.043**	-.052**
	(.011)	(.011)	(.011)
Available	-.012**	-.012**	-.013**
	(.004)	(.004)	(.004)
Number of issues	-.0055**	-.0060**	-.0056**
	(.0010)	(.0010)	(.0010)
Number of issues	.0021	.0023**	.0020
interaction	(.0011)	(.0011)	(.0011)
Intro offer	-.140**	-.160**	-.144**
	(.037)	(.037)	(.037)
Ad rate	-.276**	-.247**	-.275**
	(.109)	(.107)	(.109)
Expert	.054**	……..	…..
	(.022)		
Trade	……	.136**	…..
		(.047)	
Religious	…….	.130**	….
		(.051)	
Intellectual	……	.072**	…
		(.035)	
FutureGain	……..	…….	.0096**
			(.0043)
Constant	1.44**	1.33**	1.38**
	(.139)	(.140)	(.147)
Obs/Adj R^2	298/.273	298/.295	298/.270

** significant at the .05 level or better. Standard errors in parentheses

An additional supply–side effect arises due to the two revenue streams, sales and advertising, that magazines can earn (as noted in Kaiser (2004)). The publisher has an incentive to increase circulation by lowering the price of a subscription relative to newsstand price because this distributes more magazines (even if they are actually unread) and thus boosts the value of ads in the magazine. We include the cost of a full page ad, *Adrate,* in the specification. It is

calculated by taking ABC's full-page advertising cost measure and dividing by circulation to get a per reader cost.[11] As *Adrate* increases, publishers have more incentive to lower relative subscription prices to raise circulation.

The results of including explanatory variables that we expect to predict the relative value of subscriptions are contained in Table 4 above. Again we include each behavioral variable separately in the three columns of the table. The non-behavioral variables all behave as we expect. Subscription prices relative to newsstand prices are relatively less (i.e., coefficient signs are negative) for magazines that are readily available, have small introductory discounts, have a large number of annual issues especially if their content does not change frequently, and charge high advertising prices. We combine the effects of both circulation variables and find that large circulation magazines, all else equal, offer higher discounts, which suggests that availability is more dominant than production smoothing in determining subscription discounts.[12]

Turn now to the behavioral variables. In all specifications, the behavioral variables are right-signed and all are significant at the five percent level or better. In particular, the behavioral effects have relatively large economic impact. In column one, having *Expert* content increases relative subscription prices by 0.053, which is a 9.5% increase at the mean of 0.553. Examining column 2, we see that subscription prices are highest for trade (career-oriented) magazines (.14), then the religious magazines (.13), then intellectual (.07), and all are positive relative to the remaining omitted genres. In column 3, a higher *FutureGain* rating lowers the discount given for a subscription; one standard deviation higher on the *FutureGain* scale leads to an increase of 4.2% in the subscription ratio evaluated at the mean.

6. ALTERNATIVE EXPLANATIONS

One concern with the interpretation of the behavioral variables arises if the behavioral variables are themselves correlated with another characteristic or demographic that might, for example, affect the relative preferences of high and low frequency buyers for the magazine, and thus influence the publisher's optimal price. This would produce biased coefficients in the specification above.[13] Suppose more investment-like magazines are regularly purchased by different

[11] We do not have data on the number of pages or ad pages in a magazine and so cannot precisely calculate marginal ad revenue from one more sale.

[12] The combined effect of the two circulation variables is negative throughout the range of circulation; the marginal effect of additional circulation on the price ratio declines in circulation.

[13] This problem can arise because our theory (and data) do not rely on the *same* individual purchasing different magazines using different modes; the results hold if some types of consumers purchase subscriptions and others purchase from the newsstand.

consumers, those with higher income or education. If high income consumers value subscriptions more, or have more inelastic demand (due to convenience, for example), then subscription discounts could be correlated with 'investment-ness' in a way that has nothing to do with time-inconsistency.

We use the data we have to examine this issue as follows. For approximately two-thirds of the magazines in the data set, we have the median income of the readership and the gender composition of the readers. (Unfortunately we do not have any information about the educational level of readers.) In Table 5, we use this sample to examine whether the effect of the behavioral variables disappears when we include demographic controls.

The first columns of Table 5 repeat the specifications in Table 4 with the smaller sample for comparability. We focus on our subjective rating measure as we feel this variable most closely tests the hypothesis of interest. Notice that the magnitude of the coefficient on *FutureGain* falls by about 20% and its significance level drops compared to the results with the full sample. The final columns of Table 5 show that median income level of the readers does not appear to explain subscription discounting. In addition, the unconditional correlation between income and *SubRatio* is not significantly different from zero. We conclude that income is not driving the relationship between magazine characteristics and subscription pricing. We do find that median income of a magazine's readers is unconditionally correlated with the magazine's *Expert* and *FutureGain* ratings.

We also include the percentage of readers who are female (*PctFem*) in the regression, and note that this variable does have an effect on *SubRatio*. The more female readers a magazine has, the higher the subscription price is relative to the newsstand price. It may be that women readers are more avid magazine readers than men on average and are therefore more willing to pay for subscriptions. More importantly from our perspective, including these demographic variables does not substantially alter the effect of *FutureGain;* statistical significance remains, and the magnitude of *FutureGain* increases slightly compared to the specification without demographic characteristics included.

Note that in general, we should not be surprised to find that demographic characteristics of readers are associated with their patience or self-awareness, and therefore possibly with subscription price for the reasons we outline above. Neither income nor percent female reader appears to be a demographic that neatly captures impatience, and therefore neither substitutes for our behavioral measures. However, in principle, if one had better demographics, one could perhaps find a measure that would work in this way.

Table 5: Including Demographics

Dependent Variable:
*One year subscription rate/ (newsstand price*number of annual issues)*

Variable	**(1)**	**(2)**
Circulation	3.28E-08**	3.45^{E}-08**
	(9.86E-09)	(9.30E-09)
Ln(Circ)	-.029	-.048**
	(.017)	(.017)
Available	-.010**	-.0075
	(.005)	(.0047)
Number of issues	-.005**	-.004**
	(.001)	(.001)
Number of issues interaction	.002	.002**
	(.001)	(.001)
Intro offer	-.203**	-.190**
	(.042)	(.040)
Ad rate	-.212	-.251**
	(.116)	(.109)
FutureGain	.0073	.012**
	(.0049)	(.005)
% female reader	…..	.219**
		(.042)
Median income	…..	2.25^{E}-07
		(5.08E-07)
Constant	1.10**	.553**
	(.232)	(.062)
Obs/ Adj R^2	194/.215	194/.312

** indicates significance at the .05 level or better. Standard errors in parentheses.

Table 5b: Correlations between income, SubRatio, & FutureGain

	SubRatio	FutureGain	Expert
Income	.084	.387	.212
	p=.238	p=.000	p=.003

7. Conclusion

While theories associated with behavioral economics have attracted considerable attention from economists the last few years, there has been very little work that tries to apply these theories to issues in Industrial Organization. Our project ties

the behavioral literature to the field of Industrial Organization quite explicitly and in an empirical, real market context. In this paper, we apply the insights of the behavioral model to a traditional IO problem: the setting of prices. Our results suggest that magazine publishers appear to be setting subscription prices to take advantage of time-inconsistency on the part of consumers. More 'worthy' magazines are sold disproportionately by subscription and have a higher ratio of subscription to newsstand prices than magazines whose benefits accrue primarily at the moment of reading.

Appendix A

Title	FutureGain	Title	FutureGain
ART News	9	Acoustic Guitar	6
Advocate	3	Air & Space	8
Allure	4	Amazing Spiderman	3
American Heritage	9	American History	12
American Legacy	8	American Patchwork & Quilting	7
Animal Fair	6	Aquarium Fish	7
Architectural Digest	9	Art & Antiques	9
Art & Auction	10	Arthritis Today	9
Artist's Magazine	11	Astronomy	12
Atlantic Monthly	10	Automobile	8
Autoweek	7	Backpacker	7
Barron's	11	Bassmaster	6
Becket Baseball Card Monthly	10	Better Homes & Gardens	6
Biography	5	Birds & Blooms	7
Bitch	7	Black Enterprise	11
Black Family Digest	7	Blood-Horse, the	7
Blues Revue	7	Boating	9
Bon Appetit	6	Boston	5
Brand Week	10	Bridal Guide	7
Bride's	6	Business 2.0	11
Business Week	11	Bust	7
Canoe & Kayak	7	Car Craft	7
Car and Driver	6	Car and Stereo Review's Mobile Entertainment	5
Casino Player	8	Cat Fancy	6
Catholic Digest	7	Child	9
Christianity Today	7	Cigar Aficionado	8
Classic Toy Trains	7	Classic Trains	7
Coastal Living	6	Coin World	8
Coinage	8	Computer Shopper	6
Conde Nast Traveler	5	Connecticut	5
Cooking Light	8	Cosmo Girl!	4
Cosmopolitan	4	Country Home	8

Country Living	5	Country Music	4
Country Sampler	5	Country Weekly	4
Crafting Traditions	7	Crazy for Cross Stitch!	7
Crochet Fantasy	7	Cross Country Stitching	5
Details	3	Discover	7
Dog Fancy	6	Doll Reader	7
Dollhouse Miniatures	8	E – The Environmental Magazine	12
ESPN The Magazine	3	Early Childhood Today	8
Easyriders	4	Ebony	4
Economist	12	Electronic House	9
Elle	5	Elle Décor	6
Entertainment Design	6	Entertainment Weekly	3
Entrepreneur	9	Esquire	4
Essence	6	European Car	8
Faith & Family	10	Family Circle	4
Family Fun	7	Family Handyman	9
Family Tree	9	Fanfare	6
Farmer's Digest	11	Field & Stream	7
Fine Homebuilding	10	Fine Woodworking	9
First for Women	5	Fit Pregnancy	7
Fitness	8	Florida Game & Fish	6
Flower & Garden	7	Flying	7
Food & Wine	6	Forbes	13
Forbidden Internet	4	Foreign Policy	9
Fortune	12	Four Wheeler	6
GQ Gentlemen's Quarterly	5	Games	4
Glamour	4	Golf Digest	6
Golf Magazine	7	Golf World	5
Good Housekeeping	7	Gourmet	8
Guideposts	7	Gun Dog	7
Guns & Ammo	6	Handguns	7
Harper's Bazaar	6	Harvard Business Review	14
Health	8	Herb Companion	8
High Times	5	Hispanic Lifestyle	7
Home	5	Horse Illustrated	8
Horticulture	7	Hot Rod	6

House & Garden	7	House Beautiful	8
In Style	4	In these times	10
Inc	12	Interview	3
Jazz Times	6	Jet	3
Kiplinger's Personal Finance	13	Knitting Digest	6
Ladies' Home Journal	5	Log & Timber Style	9
MacWorld	9	Mad	3
Marie Claire	4	Marriage Partnership	9
Martha Stewart's Living	6	Maxim	3
Men's Fitness	9	Men's Health	9
Men's Journal	5	Metropolitan Home	8
Midwest Living	6	Military Heritage	7
Military History	8	Modern Bride	7
Money	12	Mother Jones	10
Motor Trend	6	MotorHome	7
Mountain Bike	6	Mountain Living	6
Movieline	3	Muscle & Fitness	9
Mutual Funds	14	Nation, The	12
National Enquirer	3	National Examiner	3
National Geographic	8	National Geographic Adventure	7
National Geographic Traveler	6	National Jewish Post & Opinion	8
Native Peoples	6	Natural Health	9
Natural History	9	New England Runner	5
New Republic, The	10	New York Magazine	6
New York Review of Books	12	New Yorker, The	11
Newsweek	9	North Shore	6
O, The Oprah Magazine	7	Old-House Journal	6
Out	6	Outdoor Life	7
Outdoor Photographer	8	Outside	8
PC Magazine	11	PC World	11
Paintworks	6	Parenting	7
Parents' Magazine	7	Penthouse	3
People Magazine	3	Petersen's 4 Wheel & Off Road	8
Petersen's Bowhunting	8	Petersen's Hunting	8
Playboy	3	Pool & Spa Living	5

Popular Hot Rodding	8	Popular Mechanics	7
Popular Science	8	Premiere	3
Preservation	9	Prevention	7
Progressive, The	10	Psychology Today	8
Quilter's Newsletter	6	Radio Control Car Action	6
Readers Digest	5	Real Simple	5
Realms of Fantasy	3	Red Herring	13
Redbook	4	Reform Judaism	9
Road & Track	6	Rolling Stone	3
Runner's World	7	Running Times	10
Sailing World	7	Saltwater Sportsman	8
Saturday Evening Post	5	Scholastic Parent & Child	8
Scientific American	9	Self	7
Seventeen	5	Shape	7
Sierra	9	Ski	7
Skiing	8	Skin Diver	5
Smart Money	11	Smithsonian	9
Soap Opera Digest	3	Soap Opera Weekly	3
Sound & Vision	8	Source, The	3
Southern Accents	6	Southern Living	7
Spin	3	Sporting News, The	4
Sports Illustrated	4	Star	3
Starlog	3	Stock Car Racing	5
Street Rodder	7	Strings	8
Sunset	8	Super Chevy	5
Surfing	5	TV Guide	4
Teen	4	Teen People	3
Tennis	8	Texas Monthly	7
Theology Today	9	This Old House	10
Time	9	Tips and Tricks	6
Today's Christian Man	8	Town and Country	6
Traditional Home	7	Trailer Life	5
Travel & Leisure	6	Travel Holiday	7
Truckin'	8	True Story	3
US Catholic	8	US News & World Report	9
US Weekly	3	Utne Reader	9
Vanity Fair	5	Venture Reporter	14

Vibe	3	Victoria	6
Videomaker	9	Vietnam	7
Vogue	7	WWE Magazine	3
Weekly Standard	9	Where to Retire	8
Wildfowl Carving Magazine	7	Wine Spectator	8
Wired	8	Woman's Day	4
Woman's World	5	Workbench	7
Working Mother	8	Worth	12
Writer, The	9	Writers' Journal	10
YM	5	Yachting	8
Yankee Magazine	7	Yoga Journal	8
Young Rider	6		

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