

# A REVIEW OF THE APPLICATION OF EVENT STUDIES IN MARKETING

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## EXECUTIVE SUMMARY

This paper provides a critique of the application of the event study methodology to the marketing field, reviews past research, identifies various strategies for improvement in the use of this methodology, and identifies future directions for research. This review is in three sections. The first section presents the findings of a comprehensive search not only of the marketing literature, but also of marketing studies using the event study methodology that are published in a large number of business, economics, and finance journals. The identified studies are categorized into a number of research fields. The event studies are organized chronologically and reviewed in terms of their specific research focus and empirical findings. In the second section, studies published in marketing journals between 2001 and 2007 are examined more closely to determine how well more recent research meets several best practice guidelines being proposed by various authors around the application of the methodology.

The third part of the review explores how the event study methodology might be applied to existing areas of research, in addition to its potential application to a wider range of marketing issues. These include theory development in terms of the application of more specific or appropriate theory to justify the research predictions; replication and extension of studies either due to changes in social attitudes, government legislation or methodological issues that challenge previous research findings; the development of new areas of research interest including the links between advertising and childhood obesity, drugs, and sport, the impact of new technological developments, and the effects of advances in internet marketing and satellite advertising; and advancing the use of the methodology to marketing challenges in the rapidly expanding regions such as China and India. It is expected that the use of the event study methodology in marketing will continue to gain momentum due to continuing demand for marketing actions and assets to be evaluated in financial terms in order to illustrate the return on investment.

Key Words: Event study, product, promotion, services

## **A REVIEW OF THE APPLICATION OF EVENT STUDIES IN MARKETING**

There are numerous calls for more research to focus on the financial impact of strategic marketing decisions on the value of the firm (Doyle, 2000; Rust et al., 2004). Indeed, for the fifth consecutive period, the Marketing Science Institute has determined marketing metrics and the integration of financial measures as key research priorities (Marketing Science Institute, 2006). Given such calls, it is timely to review the evolution and contribution of one financial metric that has been used by marketing researchers over the past 25 years, that is, the use of the event study methodology. The typical event study measures the effect of corporate news on stock prices and on firm value. In the marketing field, researchers have examined a diverse array of firm announcements including the introduction of new products (Chaney, Devinney, and Winer, 1991), green marketing (Mathur and Mathur, 2000) and NASCAR auto racing sponsorships (Pruitt, Cornwell, and Clark, 2004). Findings show how investors react to new marketing information and in turn how strategic marketing decisions impact on the value of the firm.

However, Srinivasan, and Bharadwaj (2004: 23) argue that “despite the considerable potential of the event study method to relate marketing strategy initiatives to changes in shareholder wealth, event studies have been underutilized in marketing.” Verbrugge (1997: 124) asserts that event studies in marketing have the potential to develop streams of research where researchers “have begun to build a road map for marketing decisions.” The primary purpose of this article is to review the event study literature in marketing to provide marketing researchers with a greater understanding of the evidence for the effects of marketing decisions on capital markets. It identifies the major research “freeways” and methodological “potholes,” and overall wishes to stimulate further research using this methodology.

This review, however, is not intended as a guidebook on the use of event study methodology per se. Articles to suit this purpose abound (see MacKinlay, 1997; McWilliams and Siegel, 1997; Srinivasan and Bharadwaj, 2004). Rather, using the track record of existing research and evidence about best practice in this field, it aims to identify methodological trends and issues to guide researchers in future investigations in existing as well as new areas of marketing research.

The article is organized as follows. First, a brief overview of event study methodology is presented together with an outline of the underlying assumptions and key steps in the event study procedure. Second, a comprehensive review is presented of the extant literature on event studies in several areas of the marketing field from 1980 to mid-2007. Third, a review is provided of event studies published in marketing journals between 2001 and 2007 to critically examine their strengths and shortcomings in meeting guidelines around best practice in the application of the methodology. To conclude, a set of recommendations for future research in existing and emergent fields of marketing is proposed.

As the first major review article of the methodology presented in the marketing literature to date, this analysis provides a significant contribution to determining the state of affairs so far in the application of this “borrowed” methodology to various endeavors in the marketing field. Significantly, the review also proposes some new applications of the method that may create fresh opportunities for researchers to grow our understanding of the financial contribution of marketing strategies on firm value.

## EVENT STUDY METHODOLOGY

According to MacKinlay (1997), the first published event study was undertaken by Dolley (1933) and examined the price effects of stock splits. Despite this early interest, event study analysis failed to capture the imagination of researchers until the publication of Fama, Fisher, Jensen, and Roll's seminal article on the adjustment of stock prices to new information in 1969. Over the next decade, interest in event study methodology was primarily the domain of accounting and finance researchers investigating firm-specific events such as mergers and acquisitions, and broader macro-economic effects such as the trade deficit (MacKinlay, 1997). Subsequently other fields such as law, economics, and management embraced the methodology, focusing on issues of relevance to their specific fields such as legal liability (Mitchell and Netter, 1994), the effect of the Chernobyl crisis on electric-utility stock prices (Fields and Janjigian, 1989), and the departure of non-senior managers from investment banks (Bendeck and Waller, 1999). From the 1980s onward, marketing researchers began to use the methodology, focusing initially on the stock price impact of new product announcements (Eddy and Saunders, 1980) and deceptive advertising (Peltzman, 1981).

Two developments aided the expansion and dissemination of event study methodology over the past 25 years. First was the spread of computing and technology generally (Green, Johnson, and Neal, 2003). Second, and allied to this technological revolution, was the creation of large stock price databases in the early 1990s, such as the University of Chicago's Center for Research in Security Prices (CRSP) database of monthly stock return data from the New York Stock Exchange (NYSE). This provided researchers with relatively easy access to secondary data. Since then daily financial data have become readily accessible to researchers through databases such as CRSP, DataStream, and Compustat. Similarly, software programs, such as Cowan's (2001) Eventus program, provide a reasonably straightforward means of undertaking the statistical analyses involved in an event study.

Finally, as the number of event studies increased, refinements to Brown and Warner's (1985) methodology followed in the 1990s. These included MacKinlay's (1997) guide to event studies in economics and finance; McWilliams and Siegel's (1997) analysis of empirical and theoretical issues in event studies in management research; and Srivastava, Shervani, and Fahey's (1998) article on market-based assets and shareholder value published in the *Journal of Marketing*.

### Event study procedure

Event study methodology measures the stock price reaction to an unanticipated announcement of an event. Event studies are used to test that the market incorporates this new information efficiently and to examine the impact of the event on the wealth of the firm's stock holders (Binder, 1998). The premise underlying the methodology is the efficient market hypothesis. It holds that financial markets are efficient and hence stock prices reflect instantaneously all the available information related to the profitability of the firm (Fama, 1970). Abnormal returns occur when the market perceives that the firm's announcement or "event" will have a positive (or negative) impact on the firm's future cash flows, resulting in immediate stock price increases (decreases). The mathematical calculations required to implement an event study are articulated comprehensively in numerous publications (see Kritzman, 1994; MacKinlay, 1997; McWilliams and Siegel, 1997; Srinivasan and Bharadwaj, 2004). Consequently, only a summary of the five key steps are included here. These are: (1) identification of the event of interest, (2) definition of criteria for inclusion of the event, (3) calculation of normal and abnormal returns, (4) estimation of the normal performance model, and (5) performance of statistical and hypothesis tests. Three pieces of information are required to undertake an event study – the names of stock-listed firms, the event dates in relation to the announcement of interest, and the relevant stock prices.

**Step 1: Identification of the event of interest**

An appropriate event is one that is likely to have a financial impact on the firm, is unanticipated by the market and provides new information to the market (McWilliams and Siegel, 1997). In marketing studies, events might include the recall of a faulty product, the initial introduction of environmentally friendly products, or the announcement of a firm's intention to sponsor the Olympic Games. Each event has the potential to have an impact on a firm's daily stock price. The second issue concerns what specific dates to examine for stock price changes. If a product is recalled suddenly, the window of interest is likely to be very short, such as the day of the recall announcement and the day following. In addition, identifying the exact date of the announcement's release to the public can be complicated. For example, investors might be privy to advance information, announcements might be made over a weekend when the stock exchange is closed, or announcements may be deliberately leaked to the press. The standard approach is to examine the days either side of the official announcement date. Some researchers (e.g. Clark, Cornwell, and Pruitt, 2002) verify the release date by searching computerized newsprint databases such as Lexis-Nexis or Factiva for the very first public announcement of the information. This procedure is also used to check that no other firm announcements have been released during the same period of interest to confound the impact.

**Step 2: Definition of the event criteria**

Event studies often examine variables such as firm size, industry type, and investment amount. Again, these require a sound theoretical rationale for their inclusion in the study. If the focus, for example, is on new drugs issued by the pharmaceutical industry, the focus of attention is likely to be solely on the pharmaceutical industry. If the scope is broader, for example corporate sponsorship of the Olympic Games, a cross-section of firms and industries is more likely to be examined.

**Step 3: Calculation of normal and abnormal returns**

To measure the impact of an event on shareholder value, the difference between a firm's normal everyday returns and the abnormal returns experienced around the event date are calculated. This figure is achieved by computing the daily (or cumulative) abnormal returns accrued during the event window minus the expected normal returns as if no such event had occurred. Two main approaches to model the normal returns are used: the constant mean return model, and the market model (see MacKinlay, 1997; McWilliams and Siegel, 1997; Srinivasan and Bharadwaj, 2004). The constant mean return model is based on the notion that the mean return of a given stock is constant over time. The market model assumes a linear relationship between the return of the overall market portfolio and the individual stock's return. Calculation of the market portfolio is often based on a leading broad-based stock index such as Standard and Poor's (S&P) 500 index, the CRSP value-weighted index, or the CRSP equal-weighted index (Srinivasan and Bharadwaj, 2004). The market model is viewed as providing a greater capacity to detect event effects (MacKinlay, 1997; Srinivasan and Bharadwaj, 2004).

**Step 4: Estimation of the normal performance model**

While the event window used to calculate the abnormal returns focuses on the days when information related to the event is most likely to be released, the estimation window used to calculate the normal performance model, on the other hand, focuses on "normal" trading days, generally a period well in advance of information about the event being released. Typically, estimation windows are quite large (around 250-600 days stock market trading days) and are separated from the event window by a significant number of days (45-90).

### **Step 5: Statistical calculations and hypothesis testing**

Having determined the parameters for estimating the normal performance model, the abnormal returns are calculated and tested for significance. To explore the data further, abnormal returns can be aggregated over time for an individual stock and also across firms and over time (see Srinivasan and Bharadwaj, 2004). Findings are presented as mean abnormal returns and mean cumulative abnormal returns expressed in percentages and direction of change (positive or negative). Where abnormal returns are particularly dramatic, the dollar impact or net present value may be calculated to illustrate the practical significance of the findings (e.g. Pruitt et al., 2004). Test statistics in event studies are quite sensitive to outliers. The impact of any one firm's returns on the sample statistic can be magnified particularly when the study is based on a small sample of events.

### **SOME KEY ISSUES**

The value of event studies in marketing is that researchers can estimate the overall financial impact of a particular marketing strategy quickly and empirically. However, researchers need to ensure that the assumptions underlying the identification of abnormal returns are valid (i.e. that the market is efficient, events are unanticipated, and that there are no confounding effects). Also, attention must be paid to the design and implementation of the event study particularly with regard to sample size, identification of outliers, length of event windows, selection of the estimation model, and the use of theoretical support to justify the explanation of abnormal returns. For example, exploring such issues through a critical examination of three published event studies investigating corporate social responsibility, McWilliams and Siegel (1997; p. 651) warned: "Given the paucity of information on the validity of the assumptions underlying choice of the method and the research design used to implement it, readers cannot be confident that researchers have drawn the correct inferences about the significance of events." This warning highlights how attention to research design issues and the appropriate implementation of the methodology are critical to the successful application of the methodology.

Event studies are designed as controlled experiments using stock return data as the dependent variable. Interpretation of the findings can be both causal and non-causal in nature (Mizik and Jacobson, 2004). That is, a change in a firm's stock price may be interpreted to be caused by the firm's marketing strategy being viewed by investors as having a positive or negative effect on the firm's future profits. Alternatively, a non-causal interpretation may be that the firm's financial position has improved to such an extent that the firm is prepared to invest more money in marketing (Mizik and Jacobson, 2004). While such interpretations can be made from event study findings, generalizing results across quite different studies is problematic (see Geyskens, Gielens, and Dekimpe, 2002). In addition, the diversity of studies around different research topics and their different interpretations of best practice in applications of the methodology make meta-analysis complex.

Mizik and Jacobson (2004) also note some confusion around event studies and stock return response modeling. While both approaches are founded on similar assumptions with regard to the efficient market hypothesis, and both focus on the impact of unanticipated events on stock price, they have key differences. Event studies examine the stock price impact of a specific announcement on a given day. The nature of the event may be unique, such as the announcement of a firm's name change, or it may be a recurring announcement, such as the annual release of customer satisfaction data. The period of interest is generally an event window that focuses on the actual day of the event, or the five to ten days immediately surrounding it, based on the anticipated time taken for the new information to be absorbed by the market. In contrast, stock response modeling looks at the long-run value implications of data that may be released monthly, quarterly, or yearly such as changes in brand equity in relation to net earnings over time. Stock return response modeling assumes that investors have access to many sources of

information about the firm's future prospects, such as sales data, return on equity, and cash flow, as well as information about the firm's marketing strategy. Together these factors affect the future cash flows of the firm.

## **THE CURRENT RESEARCH**

### **Procedure**

To facilitate this review of the contributions of event studies to the field of marketing, a thorough search was undertaken not only of the marketing literature but also of the leading business, economics, and finance journals. Informed by Chandy, Golder, and Tellis's (2004) approach to undertaking historical research into marketing strategy, the event studies are organized chronologically, and then examined in terms of their specific research focus and empirical findings. Secondly, guided by McWilliams and Siegel's (1997) discussion of the important theoretical and research design issues in the use of event study methodology, the event studies published in marketing journals between 2001 and mid-2007 are examined in detail to determine how well more recent research attends to best practice guidelines. Finally, the review identifies gaps in various areas in marketing research where the event study methodology might be applied in order to advance marketing thought.

### **Literature review**

The review reveals that event study research is highly multidisciplinary. As such, research findings cross a diversity of fields including economics, business, finance, law, technology, management, and politics, as well as advertising, marketing, and market research. Therefore the initial investigation targeted any article published in a refereed journal in any field that reported using the methodology. These articles were next examined to determine whether their primary focus was a marketing-related issue and the remaining studies were discarded. To assist in enhancing the breadth and depth of the investigation, a variety of electronic databases including ABI-INFORM, Business Source Premier, EBSCO, Emerald, ProQuest, JSTOR, Econlit, and Web of Knowledge/Science amongst others, were searched using numerous key words including "event study," "stock price," "wealth effect," and "firm value."

Next, the "ancestry" approach was followed in order to detect any additional studies cited in the references of the initial set of event study articles found (Cooper, 1989: 43). Finally, a content analysis of each article was completed to ensure that each article contained basic statistical and methodological information about the event study on which to base this critique. For example, as well as satisfying the initial requirement of publication in a refereed journal, to be included in the analysis a study had to follow the steps for event study analysis outlined above, contain descriptive statistics and general information on the nature of the announcements examined, and identify the source of stock price information.

It is recognized and acknowledged that this specific focus on published event studies may lead to criticism that any conclusions drawn from this review are subject to publication bias that errs in favor of studies that report statistically significant findings. However, due to the complexity of the methodology, it was considered particularly important that findings had been peer reviewed as an indicator of initial validation.

## Sample

The investigation uncovered a total of 77 marketing-related event studies, all of which met these criteria. They covered the period from 1980 to mid-2007. Articles were published across 46 different journals, 17 of which were marketing-related journals. Of the 77 event studies found, six studies were published in the *Journal of Advertising Research*, four in the *Journal of Market Focused Management*, and three each in the *Journal of the Academy of Marketing Science*, the *Journal of Advertising*, and the *Journal of Marketing*, respectively. Only nine international event studies based on data from stock exchanges outside of North America were identified. Not unexpectedly, given the small international sample, the most frequently cited source of stock price information was the University of Chicago's Center for Research on Security Prices (CRSP) (70 percent of studies). For the international studies, stock price information was obtained from DataStream International, Yahoo!Finance, or local stock exchange databases.

## FINDINGS

### Classification of the event studies by research focus

While covering disparate topics, the 77 event studies were categorized meaningfully into three distinct marketing research streams that reflect the marketing paradigm:

1. *Product* (45 percent of the total sample): new products (Table 1); product recalls (Table 2); product research and development (Table 3);
2. *Promotion* (45 percent of the total sample): corporate name changes (Table 4); advertising and promotions (Table 5); sponsorship and events (Table 6); and
3. *Services* (10 percent of the total sample): customer service and new technology (Table 7).

These topics were informed by typologies that report on traditional areas for marketing research (Gundlach and Wilkie, 1990), as well as by the titles of the articles and the journal names. Each of the seven event study tables presents (1) the author(s) and year of publication, (2) the announcement focus, and (3) significant findings and a summary of the main contributions of the study.

General examination of the seven tables in total indicates that in the early event studies of the 1980s (14 percent of the total sample), the focus of interest was product recall and the impact of company name changes. In the 1990s, the number of event studies more than doubled (31 percent of the total sample). In addition to these interest areas, the focus of the studies expanded to include the impact on the firm of new product introductions and delays, brand extensions, trademark infringements, the sponsorship of celebrities and the Olympic Games, as well as the impact of advertising slogan changes, financial relations advertising, and brand equity. In the period from 2000 to mid-2007, the number of event studies almost doubled again (55 percent of the total sample). In the latest period of research interest, the attention of researchers reflects those typical of the new millennium – the development of new drugs, green marketing, internet channels, and philanthropy.

In the past, traditional accounting methods concentrated on measuring shareholder value in terms of tangible assets such as property, plant and equipment, and inventory such as finished goods, parts, and raw materials. Overall, the fields of marketing study identified in the Tables reflect the growth in concern around managing the value of more intangible assets. Tangible assets explain only about 25 percent of the market value of the modern firm (Ballow, Burgman, and Molnar, 2004). Intangible assets that are difficult to measure financially, such as brand value, customer loyalty, consumer perceptions of product and service quality, and firm reputation (see

Tables 4, 5, 6, and 7 in particular), are mooted as important drivers of the remaining percentage of firm value (Ballou, Burgman, and Molnar, 2004; Daum, 2003). Accompanying the review of the three streams of research, opportunities for applying event study to current and a wider set of marketing issues are identified.

**TABLE 1**  
**Event Studies in Marketing: New Product Introductions, Delays and Extensions**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Eddy and Saunders (1980)	New products	No impact of new product announcements on monthly stock returns found over nine-year period. Monthly returns were not sufficiently precise to detect stock price impact. <i>Conclusion:</i> Investors are not responsive to individual new product announcements.
Chaney, Devinney, and Winer (1991)	New products	New product introductions were related to positive returns (0.75%). Effects varied across industries. The impact varied negatively with the magnitude of risk and the number of announcements made. Firm size was not related to excess returns. <i>Conclusion:</i> Firms that innovate and introduce new products outperform firms that do not.
Simon and Sullivan (1993)	Brand equity change	The introduction of Diet Coke led to an increase in Coca-Cola's brand equity and to a decrease in Pepsi's. The introduction of New Coke had no impact on Coke's brand equity but increased Pepsi's brand equity suggesting a competitive loss for Coke. <i>Conclusion:</i> Stock markets do not ignore brand equity.
Lane and Jacobson (1995)	Brand extension	The impact of brand leveraging depended on brand attitude and familiarity, but not firm size or return on investment. Market responded most favorably to brand extensions of high esteem, high familiarity brands. <i>Conclusion:</i> Investors expect the negative financial consequences of extending a brand to outweigh the potential positive gains.
Hendricks and Singhal (1997)	New product delays	The stock market reacted very negatively to announcements of product delay (-5.25%). Diversified firms suffered less than focused firms. Estimations of the expected delay resulted in a less negative impact than not providing an estimate at all. <i>Conclusion:</i> There are significant penalties for not introducing new products on time.
Koku, Jagpal, and Viswanath (1997)	New products	Only pre-announcements of new products had a significant effect (4.3%). The size of signaling effects were industry specific and particularly effective in the manufacturing sector. <i>Conclusion:</i> New product event studies must distinguish between announcements and pre-announcements as only pre-announcements have a significant effect.
Lee, Smith, Grimm, and Schomburg (2000)	New products	At the time of new product introductions, first movers experienced a positive effect (2.71%). After early imitation, first movers experienced a negative reaction. <i>Conclusion:</i> Moving first to introduce new products results in the greatest gains in wealth. However, rivals can undermine these gains through imitation.
Mishra and Bhabra (2001)	New products	Stock markets responded positively to credible new product pre-announcements (0.44%) and ignored announcements if they lacked sufficient tangible evidence. Bluffs or easily reversible announcements were ignored. <i>Conclusion:</i> For a pre-announcement to work it must contain credible evidence.
Chen, Ho, and Ik (2005)	New products	New products had a positive impact for announcing firms (0.38%). Rivals of firms announcing new products experienced a small, negative wealth effect. Rivals' wealth effects were more favorable when the products introduced were very new. <i>Conclusion:</i> Wealth effect of industry rivals is significantly negatively related to their research and development intensity.
Jones and Danbolt (2005)	New products	New product announcements resulted in higher returns than for new market entry announcements (1.1%). Joint ventures were considered less favorably than projects with no partner. <i>Conclusion:</i> The market reacts less favorably to product market investment projects where the returns and risks are shared with another company.



*Product Research Stream* - This research stream includes event studies that have examined new products (Table 1); product recalls (Table 2); and R&D and regulation (Table 3). Research interest in product recall and research that tracks the impact on the stock market of products as they progress through the various stages of development and approval has remained relatively stable over time. However, event studies of new products is the only category within the seven sub-samples to show a decline in interest from 2000.

Event studies focusing on the impact of new product introductions (Table 1) focus in the main on competitive behaviours – their effects on the value of both the firm and of industry rivals; products launched in joint-ventures versus single-firm ventures; first mover advantage and imitation; and the diverse impact on brand equity across different industries. Another interesting theme relates to the process of making new product announcements: whether multiple new product announcements outperform single new product announcements (Chaney et al., 1991); pre-announcements versus new product announcements (Koku, Jagpal, and Viswanath, 1997); and new product announcements that provide some tangible evidence about the new product versus bluffs or easily reversible product announcements (Mishra and Bhabra, 2001). The general impact on firm value of launching a new product is modest (e.g. 2.71 percent, Lee, Smith, Grimm, and Schomburg, 2000) in comparison to the dire effects arising from the product recall of contaminated food (-30.42 percent, Salin and Hooker, 2001).

Product recall studies (Table 2) focus primarily on three very large industries – the automotive industry (eight studies), the pharmaceutical industry (six studies), and the food industry (three studies). Automobile recalls focus on the severity of the recall (minor, intermediate, and severe) (Hoffer, Pruitt, and Reilly, 1987, 1989); on three major manufacturers (Chrysler, Ford, and General Motors); and the recall of certain auto-related components such as tires (Govindaraj, Jaggi, and Lin, 2004). Pharmaceutical recalls focus on the direct cost to the firm of the recall (Jarrell and Peltzman, 1985); the impact of drug recall over different time periods (Dranove and Olsen, 1994); and the simultaneous withdrawal of a class of drug by a number of firms (Ahmed, Gardella, and Nanda, 2002). Event studies focusing on the food industry include recalls arising from microbiological contamination of food products (Salin and Hooker, 2001); recalls of differing severity and who announces the recall – the firm or a government agency (Thomsen and McKenzie, 2001); and in comparison to recalls occurring in other non-automotive industries (Pruitt and Peterson, 1986).

Overall, firms generally experience a drop in value arising from recall announcements. Dranove and Olsen (1994) suggest that investors view recalls as a signal of anticipated increases in costs involved in the recall, repair, and compliance with government regulations. However, Salin and Hooker (2001) put forward the view that investors may become desensitized to announcements concerning food contamination risks to the extent that large manufacturers, such as the Sara Lee Corporation, show very little change in firm value. Again what is interesting about these studies is the effect that product recall has on the firm's competitors. Ahmed, Gardella, and Nanda (2002), for example, in their investigation of drug withdrawals on the wealth of producers and competitors, found that direct competitors gained significantly following drug withdrawal as a result of increased demand for substitute drugs. When several firms withdrew similar products at the same time, they found that losses were far less severe. In addition to the severity of the negative impact from product recall on firm value, the longevity of its impact is also interesting. Govindaraj et al. (2004) in their study of the recall of Firestone Tires by Bridgestone Corporation found that the market initially overreacted negatively to the news of the recall and then corrected quickly once information on the actual costs of the recall was disseminated. In contrast, Dranove and Olsen (1994) found that firms recalling dangerous drugs continued to lag behind their industry rivals more than five years after the recall.

**TABLE 2**  
**Event Studies in Marketing: Product Recall**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Jarrell and Peltzman (1985)	Direct cost of recalls for drugs and automobiles	The direct costs of recall or repair were far less than the negative impact on stock price for producers of both products (-6% drugs, -1.5% autos). <i>Conclusion:</i> Shareholders lose substantially when a good is recalled. Firms incur not only direct costs from the recall but also the costs arising from lost goodwill. Competing firms also lose when a rival firm's product is recalled.
Pruitt and Peterson (1986)	Non-automotive product recalls	Product recalls were viewed unfavorably and were largely unexpected (-0.725%). No significant relationship found between the decline and the direct costs of the recalls, indicating that indirect costs (litigation, reputation damage) may be important. <i>Conclusion:</i> Product recalls convey information to the market that impacts for up to two months following the initial release of information.
Hoffer, Pruitt, and Reilly (1987)	Severe automotive recall for Chrysler, Ford and General Motors	No evidence that the first public release of recall information via memo to Traffic Safety Authority affected stock prices. Severe recalls disclosed in the press were viewed as negative informational events (-0.649%). <i>Conclusion:</i> The stock market's response to auto recalls does not generally occur until the information is reported to all market participants.
Hoffer, Pruitt, and Reilly (1989)	Critiques Jarrell and Peltzman's (1985) study of automotive recalls	Findings were consistent with Jarrell and Peltzman's (1985) results except that significance levels were reduced (-0.31%). Revisions to Jarrell and Peltzman's (1985) methodology, and corrections to their data set had a substantive impact on results. <i>Conclusion:</i> Neither shareholders of the firms recalling the automobiles nor shareholders of competitor firms are significantly affected by recalls.
Bromiley and Marcus (1989)	Impact of deterrents in the production of defective automobiles	A significant rebound effect occurred following negative response to auto recall (-0.32%). Losses were restricted to periods of vigorous enforcement, and to a vulnerable manufacturer (Chrysler). <i>Conclusion:</i> Unless enforcement is vigorous, and the expectations of a recall are very great, the market does not deter the production of defective vehicles.
Davidson and Worrell (1992)	Non-automotive or tire industry product recalls, products replacements and refunds	Returns associated with replacing the product or refunding the purchase price were more negative than for repairs or product inspection (-2.93%). The market reacted more negatively to products taken off the market than for product recalls. <i>Conclusion:</i> Producing and selling defective products may imply a link between shareholder wealth and socially irresponsible corporate behaviour. Or, the market may simply react to anticipated lower demand for that firm's products.
Dranove and Olsen (1994)	Drug recalls	The recall of five dangerous drugs was negative for both manufacturers and competitors (-0.15%). Affected firms continued to lag the industry five years after later. Their European counterparts were not affected. <i>Conclusion:</i> Investors view recalls as signals of anticipated increases in the cost of compliance with new and more stringent government regulations.
De Mortanges and Rad (1998)	Unilever's recall of laundry detergent (Omo Power)	Tracked the effects on one firm's stock price from one product over five months. Results indicated that the introduction, negative publicity and subsequent recall and modification of the product caused a significant stock price drop over five months (-9.45%). <i>Conclusion:</i> The stock market value of a firm can be negatively affected by the bad publicity relating to the firm's marketing strategy.
Rupp (2001)	Manufacturer vs. government-initiated automotive recalls	Manufacturer-initiated recalls were associated with losses in equity (-0.28%), while government-initiated recalls were not. <i>Conclusion:</i> The recall initiator (either manufacturer or government) does not serve as a reliable signal of product quality. Automotive investors should not make equity decisions on the basis of who initiated the safety recall.
Salin and Hooker (2001)	Food contamination involving Sara Lee Corp., IBP, Inc., and Odwalla, Inc.	Four recalls of differing scope and severity did not indicate a consistent relationship between stock price reaction and the severity of the contamination incident. Outcomes for the smallest firm in the study were severe compared to the firm's revenues (-30.42%). <i>Conclusion:</i> The stock market is "desensitized" to food contamination risks.

TABLE 2 Continued

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Thomsen and McKenzie (2001)	Meat and poultry product recalls	Significant shareholder losses were incurred for food companies implicated in recalls involving serious food safety hazards (-3%). Losses persisted for longer than one month after recall. <i>Conclusion:</i> Product recalls contain new information about the current or future profitability of meat and poultry companies. When recalls involve less severe hazards, the market views such recalls as responsible corporate behaviour.
Ahmed, Gardella, and Nanda (2002)	Drug withdrawals	Firms that withdraw drugs experienced significant wealth losses (-7.8%). Direct competitors gained significantly following the withdrawal as demand for substitute drugs increased. Losses were lower when several firms withdrew similar products and when drugs were withdrawn during the marketing stage. <i>Conclusion:</i> Firms that withdraw drugs experience significant wealth losses that often exceed their out-of-pocket expenses resulting from the withdrawal.
Govindaraj, Jaggi, and Lin (2004)	Recall of Firestone Tires by Bridgestone Corporation	The initial loss in market value for both Bridgestone and Ford was far in excess of the worst-case cost estimates associated with the recall (-4.35% for Ford; -10.57% for Bridgestone). Competitors experienced a significant gain in market value. <i>Conclusion:</i> The market initially overreacts negatively and very pessimistically to product recall news. The reaction is corrected as information on actual costs becomes available. Competitors whose products can be substituted for the recalled product benefit from the recall.
Rupp (2004)	Government-initiated automotive recalls	Recalled heater, defroster and air-conditioning components had significantly smaller shareholder losses than recalls for omitted components (e.g. visual systems) (- 0.33%). Significantly larger losses were experienced by companies in excellent financial shape. <i>Conclusion:</i> The indirect costs of automotive recalls are likely to be larger than direct costs. High quality manufacturers are likely to experience the largest losses following recall.
Chu, Lin, and Prather (2005)	Re-examines Pruitt and Peterson's (1986) product recalls	The market reacted negatively to product recalls (-1.77%). Companies in the drugs/cosmetics and toys/appliances industries suffered most. <i>Conclusion:</i> The market views product recalls as unfavorable and unexpected events. Negative effects are not persistent.

Table 3 reports on the event studies which monitor the progress of product development as new products move through research and development stages, and towards final government approval. Again the food and drug industries provide a rich source for event study analysis (six studies). Also included in this Table are studies that examine the impact of trademark infringement lawsuits (Bhagat and Umesh, 1997); the release of qualitative non-financial information during research and development (Narayanan, Pinches, Kelm, and Lander, 2000); global product design and development announcements (Ojah and Monplaisir, 2003); and the impact of antismoking policies on cigarette producers (Wooster and Gallet, 2005). Examining the seven stages involved in new drug development from discovery to final U.S. Food and Drug Administration approval, Xu (2006) found that every step of R&D progress conveyed positive information to investors and that later stages induced significantly higher returns than for earlier stages. In contrast, the passage of food labeling regulations by the U.S. National Labeling and Education Act (Ghani and Childs, 1999) resulted in significant short-term direct label costs for U.S. multinational food corporations.

As key industries such as auto, food, and pharmaceutical manufacturers continue to innovate and develop new products, they will provide abundant opportunities for future research. Safety issues will continue to be a concern in these industries. As time goes by, it will be interesting to monitor whether investors become inured to product recall as being part and parcel of everyday living, as Salin and Hooker (2001) seem to suggest. Interest in conservation and environmental issues will lead to innovations in the auto industry such as hybrid vehicles powered by electric motor and batteries, and the use of alternative energy sources such as natural gas, ethanol, and sunlight. Similarly, research in the biotechnology field will drive the development of new food and drug products that will vie for consumer attention in the future. These developments will provide a rich and ongoing source of event study material.

**TABLE 3**  
**Event Studies in Marketing: Product Research and Development**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Shapiro and Switzer (1993)	Compulsory licensing	Patent protection in the pharmaceutical industry in Canada was viewed positively by the stock market, but only when measured with hindsight (in 1987). The market response became stronger as uncertainties regarding entry and government regulations were resolved (8.5% for passage of Bill C-22). <i>Conclusion:</i> Patent protection allows the appropriation of gains from knowledge by firms in the pharmaceutical industry. Pharmaceutical companies would benefit from international agreements that provide stringent levels of patent protection.
Bosch and Lee (1994)	Food and Drug Administration approval	Uncertainty surrounding Food and Drug Administration (FDA) announcements of approvals or rejections was costly to the firms involved. Ignoring FDA rules may be quite profitable for companies that are not caught. <i>Conclusion:</i> FDA decisions have a large wealth effect suggesting a high degree of uncertainty surrounding FDA decisions. Efforts to reduce uncertainty would decrease the overall cost of drug production.
Bhagat and Umesh (1997)	Trademark infringement	Negative impact of filing a lawsuit was -0.2% for the plaintiff and -0.4% for the defendant in trademark infringement cases. When the verdict was in favor of the plaintiff, the defendant had a relatively large negative abnormal return of -3% of firm value. <i>Conclusion:</i> While trademark infringement lawsuits have minimal or no effect on the value of plaintiff firms, it can have a negative effect on defendant firms and have a severe drop in value if the verdict goes against them.
Ghani and Childs (1999)	Food labeling regulations	The passage of food labeling regulations by U.S. National Labeling and Education Act (NLEA) at all four stages resulted in consistent negative wealth effects. More than 81.6% of food firms experienced a negative price reaction. <i>Conclusion:</i> NLEA legislation results in significant short-term direct label costs and longer-term strategic costs associated with constrained marketing opportunities for nutrition-related products.
Narayanan, Pinches, Kelm, and Lander (2000)	Disclosure of non-financial information	During innovation and commercialization there were significant positive wealth effects from the release of non-financial information on research and development (0.88% for innovation; 1.02% for commercialization). Investors were sensitive to qualitative information about technical factors (e.g. government approval and product substitution) only during the innovation stage. <i>Conclusion:</i> Information asymmetry between investors and managers is higher during the innovation than the commercialization stage. As firms reveal more credible and economically significant information, information asymmetry is reduced.
Ojah and Monplaisir (2003)	Global product design and development	Stock price reaction to global product design and development (GPDD) announcements were significantly positive and value enhancing for the firm (18.17%). Product market structures, the competitive strategy posture of peers, and whether they produce a good or a service, jointly determined the variation in excess returns attributable to global product development. <i>Conclusion:</i> GPDD as a strategic initiative is most valuable when a firm operates in a low seller concentration product market and in an environment where competitors respond aggressively to strategic initiatives.
Sharma and Lacey (2004)	New drug applications	Stock market responded strongly and cleanly to the success or failure of new drug development efforts (-21.03% for rejections) as indicated by the Food and Drug Administration's (FDA) responses to new drug applications. Financial market losses from drug development failures were much larger than gains from product successes. <i>Conclusion:</i> Managers should factor in a substantial risk premium when considering new drug development projects.
Wooster and Gallet (2005)	Antismoking policies	Significant abnormal returns were experienced across the 23 dates that corresponded to regulatory events (i.e. the introduction of antismoking policies) in the tobacco industry (-2.02% for R.J. Reynolds). Industry losses from antismoking policies amounted to approximately U.S. \$1.5 billion. The advertising ban had the largest negative impact on the industry. <i>Conclusion:</i> Antismoking regulatory policies have a predominantly negative impact on the cigarette industry.
Xu (2006)	New drug development	Every step of research and development progress in new drug development conveyed positive information to investors (0.22%). Late-stage research and development progress induced significantly higher abnormal returns than for early stage research and development. <i>Conclusion:</i> Stock price volatility decreases monotonically in research and development progress.

*Promotion Research Stream* - Included in this stream of research are the event studies that focus on corporate name changes (Table 4); advertising and promotions (Table 5); and sponsorship and events (Table 6).

Corporate name change (Table 4) is an important re-branding strategy. Event studies have examined radical and cosmetic name changes (Horsky and Swyngedouw, 1997); major and superficial changes (Bosch and Hirschey, 1989); complete and partial changes (Kilic and Dursun, 2006); and strategic changes such as a dotcom name

**TABLE 4**  
**Event Studies in Marketing: Corporate Name Changes**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Howe (1982)	Corporate name changes	No significant market reaction found in relation to corporate name changes. No systematic reaction in either decade (1960s, 1970s) to changes in company names. Findings were based on weekly not daily stock returns. <i>Conclusion:</i> Company name change appears to be a financially neutral event.
Horsky and Swyngedouw (1987)	Radical and cosmetic name changes	Name changes were associated with improved firm performance (0.61%). Firms that produced industrial goods and whose performance prior to the name change was relatively poor achieved the greatest improvement. Radical name changes were no more or less successful than cosmetic name changes. <i>Conclusion:</i> Name changes signal to the market that measures to improve the firm's performance will be undertaken seriously by management.
Bosch and Hirschey (1989)	Major and minor name changes	Positive but statistically weak effects found during the name change period (0.33%). These effects were cancelled by negative post-announcement effects. For firms that had previously undergone major restructuring, the announcement of a name change was large and positive. <i>Conclusion:</i> The valuation effects of name change are modest and transitory.
Karpoff and Rankine (1994)	Corporate name changes	Reaction to name change announcements were found to be not significant, positive and very weak, and sensitive to sample selection and selection of the event date. Argued that the sample used by Horsky and Swyngedouw (1987) suffered from selection bias. <i>Conclusion:</i> Corporate name changes may serve useful purposes, but such purposes have small valuation effects or tend to be anticipated by investors.
Cooper, Dimitrov, and Rau (2001)	Dotcom or dot net name changes	Companies that change their name to a dotcom name earned a large and permanent increase in value, regardless of the level of their involvement with the Internet (74%). <i>Conclusion:</i> Results are driven by a degree of investor mania such that investors are eager to be associated with the Internet at all costs.
Lee (2001)	Dotcom name changes	Dotcom name changes were associated with substantial increases in stock prices and trading activity (167.85%). Investor reaction was larger when other strategic investments were involved. Cosmetic image-only name changes resulted in smaller increases than strategic name changes. <i>Conclusion:</i> Dotcom name changes convey important information about the firm's group and social identity. Managerial decisions that are backed by other strategies provide a more effective signal.
Karbhari, Sori, and Mohamad (2004)	Name changes for failed and non-failed firms	Corporate name changes in Malaysia had no impact on shareholder wealth unless the announcement was accompanied by news of an approved corporate restructuring scheme. Such firms experienced a permanent wealth increase. <i>Conclusion:</i> Investors in Malaysia are generally cautious about corporate name changes. Serious efforts toward recovery must accompany the name change.
Kilic and Dursun (2006)	Corporate name changes	Name changes were generally viewed positively by the market (1.28%). Name changes by industrial goods companies with monolithic identities reduced shareholders' wealth significantly. Name changes by consumer goods companies with a branded identity had no effect on firm value. Partial names changes generated positive returns. <i>Conclusion:</i> Name change is a wealth creating activity and adds significantly to firm value.

change (Cooper, Dimitrov, and Rau, 2001; Lee, 2001). Early event study findings suggest that corporate name change had either little or no positive association with an increase in firm value. However, at the start of the new millennium, dotcom name changes earned a huge increase in value for dotcom firms – 74 percent reported by Cooper et al. (2001) and 168 percent by Lee (2001). Such results led Cooper et al. (2001) to conclude that their results were driven by a degree of investor mania such that investors were eager to be associated with internet-linked firms at any cost. It is probable that event studies of dotcom name changes undertaken today would find such novelty for investors has worn off. With increases in the globalization of markets, products and services will continue to be re-branded with different identities that better reflect the dynamics of their new markets. Companies will continue to acquire one another and to change their brand names and image. Such strategic marketing developments will provide opportunities for ongoing research in this domain.

Advertising-related event studies (Table 5) focus on a broad range of themes including reactions to unfair and deceptive advertising (Peltzman, 1981); advertising slogan changes (Mathur and Mathur, 1995); green marketing (Mathur and Mathur, 2000); Super Bowl advertising (Kim and Morris, 2003); awards for product quality (Balasubramanian, Mathur, and Thakur, 2005); and diversity as a marketing strategy (Pandey, Shanahan, and Hansen, 2005). Interestingly, three studies focus on the same issue – the hiring and firing of advertising agencies (Hozier and Schatzberg, 2000; Kulkarni, Vora, and Brown, 2003; Mathur and Mathur, 1996). News of firms initiating actions to fire their advertising agencies appear to have a downwards effect on firm value. Mathur and Mathur (1996) interpret the findings as a sign that investors view such announcements as an admission by the firm that their current marketing strategies are ineffective.

**TABLE 5**  
**Event Studies in Marketing: Advertising and Promotion**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Peltzman (1981)	Deceptive advertising	There were large and significant stock market reactions to unfair and deceptive advertising complaints issued against firms (-3.25%). The size of the reaction reflected almost the complete destruction of the advertising capital of the product. <i>Conclusion:</i> The size of the loss in capital value of firms attacked by the Federal Trade Commission (FTC) for false or misleading advertising is quite substantial.
Thompson, Olsen, and Dietrich (1987)	Firm-specific news releases	The association of firm-specific news releases and detectable abnormal returns was not confined to a few well-known cases but was fairly general (0.09%). Stock returns associated with the release of firm-specific news items appeared to differ systematically. <i>Conclusion:</i> Event studies must consider the effect of news items appearing in the financial press during the event period.
Aaker and Jacobson (1994)	Brand image	A positive correlation was found between stock return and changes in perceived quality (0.69%). No association between salience, advertising expenditures and return on investment was found. <i>Conclusion:</i> Improved perceived quality signals to investors that the long-term business performance of the firm will be enhanced. Managers should convey information about the brand's quality image to signal the long-term prospects of the business.
Bobinski and Ramirez (1994)	Financial relations advertising	Regardless of any of the dimensions of the sample examined, financial-relations advertising did not appear to have any significant short-run impact on stock price. However, financial-relations advertising had the potential to increase trading volume. <i>Conclusion:</i> Financial-relations advertising is unlikely to have a favorable impact on the expectations of the market.
Mathur and Mathur (1995)	Advertising slogan changes	Positive market-value effects (0.91%) were associated with announcements of advertising slogan changes i.e. a U.S.\$128 million increase in the value of the firm could be attributed to changes in the firm's advertising slogan. <i>Conclusion:</i> Judicious use of advertising slogan changes is beneficial for firms.



TABLE 5 Continued

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Mathur and Mathur (1996)	New advertising agency-client relations	News of a new ad agency account had a negative effect on firm value (-0.50%). Positive effects were experienced for new accounts with agencies already linked to the firm, and for new accounts for new activities. Larger new accounts were better received than smaller new accounts. The more prestigious the agency the more positive the wealth effect. <i>Conclusion:</i> New ad accounts act as an admission by managers that their current marketing strategies are ineffective.
Hozier and Schatzberg (2000)	Advertising agency termination	Both advertising agency termination and “in-review” announcements produced significant negative effects two days prior to the event date and were preceded by significant declines in both firm and financial market performance (-1.3%). <i>Conclusion:</i> Investors correctly assess the downward trend of future cash flows associated with advertising agency changes.
Mathur and Mathur (2000)	Green marketing	Announcements of green promotional efforts produced significantly negative stock price reactions (-3.14%). Announcements related to green products, recycling efforts, and appointments of environmental policy managers resulted in insignificant stock price reactions. <i>Conclusion:</i> Investors have reservations about corporate green marketing activities because of the costs involved in becoming “green” firms.
Kim and Morris (2003)	Super Bowl advertising	Overall, Super Bowl advertisements had a significant negative effect (-2%) suggesting that they were regarded as an overly expensive and inefficient investment. The effect of Super Bowl advertisements was more negative for dotcom companies than for bricks-and-mortar firms. <i>Conclusion:</i> Firms need to address investor exposure when designing marketing communications plans.
Kulkarni, Vora, and Brown (2003)	Advertising agency termination	In the three days before firing its ad agency, the firm experienced a fall in stock price (-0.87%). It appeared that the impending firing of the ad agency became public knowledge before it was formally announced by the client. Ad agencies that were fired experienced negative returns of -0.84%, and ad agencies that were hired experienced returns of 3.71%. <i>Conclusion:</i> Investors do not consider the firing/hiring of ad agencies will alleviate immediately the reasons for the decline in market share.
Balasubramanian, Mathur, and Thakur (2005)	Quality achievement awards	Quality achievement awards (i.e. the Malcolm Baldrige National Quality Award and the J. D. Power and Associates Awards) generated significant value for MBNQA winners (1.27%). JDPAA had little impact in the automotive, travel and finance product categories. <i>Conclusion:</i> Firms investing in quality improvements (e.g. with the aim of winning MBNQA awards) may generate some intermediate to long-term wealth effect.
Pandey, Shanahan, and Hansen (2005)	Diversity	Strong evidence found of a positive investor response to a firm’s inclusion on <i>Fortune’s “diversity elite”</i> list (0.92%). No evidence found to support that having a diverse sales force contributes to superior financial accounting performance. <i>Conclusion:</i> Publicity of events, such as listing on <i>Fortune’s “diversity elite”</i> list, can have positive wealth effects.

Referred to by Cornwell, Pruitt, and Clark (2005: 401) as a “non-traditional marketing technique,” sponsorship-linked marketing (Table 6) has become a major focus for event studies. Why sponsorship has attracted so much interest by event study researchers is unclear. One explanation is the reported lack of rigor in the selection of sponsorship investment where managers sponsor their favorite sports teams with little regard for the capacity of the sponsorship to demonstrate a return on investment (see Clark et al., 2002). More recent sponsorship studies focus on the ability of sponsorship to demonstrate quite clearly an immediate return on investment. Rather than merely providing results in terms of the percentage increase or decrease in firm value, investigators are now converting their findings into net present value with impressive results. For example, Calderon-Martinez, Mas-Ruiz, and Nicolau-Gonzalbez (2005) report that commercial sponsorship announcements in Spain resulted in an increase in market value of 34,865,586 €. Similarly, Cornwell et al. (2005) report that the mean increase in shareholder value from major-league sports’ official product sponsorship announcements was approximately U.S.\$257 million, and Pruitt et al. (2004) report a U.S.\$334 million increase from NASCAR sponsorship.

Event studies in sponsorship have examined activities such as celebrity endorsement (Agrawal and Kamakura, 1995; Louie, Kulik, and Jacobson, 2001; Mathur, Mathur, and Rangan, 1997); major events such as the Olympic Games (Berman, Brooks, and Davidson, 2000; Farrell and Frame, 1997; Mishra, Bobinski, and Bhabra, 1997; Miyazaki and Morgan, 2001; Tsiotsou and Lalountas, 2005; Veraros, Kasimit, and Dawson, 2004); and different sporting contexts such as motor sports (Cornwell, Pruitt, and Van Ness, 2001; Mahar, Paul, and Stone, 2005; Pruitt et al., 2004), and major league sports (Cornwell et al., 2005).

Of the 77 event studies examined in this review as a whole, few studies have examined topics that are as closely aligned as the specific sponsorship of the 1996 Atlanta Olympic Games (see Hoffer et al., 1989). Interestingly, the two studies examined here in fact show mixed results. Farrell and Frame (1997), for example, report statistically significant negative stock price effects from their examination of 26 announcements, whereas Miyazaki and Morgan (2001) report statistically significant increases from 27 announcements. Possible explanations for the different findings could be the differences in sample size used or differing dates attributed to the announcements (Cornwell et al., 2005). Also unlike Farrell and Frame (1997), Miyazaki and Morgan (2001) did not report event dates as McWilliams and Siegel (1997) recommend, making re-analysis of the data problematic.

In addition to these Olympic Games sponsorship studies, Table 6 also reports on a number of investigations of the overall stock market impact of Olympic Games host city announcements. These studies reflect the rise of academic interest in event and tourism marketing. There is potential for future studies to not only continue the growing knowledge about the impact on stock markets around the world that arise from Olympic Games-related announcements, but also to investigate the stock market effects of other international sporting activities such as World Cup events in football, rugby, and cricket.

**TABLE 6**  
**Event Studies in Marketing: Sponsorship and Events**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Agrawal and Kamakura (1995)	Celebrity endorsement	Investors valued positively the use of celebrities in advertisements (0.54%). <i>Conclusion:</i> Celebrity endorsements are an economically viable and worthwhile advertising investment.
Farrell and Frame (1997)	Olympic Games sponsorship - Atlanta	Investigated sponsors of the 1996 Summer Olympic Games in Atlanta, Georgia. A negative stock price effect was found around the announcement date (-0.43%). Weak support found for agency monitoring effects. <i>Conclusion:</i> Olympic sponsorship may not be value enhancing.
Mathur, Mathur, and Rangan (1997)	Celebrity endorsement	Anticipation of Michael Jordan's return to NBA basketball resulted in an increase for his sponsor firms of over U.S.\$1 billion (2%). <i>Conclusion:</i> Celebrity endorsement has the capacity to signal significant future earnings for the firm.
Mishra, Bobinski, and Bhabra (1997)	Major corporate event sponsorships	On average, corporate sponsorship increased average firm value by U.S.\$94.4 million (0.56%). <i>Conclusion:</i> Sponsorships create significant economic wealth for stockholders.
Berman, Brooks, and Davidson (2000)	Olympic Games host city - Sydney	The announcement of Sydney as the host city for the 2000 Olympics had no impact on the overall Australian stock market. Industries in the building materials sector, developers and contractors, engineering and miscellaneous services, and stocks based in NSW received significant positive reactions. <i>Conclusion:</i> Building and construction industries located in the Olympic city/state benefit most from Olympic Games announcements.



TABLE 6 Continued

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Cornwell, Pruitt, and Van Ness (2001)	Victory in motor sports	“Indy 500” winning companies with direct ties to the consumer automotive industry experienced larger stock price increases (8%) than winning sponsors without a similar association (3%). <i>Conclusion:</i> Closely linked and specifically targeted sponsorships are particularly value enhancing.
Louie, Kulik, and Jacobson (2001)	Celebrity endorsement	Stock market reaction to events that had a deleterious effect on the spokesperson was negatively related to spokesperson blameworthiness (-0.11%). The lower (higher) the culpability, the higher (lower) the stock return. Only firms associated with spokespersons with high culpability experienced a loss in value. For low culpability events, increased visibility generated by an undesirable event enhanced an endorser’s effectiveness. <i>Conclusion:</i> Endorser blameworthiness influences firm value.
Miyazaki and Morgan (2001)	Olympic Games sponsorship - Atlanta	Investors viewed the acquisition of sponsorships of the 1996 Summer Olympic Games in Atlanta, Georgia, favorably (1.24%). <i>Conclusion:</i> The purchase of sponsorship rights for the Olympic Games is a justifiable expense for participating firms.
Clark, Cornwell, and Pruitt (2002)	Corporate sports stadium naming rights agreements	Investors viewed the acquisition of sports stadium sponsorships favorably (1.65%). Sponsorship by high technology firms were perceived more favorably than for more traditional firms. Longer-term deals were more desirable than shorter deals. Sponsorships involving winning teams offered better value. Locally based sponsors offered better opportunities for corporate communications. <i>Conclusion:</i> Investors perceive that naming-rights agreements add value to the firm.
Kinney and Bell (2003)	Sports sponsorships announced in the <i>Wall Street Journal</i>	No general sponsorship effect was observed. Significant increases were observed for Olympic Games and baseball events, when rights fees were reported, and with non-functionally congruent brand/event pairings. <i>Conclusion:</i> The time lag between announcement and sports event may make it difficult for investors to assess the value of the sponsorship strategy. Investors can evaluate sponsorships better when more information (e.g. about rights fees) is provided.
Drewniak, Mahar, and Russell (2004)	Athlete endorsement	When endorsees did well, the sponsoring firm experienced an increase in market value of just over 1%. Negative events affecting the celebrity endorser lead to price declines. <i>Conclusion:</i> Publicity surrounding high profile endorsers supports the theory that events (negative or positive) that affect the image or reputation of the endorsee also affect the stock price of the sponsoring firm.
Pruitt, Cornwell, and Clark (2004)	Auto-racing sponsorship	Considerable investor enthusiasm (1.13 %) was found for NASCAR sponsorships, adding over U.S.\$334 million to the value of sponsoring firms. NASCAR sponsorships with direct ties to the consumer automotive industry increased firm value by U.S.\$518 million. Larger financial returns arose from sponsoring the best teams. <i>Conclusion:</i> Good sponsor/event fit can result in substantial increases in firm value.
Veraros, Kasimati, and Dawson (2004)	Olympic Games sponsorship - Athens	The announcement of Athens as the host city for the 2004 Olympic Games had a significantly positive effect on the Athens Stock Exchange (8.7%), and particularly on infrastructure-related stocks. No significant effect was found on the Milan Stock Exchange (i.e. on the losing bidder). <i>Conclusion:</i> Due to the highly competitive bidding process, financial markets assign higher probability to losing than winning the Olympic bid.
Calderon-Martinez et al., (2005)	Commercial vs. philanthropic sponsorship	Only commercial sponsorships added value (0.75%). Determining factors included firm size and sponsor/event fit. <i>Conclusion:</i> Commercial sponsorship contributes to firm value and philanthropy does not.
Cornwell, Pruitt, and Clark (2005)	Major-league sports official product sponsorships	Official product sponsorships generated significant economic value, adding between U.S.\$123 million and U.S.\$558 million to the value of sponsoring firms (1.11%). Investors with smaller market shares had 7% larger returns than firms with 50% market share. Congruent sponsorships were more valuable than those involving unrelated products. <i>Conclusions:</i> A direct product link to the sponsored sport is important to investors’ acceptance of an official sports sponsorship. Products with smaller market shares appear to benefit the most from official sponsorships.

**TABLE 6 Continued**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Mahar, Paul, and Stone (2005)	Impact of NASCAR race performance on the lead sponsor	Impact of NASCAR race performance on the lead sponsor during the 2002-2003 racing seasons showed weak evidence of a relationship between race performance and excess returns. Significant increases in value were found for sponsors of consumer products and for firms in the auto industry independent of race performance. <i>Conclusion:</i> Sponsors from the auto industry that sponsor NASCAR teams experience benefits regardless of race performance.
Tsiotsou and Lalountas (2005)	Olympic Games sponsorship - Athens	Explored two approaches to deal with statistical problems arising from the small sample size of their study focusing on Olympic Games sponsors in Greece. Results using abnormal returns, cumulative abnormal returns and Z-statistics showed positive effects. When the dummy variable and bootstrapping was used, no significant abnormal returns were found. <i>Conclusion:</i> Regression models that include dummy variables and bootstrapping techniques help in addressing problems of non-normality, independently from the sample size in sponsorship research.

*Services Research Stream* - Despite the fact that the research stream examining customer services and new technology (Table 7) is the smallest of the three streams (10 percent of the total sample), it reflects an important emerging interest in assessing the financial value of connecting customers with the firm through services and technology. Using “The Connected Customer” as their overarching theme for 2006-2008, the Marketing Science Institute suggests that the “‘connected customer era’ may change the paradigm for effective marketing strategy” (2006: 2, MSI’s emphasis). The services event study research stream provides a number of studies that illustrate the shifts in perceptions about new technology that have occurred over the past decade. For example, Mathur, Mathur, and Gleason (1998) in their study of firms announcing their intention to provide services on the Internet, found that the market viewed this as a positive move. Similarly, internet channel additions (Geyskens et al., 2002) were perceived favourably by investors. However, by 2006, announcements by large U.S. firms about their intentions to launch a new website appear to be interpreted by investors as just a part of everyday business.

The services research stream also reflects a burgeoning interest in conducting event studies on markets outside the United States. Studies include Geyskens et al.’s (2002) investigation of internet channel additions (The Netherlands, Germany, United Kingdom, and France); Shwartz-Asher, Ben-zion, Gabbay, and Yagil’s (2006) investigation of launching a website (Israel); and Lin, Jang, and Chen’s (2007) study of e-service initiatives in Taiwan.

Considering these two developments (an emerging interest in e-services and a rapid increase in event studies in both major and emerging markets), the future expansion of event studies in this stream appears promising. Future research opportunities will arise from topics related to the introduction and diffusion of e-innovations, e-customer relationship management, e-services, e-scapes, and e-marketing initiatives (see Kınımoğlu, 2004). The rise of online marketing and the rapid globalization of markets should also provide fruitful opportunities for research in both domestic and international contexts.

**TABLE 7**  
**Event Studies in Marketing: Services and New Technology**

Author(s), Year	Focus	Main Contributions, Findings and Remarks
Nayyar (1995)	Customer service changes	On average, increases in customer service were positively valued (0.46%), and decreases in customer service were negatively valued (-0.22%). Attempts to reduce the risk of purchase and purchasing cost were more highly valued than attempts to increase customer service with respect to ease, convenience, and cost of use or the personalization of products. <i>Conclusion:</i> Actions that increase customer service before purchase (e.g. guarantees) are more valuable than post-purchase customer service actions.
Ittner and Larcker (1998)	Customer satisfaction	Customer satisfaction measures appeared to be economically relevant to the stock market and were associated with excess stock market returns over a 10-day announcement period. <i>Conclusion:</i> Disclosure of customer satisfaction measures provides information to the stock market on expected future cash flows and should be better reflected in current accounting book values.
Mathur, Mathur, and Gleason (1998)	Internet services advertising	While efforts to advertise on the Internet were not viewed positively by investors, providing services on the Internet was viewed as a positive activity by service firms (0.74%). <i>Conclusion:</i> Service firms should be cautious about expanding their services advertising to the Internet. Firms that perform well should make the Internet a central component of their services marketing strategies.
Geyskens, Gielens, and Dekimpe (2002)	Internet channel additions	Internet channel investments were, on average, positive (0.35%). Firm characteristics, order of entry, publicity, and marketplace characteristics influence the direction and magnitude of investor reaction. Powerful firms with few direct channels, early followers, and those supported by more publicity have the most potential. <i>Conclusion:</i> While investors perceive the addition of an Internet channel favorably, managers need to understand what factors drive the success of this strategy.
Guo, Kumar, and Jiraporn (2004)	Customer satisfaction performance	Firms whose customer satisfaction scores were improved or unchanged experienced returns of 1.76% prior to the announcement. Firms who suffered a drop in satisfaction scores endured a drop in returns of -2.24%. <i>Conclusion:</i> Customer satisfaction has a direct bearing on a firm's financial wellbeing and is critical to its survival, growth and success.
Shwartz-Asher, Ben-zion, Gabbay, and Yagil (2006)	Corporate website launch	Large U.S. firms trading in the U.S. and foreign stocks trading domestically that launched corporate web sites experienced no gain/loss from their website launch. Foreign stocks trading in the U.S. experienced a small positive effect (0.23%). <i>Conclusion:</i> For foreign stocks traded in the U.S., launching a website on the Internet contributes to their exposure and increases their profit prospects.
Lin, Jang, and Chen (2007)	E-services initiatives	Positive abnormal returns arose from e-service announcements (0.32%) in Taiwan. Market size and firm size had negative effects. Firm experience had a positive effect on firm value. Pioneers and late entrants had an advantage over early entrants, firms acquiring new technology through collaborative research and development, and those using diversification expansion strategies. <i>Conclusion:</i> When firms initiate e-services, managers need to recognize that technology acquisition mode, organizational position, industry characteristics, and service introduction strategies act as value drivers.
Wiles (2007)	Customer service strategies	Announcements of a retailer's customer service strategy were viewed positively by the market, adding U.S. \$54million to retailer market values (1.09%). Retailer promises of customer service which were easy to imagine created value. High reputation firms benefited disproportionately from their customer service efforts. No relationship was found between affect and customer service. <i>Conclusion:</i> Strategies emphasizing customer service are rewarded by investors. Firms promoting customer services that are difficult to imagine need to emphasize their capacity to deliver the service (e.g. through testimonials).

### Best practice in event studies (2000 – 2007)

This section investigates to what extent recent event studies in marketing demonstrate the principles of best practice in the application of the methodology. In their review of event studies in management, McWilliams and Siegel (1997) found that inadequate attention had been paid to theoretical and research design issues. To ensure that future researchers undertaking event studies demonstrate correct and adequate design, implementation, and reporting protocols, McWilliams and Siegel (1997) advocate that researchers and journals address ten specific

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points. Using these ten points as a guide to best practice, 16 of the most recent event studies published in marketing journals from 2001 to 2007 were critiqued. Three issues in particular were identified as warranting improvement. These are (1) controlling for outliers; (2) the application of theory to explain returns; and (3) the reporting of firm names and event dates in an appendix to facilitate replication of the study. Before addressing these issues in greater depth, it is important to note that this analysis is based solely on the findings reported in the published versions of the articles. The authors may indeed have followed the event study procedures methodically, but either not reported them or had these steps edited for conciseness.

*Controlling for outliers* - McWilliams and Siegel (1997) suggest that researchers report the percentage of negative returns and the binomial Z or Wilcoxon test statistic or both as means of controlling for outliers. The binomial Z statistic tests whether the proportion of positive to negative returns exceeds the number expected from the market model, while the Wilcoxon signed rank test considers both the sign and the magnitude of abnormal returns (McWilliams and Siegel, 1997). In all but one of the marketing event studies, nonparametric tests for outliers were reported, with reports of the Z statistic common.

McWilliams and Siegel (1997) also suggest that where samples are based on fewer than 30 firms, that additional information is reported on the identification and measurement of the influence of outliers and the results of bootstrapping techniques. Bootstrapping is a form of re-sampling in which the original data are repeatedly sampled with replacement for the model estimation so that parameter estimates are based on actual empirical observations (Hair, Anderson, Tatham, and Black, 1998). According to Cowan (2002), the Patell, standardized cross-sectional, time-series standard deviation, skewness-corrected transformed normal, and cross-sectional tests are eligible for the bootstrap. For a more comprehensive discussion of bootstrap methods in event studies, see Kramer (2001) and Lyon, Barber, and Tsai (1999).

In the 16 event studies examined here, small samples and sub-samples of less than 50 are not uncommon. This is generally a reflection of the intense scrutiny announcements undergo in order to avoid contamination from other confounding events. As with the management event studies, the measurement of outliers and reports of bootstrapping techniques are not frequently reported in this sample. However, the event study conducted by Calderon-Martinez et al. (2005) on commercial and philanthropic sponsorship in Spain provides an example of a thorough analysis of the determinants of excess returns sampled both with and without outliers. Also, Geyskens et al. (2002) make a concerted effort to report upon the robustness checks that were undertaken of their data on European internet channels. They examined alternative stock portfolios, completed jack-knife tests of the stability of their parameter estimates, tested their forecasting performance of the model, and in doing so ruled out alternative explanations of their findings.

*Applying theory to explain the returns* - McWilliams and Siegel (1997) stress the importance of researchers explaining abnormal returns by showing that the cross-sectional variation in returns across firms is consistent with theory. In the sample of studies reviewed here, the conceptual frameworks accessed to make such justifications typically include agency theory, congruence theory, signaling theory, and economic and game theory. In addition, where other related issues are investigated, these are also supported by other theory. For example, Cornwell et al. (2005: 404) apply Weber's Law, a theory of perception, to support their proposition that firms with dominant market positions find that their sponsorships are less likely to be perceived as effective in raising awareness or substantially changing image as firms starting from a much lower base.

Analysis of industry differences, such as industry type and firm size, is a common area of investigation. When supported by discussions regarding the theoretical implications of the findings, these additional cross-sectional analyses extend our understanding of the financial impact of marketing decisions. They lend substantial

trustworthiness to the empirical findings of the event study and provide managers with a sound basis on which to make strategic decisions. However, in some of the studies examined in this sample, cross-sectional analyses are exploratory and theoretical support for the findings is limited. At best, findings are descriptive. Authors cite that their studies are often the first of their kind (see Clark et al., 2002) and hence lack the strong theoretical underpinnings that may be expected in a well-developed research field. Another defense is that offered by Mishra and Bhabra (2001: 86) who state that, "In part, this study is a response to frequent calls for more studies regarding the financial impact of marketing decisions." It is important that future event studies provide not only theoretical support to justify why there should be a financial response to new marketing-related information, but also to put forward theories that explain more fully any cross-sectional variations in abnormal returns and to test such theories econometrically.

*Providing an appendix of names* - As a final step in an event study, McWilliams and Siegel (1997) suggest that researchers report firm names and event dates as an appendix to enable other researchers to replicate and extend the initial study. This development is important as the increasing acceptance of the event study methodology in marketing will promote more replications and extensions of research. One example is Kulkarni, Vora, and Brown's (2003) extension of Hozier and Schatzberg's (2000) event study of ad agency firing. In their own replications of past research, McWilliams and Siegel (1997) reveal findings that differ from the published findings, and they note the use of methodologies judged to be inappropriate for testing the theories proposed. In this current sample of marketing event studies, only five studies contained sufficient information to facilitate replication. However, it is important to note that where event studies are based on particularly large samples, such as Cornwell et al. (2001, n = 250), Louie et al. (2001, n = 128) or Pandey et al. (2005, n = 110), editorial constraints may have limited the inclusion of such information.

## **DIRECTIONS FOR FUTURE RESEARCH**

This final section posits several directions for future research using the event study method and identifies some gaps in the literature where events study methodology might be better applied to advance marketing thought. These recommendations include replication, extension, and meta-analysis of existing studies, as well as broadening the scope of research to new markets and new topics.

### **Theory development**

There is still some way to go in responding to the importance placed by McWilliams and Siegel (1997) on theoretical support for the development of event studies hypotheses and explanation of findings. At present a common device in existing published research is the extensive use of citations of a few key event studies, such as those of Horsky and Swyngedouw (1987) and Chaney et al. (1991), as a means to construct and defend the research design. Another approach is the repeated reliance on a few core theories such as signaling theory and agency theory to provide a broad theoretical justification across a diverse range of research interests, when other theories might be more appropriate.

At the same time, such evolution to more specific or appropriate theory to justify the research predictions is occurring in some of the fields investigated here. Beginning with Eddy and Saunders (1980), one can track how the discourse on event studies on the marketing of new products, and their introduction, delay, and recall has developed over time. Collectively, these studies now provide an excellent example of how theories develop and evolve, and new conceptual explanations enter the field over time. The growing emergence of this conceptual understanding around products truly reflects the position taken by Sutton and Staw (1995: 378), with theory being

“about the connections among phenomena, a story about why acts, events, structure, and thoughts occur.” This research field now provides a rich stream of compelling and interrelated arguments around this topic, compared to others that rely on almost tangential use of broad models to justify the research propositions. Marketing researchers need to continue to seek multiple theoretical perspectives from both within and outside the marketing field, from finance and economics, to provide the foundation for their investigations. Cornwell, Pruitt, and Clark’s (2005) application of Weber’s Law provides one example of such required developments.

### **Replication and new areas of research interest**

The advantage of reaching a critical mass of research on a specific marketing theme, such as product recall or corporate name change, is that it provides opportunities for researchers to critique the findings and to make methodological improvements. As illustrated by Hoffer, Pruitt, and Reilly (1989) who noted a flaw in Jarrell and Peltzman’s (1985) study of product recall, a critical appraisal of the current studies on a specific theme can make a substantive contribution to both the methodology and the nature of the research findings. Indeed, some authors, such as Sharma and Lacey (2004), invite replication and extension of their research. One interesting reason given by Sharma and Lacey (2004: 304) to extend their research is that they considered that their research: “was constrained by the need for event-study-worthy data.”

It is quite likely that some inconsistencies across research findings are due to flaws in the empirical analysis. To illustrate, in their review of three event studies investigating the impact of corporate social responsibility (CSR) on financial performance, McWilliams and Siegel (1997) noted that each research team reported quite contradictory findings (i.e. positive, negative, and neutral outcomes). Re-examining previous research they identified that these inconsistent findings were attributable to a misspecification of the model due to the exclusion of certain R&D and industry factors. In the articles reviewed here, interesting differences occur between Farrell and Frame’s (1997) negative and Miyazaki and Morgan’s (2001) positive findings about the value of purchasing sponsorship rights for the Atlanta Olympic Games. Opportunities for future research clearly exist for event studies to investigate further the impact of Olympic Games sponsorship announcements in different countries, at different levels of involvement, and longitudinally across different Olympic Games events.

With increasing concerns around global warming, another opportunity for replication is Mathur and Mathur’s (2000) investigation of green marketing strategies. Almost a decade later, investors may perceive green marketing strategies as value enhancing for environmentally concerned firms. Other social issues that can be predicted to grow and to put pressure on governments to respond by introducing new legislation include the links between advertising and childhood obesity, drugs, and sport, and restrictions about cigarette and alcohol use with regards to sponsorship activities. Announcements around such legislation offer future opportunities for the application of event study methods.

In addition, ongoing technological developments as well as media fragmentation provide new challenges for advertising research. According to PricewaterhouseCoopers (2007), annual global advertising is set to increase from U.S.\$407 billion in 2006 to U.S.\$531 billion in 2011, with the internet the fastest-growing advertising medium. This signals that future research opportunities may be found in areas such as internet marketing and satellite advertising, as well as in new locations such as the rapidly expanding regions of China and India. To date, no published event studies have examined advertising-related issues in markets outside the United States.

According to the International Events Group (IEG Ltd, 2007), the world’s leading authority on sponsorship, North American-based companies spent an estimated U.S.\$3.2 billion to sponsor motor sports teams, events, tracks, and sanctioning bodies such as NASCAR in 2007, up 11 percent from a U.S. \$2.9 billion outlay in 2006. With such

impressive growth, sponsorship event studies will continue to provide an interesting avenue for research. Given time, event study research of Olympic Games sponsorships both within the United States and across international markets will provide potentially interesting insights about the value of Olympic involvement. In addition, new sponsorship opportunities that arise from satellite and online sports packages, and in developing regions such as the Asia Pacific and Latin America, will provide new research opportunities also (PricewaterhouseCoopers, 2007).

*Research in non-U.S. markets* - As noted earlier, most event studies in marketing have been conducted in a single-market context, specifically the United States. The effect on firm value arising from these studies reflects the unique emphasis such activities have in the U.S. market. Similar effects may or may not arise in markets in other countries. Do sports sponsorship announcements, for example, have as an impressive impact on stock prices in the United Kingdom, Europe, or China? Attempts should be made to validate findings across countries. This can play a significant role in advancing our understanding about the global value of strategic marketing initiatives.

Researchers contemplating investigating phenomena in non-U.S. markets have several sources for non-U.S. equity return data. These include the Pacific-Basin Research Center which contains data for eight Asian markets from 1975, individual country-specific stock markets, and Thomson Datastream (TDS) (Ince and Porter, 2006). TDS data includes price, volume, market capitalization, and dividend data for over 50,000 stocks traded in 64 developed and emerging markets over the past 25 years. Bartholdy, Olson, and Peare (2007) also provide some practical advice on how to perform event studies on small exchanges involving thinly-traded stocks.

*Research in multi-country settings* - Another opportunity to increase the research scope of event studies in marketing is to apply the technique to multiple countries simultaneously (see Park, 2004). With the pervasiveness of the internet, information about certain events now travels instantaneously around the globe. It is highly likely that the withdrawal of a drug in North American markets, for example, would have an impact on the share price of rival firms operating in other markets and on well-established stock exchanges outside the United States. To date, we know little about the ripple effects such news might have as it travels around the globe. However, Park (2004) cautions that multi-country event studies involve specific challenges to researchers, such as issues with non-synchronous international stock market trading hours.

*Meta-analytic reviews* - Another approach to extending event study research is to undertake a meta-analysis of specific topics. Meta-analysis involves a set of statistical procedures designed to synthesize findings across a number of independent studies that address a common research question. A meta-analysis of event studies that examine new product announcements, for instance, could provide a systematic way to examine the overall impact of such announcements on firm value that would be informative in terms of marketing strategy. Frooman (1997), for example, undertook a meta-analysis of 27 event studies that measured the stock market's reaction to incidences of socially irresponsible and illicit behaviour. He concluded that firms adopt a moral position of enlightened self-interest that guides them to act in a socially responsible manner.

*Developing more accurate databases* - As Elton, Gruber, and Blake (2001) suggest, all data sets have errors. Flawed data can seriously damage a research project and significantly reduce the quality of marketing decisions based upon such erroneous research results. A number of studies have examined the reliability of CRSP and Compustat databases (Courtenay and Keller, 1994; Elton et al., 2001; Rosenberg and Houglet, 1974; San Miguel, 1977) as well as the costs involved in locating and downloading financial data from such databases (Zaher, 1999). However, apart from the McWilliams and Siegel (1997) study, none has re-examined the data used in an event study specifically. In their comparison of monthly price relativities for NYSE listed stocks on both the CRSP and Compustat databases, Rosenberg and Houglet (1974) found that while large errors were infrequent, when they did

occur they were sufficient to change the apparent nature of the data quite dramatically. While CRSP and Compustat are highly regarded databases, with the internationalization of studies other databases are required to access stock price data from around the world. The use of an increasingly diverse range of databases for the purpose of event analysis may give rise to reliability problems in the future that will need to be monitored.

### **LIMITATIONS, IMPLICATIONS FOR PRACTITIONERS AND CONCLUSIONS**

While the selection process adopted for identifying event studies in this review followed the standard procedures for locating secondary sources (Chandy et al., 2004; Cooper 1989), it is inevitable that some published marketing-related event studies were not detected. However, it is considered that the 77 articles reviewed here provide a substantial foundation on which to base these findings.

While event studies in marketing may be criticized for their limited theoretical foundations, as Geyskens et al. (2002: 117) state, "This research represents an early enquiry into a complex phenomenon." This limitation in event study analysis is also its strength. It facilitates a fresh and novel approach to better understanding the implications at the firm-level of marketing strategies. If, as Ittner and Larcker (1998) found in their investigation of customer satisfaction performance, less than one-third of U.S. firms relate their marketing strategies to financial performance measures, then event study analysis is a valuable and timely tool.

The event studies reviewed here should be of interest to many constituencies, including corporate executives and investors as well as marketing practitioners. Both individually and collectively, these event studies contribute to a more complete understanding of the impact marketing-related activities have on shareholder value. Particularly where marketing activities are difficult to measure, such as sponsorship and customer services, findings provide clear evidence about the economic value of such expenditures. A second issue raised by McWilliams and Siegel (1997) that needs to be responded to in future research is the focus on firm-level performance. There are calls for a shift in the direction of marketing research away from concentrating on consumer awareness and recall measures to an emphasis on the financial impact of marketing strategies on the firm. As Hozier and Schatzberg (2000) suggest, event study methodology provides a partial solution to the problem of integrating firm-level financial data with strategic marketing variables.

In conclusion, the event-study methodology makes a valuable addition to the repertoire of approaches that further our understanding of marketing strategy performance. The ability of the methodology to detect the impact of marketing strategies on firm value makes an important contribution to the process of bringing the marketing-finance interface closer together. Although to date the publication of marketing-related event studies is fragmented across many journals, by collecting these studies together into a unified body of research, it is hoped that this review has demonstrated how the methodology has advanced marketing thought, and by doing so, stimulated other scholars internationally to consider the potential application of this methodological specialization in their own research. The findings of this review indicate that there is plenty of scope for marketing researchers to extend this field of research both by examining a wider range of international markets and a wider range of marketing issues.



**REFERENCES**

- Aaker, D. A. and R. Jacobson. 1994. "The Financial Information Content of Perceived Quality." *Journal of Marketing Research* 31 (2): 191-201.
- Agrawal, J. and W. A. Kamakura. 1995. "The Economic Worth of Celebrity Endorsers: An Event Study Analysis." *Journal of Marketing* 59 (3): 56-62.
- Ahmed, P., J. Gardella, and S. Nanda. 2002. "Wealth Effect of Drug Withdrawals on Firms and their Competitors." *Financial Management* 31 (3): 21-41.
- Balasubramanian, S. K., I. Mathur, and R. Thakur. 2005. "The Impact of High-Quality Firm Achievements on Shareholder Value: Focus on Malcolm Baldrige and J. D. Power and Associates Awards." *Journal of the Academy of Marketing Science* 33 (4): 413-423.
- Ballow, J. J., R. Burgman, and M. J. Molnar. 2004. "Managing for Shareholder Value: Intangibles, Future Value and Investment Decisions." *Journal of Business Strategy* 25 (3): 26-34.
- Bartholdy, J., D. Olson, and P. Peare. 2007. "Conducting event studies on a small stock exchange." *The European Journal of Finance* 13 (3): 227-252.
- Bendeck, Y. M. and W. R. Waller. 1999. "The Wealth Effects of Non-Senior Management Departures from Investment Banks." *Journal of Business Research* 46: 95-105.
- Berman, G., R. Brooks, and S. Davidson. 2000. "The Sydney Olympic Games Announcement and Australian Stock Market Reaction." *Applied Economic Letters* 7: 781-784.
- Bhagat, S. and U. N. Umesh. 1997. "Do Trademark Infringement Lawsuits Affect Brand Value: A Stock Market Perspective." *Journal of Market Focused Management* 2: 127-148.
- Binder, J. J. 1998. "The Event Study Methodology Since 1969." *Review of Quantitative Finance and Accounting* 11: 111-137.
- Bobinski, G. S. and G. G. Ramirez. 1994. "Advertising to Investors: The Effect of Financial-Relations Advertising on Stock Volume and Price." *Journal of Advertising* 23 (4): 13-28.
- Bosch, J. and M. Hirschey. 1989. "The Valuation Effects of Corporate Name Changes." *Financial Management* 18: 64-73.
- Bosch, J.-C. and I. Lee. 1994. "Wealth Effects of Food and Drug Administration (FDA) Decisions." *Managerial and Decision Economics* 15 (6): 589-599.
- Bromiley, P. and A. Marcus. 1989. "The Deterrent to Dubious Corporate Behavior: Profitability, Probability and Safety Recalls." *Strategic Management Journal* 10 (3): 233-250.
- Brown, S. J. and J. B. Warner. 1985. "Using Daily Stock Returns: The Case of Event Studies." *Journal of Financial Economics*, 14: 3-31.
- Calderon-Martinez, A., F. J. Mas-Ruiz, and J. L. Nicolau-Gonzalbez. 2005. "Commercial and Philanthropic Sponsorship: Direct and Interaction Effects on Company Performance." *International Journal of Market Research* 47 (1): 75-99.

- Chandy, R. K., P. N. Golder, and G. J. Tellis. 2004. "Historical Research in Marketing: Method, Myths, and Promise." In *Assessing Marketing Strategy Performance 2004*. Eds. C. Moorman and D. R. Lehmann. Marketing Science Institute, Cambridge, MA.
- Chaney, P. K., T. M. Devinney, and R. S. Winer. 1991. "The Impact of New Product Introductions on the Market Value of Firms." *The Journal of Business* 64 (4): 573-610.
- Chen, S.-S., K. W. Ho, and K. H. Ik. 2005. "The Wealth Effect of New Product Introductions on Industry Rivals." *Journal of Business* 78 (3): 969-996.
- Chu, T.-H., C.-C. Lin, and L. J. Prather. 2005. "An Extension of Security Price Reactions Around Product Recall Announcements." *Quarterly Journal of Business and Economics* 44 (3/4): 33-49.
- Clark, J. M., T. B. Cornwell, and S. W. Pruitt. 2002. "Corporate Stadium Sponsorships, Signaling Theory, Agency Conflicts, and Shareholder Wealth." *Journal of Advertising Research* 42 (6): 16-32.
- Cooper, H. M. 1989. *Integrating Research: A Guide for Literature Reviews*. 2nd Ed., Newbury Park, CA: Sage Publications.
- Cooper, M. J., O. Dimitrov, and P. R. Rau. 2001. "A Rose.com by Any Other Name." *Journal of Finance* 56 (6): 2371-2388.
- Cornwell, T. B., S. W. Pruitt, and J. M. Clark. 2005. "The Relationship Between Major-league Sports' Official Sponsorship Announcements and the Stock Prices of Sponsoring Firms." *Journal of the Academy of Marketing Science* 33 (4): 401-412.
- Cornwell, T. B., S. W. Pruitt, and R. Van Ness. 2001. "The Value of Winning in Motorsports: Sponsorship-linked Marketing." *Journal of Advertising Research* 41 (1): 17-31.
- Courtenay, S. M. and S. B. Keller. 1994. "Errors in Databases Revisited: An Examination of the CRSP Shares-Outstanding Data." *The Accounting Review* 69 (1): 285-291.
- Cowan, A. R. 2001. *Eventus Software*. Version 7. Cowan Research LC. Ames, Iowa.
- Cowan, A. R. 2002. *Eventus 7 User's Guide*. Revised Edition. Cowan Research LC. Ames, Iowa.
- Daum, J. H. 2003. *Intangible Assets and Value Creation*. John Wiley, New York, NY.
- Davidson, W. N. and D. L. Worrell. 1992. "Research Notes and Communications: The Effect of Product Recall Announcements on Shareholder Wealth." *Strategic Management Journal* 3: 467-473.
- De Mortanges, C. P. and A. T. Rad. 1998. "Marketing Strategy and Market Value: An Event-Study Analysis." *European Management Journal* 16 (3): 365-372.
- Dolley, J. C. 1933. "Characteristics and Procedure of Common Stock Split-Ups." *Harvard Business Review* 11: 316-326.
- Doyle, P. 2000. *Value-Based Marketing: Marketing Strategies for Corporate Growth and Shareholder Value*. New York: John Wiley and Sons.
- Dranove, D. and C. Olsen. 1994. "The Economic Side Effects of Dangerous Drug Announcements." *Journal of Law and Economics* 37 (2): 323-348.

- Eddy, A. R. and G. B. Saunders. 1980. "New Product Announcements and Stock Prices." *Decision Sciences* 11: 90-97.
- Elton, E. J., M. J. Gruber, and C. R. Blake. 2001. "A First Look at the Accuracy of the CRSP Mutual Fund Database and a Comparison of the CRSP and Morningstar Mutual Fund Databases." *Journal of Finance* LVI (6): 2415-2430.
- Fama, E. F. 1970. "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance* 25: 383-417.
- Fama, E. F., L. Fisher, M. Jensen, and R. Roll. 1969. "The Adjustment of Stock Prices to New Information." *International Economic Review* 10: 1-21.
- Farrell, K. A. and W. S. Frame. 1997. "The Value of Olympic Sponsorships: Who is Capturing the Gold?" *Journal of Market Focused Management* 2 (2): 171-182.
- Fields, M. A. and V. Janjigian. 1989. "The Effect of Chernobyl on Electric-Utility Stock Prices." *Journal of Business Research* 18: 81-87.
- Frooman, J. 1997. "Socially Irresponsible and Illegal Behavior and Shareholder Wealth: A Meta-analysis of Event Studies." *Business & Society* 36 (3): 221-249.
- Geyskens, I., K. Gielens, and M. G. Dekimpe. 2002. "The Market Valuation of Internet Channel Additions." *Journal of Marketing* 66 (April): 102-119.
- Ghani, W. I. and N. M. Childs. 1999. "Wealth Effects the Passage of the Nutrition Labeling and Education Act of 1990 for Large U.S. Multinational Food Corporations." *Journal of Public Policy & Marketing* 18 (2): 147-158.
- Govindaraj, S., B. Jaggi, and B. Lin. 2004. "Market Overreaction to Product Recall Revisited – The Case of Firestone Tires and the Ford Explorer." *Review of Quantitative Finance and Accounting* 23 (1): 31-54.
- Green, P. E., R. M. Johnson, and W. D. Neal. 2003. "The Journal of Marketing Research: Its Initiation, Growth, and Knowledge Dissemination." *Journal of Marketing Research* 40: 1-9.
- Gundlach, G. T. and W. L. Wilkie. 1990. "The Marketing Literature in Public Policy: 1970-1988." In "Scholarly Research in Marketing: Exploring the '4Eras' of Thought Development." W. L. Wilkie and E. S. Moore. 2003. *Journal of Public Policy and Marketing* 22 (2): 116-146.
- Guo, C., A. Kumar, and P. Jiraporn. 2004. "Customer Satisfaction and Profitability: Is There a Lagged Effect?" *Journal of Strategic Marketing* 12 (3): 129-144.
- Hair, J. F., R. E. Anderson, R. L. Tatham, and W. C. Black. 1998. *Multivariate Data Analysis*. 5th Edn, Prentice-Hall, New Jersey.
- Hendricks, K. B. and V. R. Singhal. 1997. "Delays in New Product Introductions and the Market Value of the Firm: The Consequences of Being Late to the Market." *Management Science* 43 (4): 422-436.
- Hoffer, G. E., S. W. Pruitt, and R. J. Reilly. 1987. "Automotive Recalls and Informational Efficiency." *The Financial Review* 22 (4): 433-442.

- Hoffer, G. E., S. W. Pruitt, and R. J. Reilly. 1989. "The Impact of Product Recalls on the Wealth of Sellers: A Re-examination." *Journal of Political Economy* 96 (3): 663-670.
- Horsky, D. and P. Swyngedouw. 1987. "Does It Pay to Change Your Company's Name? A Stock Market Perspective." *Marketing Science* 6 (4): 320-335.
- Howe, J. S. 1982. "A Rose by Any Other Name? A Note on Corporate Name Changes." *Financial Review* 17: 271-278.
- Hozier, G. C. and D. J. Schatzberg. 2000. "Advertising Agency Terminations and Reviews: Stock Returns and Firm Performance." *Journal of Business Research* 50: 169-176.
- International Events Group, Ltd. 2007. "Motorsports Sponsorship Spending to Total \$3.2 Billion in 2007." Press release, April 18, 2007. [http://www.sponsorship.com/About-IEG/Press-Room/Motorsports-Sponsorship-Spending-To-Total-\\$3.2-Bil.aspx](http://www.sponsorship.com/About-IEG/Press-Room/Motorsports-Sponsorship-Spending-To-Total-$3.2-Bil.aspx). Viewed July 24, 2007.
- Ince, O. S. and R. B. Porter. 2006. "Individual Equity Return Data from Thomson Datastream: Handle with Care!" *Journal of Financial Research* 29 (4): 463-479.
- Ittner, C. D. and D. F. Larcker. 1998. "Are Nonfinancial Measures Leading Indicators of Financial Performance? An Analysis of Customer Satisfaction." *Journal of Accounting Research* 36: 1-35.
- Jarrell, G. and P. Peltzman. 1985. "The Impact of Product Recalls on the Wealth of Sellers." *Journal of Political Economy* 93 (3): 512-536.
- Jones, E. A. E. and J. Danbolt. 2005. "Empirical Evidence on the Determinants of the Stock Market Reaction to Product and Market Diversification Announcements." *Applied Financial Economics* 15 (9): 623-629.
- Karbhari, Y., Z. M. Sori, and S. Mohamad. 2004. "Shareholder Wealth Effects and Corporate Name Change: Evidence from Malaysia." *Corporate Ownership & Control* 2 (1): 38-49.
- Karpoff, J. M. and G. Rankine. 1994. "In Search of a Signaling Effect: The Wealth Effects of Corporate Name Changes." *Journal of Banking and Finance* 18: 1027-45.
- Kilic, C. and T. Dursun. 2006. "The Effect of Corporate Identity Changes on Firm Value: An Empirical Investigation." *Journal of American Academy of Business* 10 (1): 234-240.
- Kim, J. and J. D. Morris. 2003. "The Effect of Advertising on the Market Value of Firms: Empirical Evidence from the Super Bowl Ads." *Journal of Targeting, Measurement and Analysis for Marketing* 12 (1): 53-65.
- Kımlıoğlu, H. 2004. "The 'E-Literature': A Framework for Understanding the Accumulated Knowledge about Internet Marketing." *Academy of Marketing Science Review* [Online] (6) <http://www.amsreview.org/articles/kimloglu06-2004.pdf>. Viewed July 24, 2007.
- Koku, P. S., H. S. Jagpal, and P. V. Viswanath. 1997. "The Effect of New Product Announcements and Preannouncements on Stock Price." *Journal of Market Focused Management* 2, 183-199.
- Kramer, L. A. 2001. "Alternative Methods for Robust Analysis in Event Study Applications." *Advances in Investment Analysis and Portfolio Management* 8: 109-132.
- Kritzman, M. P. 1994. "What Practitioners Need to Know ... About Event Studies." *Financial Analysts Journal* 50 (6): 17-20.

- Kulkarni, M. S., P. P. Vora, and T. A. Brown. 2003. "Firing Advertising Agencies: Possible Reasons and Managerial Implications." *Journal of Advertising* 32 (3): 77-86.
- Lane, V. and R. Jacobson. 1995. "Stock Market Reactions to Brand Extension Announcements: The Effects of Brand Attitude and Familiarity." *Journal of Marketing* 59 (1): 63-77.
- Lee, H., K. G. Smith, C. M. Grimm, and A. Schaumburg. 2000. "Timing, Order and Durability of New Product Advantages with Imitation." *Strategic Management Journal* 21 (1): 23-30.
- Lee, P. M. 2001. "What's in a Name.com?: The Effects of '.com' Name Changes on Stock Prices and Trading Activity." *Strategic Management Journal* 22 (8): 793-804.
- Lin, J.-S. C., W.-Y. Jang, and K.-J. Chen. 2007. "Assessing the Market Valuation of e-Service Initiatives." *International Journal of Service Industry Management* 18 (3): 224-245.
- Louie, T. A., R. L. Kulik, and R. Jacobson. 2001. "When Bad Things Happen to the Endorsers of Good Products." *Marketing Letters* 12 (1): 13-23.
- Lyon, J. D., B. M. Barber, and C. Tsai. 1999. "Improved Methods for Tests of Long-Run Abnormal Stock Returns." *Journal of Finance* 54 (1): 165-201.
- MacKinlay, A. C. 1997. "Event Studies in Economics and Finance." *Journal of Economic Literature* 35 (1): 13-39.
- Mahar, J., R. Paul, and L. Stone. 2005. "An Examination of Stock Market Response to NASCAR Race Performance." *Marketing Management Journal* 15 (2): 80-86.
- Marketing Science Institute. 2006. *2006-2008 Research Priorities: A Guide to MSI Research Programs and Procedures*. Cambridge, MA: Marketing Science Institute.
- Mathur, L. K. and I. Mathur. 1995. "The Effect of Advertising Slogan Changes on the Market Value of Firms." *Journal of Advertising Research* 35: 59-65.
- Mathur, L. K. and I. Mathur. 1996. "Is Value Associated with Initiating New Advertising Agency-Client Relations?" *Journal of Advertising* 25 (3): 1-12.
- Mathur, L. K. and I. Mathur. 2000. "An Analysis of the Wealth Effects of Green Marketing Strategies." *Journal of Business Research* 50 (2): 193-200.
- Mathur, L. K., I. Mathur, and K. C. Gleason. 1998. "Services Advertising and Providing Services on the Internet." *Journal of Services Marketing* 12 (5): 334-347.
- Mathur, L. K., I. Mathur, and N. Rangan. 1997. "The Wealth Effects Associated with a Celebrity Endorser: The Michael Jordan Phenomenon." *Journal of Advertising Research* 37 (3), 67-73.
- McWilliams, A. and D. Siegel. 1997. "Event Studies in Management Research: Theoretical and Empirical Issues." *Academy of Management Journal* 40 (3): 98-107.
- Mishra, D. P. and H. S. Bhabra. 2001. "Assessing the Economic Worth of New Product Pre-Announcement Signals: Theory and Empirical Evidence." *Journal of Product and Brand Management* 10 (2): 75-93.

- Mishra, D. P., G. S. Bobinski, and H. S. Bhabra. 1997. "Assessing the Economic Worth of Corporate Event Sponsorships: A Stock Market Perspective." *Journal of Market-focused Management* 2 (2): 149-169.
- Mitchell, M. L. and J. M. Netter. 1994. "The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission." *Business Lawyer* 49 (2): 545-590.
- Miyazaki, A. D. and A. G. Morgan. 2001. "Assessing Market Value of Event Sponsoring: Corporate Olympic Sponsorships." *Journal of Advertising Research* 41 (1): 9-16.
- Mizik, N. and R. Jacobson. 2004. "Stock Return Response Modeling." In *Assessing Marketing Strategy Performance*. 2004. Eds. C. Moorman and D. R. Lehmann. Marketing Science Institute, Cambridge, MA.
- Moorman, C. and D. R. Lehmann. 2004. *Assessing Marketing Strategy Performance*. Marketing Science Institute, Cambridge, MA.
- Narayanan, V. K., G. E. Pinches, K. M. Kelm, and D. M. Lander. 2000. "The Influence of Voluntarily Disclosed Qualitative Information." *Strategic Management Journal* 21 (7): 707-722.
- Nayyar, P. R. 1995. "Stock Market Reactions to Customer Service Changes." *Strategic Management Journal* 16 (1): 39-53.
- Ojah, K. and L. Monplaisir. 2003. "Investors' Valuation of Global Product Design and Development." *Journal of International Business Studies* 34 (5): 457-472.
- Pandey, V. K., K. J. Shanahan, and S. W. Hansen. 2005. "The Relationship Between Shareholder Wealth Effects, Diversity, and Publicity as a Marketing Strategy." *Journal of the Academy of Marketing Science* 33 (4): 423-32.
- Park, N. K. 2004. "A Guide to Using Event Study Methods in Multi-country Settings." *Strategic Management Journal* 22 (7): 655-668.
- Peltzman, S. 1981. "The Effects of FTC Advertising Regulation." *Journal of Law and Economics* 24: 403-448.
- PricewaterhouseCoopers. 2007. "Spending on Convergent Platforms Will Exceed 50% of Global Entertainment & Media Spending by 2011." PricewaterhouseCoopers Global Entertainment and Media Outlook 2007-2011. Press Release. June 21, 2007. <http://www.pwc.com/extweb/ncpressrelease.nsf/docid/E042C329AE028974852573010051F342>. Viewed July 24, 2007.
- Pruitt, S. W., T. B. Cornwell, and J. M. Clark. 2004. "The NASCAR Phenomenon: Auto Racing Sponsorships and Shareholder Wealth." *Journal of Advertising Research* 44 (3): 281-296.
- Pruitt, S. W. and D. R. Peterson. 1986. "Security Price Reactions around Product Recall Announcements." *Journal of Financial Research* 9 (2): 113-122.
- Rosenberg, B. and M. Houglet. 1974. "Error Rates in CRSP and Compustat Data Bases and their Implications." *Journal of Finance* 29 (4): 1303-1310.
- Rupp, N. G. 2001. "Are Government Initiated Recalls More Damaging for Shareholders? Evidence from Automotive Recalls." *Economics Letters*. <http://www.tamu.edu/perc/publication/0013.pdf>. Viewed July 24, 2007.

- Rupp, N. G. 2004. "The Attributes of a Costly Recall: Evidence from the Automotive Industry." *Review of Industrial Organization* 25 (1): 21-44.
- Rust, R. T., T. Ambler, G. S. Carpenter, V. Kumar, and R. K. Srivastava. 2004. "Measuring Marketing Productivity: Current Knowledge and Future Directions." *Journal of Marketing* 68 (4): 76-89.
- Salin, V. and N. H. Hooker. 2001. "Stock Market Reaction to Food Recalls." *Review of Agricultural Economics* 23 (1, 5): 33-46.
- San Miguel, J. G. 1977. "The Reliability of R&D Data in Compustat and 10-K Reports." *The Accounting Review* LII (3): 638-641.
- Shapiro, D. M. and L. N. Switzer. 1993. "The Stock Market Response to Changing Drug Patent Legislation: The Case of Compulsory Licensing in Canada." *Managerial and Decision Economics* 14 (3): 247-259.
- Sharma, A. and N. Lacey. 2004. "Linking Product Development Outcomes to Market Valuation of the Firm: The Case of the U.S. Pharmaceutical Industry." *Journal of Product Innovation Management* 21 (5): 297-308.
- Shwarts-Asher, D., U. Ben-zion, S. Gabbay, and J. Yagil. 2006. "Launching a Corporate Website and Market Efficiency." *Applied Financial Economics* 16 (7): 551-559.
- Simon, C. J. and M. Sullivan. 1993. "The Measurement and Determinants of Brand Equity: A Financial Approach." *Marketing Science* 12 (1): 28-52.
- Srinivasan, R. and S. Bharadwaj. 2004. "Event Studies in Marketing Strategy Research." In *Assessing Marketing Strategy Performance*. 2004. Eds. C. Moorman and D. R. Lehmann. Marketing Science Institute, Cambridge, MA.
- Srivastava, R. J., T. A. Shervani, and L. Fahey. 1998. "Market-based Assets and Shareholder Value: A Framework for Analysis." *Journal of Marketing* 62 (1): 2-18.
- Sutton, R. I. and B. M. Staw. 1995. "What Theory is Not." *Administrative Science Quarterly* 40: 371-384.
- Thompson, R. B., C. Olsen, and R. Dietrich. 1987. "Attributes of News About Firms: An Analysis of Firm-specific News Reported in the Wall Street Journal Index." *Journal of Accounting Research* 25 (2): 245-274.
- Thomsen, M. R. and A. M. McKenzie. 2001. "Market Incentives for Safe Foods: An Examination of Shareholder Losses from Meat and Poultry Recalls." *American Journal of Agricultural Economics* 83 (3): 526-538.
- Tsiotsou, R. and D. Lalountas. 2005. "Applying Event Study Analysis to Assess the Impact of Marketing Communication Strategies: The Case of Sponsorship." *Applied Financial Economics Letters* 1 (4): 259 – 262.
- Verbrugge, J. A. 1997. "Guest Editorial: Event Studies in Finance and Marketing: A Road Map for Finance and Marketing Managers." *Journal of Market Focused Management* 2: 123-126.
- Veraros, N., E. Kasmati, and P. Dawson. 2004. "The 2004 Olympic Games Announcement and its Effect on the Athens and Milan Stock Exchanges." *Applied Economics Letters* 11: 749-753.
- Wiles, M. A. 2007. "The Effect of Customer Service on Retailers' Shareholder Wealth: The Role of Availability and Reputation Cues." *Journal of Retailing* 83 (1): 19-31.

- Wooster, R. B. and C. A. Gallet. 2005. "Settling the Smoke: Public Policy and Shareholder Wealth in the Cigarette Industry." *Contemporary Economic Policy* 23 (2): 211-223.
- Xu, B. 2006. "R & D Progress, Stock Price Volatility, and Post-announcement Drift: An Empirical Investigation into Biotech Firms." *Review of Quantitative Finance* 26 (4): 391-409.
- Zaher, T. 1999. "How to Access Financial Data of the Internet and Use for Research in Finance and Economics." *Financial Markets, Institutions and Instruments* 8 (5): 63-79.