

Demand Spillovers, Combative Advertising, and Celebrity Endorsements[†]

By CRAIG L. GARTHWAITE*

This paper studies the economic effects of endorsements. In the publishing sector, endorsements are found to be a business stealing form of advertising that raises title level sales without expanding the market size. If anything, the endorsements decrease aggregate adult fiction sales. This might be a result of the endorsed books being more difficult than those that otherwise would have been purchased. Economically meaningful sales increases are also found for nonendorsed titles written by endorsed authors. This spillover demand demonstrates the broad range of benefits of advertising for firms operating in a multiproduct brand setting. (JEL L82, M31, M37)

Celebrity endorsements are a common advertising tool. Products as varied as cosmetics, apparel, watches, liquor, cars, pharmaceuticals, weight loss programs, financial services, and countertop grilling machines are commonly promoted through an explicit association with celebrities. This form of advertising dates at least as far back as Pope Leo XIII's 1899 endorsement of the alcoholic beverage Vin Mariani.¹ The effort by economists to understand advertising's effects on competitors and consumers shares a similarly long history. Early on, Marshall (1919) characterized two broad types of advertising for which economic impacts differ significantly. "Constructive advertising" increases sales by attracting new buyers into the market. In contrast, "combative advertising" shifts existing customers between products, and gains to advertising firms are matched by losses for competitors. While the advertising firm obtains increased sales in either case, the effect on competitors' profits—and therefore the response the advertising firm should anticipate—differs between the two types.

In this paper, I study the effects of a particular set of celebrity endorsements. I estimate the direct endorsement sales effect, the impact on other unadvertised products sold under an umbrella brand, and Marshall's nearly century old question about potential market expanding or business stealing impacts. My results are useful

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¹ Vin Mariani was a popular drink containing Bordeaux wine and coca leaves and reportedly served as an inspiration for the original Coca-Cola recipe. In 1899, Pope Leo XIII awarded the drink a Vatican gold medal and his image was used on posters advertising the beverage. Thomas Edison was another vocal proponent (Inciardi 1992).

for understanding the effects of celebrity endorsements and, more generally, the impact of advertising on consumer purchasing behavior with respect to advertised, cobranded, and competing products.

There is a fundamental difficulty in obtaining consistent estimates of the effect of endorsements, and advertising in general, which arises from a lack of exogenous variation. In short, the problem is that firms get to decide when, how, and how much to advertise. It is reasonable to expect that a firm's decision to hire a celebrity endorser or to purchase other costly advertising results from a strategic planning process driven, at least in part, by past and forecasted future sales. For example, one might argue that firms experiencing sales growth and increased profits would be expected to reinvest at least part of these earnings into advertising in an attempt to build on their market position. Conversely, one might believe that firms facing declining sales would be expected to increase their advertising efforts in an attempt to halt their fall. As a result of these factors and a number of other potential latent confounds, most estimates of the efficacy of advertising are biased in unknown directions.

To overcome these problems, I exploit The Oprah Winfrey Show's book club (hereafter "the Club") as an exogenous set of endorsements in the publishing sector. Over the Club's 15 years of existence, Winfrey endorsed 70 titles that sold millions of post-endorsement copies. Club endorsements occurred with no temporal pattern within or across years. Publishers had no control over which titles were selected or when the endorsements were announced. Furthermore, these endorsements are similar to one of the most common forms of modern advertising in this industry—appearing on local and national talk shows. To study the effects of these exogenous events, I use data from Nielsen's BookScan panel, a proprietary point-of-sale dataset representing approximately 75 percent of total US book sales.

I find three main effects of endorsements. First, consumers immediately increase purchases of an endorsed product. This estimated sales effect peaks at an approximately 6,000 percent increase during the week following the endorsement. In subsequent weeks, the effect smoothly declines, but remains large and statistically significant more than half a year later. Due to concerns about the potential external validity of these endorsements, I also estimate the sales effect of the Today show's book club hereafter (Today Club). I find that this smaller and less well-known club also had large direct impacts on title-level sales.

Second, endorsements generate meaningful spillover benefits for cobranded goods. Immediately following the endorsement, the sales of nonendorsed titles written by endorsed authors increase. Relative to preendorsement sales, this increase is similar in magnitude to the effect of a positive review in the *New York Times* estimated by Berger, Sorensen, and Rasmussen (2010). Spillover benefits were also found for nonendorsed titles written by Today show book club endorsed authors—demonstrating that these sales effects are not unique to Winfrey.

Unlike the main endorsement effect, the spillover sales impact from a Winfrey's book club endorsement increases in the months following the announcement. Additionally, this spillover demand effect is increasing in the pre-endorsement weekly sales. From this pattern we can infer that an endorsement for one product provides valuable information to consumers about related goods or services.

This demonstrates the broad range of advertising benefits accruing to firms in an umbrella brand setting. This is particularly true in markets where buyers cannot determine the underlying quality of products prior to purchase but can infer quality signals from cobranded goods.

Third, despite causing large changes in purchasing behavior, endorsements result in more business stealing than market expansion. Following an endorsement, there are large sales declines in book categories such as romances, mysteries, and action novels—genres that were disproportionately popular among consumers likely to respond to the Club endorsement. Furthermore, there is no evidence that aggregate book sales markedly increase following the Club endorsement—suggesting that large numbers of nonreaders were not drawn into the market. If anything, there is suggestive evidence that weekly aggregate sales of adult fiction books decline following an endorsement. As I argue below, a possible contributing factor to this decline is that the Club endorsed titles were harder and longer, on average, than books that would have been purchased in the endorsement's absence. Using quantitative measures of text readability, I show that endorsed titles require an additional year of education to read than is typical for bestselling romance, mystery, and action books. Additionally, the post-endorsement sales decline was largest following the endorsement of classic novels, which require nearly four more years of education to comprehend than a typical romance, mystery, or action title. Since the cost of consuming a book is the combination of the retail price and the opportunity cost of the time spent reading, the post-endorsement sales decline in publishing should be considered similar to endorsements in other sectors that shift consumers toward more expensive products.

I. Estimating Endorsement Effects

Celebrity spokespeople are an important feature of modern advertising. Approximately 20 percent of advertisements feature an endorsement and, in some countries, this number can reach as high as 45 percent (Bowman 2010). A 2009 survey found that approximately one quarter of consumers reported having purchased a product because of a celebrity spokesperson. Half of all consumers in the survey reported that they only notice an endorsement if it is for a product category in which they are *already* interested, suggesting a possible reason why endorsements may result in business stealing rather than market expansion (MEC Global 2009).

In the economics literature, endorsements have been found to be associated with increased stock market performance for the advertising firm and, to a more limited extent, higher sales of the advertised product (Agrawal and Kamakura 1995; Elberse and Verleun 2011). However, this previous research has faced several empirical challenges. The most immediate challenge is potential endogeneity in the timing and selection of an endorser detailed above.

In addition to endogeneity concerns, it is often difficult to obtain accurate and complete sales data. Instead, many researchers proxy for sales with stock market performance. Agrawal and Kamakura (1995) employed an event-study methodology using 110 celebrity endorsements and found a positive effect of these endorsements on firm value. Elberse and Verleun (2011) also found positive stock market effects

for a panel of 178 athlete endorsers across 95 firms. These results, however, do not account for the fact that endorsements are often anticipated and investors have likely incorporated this expectation into the firm's stock price. Moreover, endogeneity in the endorsement decision remains a concern with these methodologies.

Other authors who have exploited exogenous variation in endorsement behavior were unable to measure product or category-level sales effects. This limits their ability to estimate the competitive and spillover effects from endorsements. Mathur, Mathur, and Rangan (1997) examined the impact of Michael Jordan's surprise emergence from retirement in 1995. The authors found Jordan's announced return increased the market value of firms employing him as an endorser and some (self-described) "weak evidence" of an effect on competitor equity prices. Knittel and Stango (2011) estimated that the negative publicity surrounding Tiger Woods' alleged marital infidelity in 2009 decreased the stock market performance of firms that he endorsed. In addition, competitor firms not employing *any* prominent endorsers experienced increased returns. Given the reliance on stock market data, the authors were unable to separate the potential sales effect for these competitors from a broad repricing of the risk of celebrity advertising. Finally, in a study of unpaid endorsements, Yermack (2011) found that clothing companies saw a 1.7 percent increase in their stock market performance when First Lady Michelle Obama wore their products.

I overcome the challenges facing the previous literature by exploiting the differential timing of the selection of books for Oprah Winfrey's highly publicized book club. Since publishing firms and their authors are unable to influence the Club endorsements, this environment overcomes the typical endogeneity concerns resulting from self-selection into advertising. In addition, the endorsed titles were difficult (if not impossible) to anticipate, limiting concern about trends in consumer behavior prior to the announcement biasing the estimates. Finally, point-of-sale book sales data are available for a large sample of sellers in the market. These data have the advantage of providing information about title, genre, and aggregate sales, allowing me to estimate the endorsement's effect along many dimensions.

While the richness of this setting represents an opportunity to cleanly identify the effect of celebrity endorsements, these endorsements represent a unique form of advertising that may not be representative of all paid product endorsements. A specific concern is that the endorsement is paired with the activities of the Club. It is possible that individuals respond to the advertisement because of the utility they receive from participating in the Club activities and not any increased utility from reading the novel. However, we would not expect this version of the Club effect to spillover to other products; yet, I provide convincing evidence that a Club endorsement impacts other titles written by the same author that were not associated with any unique activities.

A further concern is that Winfrey has stated publicly that she does not accept any payments for product endorsements and that publishers and authors have no influence on the Club selection process. This is a benefit with respect to addressing potential endogeneity in the advertising decision. However, it is also true that the effect of Winfrey's unpaid endorsement of a book may not reflect the full impact of firm-determined advertising. In particular, Winfrey's endorsement is different

in nature to the costly advertising expenditures used by firms with differentiated products to signal product quality, as discussed in Nelson (1970, 1974). This might be less of a concern in the publishing industry, where one of the most popular forms of advertising (particular in the 1990s and 2000s) is “free media” from television appearances on daily talk shows (Bosman 2007). In this way, a Club endorsement is more similar to the traditional advertising activity in this market, limiting concerns about external validity.

Finally, Winfrey’s sheer celebrity is remarkable and raises concern about the generalizability of her impact to other endorsement settings. To better understand whether the presence of the estimated endorsement effect is unique to Winfrey, I also analyze the main and spillover effects of the Today Club.² Although smaller in magnitude, the endorsement effects from the Today Club are similar to Oprah’s book club effects, suggesting that Winfrey’s impact is unique in its size but not its existence.

II. Oprah Winfrey’s Endorsement History and Book Club

Oprah Winfrey began hosting a daily, syndicated talk show in 1986. Beginning in 1996, she altered the show’s format and began offering guidance and suggestions about various activities, products, and services. This included the endorsement of a number of products. In 2002, she created “Oprah’s Favorite Things,” an annual segment highlighting the merits of goods and services. Her endorsement had immediate impact. For example, during the 2003 segment, Winfrey spoke for 42 seconds about holiday smoked turkeys from Greenberg Smoked Turkeys of Tyler, Texas. Previously, the firm averaged 5,000 new customers a year. In the two weeks following the show the company sold 22,000 turkeys to new customers. Eight years later, annual sales were 33 larger than their pre-endorsement levels (Townsend 2011).

Winfrey’s endorsement influence extends beyond the commercial sphere. Despite a long history of avoiding political involvement, she formally endorsed United States Senator Barack Obama’s first presidential campaign in 2007. At the time, there was great controversy over the potential for Winfrey or any celebrity to influence a presidential election. Garthwaite and Moore (forthcoming) found that Winfrey’s endorsement was responsible for an increase of approximately 1 million votes for President Obama throughout the 2008 Democratic Primaries.

Negative comments from Winfrey also carry great weight. During a 1996 episode on bovine spongiform encephalopathy (“Mad Cow”) disease, Winfrey said that the information about the disease “stopped me cold from eating another burger.” The following day cattle futures fell 10 percent (Verhovek 1998). Subsequent research found that the change in futures prices and consumer purchasing habits after Winfrey’s comment was 50 percent of the size of the effect of the first case of an infected American cow (Schlenker and Villas-Boas 2009).

² Due to data limitations, it is not possible to analyze the competitive effects of the Today Club. Most of the selections for this club occur before aggregate sales data are available. For this reason, the Today Club estimates are presented as a supplement to the Oprah Club main and spillover estimates.

Winfrey's most publicized endorsement effort began in 1996 with the creation of "Oprah's Book Club," a self-described effort to "get America reading again." She personally selected the titles, endorsed them during a nationally televised segment, and hosted an episode discussing each book. The first selection was *The Deep End of the Ocean*. Prior to being endorsed, the novel sold approximately 70,000 copies—impressive for a first novel, but hardly a blockbuster. In the month following Winfrey's endorsement, sales increased by 700,000 copies and the book became a number one bestseller (Feldman 1997). The next two selections were older novels: Toni Morrison's *Beloved* and Jane Hamilton's *A Story of Ruth*. Each sold nearly a million copies following the endorsement.

Previous research has shown that each of the first 48 selected books became best-selling titles (Butler, Cowan, and Nilsson 2005). This sales increase extended well beyond the time period the book was included in the Club. However, these researchers did not have data on the number of books sold either individually or in the aggregate. In a separate analysis of the sales effect of being named a *New York Times* bestseller, Sorensen (2007) noted that books endorsed by the Club in 2001 and 2002 experienced large sales increases.

Due to Winfrey's lofty ambitions to change America's reading behavior and the highly publicized sales increases for endorsed novels, there is a general consensus that the Club benefited the entire publishing sector. For example, a *Time* magazine article opined, "[i]t's not true that Oprah Winfrey's book club was the most important development in the history of literacy. For instance, there was the invention of the written word. Then there was movable type. So Oprah comes in third" (Lacayo and Sachs 2002). The American Library Association granted Winfrey an honorary lifetime membership and stated that she was "single-handedly expanding the size of the reading public" (Lamolinara 1997). However, no research to date has determined whether endorsements such as those from the Club actually attracted new consumers to the market.

III. The United States Publishing Industry

The United States publishing industry employs over 90,000 individuals and generates approximately \$30 billion in annual revenue (IBISWorld 2010). Individual books are experience goods—the quality of the story and writing are only revealed after the purchase. Therefore, the customer's problem can be framed as a search for quality using a variety of noisy signals and information sources. Readers select individual titles for a variety of reasons. Survey evidence found that nearly 27 percent of customers report that they were persuaded by information coming from reviews, individuals they know, and advertisements (Book Industry Study Group 2001). Academic research has also shown the importance of these signals. Berger, Sorensen, and Rasmussen (2010) found that a positive review from the *New York Times* increased sales by between 32 and 52 percent. Similarly, Carmi, Oestreicher-Singer, and Subdararajan (2009) found that information from online recommendation engines influenced consumer purchase decisions.

In general, book advertising is the responsibility of the marketing and promotion departments of publishing houses. The primary methods of promotion are

author book tours and media appearances. Traditionally these tours involve visits to retail outlets paired with readings and book signings. Over time the activities have concentrated on radio and television appearances (Greco 2005). By the mid-2000s, media opportunities included appearances on national talk shows that were believed to greatly influence sales (Bosman 2007).

IV. Data

The data for this analysis come from Nielsen BookScan (hereafter BookScan)—the premier tracking system for book sales in the United States. BookScan collects sales and return data at the point of sale, providing detailed information on the book purchasing behavior of American consumers. Titles are tracked by their International Standard Book Number (ISBN) and according to BookScan, “[i]n a typical week over 500,000 different ISBNs are tracked selling approximately 14 million units in total” (Nielsen 2011). BookScan claims that the sample represents approximately 75 percent of total market sales. These data come from chain booksellers such as Borders, Barnes and Noble, and Books-a-Million, as well as a large number of independent booksellers. BookScan also receives data from online retailers such as Amazon.com, and Powells.com. It does not collect data for sales that occur at Wal-Mart, many grocery stores, or for the sales of electronic books.

BookScan first began collecting individual title sales data in 2001. These data are available as a consistent panel as of 2004, aggregated at the national and designated market area (DMA) level.³ This analysis uses title-level data from January 2001 to June 2011 and aggregate sales data from January 2004 to June 2011. Data are available for both adult and juvenile titles and are categorized into genres such as “classics,” and “romance.” BookScan also provides a DMA index of the relative popularity of genres.

V. Effect of Club Endorsements on Title Sales

From 2001 to 2011—the years for which title-level BookScan sales data are available—Winfrey made 25 Club endorsements. Table 1 contains descriptive data about these titles, including the year and week of the endorsement. As would be expected given the common description of the selection process for titles provided by Winfrey (i.e., that she selected titles when she came across interesting books), the summary table reveals no consistent pattern of selection dates. The 25 titles are selected in 18 different weeks of the year and the number of endorsements each year varies over time. The endorsed titles are all in the genres of general fiction, classics, or memoirs. The average price for the Club edition of the novel was \$18.34, and the average length was 491 pages. The retail price of selections was not systematically higher than the average available book during this period (Bowker 2005).

At its most basic level, estimating the effect of an endorsement in this setting is similar to understanding the impact of other exogenous shocks to the consumers’

³ DMAs are groups of counties that form a metropolitan area. They are the same local areas used for Nielsen television ratings and are generally larger than Metropolitan Statistical Areas.

TABLE 1—BOOKS INCLUDED IN OPRAH WINFREY'S BOOK CLUB 2001–2010

Selection year	Selection week of the year	Publication year	Title	Author	Number of pages	Genre	Price ^a
2001	10	1999	Icy Sparks	Gwyn Hyman Rubio	336	General fiction	\$15.00
2001	20	1999	Stolen Lives: Twenty Years in a Desert Jail	Malika Oufkir	304	Memoir	\$14.99
2001	25	2001	Cane River	Lalita Tademy	543	General fiction	\$24.95
2001	39	2001	The Corrections	Jonathan Franzen	567	General fiction	\$26.00
2002	4	1997	Fall on Your Knees	Ann-Marie MacDonald	512	General fiction	\$16.00
2002	14	1973	Sula	Toni Morrison	192	General fiction	\$24.95
2003	25	1952	East of Eden	John Steinbeck	601	Classics	\$18.00
2003	40	1948	Cry, The Beloved Country	Alan Paton	316	Classics	\$15.00
2004	4	1970	One Hundred Years of Solitude	Gabriel García Márquez	464	General fiction	\$14.00
2004	17	1940	The Heart Is a Lonely Hunter	Carson McCullers	368	Classics	\$13.95
2004	23	1877	Anna Karenina	Leo Tolstoy	864	Classics	\$17.00
2004	38	1931	The Good Earth	Pearl S. Buck	368	Classics	\$15.00
2005	22	N/A	The Sound and the Fury, As I Lay Dying, Light in August	William Faulkner	1,126	General fiction	\$29.95
2005	35	2003	A Million Little Pieces	James Frey	448	Memoir	\$15.95
2006	3	1955	Night	Elie Wiesel	120	Memoir	\$9.95
2007	4	2000	The Measure of a Man: A Spiritual Autobiography	Sidney Poitier	272	Memoir	\$14.99
2007	13	2006	The Road	Cormac McCarthy	287	General fiction	\$14.95
2007	23	2002	Middlesex	Jeffrey Eugenides	544	General fiction	\$15.00
2007	40	1988	Love in the Time of Cholera	Gabriel García Márquez	368	General fiction	\$15.00
2007	44	1989	The Pillars of the Earth	Ken Follett	973	General fiction	\$24.95
2008	5	2005	A New Earth	Eckhart Tolle	336	General nonfiction	\$14.00
2008	38	2008	The Story of Edgar Sawtelle	David Wroblewski	576	General fiction	\$25.95
2009	38	2008	Say You're One of Them	Uwem Akpan	384	General fiction	\$14.99
2010	37	2010	Freedom	Jonathan Franzen	576	General fiction	\$28.00
2010	49	N/A	Great Expectations, A Tale of Two Cities	Charles Dickens	848	Classics	\$20.00

^aThis price is for the “Oprah Edition” ISBN.

information set. I examine the time path of the endorsement sales effect using the following equation:

$$(1) \quad LNSALES_{it} = \alpha_i + \sum_{k=-8}^{26} \pi_k I\{k \text{ weeks since Endorsement}\}_{it} + \sum_{m=1}^{52} \delta_m I\{\text{Week of Year}\}_t + \sum_{n=1}^{10} \lambda_n I\{\text{Year}\}_t + \nu_i + \varepsilon_{it},$$

where δ_m controls for the 52 weeks of the year, λ_n is a year fixed effect, ν_i is a title fixed effect, and ε_{it} is an idiosyncratic error term. In addition, a time trend is included to allow for declining sales of novels over time.

The π_k coefficients in equation (1) measure the change in the logarithm of weekly sales for k weeks before and after an endorsement. If Club endorsements are uncorrelated with preexisting sales, there should be no detectable impact on sales during the eight weeks prior to the announcement. To examine the persistence of the endorsement effect over time, I estimate coefficients for the 26 weeks following the endorsement. Sales data are dropped 26 weeks after a title's endorsement week, creating a sample that includes sales for all weeks for each title prior to the twenty-sixth

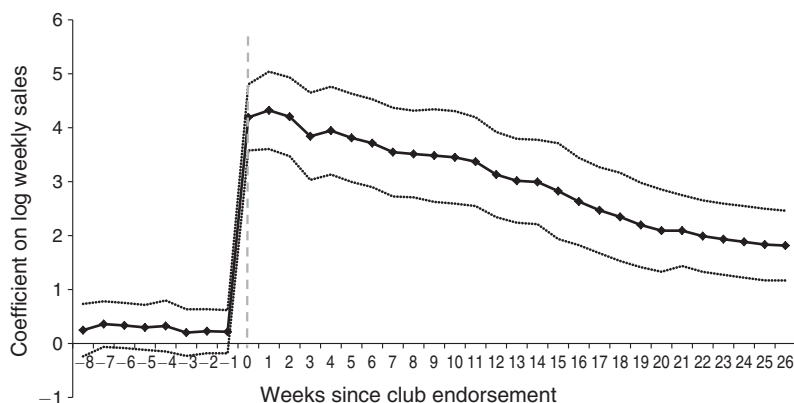


FIGURE 1. EFFECT OF CLUB ENDORSEMENTS ON SHARE OF ENDORSED TITLES

week after its respective endorsement. Therefore, the sales of endorsed books during the weeks prior to their endorsement control for the time path of sales that would have occurred in the absence of the endorsement.⁴ This specification follows Hendricks and Sorensen (2009), where the authors examined a related question in the music industry regarding the impact of product entry on consumer purchasing behavior.

Given the large number of coefficients, the results from equation (1) are summarized in Figure 1. There are several features to note. First, endorsed title sales for the eight week period prior to an endorsement are not statistically different from sales in all other prior weeks. In the endorsement week, sales immediately spike and then peak during the first week following the endorsement at an approximately 6,000 percent increase.⁵ This effect then steadily decreases in each subsequent week. Despite this decline, the endorsement exhibits remarkable persistence—even half a year after the announcement Club endorsed title sales were approximately 390 percent higher.

These sales increases are economically meaningful to publishing firms and endorsed authors. While profit margins in this industry are often difficult to calculate and vary greatly by firm, under a conservative set of assumptions the estimated direct profit impact for the average endorsed title over the 26 weeks following the endorsement is approximately \$2.5 million.⁶ Great caution should be displayed when applying this number to the potential profits in a paid endorsement setting.

⁴ Results including the post-endorsement sales data are remarkably similar to the main results presented in this paper and are available upon request.

⁵ The size of this effect relative to the week of the endorsement is likely a result of differential timing of the endorsement during the week resulting in a varying number of days for consumers to respond to the new information. For example, a Friday endorsement would only allow two days to respond during the “first week,” while an announcement on a Monday would provide an entire week.

⁶ These assumptions include that the increased sales were at the book club edition price (which was sometimes lower than existing editions), that publisher’s gross 50 percent of the list price, authors’ royalties are 15 percent of the list price (assuming any advances have been exhausted), and that production and delivery costs are \$3 per title. Some of the production and delivery cost estimates may involve prorated editing and production costs for the typical book, which would create a downward bias to these profit estimates. Royalty payments may be lower based on the size of the advance the author received and how many titles had been sold prior to the endorsement.

Perhaps most importantly, the price paid to a traditional endorser will be a function of the potential profits their endorsement could be reasonably expected to generate. If the benefit of the endorsement is common to all firms in the industry, much of its potential value will likely be captured by the endorser through the negotiated fee.

In addition to these firm profits, the average endorsed author received over \$2 million in increased royalty payments over this time period. While some of these royalty payments may still have been applied to book advances for the endorsed title, this figure should be seen as a lower bound of the estimate of the financial benefit to authors. In several conversations with publishing executives it was clear that the advances for a Club endorsed author would be much larger for their next several books.

As discussed above, there could be a concern that the sheer popularity of Oprah Winfrey makes the presence—not just the magnitude—of the sales impact a unique and non-generalizable phenomenon. To address this concern, I exploit the existence of a second national, albeit smaller and less popular, book club that existed during the same time period.

In response to the success of Winfrey's Club, in 2002 NBC's Today show launched its own book-themed segment (hereafter the "Today Club"). The Today Club invited popular authors to appear and select a favorite book that was then discussed one month later during a live segment. I gathered data on 16 of the selected titles from 2002 to 2004. Titles were excluded from the dataset if they had been released within two months of their selection date. Even with this sample restriction, novels in the Today Club were much more recent, with the average novel in the sample available for only 300 days prior to the selection compared to several years for the average Oprah selection.

To compare the Today Club to Winfrey's Club, I reestimated equation (1) using the Today show endorsement data. If Winfrey's effect is unique, then the results should dramatically differ across the clubs. The estimates for the Today show club are summarized in Figure 2. Unlike the Oprah Book Club, prior to their selection the endorsed titles had increased sales. This should perhaps not be surprising since the selection process for the Today show allowed contemporary authors to pick books, and it appears these authors tended to pick novels that were more recent and therefore part of the pre-endorsement sales increase was likely a result of these novels being newly released. During the week following the endorsement, weekly sales for the Today show endorsed titles showed a large and immediate increase.⁷

Following the initial post-endorsement sales spike, the Today Club effect decreased more quickly than the Oprah Book Club effect. The smaller impact of the Today Club compared to Winfrey's book club endorsement should perhaps not be surprising as Winfrey's show enjoyed demonstrably more regular viewers than Today. In 2008, Winfrey's show had a viewership of nearly 7.5 million, compared to approximately 5 million for Today. Taken together, the Today Club estimates demonstrate that the effect of Winfrey's endorsements are different in their size, but not

⁷ It is important to note that the estimated effects are measured as a percentage change; and as a result of the Today Club authors being relatively new or unknown, the average weekly book sales prior to the endorsement were only 380 for Today titles compared to over 2,100 for Winfrey's selected titles.

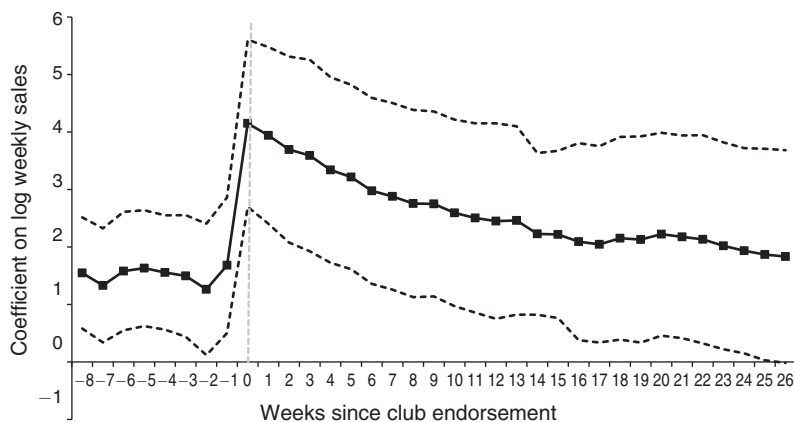


FIGURE 2. EFFECT OF TODAY CLUB ENDORSEMENT ON SALE OF ENDORSED TITLES

in their presence. That is, Winfrey may be unique, but her endorsement's impact is similar to other sources.

VI. Spillover Demand from Club Endorsements

The analysis in the previous section demonstrates that club endorsements increase title-level sales. An open question is whether consumers change their future purchasing behavior in the face of the new information from the endorsement or if instead consumers respond narrowly to a one-time endorsement stimulus. To answer this question, I estimate the sales change for nonendorsed books written by endorsed authors using a dataset of title-level sales for 106 nonendorsed titles by 15 endorsed authors from 2001 to 2011.⁸ Hendricks and Sorensen (2009) examined a related question concerning the spillover effects of product entry, as opposed to advertising, in the context of newly released albums by artists with an existing backlist of records. These authors found that the release of a new album, particularly a hit album, caused a permanent increase in the sales of earlier recordings by the same artist.

There are two primary channels that could be driving this spillover. This first is that consumers gain information about product quality when they consume the first book. If these consumers enjoy the reading experience they will then purchase another book by the same author under a belief that the goods will be of similar quality. The second is a purely marketing driven phenomenon where publishers change their marketing of the backlist of author titles following an endorsement. In reality, the spillover sales are likely a result of both of these factors. This should also be true in other settings, such as the music industry discussed in Hendricks and Sorensen (2009).

⁸ This is smaller than the total number of authors endorsed over this time period. Authors were not included if they did not have a second book available for sale at the time of the Club endorsement. In addition, this dataset does not include novels written by Ken Follett. Nearly five weeks prior to his Club endorsement, Follett released *World Without End*, a highly publicized sequel to *Pillars of the Earth*. Due to the fact that the release of this title impacts the sale of the other book by the same author, including Follett's works would bias the estimated spillover effect.

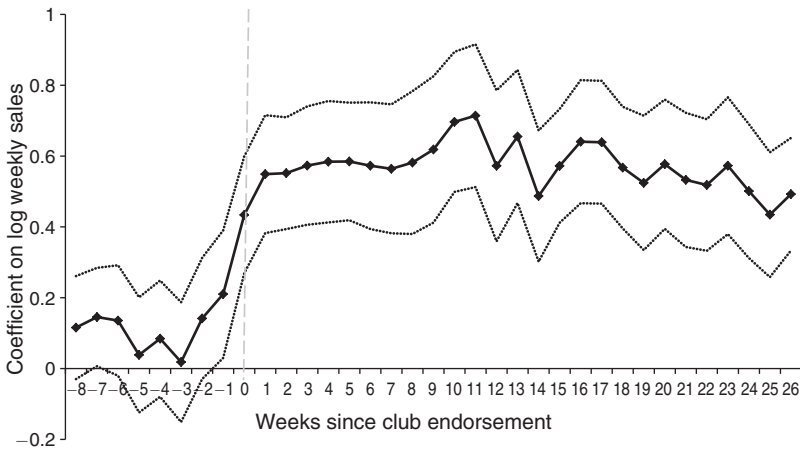


FIGURE 3. EFFECT OF OPRAH CLUB ENDORSEMENTS
ON SALES OF NONENDORSED TITLES BY ENDORSED AUTHORS

The evolution of these spillover benefits over time provides suggestive evidence of the mechanism underlying the change in consumer behavior. Recall that the main endorsement effect in Figure 1 peaks immediately and then smoothly declines. It is important to note that if at least some portion of the consumers are learning about the quality of the brand (in this case the author) by consuming the endorsed product, then the spillover effect should increase in magnitude as the length of time since the endorsement grows. However, if the spillovers are solely the result of hearing the author's name, differential title placement within a physical bookstore, or the suggestions of an online recommendation system at the point of purchase, this effect should either follow the same pattern as Figure 1 or remain constant following its initial rise.

To explore the dynamics of spillover sales, I estimate a specification of equation (1) using the nonendorsed title sales data. These estimates are summarized in Figure 3. Beginning the week of the endorsement there is an immediate and persistent sales increase. In the first week of the endorsement, the weekly sales of these nonendorsed titles increased by approximately 53 percent. Relative to pre-endorsement sales this increase is similar in magnitude to the main effect of a positive *New York Times* review (Berger, Sorensen, and Rasmussen 2010). Fully, 26 weeks after the endorsement there remains a statistically significant 28 percent weekly sales increase. In contrast to the main endorsement estimate, the spillover demand effect increases from the eighth to the twelfth week following the endorsement, when the estimated change in sales is nearly double and statistically different from the first week estimate (p -value < 0.05). For comparison, at 12 weeks the main endorsement sales estimate in Figure 1 is 250 percent *smaller* than in the first week.

Conversations with marketing executives at several leading publishing provide anecdotal evidence supporting this pattern of sales changes. First, following an endorsement from the Oprah Book Club, or any other shock to the sales, these executives immediately shifted their marketing efforts toward the backlist of titles penned by the endorsed author. This is likely the source of the sudden sales jump

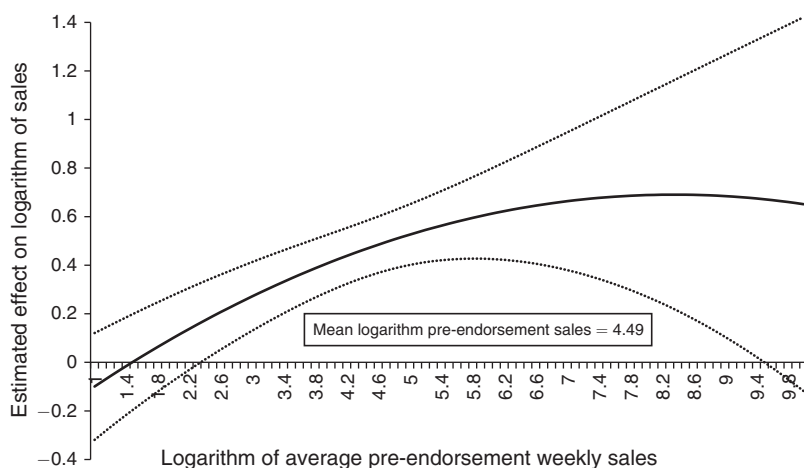


FIGURE 4. SPILLOVER DEMAND EFFECT EIGHT WEEKS FOLLOWING A CLUB ENDORSEMENT BY AVERAGE PRE-ENDORSEMENT WEEKLY SALES, 2001–2011

for nonendorsed titles written by endorsed authors. Second, these executives stated that they witnessed a second sales increase a number of weeks later—after consumers had time to finish the first book. One executive referred to this as a “sampling effect,” where some portion of the new buyers enjoyed the book, looked for a similar title in the backlist, and often selected a well-known title. This would support the observed sales increase in Figure 3 beginning approximately eight weeks after the endorsement and then peaking during the twelfth post-endorsement week.

Given the potential preference for well-known titles in the backlist, an analysis of *all* other books by an endorsed author may not provide the most accurate evidence of spillover demand. Many of these authors have a number of unpopular and low-selling books that have not been read even by the authors’ most ardent fans. Since it is not immediately clear that the lesser-known titles will experience any spillover demand effect, these effectively untreated titles in the analysis may attenuate the spillover estimates. Therefore, I estimated a specification of equation (1) that includes an indicator variable for the eight week time period after an endorsement and an interaction of this indicator variable with the logarithm of the title’s average pre-endorsement weekly sales.

Figure 4 contains the linear combination and 95 percent confidence interval of the estimates from a specification of equation (1) where the eight week post-endorsement variable is interacted with a quadratic pre-endorsement sales effect. Among the nonendorsed titles, the tenth percentile of the logarithm of pre-endorsement sales was 2.5 and the ninetieth percentile was 7.40. Over this range, the spillover demand effect is positive, statistically significant, and strictly increasing in the pre-endorsement popularity of the title. A title at the tenth percentile of pre-endorsement sales experienced a 20 percent increase in weekly sales, while there was an approximately 100 percent increase at the ninetieth percentile. This is not simply a mechanical relationship. For comparison purposes, Figure 5 contains a similar specification for the main Club endorsement effect and displays the opposite

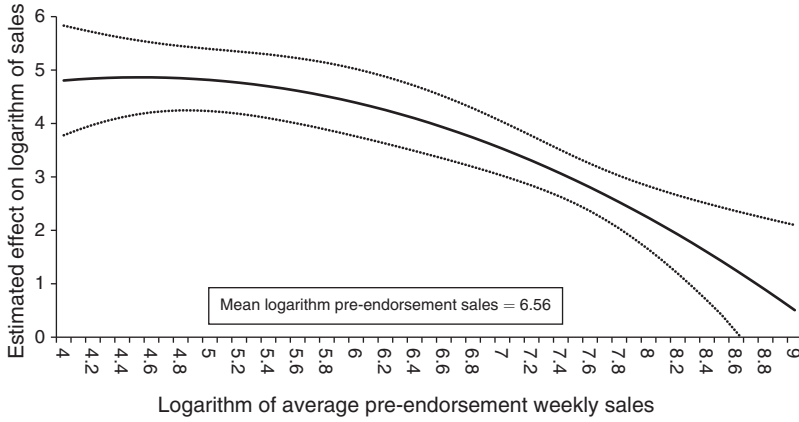


FIGURE 5. EFFECT OF CLUB ENDORSEMENTS ON SHARE OF ENDORSED TITLES BY AVERAGE PRE-ENDORSEMENT WEEKLY SALES, 2001–2011

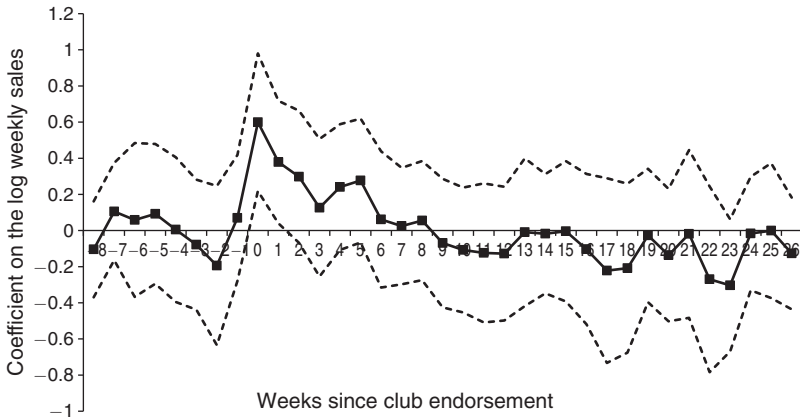


FIGURE 6. EFFECT OF TODAY CLUB ENDORSEMENTS ON SALES OF NONENDORSED TITLES BY ENDORSED AUTHORS

pattern. For endorsed titles, the tenth percentile of the logarithm of pre-endorsement sales was 5 and the ninetieth percentile was 8.1. Over this interval, the eight week endorsement effect is strictly decreasing from an approximately 12,000 to 570 percent increase. In other words, the main endorsement effect is strongest for products with which individuals are likely least familiar, while the spillover effect appears strongest for cobranded products that are best known prior to the endorsement.

To consider the potential uniqueness of Winfrey’s effect on spillover demand, Figure 6 contains the estimated impact on nonendorsed titles following a Today Club selection. Following the endorsement, the spillover demand immediately spikes, but after four weeks the effect is statistically insignificant at conventional levels.⁹

⁹ Because Today had fewer of authors who tended to younger, there are a much smaller number of titles available for this analysis. In total, 12 authors and 31 titles are included in the spillover analysis.

In addition to spillover demand for an author's backlist, it is also possible that the endorsements raised sales of previously endorsed titles. For example, when *Middlesex* by Jeffrey Eugenides was selected in June 2007, did its endorsement have an impact on the sales of titles endorsed earlier, such as the 2003 selection *East of Eden* or the 2004 selection *The Good Earth*? Sales changes of this nature could result from factors such as increased publicity for past selections, changes in marketing by publishing firms, differential placement in bookstores or online merchant websites, or a brand effect from the Book Club itself. To examine this potential sales change, I reestimated a specification of equation (1) and included an indicator variable equal to one for all previously endorsed titles during the eight weeks following a new endorsement.¹⁰ The estimated coefficient (standard error) from this specification is 0.1986 (0.0748)—approximately a 22 percent weekly sales increase for previously endorsed titles following a new endorsement of a book by a different author.

Taken together, these main and spillover sales estimates demonstrate that endorsements have a large impact on consumer purchasing decisions well beyond the endorsed product. When firms offer multiple products under an umbrella brand, advertising expenditures for one specific product provide sales benefits across the portfolio of cobranded goods with consumers increasing their purchases of *more familiar* cobranded products. The increase in the sales effect over time suggests that consumer responses to advertising in an experience good market is driven, at least in part, by the provision of new information about product quality. I am unaware of previous studies have been able to provide an unbiased estimate of this wide of a range of spillover sales benefits from product endorsements.

VII. Competitive Effects of Celebrity Endorsements

Evidence of large changes in consumer purchasing behavior in response to an endorsement leads naturally to a question about potential changes in market size. In general, individuals within the publishing industry and the general public assumed that the Club markedly increased aggregate sales. However, the predicted impact of successful title-level endorsements on market size critically depends on the purchasing decisions of customers and the position of books in the consumer's consumption bundle. Broadly speaking, the publishing industry is a large experience good market composed of two groups: habitual and casual purchasers/readers.¹¹

Habitual readers regularly consume books, and continually purchase new texts after they have finished their current selection. These consumers choose individual titles based on information garnered from a variety of sources, such as advertising,

¹⁰ To attempt to limit confusion between the main endorsement effect for the title and this potential cross-endorsement spillover effect, this indicator variable is only defined for future endorsements that occur at least 26 weeks after the book's endorsement. For example, if a book was endorsed in the eighth week of the year and the next endorsement is during the twenty-third week of the year, this post-endorsement variable would not account for this endorsement. However, if the next endorsement occurred during the thirty-sixth week the post-endorsement variable would equal one for the thirty-sixth to the forty-third weeks after this endorsement for the previously endorsed title.

¹¹ PubTrack, a market research survey of the book buying habits of Americans, found that approximately 45 percent of Americans over the age of 13 read a book in the previous year. However, even among book purchasers 40 percent report that they do not actively read every week (Milliot 2009).

author television appearances, endorsements, or bookstore displays. Therefore, books comprise a regular item in their consumption bundle and a book's price is a combination of the retail price and the opportunity cost of the time spent reading the text, i.e., books that take longer to complete are necessarily more expensive than shorter books with the same retail price. The length of time necessary to complete a book is a function of the word count, difficulty of the writing, and the story's complexity. A habitual reader's decision to purchase a more expensive (i.e., longer) book requires either purchasing fewer books or decreasing the consumption of another good.

In contrast, casual readers occasionally purchase and read books. Often, many weeks or months pass without the purchase or consumption of any books. Therefore, an exogenous shock that causes these consumers to purchase a book expands the size of the book market and decreases their expenditures on other goods. Casual readers will purchase a book as a result of factors such as widespread media attention, prominent endorsements, media mentions, movie releases, and other attention.¹²

Even under this simple two customer type framework, it is clear that the impact of advertising and endorsements on title-level and aggregate sales will not necessarily be uniform. If endorsements attract casual readers into the market, then individual title and aggregate sales should both increase. Instead, if endorsements merely shift the purchases of habitual readers toward more difficult and therefore expensive books, then title-level sales should increase while aggregate sales remain constant or potentially decrease. A decrease would result from habitual readers not allocating more of their budget toward book consumption. A post-endorsement sales pattern of changes in title level sales and no aggregate sales increase is evidence of business stealing rather than market expansion.

The predictions on the impact of endorsements on market size from the two consumer type model would also carry through to more extensive frameworks containing a continuum of customers that vary in their degree of market participation. In addition, while the analysis below examines the competitive effects of endorsements in the United States publishing sector, the conceptual framework extends to other markets. Indeed, longer and more difficult books are simply examples of products that are more expensive than what would have been purchased in the absence of an endorsement.

While the aggregate data are time series in nature, the competitive effects of Club endorsements can be estimated in a similar spirit to the earlier endorsement effect using the following equation:

$$(2) \quad LNSALES_t = \alpha + \sum_{j=-8}^{-8} \gamma_j I\{j \text{ weeks from endorsement}\}_t \\ + \sum_{m=1}^{52} \chi_m I\{\text{Week of Year}\}_t + \sum_{n=1}^7 \lambda_n I\{\text{Year}\}_t + \varepsilon_t,$$

¹² Given the wide variety of possible information sources that impact book sales, it is possible that an endorsement would negatively impact the sales of nonendorsed books by crowding out news stories or other factors that would have, in the absence of the media surrounding a Club endorsement, caused customers to shift their purchases towards that title.

where $LNSALES_t$ is the logarithm of total or category sales in week t , $I\{j \text{ weeks from endorsement}\}_t$ is an indicator variable for a week falling within a defined time period before or after the announcement of a Club selection, and all other variables are defined as in equation (1).¹³ Standard errors are adjusted using the Newey-West correction to account for autocorrelation. An augmented Dickey Fuller test rejects the null hypothesis of a unit root.

The primary identification assumption for the analysis of these aggregate sales data is that Club selection dates do not correspond to particular trends or events in the publishing sector. In multiple interviews describing the selection process Winfrey stated that she personally selected the titles as she found books in which she was interested and that she received no financial benefits from the endorsements (Pickert 2008). The apparent lack of a pattern was discussed above in the description of Table 1. From 2001–2010 there were 25 titles selected in 18 different weeks of the year. The number of titles per year ranges from one to five. In the week leading to the selection, newspaper stories would report a new book was going to be selected, but the title would be kept secret until it was announced on Winfrey's syndicated cable television show. Furthermore, several interviews with publishing executives for this project revealed that they had no influence on, or knowledge about, the process, and were surprised by both the timing and titles that were selected. To further examine the validity of this identification assumption, I estimate a falsification test using the sale of juvenile fiction books—a category that is highly correlated with adult fiction sales, but should be relatively unaffected by the endorsements. These books sales are unchanged following an endorsement, demonstrating that the selection dates are not systematically related to specific events impacting the entire publishing sector.

Under the assumption that the timing of Club endorsements is unrelated to other factors affecting the demand for books, each γ_j coefficient represents the estimated change in the logarithm of aggregate sales in the time period j weeks before and after an endorsement.¹⁴ The lack of a series of large estimated post-endorsement coefficients provides evidence that these endorsements represent business stealing within the outlets that are contained in the Bookscan data. Further evidence of business stealing would be seen through a large sales decrease in genres where the regular purchasers were more impacted by the endorsement. In order to provide the most complete evidence concerning business stealing, the results below will look at both aggregate and genre level sales changes.

Figure 7 summarizes the estimated coefficients and 95 percent confidence intervals from equation (2) for total adult fiction sales (the category containing the majority of endorsed titles) and for total adult fiction sales except for the endorsed

¹³ Focusing the analysis on the eight weeks before and after the endorsement limits the instances where the pre- and post-endorsement periods overlap. In those instances where they do overlap, the weeks are coded as being both a pre- and a post-endorsement.

¹⁴ One such alternate event would be the release of other popular books concurrently with the announcement of the book club selection. An examination of genre-level and aggregate sales shows that this only occurs once over the seven years of the sample. During the thirty-eighth week of 2009, Winfrey announced *Say You're One of Them*, as an Oprah Book Club selection. During the same week, Dan Brown released *The Lost Symbol*, his popular follow-up novel to *The DaVinci Code*. Since these events cannot be separately identified in the data, the results below do not include *Say You're One of Them* as a Club book. Including the novel would generate an upward bias to the estimate of the endorsement effect. This is particularly true in the genre-level results in Table 5.

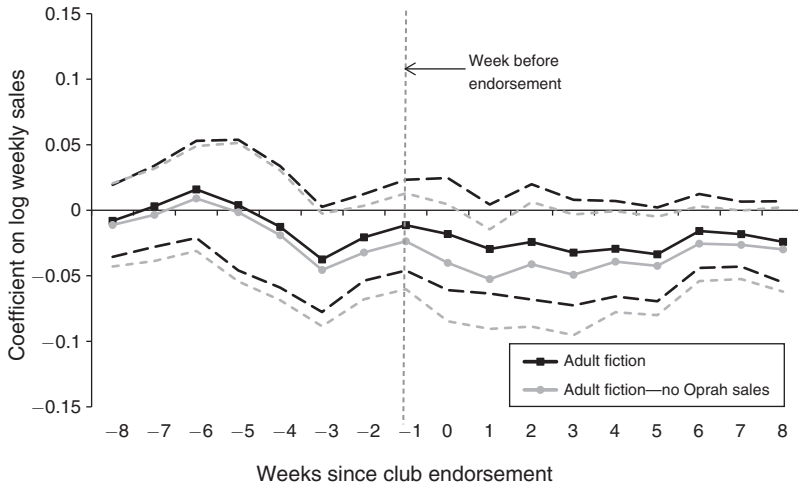


FIGURE 7. EFFECT OF OPRAH CLUB ENDORSEMENTS ON AGGREGATE SALES

titles. Prior to the endorsement there is no consistent pattern of results. Three of the eight pre-endorsement weeks have positive coefficients, and a test that all of the pre-endorsement coefficients are equal to 0 fails to reject the null hypothesis at a p -value of 0.10. There is a single large decline in the estimated sales effect during the third week before the endorsement, but for all adult fiction titles this estimate is not statistically significant at the 0.05 level.

Following the endorsement all eight week indicator variables are negative but are relatively imprecisely estimated. One metric for whether there was business stealing is to consider if the estimates can rule out the expected sales impact if the endorsements had been entirely market expanding. The magnitude of the direct weekly endorsement effect in the eight weeks after an endorsement in Figure 1 represents approximately 1.5 percent of the aggregate adult fiction sales during nonendorsement time weeks. A test of the null hypothesis that the eight post-endorsement week indicator variables in Figure 7 are less than 1.5 percent rejects the null hypothesis at p -value of 0.10. A similar test on the pre-endorsement variables fails to reject the null hypothesis at the same level. To improve precision, I estimated an alternate specification of equation (2) that replaces the eight pre- and post-endorsement indicator variables with two variables equal to one in each of those sets of weeks. This estimate for the pre-endorsement period is -0.0086 (0.0119) and for the post endorsement period is -0.024 (0.013). While these pre- and post-endorsement estimates are not statistically different from each other, they suggest that the fact that aggregate sales in the 8 weeks after an endorsement are statistically different from zero at a p -value of 0.10 is not solely a continuation of significantly depressed pre-endorsement sales.

The depressed post-endorsement sales effect in Figure 7 is larger and more precisely estimated for the sample excluding the endorsed title sales. These lost sales for nonendorsed titles provide additional evidence of business stealing following an endorsement. Taken together, the aggregate sales estimates in Figure 7 demonstrate that Club endorsements were not associated with a large number of customers

entering the book market and, therefore, the large title-level endorsement effect must have come from business stealing.¹⁵

A. Endorsement Sales Effect by Genre

To further examine the competitive dynamics of endorsements, I examine the genre-level sales impact. If the lack of an aggregate sales increase in Figure 7 reflects business stealing, then there should be a corresponding sales decrease for books that would likely have been purchased in the absence of the endorsement. These products are those that are popular among consumers who responded to the endorsement during time periods without an endorsement. Importantly, the customer groups influenced by a Club endorsement are decidedly different from the pre-endorsement purchasers of endorsed titles. As a result, any decline in sales resulting from business stealing should occur in product categories that are different from those containing the endorsed product. This would not necessarily be true from tests of business stealing in other contexts, where the change in sales might occur among products that were very similar to the endorsed product.

To examine the dynamics of business stealing, I estimate the genre-level sales changes in the eight weeks after an endorsement. I then estimate whether the genres experiencing large post-endorsement sales declines were disproportionately popular during time periods without an endorsement in the geographic areas exhibiting the largest title-level positive responses or where Winfrey was most popular. Along with the market-level results above, these estimates provide convincing evidence of the business stealing nature of Club endorsements.

Table 2 contains the estimates from a specification of equation (2), where the endorsement effect is captured by a single indicator variable for the eight weeks following an endorsement. The first column contains the average weekly endorsement sales effect at the genre-level for adult fiction titles tracked by BookScan during the eight weeks following a selection. Following an endorsement, the sales of classics rose by 3.6 percent (p -value < 0.05). In contrast, there were statistically significant (p -value < 0.05) decreases for mysteries and action/adventure novels. Romances also saw a suggestive sales decline, but the p -value of this estimate was 0.11. A composite category combining the sales of mysteries, action novels, and romances experienced 5.2 percent lower post-endorsement sales (p -value < 0.05). Other categories, such as Westerns, had no detectable sales change.

To examine the time path of the sales effect, Figure 8 contains the estimates from equation (2) for the sales of books in three categories: classics; mysteries, action, and romance; and westerns. Examining classics, in the week following an endorsement

¹⁵ Since market wide BookScan data are not available until 2004, it is not possible to estimate the effect of the creation of the Club on the reading behavior of Winfrey's followers. One possibility is that the creation of the Club caused all of her previously nonreading followers (who are also responsive to endorsements) to begin reading on a regular basis. In this case, there might be no aggregate change in book sales following any individual endorsement. This is unlikely for two reasons. First, there was no noticeable change in the annual book sales around the time period surrounding the creation of the Club (Greco 2005). The entry of this many new readers would have had a noticeable impact on these sales. Second, it would have to be that these new readers do not continue to read books similar to Winfrey's recommendations, but instead read books in the genre of action, mystery, or romances and switch to read books that Winfrey endorses.

TABLE 2—EFFECT OF CLUB ENDORSEMENTS ON SALES BY GENRE,
EIGHT WEEKS POST-ENDORSEMENTS (*Nielsen BookScan Data, 2004–2011*)

Dependent variable	Oprah	Oprah—Classics	Oprah—Nonclassics
log total adult fiction	−0.021* (0.012)	−0.052** (0.02)	−0.009 (0.011)
log classics	0.035** (0.016)	0.117*** (0.031)	0.005 (0.016)
log suspense/thriller	0.007 (0.05)	−0.037 (0.089)	0.023 (0.058)
log western	0.005 (0.022)	−0.018 (0.044)	0.013 (0.022)
log science fiction	−0.008 (0.014)	0.024 (0.025)	−0.02 (0.017)
log religion	−0.039 (0.035)	−0.097* (0.051)	−0.018 (0.039)
log fantasy	−0.028 (0.031)	−0.089 (0.062)	−0.005 (0.0287)
log romance	−0.027 (0.017)	−0.063* (0.033)	−0.014 (0.018)
log mystery/detective	−0.053** (0.022)	−0.076 (0.048)	−0.044** (0.022)
log action/adventure	−0.175*** (0.047)	−0.336*** (0.076)	−0.115** (0.046)
log general fiction	−0.015 (0.02)	−0.054 (0.036)	−0.0008 (0.019)
log myst/act/rom	−0.051** (0.016)	−0.095** (0.031)	−0.034** (0.015)

Notes: Entries in the table are the estimated coefficients (Newey–West standard errors) for the eight-week period following an endorsement. Each cell is an estimate from a different specification based category of book. The first column contains an indicator for the eight weeks after an endorsement. The next two columns contains estimates from the above equation based on whether the eight-week period contained a selection for a book in the genre of “Classics” or a book that was not in this genre. Unreported covariates include week of the year and calendar year dummy variables.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

there is a large sales increase that smoothly declines over the next four weeks. In contrast, following an endorsement, sales of mystery, action, and romance titles decrease and remain negative over the next eight weeks. A test that the post-endorsement coefficients are all equal to 0 rejects the null hypothesis at a p -value of 0.05. In addition, the pattern in Figure 8 shows that during pre-endorsement weeks that did not overlap with the post-endorsement weeks for another title, there was no pattern of generally decreased sales for mysteries, action, and romance novels. A similar test for the pre-endorsement coefficients fails to reject the null hypothesis at a p -value of 0.10. It is important to note that this pattern of statistically significant post-endorsement sales decrease is not true for all genres. If this were the case, it might suggest that there are secular trends in the publishing industry driving the observed results. For example, the third genre of sales depicted in Figure 8 is western novels. The estimated impact of the endorsement on the sales of these titles is small in magnitude and statistically insignificant at conventional levels.

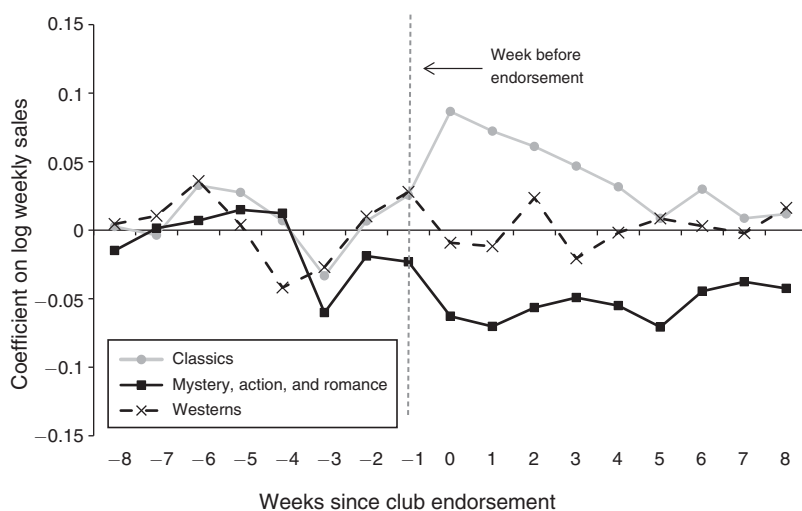


FIGURE 8. EFFECT OF OPRAH CLUB ENDORSEMENTS ON GENRE LEVEL SALES

B. Genre Popularity in Nonendorsement Time Periods

These genre-level estimates demonstrate that while the endorsements had no effect or even decreased overall sales, they caused a substantial shift in the types of books being purchased. If the genres suffering sales declines were popular among consumers likely to be affected by the endorsement, this is further evidence of post-endorsement business stealing. Therefore, I examine if mystery, action, and romance titles were disproportionately popular and classics and general fiction were disproportionately unpopular in areas with either the largest title-level post-endorsement sales increases or highest television ratings of *The Oprah Winfrey Show*.

Answering this question requires several additional data points. The first is a geographic measure of genre popularity in the absence of the endorsement. BookScan calculates a genre popularity index at the DMA level. The index is obtained by dividing the percentage of a genre's national sales that occur in a particular DMA by the percentage of total book sales from that DMA. For example, if the New York DMA represents 10 percent of the sales of romance novels and 10 percent of overall book sales, their index value for romance titles is one. This suggests that consumers in New York prefer romances to the same degree that they prefer all books. If New York accounts for 20 percent of the sales of classic novels, their index value for classics is 2. Higher index values signify that consumers in the DMA purchase a disproportionate amount of a respective genre.

During the third week of 2006, Winfrey endorsed *Night* by Elie Wiesel. The next selection was not announced until the fourth week of 2007. This is the longest time period without an endorsement in the sample. Therefore, genre popularity index values from the middle of this period provide the best available measure of regional book buying preferences in the absence of the influence of an endorsement.

I also require data on the expected regional impact of the endorsements. I use two potential measures of regional variation in the endorsement: television ratings of

The Oprah Winfrey Show and an index of post-endorsement changes in the sales of endorsed titles. Ratings data provide information about the areas where Winfrey is more popular, while book sales data show where the endorsement had the greatest impact.

Nielsen television ratings are the premier source of viewership data and are used to set advertising rates in both broadcast and cable television programming. I use data on the average Nielsen ratings for *The Oprah Winfrey Show* during the 2006–2007 television season. These ratings represent Nielsen’s estimate of the percentage of television households watching each first-run episode during the four “sweeps” periods in November, February, May, and July. Nielsen also provides data on the number of African-American and Hispanic television households in the DMA as well as the number of men, women, and working women in these households. This viewership information is supplemented with census data.

An index of the impact of Club endorsements on DMA-level book sales can be generated using a similar methodology as the BookScan category popularity index. This “Club impact index” is calculated by dividing the percentage of endorsed title sales in a DMA by the percentage of total book sales in the DMA. The ratio of this index in the eight weeks following the announcement to the eight weeks before the announcement provides a measure of the Club’s DMA-level impact that controls for the title’s pre-endorsement popularity. For example, this ratio equals one if the endorsed novel was equally popular before and after its selection. Higher values of this ratio indicate a greater endorsement impact.

The first column of Table 3 contains the estimates from an OLS model of DMA household ratings for *The Oprah Winfrey Show* on a variety of demographic variables from Nielsen and the Census. Winfrey’s syndicated daily talk show has higher ratings in DMAs with a greater percentage of African-American television households, television households without children under the age of 18, television households with women greater than 65 years of age, and divorced households. The show has lower ratings in DMAs with a higher percentage of the total population living in urban areas and married households.

A similar analysis for the Club impact index is contained in the second column of Table 3. Unlike the television ratings, the Club has a bigger sales impact in DMAs with a greater share of the population in urban areas, working women, married households, individuals possessing a high school degree or less, and individuals with some college education. There is no statistically significant relationship between the percentage of African-American television households and the Club impact index. The difference between these two sets of results demonstrates that the Club’s impact is not driven solely by the number of Winfrey’s television viewers in the DMA. This is likely a result of the large amount of publicity surrounding the endorsements, including prominent in-store advertising displays and newspaper coverage. Despite these differences in the demographics, an unreported specification of the estimates in column 2 of Table 3 that includes television ratings shows that, even controlling for a rich set of covariates, there is a statistically significant relationship between television ratings and the Club impact index (p -value < 0.01).

The final two columns of Table 3 contain estimates for the relationship between the DMA-level average genre popularity indices and measures of the Club’s

TABLE 3—RELATIONSHIP BETWEEN INDICATORS OF WINFREY'S IMPACT AND DMA LEVEL DEMOGRAPHICS, 2006–2007

	TV ratings	Club index	Classics and general fiction index	Mystery, romance, and action index
Club impact index			−0.217*** (0.05)	0.079*** (0.02)
Household rating			−0.004 (0.01)	−0.001 (0.00)
Black	9.179** (3.41)	−0.373 (0.44)	0.271* (0.16)	0.238** (0.07)
Hispanic	−4.255 (5.11)	−0.757 (0.47)	−0.068 (0.17)	0.206** (0.08)
Urban	−6.246** (2.53)	0.729** (0.35)	0.033 (0.13)	0.061 (0.06)
Male	50.714 (55.97)	−1.430 (8.12)	−6.311** (2.62)	4.100*** (1.03)
No children < 18 years	62.44*** (16.31)	−0.620 (2.58)	1.876* (1.00)	−0.038 (0.58)
Working women	−9.879 (9.98)	2.477* (1.48)	−0.615 (0.46)	−0.077 (0.24)
Women > 65 years	87.352** (32.35)	2.569 (4.84)	2.572 (1.63)	1.048 (0.72)
Married	−25.655* (14.79)	4.432** (2.12)	−0.179 (0.74)	0.073 (0.31)
Divorced	40.146* (21.38)	4.033 (2.90)	−0.181 (0.91)	0.902* (0.47)
HS graduate	−5.806 (7.01)	3.095** (1.06)	−1.067** (0.39)	0.377** (0.15)
Some college	−12.941 (10.96)	4.380** (1.79)	−1.428** (0.55)	0.335 (0.25)
Observations	97	97	97	97
Mean dep. var.	6.65	1.17	0.941	1.004

Notes: Entries in the table represent the OLS coefficients (standard errors). Unreported covariates include the statistically insignificant coefficients for the percentage in poverty, unemployed and widowed. Estimates are weighted using the number of households in the DMA.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

expected influence. The first of these columns contains the estimates for the relationship between both the Club impact index and Winfrey's television ratings on the average regional popularity of classics and general fiction titles (i.e., the genres containing all Club fiction endorsements). In the absence of an endorsement, classics and general fiction titles were less popular in the DMAs experiencing the largest sales impact from a Club endorsement. There was no statistically significant relationship between television ratings and these genres—though an unreported regression not including the Club impact index did find such a relationship. The final column contains the average popularity index for romance, mystery, and action titles—these genres showed the largest sales declines following an endorsement. In the absence of an endorsement, there is a positive relationship between the Club impact index and the popularity of these genres, suggesting that residents in DMAs

TABLE 4—READABILITY STATISTICS FOR BOOK CLUB BOOKS AND BESTSELLING TITLES IN OTHER GENRES

	All Oprah Book Club titles	Romance	Mystery	Action	Overall bestsellers	Oprah “Classics” selections	Top ten of all time
Gunning Fog Index	8.4	7.35	7	8.7	7	10.93	10.95
Flesch-Kincaid	6.5	5.3	5.1	6.5	5.6	8.55	8.6
Number of words	149,523	96,512.5	106,619	128,263	106,619	161,277.5	132,998

Notes: Entries in the tables represent the median values as reported on Amazon.com. For columns 2–5 the categories represent the top 20 bestselling titles in each category as reported by Nielsen BookScan on May 24, 2004. Column 1 contains the estimates for all Oprah Book Club titles selected between 2001 and 2011 that had data available on Amazon.com. Column 6 contains the results for only those selected novels that are in the “classics” genre. Column 7 contains the median values for books declared the top ten of all time by a *Time* magazine survey of 125 authors.

with the largest endorsement responses would likely otherwise purchase romance, mystery, and action titles. In unreported results, there is no relationship between the popularity of western titles and the Club impact index, which supports the lack of a genre-level sales effect for these titles in Table 2 and Figure 8.

C. Difficulty of the Endorsed Novels

In isolation, the shifting of sales between genres provides evidence of business stealing but cannot explain a post-endorsement sales decline. There are likely many endorsement-related factors that contribute to this decline. One of these mechanisms could be that the endorsed novels took longer to read than the books that otherwise would have been purchased and customers do not allocate more of their budget toward the consumption of books. Linguistic scholars have developed several measures of the difficulty of written text. Two examples are the Gunning Fog and the Flesch-Kincaid indices, both of which attempt to quantify the United States grade level necessary for comprehension.¹⁶ These indices measure only the complexity of the writing and are not an analysis of the intricacy of plot developments or characters. They therefore provide a quantitative measure of only one dimension affecting the amount of time required to complete a novel.

As part of their book digitization efforts, Amazon.com now offers readability statistics for many books available on their website. Table 4 contains the median readability index values and word counts for several groups of books.¹⁷ The first column contains the values for Club endorsed books. The median endorsed book’s Gunning Fog Index predicts that the text should be understandable to someone with

¹⁶ These tests estimate the grade level necessary for understanding written text. The equation for the Gunning Fog index is $0.4 \left(\left(\frac{\text{total words}}{\text{total sentences}} \right) + 100 \left(\frac{\text{complex words}}{\text{words}} \right) \right)$. Complex words are those with three or more syllables that are not proper nouns or compound words. The Flesch-Kincaid index equation is: $0.39 \left(\frac{\text{total words}}{\text{total sentences}} \right) + 11.8 \left(\frac{\text{total syllables}}{\text{total words}} \right) - 15.59$.

¹⁷ Statistics were not available for every book in each category. However, in each category statistics were available for over 75 percent of titles. There does not appear to be any pattern as to which books had available statistics. Statistics are available for all endorsed books in the aggregate sales data except for *The Road* by Cormac McCarthy, *A New Earth* by Eckhart Tolle, *The Story of Edgar Sawtelle* by David Wroblewski, *Say You’re One of Them* by Uwen Alkan, and *Freedom* by Jonathan Franzen.

an eighth grade education or higher. The median endorsed novel had a Flesch-Kincaid estimated grade level of 6.5 and contained approximately 150,000 words.

Columns 2–5 of Table 4 contain the median values for the top 20 bestselling romance, mystery, action, and overall bestselling novels, respectively, on May 23, 2004. The median Gunning Fog index score for this genre was more than one grade level below the median Club selection. Bestselling mystery novels had a median Gunning Fog grade level of 7. Titles in the action/adventure genre were slightly more difficult than the Club selections, but these novels were approximately 20,000 words shorter. Finally, Club endorsed titles were approximately 1.5 grade levels harder than the median overall bestseller.

These statistics show that the Club selections were longer and more difficult than the bestselling titles in the genres that were popular among consumers likely to respond to the endorsement. Assuming that longer and more difficult books will take more time to read, the difference in estimated grade level combined with the genre-level sales shifts help explain the aggregate sales declines in Figure 7. To explore this further, I exploit variation in the average genre-level difficulty amongst endorsed novels. Fiction Club endorsements were all either general fiction or classic texts. The second to last column of Table 4 contains the readability scores and word counts for classic Club selections. With a median Gunning Fog grade level of 10.93 and length of over 160,000 words, these books were considerably harder and longer than other Club selections. For comparison, the last column contains the values for the top ten books of all time according to a *Time* magazine survey of 125 authors. Classic selections are similarly difficult as the top ten books and were approximately 30,000 words longer.

The last two columns in Table 2 contain a specification of equation (2) with an eight week post-endorsement variable interacted with an indicator for the classic status of the endorsement. The estimated sales decrease for adult fiction novels during the eight weeks following a classic selection is large and statistically significant. Following the endorsement of a nonclassic title, there was no detectable aggregate sales increase. Statistically significant declines following a classic selection were also seen individually across the romance and action genres. The decline for mysteries was large in magnitude and has a p -value of 0.114. In all categories except for one, the estimated sales declines are larger in magnitude following a classic endorsement. The final row contains estimates for a composite category of mystery, action, and romance sales. The estimated effect of a classic novel endorsement is nearly three times larger than for a nonclassic.

There could be a concern that classic novels were primarily selected in the beginning of 2004, and therefore the sales change actually just an effect for all 2004 selections. However, limiting the sample to only those titles selected after June 2004 (leaving only *The Good Earth* selected in 2004 and the Charles Dickens titles selected in 2010), returns an estimated impact on log adult fiction sales for the classics interaction term of -0.066 (0.024) and for the nonclassics interaction term of -0.006 (0.0115). There could also be a concern that the last classic selection may be driving the results since it occurs in late 2010 and is the last overall selection in the club. Though it is important to note that the sample continues through June 2011, allowing the selection the full 26 post-endorsement window. Again, estimating a

sample that excludes that last selection returns an estimate for the sales impact of log adult fiction sales for the classics interaction of -0.0381 (0.019) and for the nonclassics interaction term of -0.0047 (0.0107). Finally, I estimate a sample that only includes 2004 and 2005. If the results are driven by an unobservable factor during these early years, then the pattern of estimates should be different for this two year sample. For example, if the results are driven by lower overall sales for titles selected early in the Club than both classics and nonclassics should see declines. Over this time period the classics interaction term is -0.0648 (0.0373) and for the nonclassics interaction was -0.0023 (0.022).

Taken together, these estimates suggest there were large decreases in aggregate sales following a classic novel endorsement. This pattern does not appear to be driven by a clustering of classics selections in 2004. One reason for this greater sales decline following classic novel endorsements may be that these titles were more difficult and took longer to complete than the nonclassic selections.

D. Robustness Checks

Since publishers have no influence over the selection process, the use of Club endorsements limits concern of title-specific endogeneity related to past sales trends or other factors. However, there could be a lingering concern that the timing of these endorsements corresponds to periods of generalized decreased demand in the publishing industry. If this were the case, then similar effects should be seen for the endorsement effect using juvenile fiction sales, which are correlated with adult book sales but were not treated by any club endorsements. The correlation coefficient for the weekly sales of these two categories is 0.7329. A specification of equation (2) with an eight week post-endorsement indicator variable for these juvenile fiction titles returns a coefficient of -0.0011 (0.0248), demonstrating that the aggregate adult fiction sales estimates above are not driven by secular events in the publishing industry.

One might also be concerned about the ability to detect market expanding effects in any context. That is, it is useful to consider whether all shocks to publishing simply appear to shift the purchases of regular market participants using the methods described above. To address this concern, I examine the release of novels in the Harry Potter series by J.K. Rowling, a publishing event also believed to have increased aggregate sales. This seven book series was a publishing sensation and each of the titles sold millions of copies. The last two novels of the series, *Harry Potter and the Half Blood Prince* and *Harry Potter and the Deathly Hallows*, were published after 2004—thus, aggregate sales data at the time they were released are available. In unreported results, the release of a *Harry Potter* novel increases total book sales and juvenile fiction sales by a large and statistically significant amount. For example, in the week in which a *Potter* novel is released, there was a 37 percent increase in *all* books sold.

Despite the popularity of this title among adult readers, the release dates were not correlated with any decrease in adult fiction sales, suggesting little business stealing. Of course, the stolen sales could still have come from other titles within the juvenile fiction category. However, unlike the Club endorsement effect, estimates

from a sample without the J.K. Rowling titles show no statistically significant sales decrease among even the juvenile fiction titles. Moreover, during the first week following a release there was a statistically significant *increase* of approximately 9 percent in juvenile fiction sales (p -value < 0.001)—perhaps due to higher traffic from bookstores. This magnitude corresponds to approximately 4 percent of individuals purchasing the *Potter* novel also purchasing an additional juvenile fiction title.

These robustness checks demonstrate two important facts. First, it does not appear that the Club endorsements are timed to cyclical sales changes in the publishing industry. Second, all shocks to the publishing industry do not only shift the purchases of regular market participants—an event receiving a large amount of general popular attention can attract large numbers of consumers into this market. Following this larger sales shock to the publishing sector, there are not even noticeable declines in the sales of *non-Potter* novels. In addition, the methods used to analyze the Club endorsement effect are able to detect increased aggregate sales caused by large shocks to the publishing industry.

VIII. Conclusion

Oprah Winfrey’s Book Club increased sales for endorsed titles and other books by endorsed authors. Despite the popular belief that the Club expanded the population of Americans who read regularly, I find no evidence that these endorsements attracted large numbers of individuals into the book market. Following the endorsement, there are large sales declines in genres that were popular among customers likely to respond to the endorsement. If anything, following an endorsement aggregate sales of adult fiction are decreased. I provide evidence suggesting that Winfrey endorsed harder books than otherwise would have been purchased. Given that the cost of a book is a combination of the price and the time necessary to complete the text, one explanation of the post-endorsement decrease is the shift of purchases toward more expensive products.

The totality of the estimates shows that sales changes for celebrity endorsements in this setting come primarily from business stealing. This confirms the earlier suggestive evidence from other endorsements (Mathur, Mathur, and Rangan 1997; Knittel and Stango 2011). If endorsements drive business stealing, firm profits may be directly threatened by competitor advertising efforts. Therefore, these estimates can be useful for designing profit maximizing strategies.

I also demonstrate the large endorsement benefits for cobranded products. Previous research into spillover demand has been primarily theoretical. Choi (1998) developed a model of brand equity that showed how firms can use a positive reputation among consumers in one market to solve information asymmetries in other markets. Similarly, Cabral (2000) described a “feedback reputation effect” where the introduction of a high quality new product increases the willingness to pay for the firm’s original product and signals overall quality. To my knowledge, only one other empirical study has exploited exogenous variation to estimate spillover demand across products, and this was in the context of product entry as opposed to advertising (Hendricks and Sorensen 2009). The results of the current paper show that the benefits of firm advertising efforts extend well beyond the advertised

product. This provides a greater incentive for firms with high quality product lines to develop advertising programs, especially those under one common brand as discussed in Cabral (2000). These expenditures can be seen as investments in the brand equity discussed in Choi (1998).

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