Exploring the Brand Value-Shareholder Value Nexus for Consumer Goods Companies

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It is generally claimed that brand names are a corporate asset with an economic value that creates wealth for a firm's shareholders. However, the scholarly literature has neither provided a comprehensive theoretical basis for this claim nor documented an empirical relationship between brand value and shareholder value. This exploratory study describes a rationale for, and documents, the statistical strength and functional form of a brand value-shareholder value relationship for publicly held consumer goods companies in the United States. A theoretical argument supportive of a positive relationship between a firm's accumulated brand value and market-to-book (M/B) ratio was empirically validated. However, even though firms with higher accumulated brand values have higher M/B ratios, the functional form of the relationship was found to be concave with decreasing returns to scale. Theoretical and managerial implications of these findings are outlined, as well as study limitations and directions for future research.

Most business executives and scholars today would agree with the assertion that successful, established brand names such as Coca-Cola, Gillette, Nike, and Campbell's are corporate assets that have an economic value (Aaker 1996; Morris 1996). Ironically, this view was popularized by financiers, not marketers, during a rash of corporate acquisitions and mergers in the mid-1980s. At that time, highly publicized transactions featuring extraordinarily large sums defied the prevailing conventional wisdom that acquisition prices represented some multiple (8 to 10 times) of the targeted firm's earnings or a market value assigned to the book value of its physical assets. What became apparent was that the sizable sums paid reflected, in part, the perceived economic value of the targeted firm's brands, at least in the eyes of the acquirer. For example, a Cadbury Schweppes executive stated that of the $220 million his company paid to acquire the Hires and Crush brand soft-drink business from Procter & Gamble, Inc., in 1989, only $20 million was for physical assets. The remainder was referred to as "brand value" (Schlossberg 1990).

Interest in brand valuation in the mid-1980s stemmed from a then novel insight: off-balance sheet intangible properties embedded in a company's brand names were a source of tangible wealth. Intangible brand properties came to be known as *brand equity* in the marketing literature. Brand equity arose from customer brand-name awareness, brand loyalty, perceived brand quality, and favorable brand symbolism and associations that provide a platform for a competitive advantage and future earnings streams (Aaker 1991). From a financial perspective, tangible wealth emanated from the incremental capitalized earnings and cash flows achieved by linking a successful, established brand name to a product or service. These incremental earnings and cash flows came to be labeled *brand value* (Murphy 1989).

If company brand names represent both an asset and a source of future earnings and cash flow, it is reasonable to speculate that their worth would manifest itself in the financial market value of a firm and, ultimately, shareholder value. That is, "Strong brand names create stronger cash flows and stronger earnings, which in turn creates stronger values for shareholders" (Yovovich 1988:19). Today, many companies endorse this view as evidenced by a statement in the *Grand Metropolitan Annual Report 1996*:

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> Grand Metropolitan's portfolio of food and drinks brands represent its major assets. Brands such as Pillsbury, Haagen-Dazs, Burger King, J&B Rare and Smirnoff are a storehouse of value for the company and its shareholders. Indeed, it is these established brands that offer the best opportunities to create additional value. (Grand Metropolitan 1997:7)

Claiming that established and successful brand names are an asset with an economic value that creates wealth for a company's shareholders is one thing. Assigning a financial value to these brand names and documenting an empirical relationship between brand value and shareholder value is another matter. Surprisingly, after almost a decade of attention, a conceptual argument for and an empirical linkage between the financial value of a company's brands and shareholder value has never been provided. A rationale and statistical support for a relationship between brand value and shareholder value could do much to allay critics of marketing who question the merits of marketing practices and expenditures and the measurement of their effect (Sheth and Sisodia 1995).

This study explores the presence of a brand value-shareholder value nexus. Primary attention is focused on articulating a rationale for, and identifying, the statistical relationship between the market-to-book (M/B) ratio of publicly held consumer goods firms in the United States and the estimated accumulated financial value of their principal brands. By virtue of this focus, the topic of brand valuation is addressed. The financial valuation of brands has received only scant consideration by marketing scholars despite its close kinship with brand equity (Biel 1993). This situation is likely to change given recent attention afforded intangible asset (brand) recognition and valuation in the accounting and marketing literature (Lev 1997; Solomons 1995; Srivastava, Shervani, and Fahey 1998).

THE BRAND VALUE-SHAREHOLDER VALUE RELATIONSHIP

The conceptual foundations for a brand value-shareholder value relationship reside in a variety of literatures, including financial economics, financial accounting, and marketing. Although different research traditions guide these literatures, their underlying paradigms are mutually reinforcing in one respect. Cash flow (cash inflow versus cash outflow) has a central role in determining the financial market value of a firm and ultimately shareholder value (Kerin, Mahajan, and Varadarajan 1990).

SHAREHOLDER VALUE

There is no question that the financial market value of a firm arises from the net present value of future cash flows streaming from its tangible and intangible assets, discounted at an appropriate rate and adjusted for inflation and risk (Copeland, Keller, and Murrin 1994). More succinctly, the financial market value of a firm is the sum of the future capitalized cash flows attributed to its tangible and intangible assets.

Financial economists (Lindenberg and Ross 1981) further theorize that the relationship between the market value of the firm and the replacement cost of its tangible and intangible assets represents a measure of a firm's ability to achieve an abnormal rate of return on its invested capital. This relationship is based on "Tobin's q": the ratio of the market value of the firm to the replacement cost of its tangible assets, including property, plant, equipment, inventory, cash, and investments in stocks and bonds (Tobin 1969, 1978). A q-value of 1.0 is interpreted to mean that the market value of a firm is equal to the replacement cost of its tangible assets, and nothing more. These firms have no intangible assets, such as intellectual property rights (patents, trademarks), research and development (R&D), and other capabilities and resources, that differentiate them, reduce their costs, and otherwise allow them a competitive advantage. Accordingly, they generate earnings and cash flows only sufficient to attain a competitive return on invested capital. A q-value greater than 1.0 indicates that a firm has intangible assets. These assets enable a firm to enjoy a competitive advantage, to create earnings and cash flows in excess of the return on its tangible assets, and to achieve an abnormal return on invested capital relative to its competitors.

Apart from illuminating the importance of a firm's intangible assets, research on Tobin's q has attempted to uncover determinants of q-values across industries and companies. Invariably, brands or brand-related factors, which are explicitly or implicitly treated as intangible assets, appear to be associated with high q-values. Lindenberg and Ross (1981) observed that industries and companies with undifferentiated commodity products (e.g., basic metals) typically have q-values less than, or approximately equal to, 1.0. They have few, if any, intangible assets. On the other hand, industries populated by firms with differentiated products such as consumer packaged goods companies, and industries and firms having strong patent protection (e.g., pharmaceuticals), have q-values significantly greater than 1.0, suggesting the presence of intangible assets. Hirschey and Weygandt (1985) also show that advertising and R&D expenditures (both intangible assets) drive the market value of the firm and have a positive and statistically significant effect on q-values. Finally, a firm's q-value varies with its accumulated intangible assets (Morck, Shleifer, and Vishny 1988), and brand-related factors (brand advertising, brand age, and brand entry order) have been estimated to account for a sizable fraction of a consumer brand company's intangible assets. For example, more than 80 percent of the intangible asset value in food-processing industries can be attributed to these brand-related factors (Simon and Sullivan 1993).

To the extent that intangible assets (including brands or brand-related factors) augment a firm's earnings and cash flows and enhance its market value relative to the replacement cost of its tangible assets (q-value), companies can

be viewed as being worth more in financial terms with these assets than without them. This suggests that firms with accumulated intangible assets (those with *q*-values greater than 1.0) have a greater likelihood of creating wealth for their shareholders than firms without intangible assets. Indeed, Varaiya, Kerin, and Weeks (1987) provide evidence to support this conjecture. They argue that a firm creates shareholder wealth by ensuring that the warranted market value, M, of the equity capital invested in a firm by its shareholders exceeds the book value, B, of equity. A firm creates value for its shareholders if its M/B ratio is greater than 1.0 (M/B > 1), destroys value if M/B < 1, and sustains value if M/B = 1. More important, they illustrate the theoretical and empirical similarity between a firm's *q*-value and M/B ratio, and demonstrate that they are equivalent measures of shareholder value creation, maintenance, and erosion.

BRAND VALUE AND SHAREHOLDER VALUE

The previous discussion suggests that brands are an intangible company asset and have an economic value in the sense that a firm is worth more with these brands than without them. Therefore, it is reasonable to assert, as Simon and Sullivan (1993) have, that firms with successful, established brand names can generate future earnings and cash flows over and above future earnings and cash flows that firms with unbranded (generic or commodity) products can produce. While brands, like any asset, embody the net present worth of future cash flows that can be derived from them (Schuetze 1993), it is the *incremental* capitalized future earnings and cash flow achieved by linking successful, established brand names to a product that determine brand value. For example, the extent to which the Nike or Reebok brand names can produce earnings and cash flows over and above the earnings and cash flows resulting from marketing unbranded athletic apparel items represents their respective brand values. In the case of multibrand firms such as Procter & Gamble and Warner-Lambert, the accumulated incremental earnings and cash flows of all their brands, relative to their respective unbranded product counterparts, determines the overall brand value for the firm. In this context, brand value is similar to the financial accounting concept of "value-in-use," which is the incremental firm value attributable to a proprietary asset arising from firm-specific skills in managing that asset (Barth and Landsman 1995).

As with all intangible assets, a firm's portfolio of successful, established brand names and their accumulated brand value should manifest itself in shareholder value, assuming the stock market assimilates brand (value) information. This assumption arises from the "efficient capital markets hypothesis," which predicts that the market price of a firm's stock is the best available measure of a firm's assets, both tangible and intangible, and "fully reflects" all available information on expected cash flows to shareholders (Fama 1970, 1991). Recent research in marketing has shown that brand quality images (Aaker and Jacobson 1994) and brand extension announcements (Lane and Jacobson 1995) are indeed assimilated by the stock market and are apparent in stock returns.

The previous discussion offers a theoretical rationale for expecting a positive relationship between brand value and shareholder value. The reasoning is summarized as follows. If the capitalized future earnings and cash flows of successful and established brand-name products are greater than the capitalized earnings and cash flows of comparable unbranded generic or commodity products, firms marketing these brand names should evidence higher M/B ratios, resulting in greater shareholder value, than firms marketing their unbranded (generic, commodity) counterparts. Furthermore, as the magnitude of the capitalized future earnings and cash flows of a firm's successful and established brand-name products increases, relative to their unbranded product counterparts, so should the magnitude of the M/B ratios of those firms that market these brand names, which, in turn, should increase shareholder value. *Therefore, firms with larger accumulated brand values should have higher M/B ratios than firms with smaller accumulated brand values.*

The logic supporting a positive relationship between brand value and shareholder value says nothing about the functional form (linear or nonlinear) or the statistical strength of the association. These are empirical issues, which to date have not been systematically investigated. Moreover, the expectation that the financial worth of a firm's portfolio of established and successful brands manifests itself in a firm's M/B ratio implies that the incremental capitalized future earnings and cash flows of brands can be estimated. The identification and measurement of these earnings and cash flows are the subject and purpose of brand valuation.

MEASURES OF BRAND VALUE AND SHAREHOLDER VALUE

This study uses the brand values published in *Financial World* (*FW*) magazine and the M/B ratios for publicly held U.S. consumer goods firms that market these brands to examine the empirical relationship between brand value and shareholder value. *FW* has published brand value estimates each year since 1992 and is best known for its annual list of "The World's Most Valuable Brands."

FW analysts' brand value estimates were chosen for six reasons. First, unlike many brand valuation practices that are deemed proprietary, the *FW* approach is comparatively public in its details (Meschi 1995). Accordingly, the *FW* methodology provides a conceptual and operational framework for describing brand valuation fundamentals. Second, as will be shown, the conceptual underpinnings of the *FW* methodology conform to the view that brand value represents the incremental earnings and cash flows that successful, established brands can produce, relative to their unbranded counterparts. Third, elements of the *FW* approach are commonly applied by investment analysts

and bankers when valuing brands (Haigh and Perrier 1997). Fourth, *FW* analysts produce the most comprehensive published list of brand values available. In 1997, for example, *FW* analysts estimated the financial value of 343 brands marketed by 180 companies worldwide (Badenhausen 1997). Fifth, in most instances, the brands valued account for a sizable percentage of company sales, suggesting that they represent a company's established and successful brands. Finally, the large number of brands valued allows for the creation of a company brand portfolio and an accumulated brand value, which is necessary for studying the relationship between brand value and shareholder value at the firm level of analysis.

BRAND VALUATION

Conceptually, the estimation of brand value consists of two related steps: (1) isolate and identify the incremental future earnings and cash flows attributed to a brand, relative to its unbranded counterpart; and (2) capitalize these incremental future earnings and cash flows at a risk-adjusted cost of capital to arrive at a net present (brand) value. This value represents the financial worth of a brand to its current owner and for its current use (Haigh and Perrier 1997).

FW analysts attempt to satisfy these conditions by viewing brand value as the difference in capitalized future earnings and cash flow between successful, established branded products and their unbranded counterparts. *FW* analysts compute brand value on the basis of information from published company reports, trade association publications, and interviews with financial analysts and company executives. Their methodology is outlined in Table 1, using Gillette brand razors and blades as an example ("Behind the Numbers" 1996). Table 1 demonstrates how earnings for an unbranded equivalent product in a brand's industry is determined, including the variables used and assumptions made (see also Haigh and Perrier 1997; Meschi 1995). Implicit in the analysis is the assumption that brand earnings and cash flow are interchangeable, that is, capital expenditures equal depreciation.

The *FW* methodology resembles the approach used by Interbrand Group, a British brand valuation company, and relies on information supplied by Interbrand in its estimation process. In this regard, *FW* analysts view brand value as the product of two quantities: (1) a brand's 2-year weighted average annual net pretax operating earnings, adjusted to exclude the earnings assumed to arise from an equivalent unbranded product; and (2) an earnings "multiple" (or discount rate), which reflects the brand's "strength." Central to *FW*'s brand valuation method is the inclusion of "brand strength" and an earnings multiple (or discount rate), both of which are provided by Interbrand.

Brand Strength

Brand strength is used to establish an earnings multiple (or discount rate) and is a principal driver of brand value in the *FW* methodology. While less behaviorally based than brand equity measures used to assess brand strength in the marketing literature (see, e.g., Aaker 1996; Keller 1998; Owen 1993), estimates of brand strength for brand valuation purposes typically include both a qualitative and quantitative assessment of a brand's recognition, loyalty, growth potential, and international trademark protection among other variables (see Lefton and Anson 1996). Brand strength, as estimated by Interbrand and applied by *FW* analysts, is a composite of seven weighted brand dimensions, against each of which a brand is scored (Andrew 1997). The theoretical range for Interbrand's brand strength score is 0 to 100. Brand strength dimensions are described in the appendix and include a brand's leadership, geographic spread, stability, market, trend, financial and marketing support, and trademark protection.

Brand Strength Multiple

An underlying premise of the *FW* method is that brand strength determines the multiple applied to brand earnings or a discount rate used to capitalize future cash flows. A high brand strength score indicates that a high level of confidence exists that brand earnings will be maintained. Therefore, a high score translates into a high multiple for current earnings or a low discount rate applied to future cash flows. A lower score suggests less confidence that existing earnings will continue, resulting in a low multiple or a higher discount rate applied to future cash flows. The multiple and discount rate are inversely related such that the multiple is equal to 1/(discount rate), or the reverse of a firm's risk-adjusted cost of capital. The theoretical minimum multiple is 0 (or a discount rate of infinity) for an unknown or new brand with virtually no established brand strength. The maximum multiple is the reciprocal of the return from a risk-free investment such as a U.S. Treasury Bill for a "perfect brand" (a brand strength score of 100). For example, if the "risk-free" interest rate is, say 5 percent, the maximum multiple would be 20, resulting in a multiple range from 0 to 20.

The theoretical range of the multiple is circumscribed by the price/earnings (P/E) ratio—the market price per share of common stock divided by earnings per share—of firms competing in a brand's industry or product-market category. These P/E ratios are commonly used in brand valuation methodologies (see Aaker 1991; Egginton 1990; Glover 1997; Longman 1995) and are used to judge the growth prospects of the industry or product-market category in which a brand competes. P/E ratios are used as a benchmark by Interbrand. Brands with high composite brand strength marks are assigned higher multiples than the industry P/E ratio; brands with lower marks are assigned lower multiples than the industry P/E ratio (Birkin 1994). The multiple for *FW*'s brand valuations range from 4.4 to 19.3. The multiple of 17.9 assigned to the Gillette brand of razors and blades shown in Table 1 is indicative of its brand strength assessment and the P/E ratio in the category of personal-care products ("Behind the Numbers" 1996).

TABLE 1
Financial World Brand Valuation Methodology: Estimating the 1995 Gillette Brand Value

Gillette brand 1995 worldwide operating earnings			$961.00 million
Less: Estimated earnings of an equivalent unbranded product[a]			−49.40 million
Gillette brand 1995 adjusted operating earnings			$911.60 million
Gillette brand 1994 adjusted operating earnings (calculated as above)			$830.57 million
Weighted 2-year average of Gillette brand adjusted operating earnings (the most recent year counts twice as much as the previous year):			$884.57 million
Year	*Weight*	*Adjusted Earnings*	
1995	2	$911.60	
1994	1	$830.57	
Less: U.S. corporate tax @ 35% (.35 × $884.57)			−309.60 million
Weighted average Gillette brand after tax earnings			$574.97 million
Times: Estimated Gillette "brand strength multiple"[b]			×17.9
Estimated 1995 Gillette brand value			$10.292 billion

SOURCE: Based on "Behind the Numbers" (1996).

a. The operating earnings of an equivalent unbranded razor and blade product line are estimated as follows:

- The median ratio of capital employed to company sales in the personal-care product category is 0.38; that is, $38 of capital is required to produce $100 in sales.
- Gillette brand razor and blade 1995 sales are $2.6 billion.
- Therefore, the estimated capital investment required to produce sales of $2.6 billion for an equivalent unbranded razor and blade product line is $988 million: .38 ×$2.6 billion = $988 million.
- A generic or unbranded razor and blade product line should have a 5-percent profit on total capital employed, or $49.4 million: .05 × $988 million = $49.4 million.

b. See the text for the basis and source of the brand strength multiple.

MARKET-TO-BOOK RATIO

Market-to-book (M/B) ratios for each firm were obtained from Standard & Poor's Compustat PC-Plus database. Compustat defines and calculates a firm's M/B ratio as follows. Market value (M) is defined as the firm's monthly close stock price multiplied by the firm's quarterly common shares outstanding. Market value is divided by a firm's book equity (B), which represents the common shareholder's interest in the firm, including common stock, capital surplus, and retained earnings.

Monthly company M/B ratios for 1995 and 1996 were extracted from the Compustat PC-plus database. These values were averaged across months in each year to obtain an annualized M/B ratio for each firm.

THE DATA SET

Financial World's estimates of company brand values and M/B ratios obtained from the Compustat database were merged to examine the relationship between brand value and shareholder value among publicly held U.S. consumer goods firms. Brand values were obtained from *FW*'s annual published estimates for 1995 and 1996 (Badenhausen 1996, 1997). Prior year's estimates (pre-1995) were excluded because of a change in the *FW* brand valuation methodology (Meschi 1995). In addition, brands marketed by non-U.S. companies and industrial goods and service firms were excluded, consistent with the study's scope. The remaining brands listed for 1995 and 1996 were assorted by company owner. Because *FW* reports the percentage of annual company sales represented by individual brands, brand sales percentages were summed to determine the percentage of company sales that were attributed to the brand assortment. A cutoff brand sales/company sales proportion of 15 percent was chosen.[1] Accordingly, only those firms with a brand assortment that represented 15 percent or more of annual company sales were included in the data set. Therefore, companies such as American Home Products with its Advil, Centrum, Robitussin, Anacin, and Chapstick brands, which represented 7 percent of company sales in 1995 and 8 percent of sales in 1996, were not included in the data set. The estimated financial values of individual brands in the remaining firms that met the 15 percent cutoff were then summed to arrive at an annualized total firm-level brand value estimate. The average monthly M/B ratios for these companies were then calculated from the Compustat database.

This process yielded 58 firms with 148 brands for 1995 and 55 firms with 143 brands for 1996. Sample firms and company brand assortments differed slightly by year for a variety of reasons. First, *FW* periodically modifies its list of brand values. For example, A.T. Cross, the writing instruments company and its Cross brand, appeared in 1995 but not in 1996. Second, corporate acquisitions altered the company lists and brand assortments. For instance, Clorox acquired Armor All and Gillette purchased Duracell in the 1995-1996 study period, thus eliminating these companies, which appeared in 1995, from the 1996 company listing. Company brand assortments of acquiring firms also changed between 1995 and 1996 because of these purchases.

TABLE 2
Characteristics of the Firms in the Sample

	1995 Data Set (58 firms)			*1996 Data Set (55 firms)*		
Variable	M (SD)	*Median*	*Range*	M (SD)	*Median*	*Range*
Firm brand assortment						
Value ($ billion)	5.58 (10.97)	2.30	.034-65.1	6.41 (12.2)	2.74	.117-69.4
Firm M/B ratio	4.53 (3.01)	3.68	.8-15.4	5.44 (4.10)	4.18	.96-24.2
Total firm sales ($ billion)	7.16 (9.55)	3.56	.12-56.6	7.88 (9.92)	4.01	.13-55.6
Brand assortment sales as a percentage total firm sales	63.3 (26.2)	64	15-100	60.5 (26.7)	62	15-100

NOTE: M/B ratio = market-to-book ratio.

Companies in the 1995 and 1996 data sets were typically large publicly held U.S. consumer goods firms. For example, 49 of the 58 companies in the 1995 data set and 48 of the 55 companies in the 1996 data set were *Fortune* 500 firms with annual revenues exceeding $1.5 billion ("The *Fortune* 500" 1996, 1997).

EMPIRICAL ANALYSES

Table 2 presents the descriptive statistics on the characteristics of the 1995 and 1996 data sets. Inspection of the data sets revealed that the observations pertaining to three firms—Coca-Cola, Philip Morris, and RJR Nabisco—represented extreme values or outliers that could potentially alter the general relationship between brand value and shareholder value. While all other firms had brand values less than $25 billion, the brand values for Coca-Cola and Philip Morris were greater than $48 billion. The M/B ratio for Coca-Cola was commensurate with its large brand value; however, Philip Morris had a relatively low M/B ratio. The low M/B ratio for Philip Morris can be attributed to its Marlboro cigarette brand, which accounted for more than two thirds (68%) of the firm's estimated brand value in 1995 and 1996. The U.S. tobacco industry has encountered widespread litigation, and it is reasonable to speculate that this litigation has depressed the firm's M/B ratio. Indeed, financial analysts estimate that the market value for Philip Morris would be $250 billion larger without the uncertainty surrounding the outcome of litigation (Puri 1997). A similar situation is faced by RJR Nabisco, in which more than 70 percent of its accumulated brand value arises from cigarette brands (e.g., Camel, Salem, Winston, Doral). Hence, the initial exploration of a brand value-shareholder value relationship excludes these three firms. A subsequent analysis includes these three firms to ascertain whether their presence influences the brand value-shareholder value relationship.

THE EMPIRICAL RELATIONSHIP BETWEEN BRAND VALUE AND SHAREHOLDER VALUE

The theoretical argument for a positive relationship between the M/B ratio of publicly held U.S. consumer goods firms and the estimated accumulated financial value of their principal brands was empirically supported. The bivariate, cross-sectional correlation between brand value and M/B ratio was .51 for the 1995 data set and .54 for the 1996 data set. Both correlations were statistically significant ($p < .01$), suggesting a fairly strong association between brand value and M/B ratio across firms.

A scatter plot, however, revealed possible nonlinearity in the relationship between brand value and M/B ratio across firms. Accordingly, the following regression model was estimated to examine the functional form—linear or nonlinear—of the brand value-M/B ratio relationship:

$$\text{M/B Ratio} = a + b\,(\text{Brand Value})^{\alpha} + \text{error}. \quad (1)$$

Values of α in the range $0 < \alpha < 1$ represents a concave function with decreasing returns to scale, $\alpha = 1$ implies a linear function with a constant return to scale, and $\alpha > 1$ represents a convex function with increasing returns to scale. To identify the best-fit functional form, α-values from .1 to 2 were examined, and the corresponding R^2 values were compared. Figure 1 charts the R^2 for different values of α for the 1995 and 1996 data sets. In both data sets, relatively higher R^2 values were obtained when α-values ranged between .2 and .4, implying that the brand value-M/B ratio relationship is concave. Table 3 shows the results from the best-fit functional forms. The best-fit power function model for 1995 was observed when $\alpha^* = .35$ ($R^2 = .31$, adjusted $R^2 = .30$); the best-fit power function model for 1996 was observed when $\alpha^* = .30$ ($R^2 = .37$, adjusted $R^2 = .35$). The slope coefficients (b) for the power function models were positive and significant ($p < .01$), indicating a strong positive relationship (see Table 3).

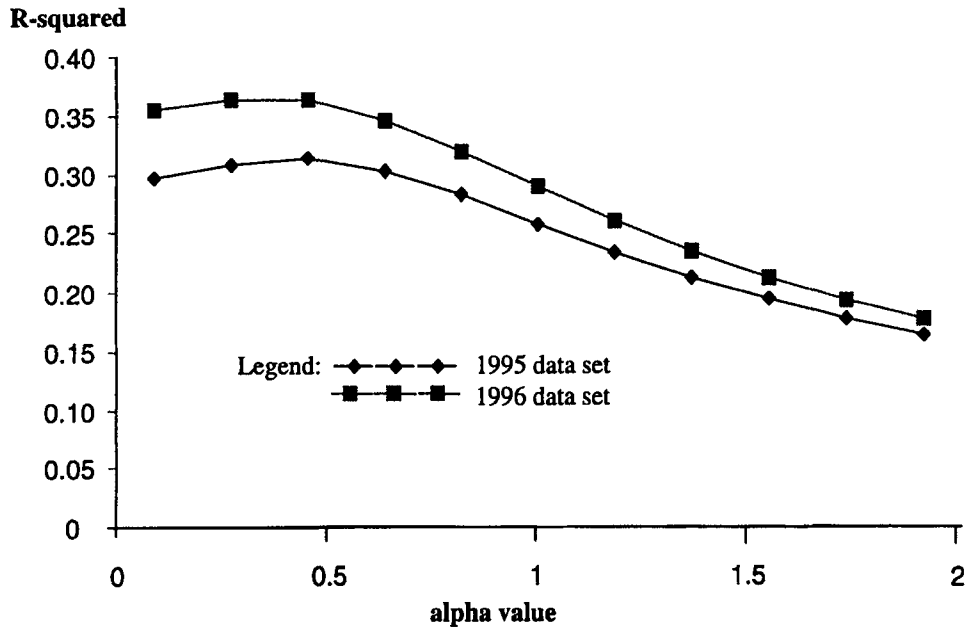
For completeness, two logarithmic models were also estimated, and the results are shown in Table 3. The models were as follows:

$$\text{M/B Ratio} = a + b\,\text{Log (Brand Value)} + \text{error, and} \quad (2)$$

$$\text{Log (M/B Ratio)} = a + b\,\text{Log (Brand Value)} + \text{error}. \quad (3)$$

The R^2 for the semilog model (2) was less than that for the best-fit power function model; the R^2 values for the log-log model (3) were larger (.35 for 1995 and .42 for 1996). However, the R^2 from a power-function model cannot be

FIGURE 1
***R*-Squared Values Versus Alpha Values**



directly compared with the R^2 from a log-log model because the dependent variable is a raw M/B ratio in the former, while the dependent variable is log (M/B ratio) in the latter. To account for this difference, an R^2 (equivalent) for the log-log model was computed by taking the exponential of predicted values.[2] The R^2 equivalent for the log-log model for 1995 was .29 and .345 for 1996. These R^2 values are lower than the corresponding values for the best-fit (concave) power function model.

Further analysis examined the effect, if any, of excluding the Coca-Cola, Philip Morris, and RJR Nabisco extreme brand value and/or M/B ratio data on the observed relationships. Inclusion of these observations reduced the correlation between brand value and the M/B ratio to .46 for 1995 and .51 for 1996. Both correlations remained statistically significant ($p < .01$). A test for nonlinearity again yielded best-fit power function models that were concave.[3] The slope (b) coefficient remained positive and statistically significant ($p < .01$) in both years. Thus, the qualitative results remained unchanged when the outlier observations were included.

In summary, this analysis offers a variety of initial insights. First, consistent with extant theory, there is a fairly strong positive statistical relationship between brand value and shareholder value as conceptualized and operationalized in this study. Second, the observed brand value-shareholder value relationship is concave with decreasing returns to scale. Third, the brand value-shareholder value relationship was judged to be relatively stable as evidenced by the consonant results from both the 1995 and 1996 data sets. These three findings are illustrated in Figures 2 and 3, which plot actual and predicted brand values and M/B ratios for firms in 1995 and 1996, respectively (excluding the three outlier firms), using the respective best-fit power function models. Finally, the observed relationship accommodates the presence of outliers, suggesting that the initial results are robust.

SUPPLEMENTAL ANALYSES OF THE BRAND VALUE-SHAREHOLDER VALUE RELATIONSHIP

The preceding analysis uncovered the presence of a positive and statistically significant brand value-shareholder value association as well as the nonlinear form of the relationship. Even though these findings illuminate a previously undocumented empirical relationship, it is conceivable that omitted variables may alter or mitigate the observed results. For example, a rival explanation for the brand value-shareholder value relationship is that (1) firms with high brand values are likely to have large sales volumes because brand equity (hence brand value) is a potential driver of sales, and (2) firms with large sales volumes may also have high M/B ratios because of a size advantage. Hence, the observed positive relationship between a firm's accumulated brand value and M/B ratio may be spurious and arise simply because both brand value and M/B ratio are positively related to a firm's sales. Therefore, to test whether a firm's sales level is mediating the relationship, sales volume should be considered as a covariate when exploring the association between brand value and shareholder value.

Another factor that may influence the brand value-shareholder value relationship is the extent to which brands used in a firm's brand value computation represent

TABLE 3
Regression Results of Best-Fit Models

	Linear Model $M/B = a + b\,(BV) + e$		*Power Function Model* $M/B = a + b\,(BV)^{\alpha} + e$		*Logarithmic Models*			
					Semilog Model $M/B = a + b\,Log\,(BV) + e$		*Log-Log Model* $Log\,(M/B) = a + b\,Log\,(BV) + e$	
Measure	*1995*	*1996*	*1995*	*1996*	*1995*	*1996*	*1995*	*1996*
Intercept (a)	3.29	3.74	1.20	0.12	–2.53	–5.23	–.37	–.81
	(.40)	(.49)	(.71)	(1.01)	(1.54)	(2.07)	(.32)	(.39)
Slope (b)	31	.35	.22	.48	.94	1.37	.23	.30
	(.072)	(.077)	(.043)	(.090)	(.21)	(.27)	(.043)	(.051)
Exponent (α)	1.0	1.0	.35	.30	NA	NA	NA	NA
R^2	.26	.29	.31	.37	.28	.34	.35	.42
Adjusted R^2	.24	.28	.30	.35	.27	.33	.34	.40
Overall model fit *F*-statistic	18.4	20.4	24.2	28.8	20.8	26.1	28.2	35.4
	($p < .01$)	($p < .01$)	($p < .01$)	($p < .01$)	($p < .01$)	($p < .01$)	($p < .01$)	($p < .01$)

NOTE: M/B refers to market-to-book ratio; BV refers to brand value. Standard errors for coefficients (a) and (b) are given in parentheses. All slope coefficients (b) are significant at $p < .01$.

total company sales. For some firms, brands listed in *FW* accounted for all or a substantial portion of company sales (e.g., 100% for Dole Foods, 97% for Kodak). In these cases, the accumulated brand value computed from *FW* may be more representative of total firm value. For other firms, brands listed by *FW* represented a smaller portion of sales (e.g., 15% for 3M, 18% for Johnson & Johnson). In these cases, the accumulated brand value computed from *FW* may be less representative of total firm value. It can be argued that the strength of the brand value-M/B ratio relationship is weaker because less-representative observations have been included with the more-representative observations. Accordingly, further analysis is necessary to determine the strength and functional form of the brand value-MB ratio relationship when less-representative observations are segregated from more-representative observations.

Finally, the cross-sectional analysis of the brand value-shareholder value relationship ignores a possible linkage between change in a firm's brand value over time and change in its M/B ratio. In 1994, *FW* analysts speculated that directional changes in brand value should be reflected in measures of shareholder value, but they noted that their brand valuation estimates had not been available long enough to study this relationship (Smith 1994). Brand value data for 1995 and 1996 allow an analysis of company brand value and M/B ratio directional changes.

An examination of directional changes and attention to the other issues raised above have the potential to offer further insight into the brand value-shareholder value relationship. Therefore, a supplemental analysis of the 1995 and 1996 data sets was performed to address three questions:

1. Does a firm's sales volume alter the observed strength and functional form of the relationship between a firm's accumulated brand value and its M/B ratio?
2. Is the strength and functional form of the relationship between a firm's accumulated brand value and its M/B ratio different among firms whose sales are well represented in the *FW* brand value computation compared with the relationship among firms whose sales are less well represented?
3. Are annual directional changes in a firm's accumulated brand value associated with annual directional changes in its M/B ratio?

Incorporating a Sales Volume Effect

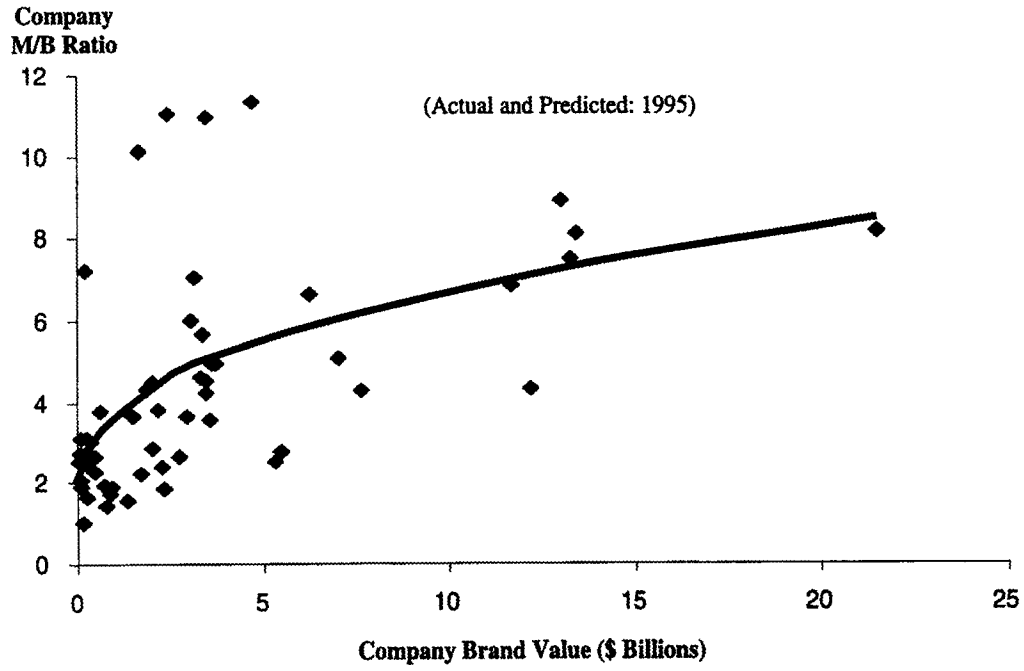
To address the question of whether total firm sales (in millions of dollars) mediated the relationship between a firm's accumulated brand value and M/B ratio, correlations among brand value, M/B ratio, and firm sales were determined for both 1995 and 1996 data sets. As shown in Table 4, firm sales were positively and significantly ($p < .01$) related to a firm's M/B ratio. However, the firm sales-M/B ratio correlation was lower than the correlation between brand value and M/B ratio. Furthermore, the partial correlation between brand value and M/B ratio was .45 in 1995 and .53 in 1996, after accounting for a firm's sales. Therefore, the brand value-M/B ratio correlation remains strong and significant ($p < .01$), even after incorporating a firm sales volume effect. It is also worth noting that brand value is clearly related to firm sales: firms with large sales volumes do have high brand values.

To test for nonlinearity, the following power-function model was estimated:

$$\text{M/B Ratio} = a + b\,(\text{Brand Value})^{\alpha} + c\,(\text{Firm Sales}) + \text{error}. \quad (4)$$

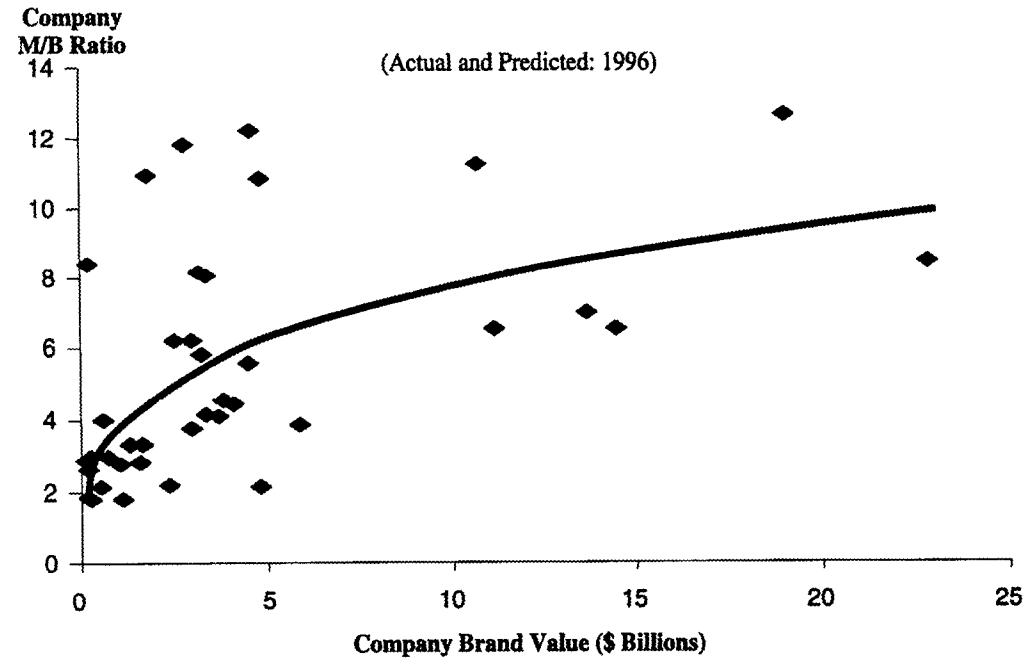
The best-fit models were obtained with α^* (1995) = .39 and α^* (1996) = .35, indicating that the power functions are concave. The estimated slope (b) coefficients were positive and significant ($p < .01$) in both yearly data sets: b (1995) = .18 (SE = .043) and b (1996) = .40 (SE = .068). Therefore, the qualitative results remain unchanged even when the sales volume effect is included.

FIGURE 2
Company Brand Value Versus M/B Ratio: 1995



NOTE: M/B ratio = market-to-book ratio.

FIGURE 3
Company Brand Value Versus M/B Ratio: 1996



NOTE: M/B ratio = market-to-book ratio.

TABLE 4
Correlations and Partial Correlations Among Brand Value, M/B Ratio, and Firm Sales

	1995 Data Set			*1996 Data Set*		
Variable	*B Val.*	*M/B*	*Sales*	*B Val.*	*M/B*	*Sales*
Brand value (B Val.)	1.00			1.00		
Market-to-book ratio (M/B)	.52	1.00		.54	1.00	
Firm sales (Sales)	.72	.31	1.00	.68	.23	1.00
Partial correlation	$r_{\text{B Val.} - \text{M/B. Sales}} = .45$			$r_{\text{B Val.} - \text{M/B. Sales}} = .53$		

NOTE: M/B = market-to-book ratio.

Accounting for Brand Portfolio Differences

The 1995 and 1996 data sets were reexamined to address the following question: Is the strength and functional form of the relationship between a firm's accumulated brand value and its M/B ratio different among firms whose sales are well represented in the *FW* brand value computation compared with the relationship among firms whose sales are less well represented? To address this question, firms were classified as either well represented or less well represented using a brand sales percentage (BSPERCENT) variable. This variable was calculated for each firm in each year from *FW* data:

$$\text{BSPERCENT} = \frac{\$ \text{ Sales of Brands Included in the } FW \text{ Portfolio}}{\text{Total } \$ \text{ Firm Sales}} \times 100\%.$$

The BSPERCENT ranged from 15 percent to 100 percent for both 1995 and 1996 data sets. The median BSPERCENT was 64 percent in 1995 and 62 percent in 1996.

Firms in both the 1995 and 1996 data sets were subsequently divided at the median into two subgroups. The median percentage for the "high" BSPERCENT groups for both data sets was 85; the median percentage for the "low" BSPERCENT groups for both data sets was about 41. Separate correlation and regression analyses were performed for each of the four subgroups.

The correlation between a firm's brand value and M/B ratio for the "high" BSPERCENT group was .49 for 1995 and .52 for 1996. The brand value-M/B ratio correlation for the "low" BSPERCENT group was .54 for 1995 and .60 for 1996. The correlations were not materially different from those observed for the total sample of firms in the 1995 and 1996 data sets, and all were statistically significant ($p < .01$). These results indicate that the association between brand value and M/B ratio is unaffected by differences in the percentage of company sales represented in the *FW* brand value computation.

Table 5 presents the results of the regression analysis performed on each of the four subgroups. Again, a statistically significant, positive and nonlinear (concave) relationship between brand value and M/B ratio was observed.

TABLE 5
Regression Results of Best-Fit Power Function Models: Subgroup Analysis

	High BSPERCENT Sample Power Function Model: $M/B = a + b\,(BV)^{\alpha} + e$		*Low BSPERCENT Sample Power Function Model:* $M/B = a + b\,(BV)^{\alpha} + e$	
Measure	*1995*	*1996*	*1995*	*1996*
Intercept (a)	.45	−1.05	1.68	.96
	(1.34)	(2.05)	(.75)	(.98)
Slope (b)	.58	1.17	.64	.13
	(.17)	(.35)	(.02)	(.03)
Exponent (α)	.26	.22	.47	.44
R^2	.31	.33	.33	.42
Adjusted R^2	.28	.30	.30	.40
Overall model fit	11.6	11.4	12.3	18.4
F-statistic	($p < .01$)	($p < .01$)	($p < .01$)	($p < .01$)

NOTE: M/B refers to market-to-book ratio; BV refers to brand value. Standard errors for coefficients (a) and (b) are given in parentheses. All slope coefficients (b) are significant at $p < .01$.

Therefore, the functional form of the brand value-M/B ratio relationship remains unchanged even when the percentage of company sales represented in the brand value computation differs.[4]

Analyzing Dynamic Effects: Directional Changes in Brand Value and M/B Ratio

Are annual directional changes in a firm's accumulated brand value associated with annual directional changes in its M/B ratio? To answer this question, the 52 firms common to both the 1995 and 1996 data sets were cross-tabulated to determine whether an increase (decrease) in a firm's brand value was associated with an increase (decrease) in its M/B ratio. The tabulation appears in Table 6 and shows that a directional change in a firm's accumulated brand value is associated with a corresponding directional change in its M/B ratio. For 56 percent of the firms, brand value and M/B ratio increased over 1995. For those firms for which brand values increased in 1996, the M/B ratio increased in 78 percent of the cases, while the M/B ratio increased in 47 percent of the cases when brand value decreased. Thus, based on this sample, there is a 31 percent higher probability of an increase in M/B ratio when brand value increases than when brand value decreases.

This supplemental analysis indicates that the statistical association and functional form of the brand value-shareholder value relationship is relatively insensitive to differences in company sales volume and the percentage of firm sales represented by brands valued by *FW* analysts. These results rule out at least two rival explanations for the observed significant correlation and concave relationship between company accumulated brand values and M/B ratios.

The examination of a 1-year directional change in a firm's accumulated brand value and M/B ratio complements the cross-sectional analysis and yields a previously undocumented result. Consistent with the speculation by

TABLE 6
M/B Ratio and Brand Value Change: 1995-1996

	M/B Ratio Change: 1995-1996	
	Decrease	*Increase*
Brand value change: 1995-1996		
Decrease	8	7
Increase	8	29

NOTE: M/B ratio = market-to-book ratio. $\chi^2 = 5.06$, 1 *df*, $p < .05$.

FW analysts, an association exists between an increase (decrease) in a firm's annual accumulated brand value and a corresponding change in its M/B ratio. However, the relationship was found to lack symmetry. That is, while an increase in a firm's accumulated brand value was associated with an increase in its M/B ratio in a majority of cases, decreases in brand value were not strongly associated with a decrease in M/B ratio. The implications of this and other findings are discussed next.

DISCUSSION

This article provided a conceptual rationale for, and an empirical analysis of, a relationship between brand value and shareholder value among publicly held U.S. consumer goods firms. The empirical evidence confirms the presence of a positive brand value-shareholder value relationship, which is consistent with the extant literature in financial economics, financial accounting, and marketing.[5] Our study extended this literature by (1) empirically documenting the statistical strength and functional form of the brand value-shareholder value relationship, (2) addressing rival explanations for the empirical results, and (3) examining directional change in a firm's accumulated brand value and M/B ratio over time. Several theoretical and managerial implications emerge from this exploratory investigation.

THEORETICAL AND MANAGERIAL IMPLICATIONS

Firms with higher accumulated brand values have higher M/B ratios. The theoretical argument for a positive relationship between a firm's brand value and shareholder value was confirmed. A firm's accumulated brand value was observed to explain as much as 40 percent of the variation in its M/B ratio across firms. While caution is necessary in inferring causality from a bivariate, cross-sectional analysis, the variation explained nevertheless is encouraging. The finding that higher M/B ratios are observed among firms endowed with higher brand values should be comforting news to those who advocate brand equity (value) building as a means for creating shareholder wealth (e.g., Aaker 1996; Duncan and Moriarity 1997; Keller 1998). However, as noted next, this finding should not be interpreted as meaning that brand value growth at the firm level necessarily produces a commensurate growth in shareholder value.

Even though firms with higher accumulated brand values have higher M/B ratios, the functional form of the relationship is concave. As documented earlier, the best-fit models for the observations in both the 1995 and 1996 data sets were concave functions with decreasing returns to scale. This functional form indicates that a given increase in a firm's brand value relates to a larger increase in a firm's M/B ratio when a firm's accumulated brand value is small; however, the increase in a firm's M/B ratio may be relatively modest if a firm already has a high accumulated brand value. To illustrate this finding, consider the functional form of the brand value-M/B ratio relationship for 1995 shown in Figure 2. When a firm with an accumulated brand value of $1 billion increases its brand value by $1 billion and becomes a firm with brand value of $2 billion, its M/B ratio increases by .9 (increases from 3.9 to 4.8), other things being equal. On the contrary, when a firm with an accumulated brand value of $20 billion increases its brand value by $1 billion, its M/B ratio increases by only .1 (from 9.5 to 9.6), other things being equal.

This finding has important implications for marketing practice. At a conceptual level, managers should consider that the incremental benefits of company-wide brand value building have a threshold beyond which further accumulated brand value growth may not yield a corresponding increase in shareholder value. As a practical matter, nonlinearity in the brand value-shareholder value relationship suggests that managers should be knowledgeable of existing company brand values before embarking on brand value (equity) growth initiatives for the purpose of improving shareholder value. However, research indicates that such knowledge is limited. A majority of U.S. companies do not measure the financial worth of their brands, let alone monitor brand value changes on a continuous basis (Kuczmarski & Associates 1996). This situation is understandable, particularly for multibrand companies in which multibrand valuations could represent a sizable task.

The notion of "central" brands offered by Aaker and Jacobson (1994) and our supplemental analysis suggests that, from a shareholder value perspective, it may not be necessary to monitor or evaluate all brands in a firm's product portfolio. As described in our study, *FW* analysts estimate brand values principally for established and successful brands. In some instances, these brands represented all or a substantial portion of company sales. In other instances, these brands represented a smaller portion of company sales. Our analysis of *FW* brand values indicated that even when the brands valued did not account for a large portion of company sales (low BSPERCENT), the brand value-shareholder value correlation was strong and the nature of the relationship was not different from that observed for firms with a well-represented brand subset (high BSPERCENT). A broad inference from this result is

that patterns in M/B ratios are more likely to be influenced by brand value changes among a firm's established or well-known brands than by changes in a firm's less well known brands. This inference is consistent with the view that corporate stock returns might be an indicator, albeit subject to measurement error, of the performance of a company's "central" brand(s) (see Aaker and Jacobson 1994). Hence, from the standpoint of investing in brand value growth to improve shareholder value, a useful starting point is to look first at a firm's established and successful brands.

While it is generally prudent to maintain and enhance a firm's brand values, and especially its established and successful brands, our supplemental analysis also indicated that *increases in accumulated brand values are more likely to be reflected in a firm's M/B ratio than are decreases in accumulated brand values*. An asymmetric effect was observed when the directional change in a firm's accumulated brand value and M/B ratio was examined for the period 1995-1996. Specifically, an increase in a firm's brand value is reflected in an increase in its M/B ratio, but decreases in a firm's brand value exhibit little relation to decreases in its M/B ratio. Among 15 firms experiencing a decline in brand value, 53 percent recorded a decrease in their M/B ratio. However, for 37 firms in which brand values increased, 78 percent recorded higher M/B ratios.

This finding offers a tentative insight for managers. That is, it appears that in the short run, the stock market rewards accumulated brand value growth more than it penalizes brand value decline, at least for the brands, companies, and period studied in this inquiry. A time-series analysis of changes in a firm's accumulated brand value and M/B ratio will be needed to substantiate the validity of this view in the long run.

LIMITATIONS AND FUTURE RESEARCH

The initial insights and implications discussed above need to be tempered by the limitations present in this study. These limitations, in turn, provide opportunities for further research on the brand value-shareholder value relationship.

At the outset, it is acknowledged that the *FW* brand valuation approach is not without shortcomings. Frequently cited criticisms include (1) the method for estimating future earnings and cash flows over and above the future earnings and cash flows that an unbranded (generic or commodity) product can produce, (2) the choice of a discount rate (or earnings multiple) based on seemingly subjective assessments of brand strength and the application of P/E ratios, and (3) the tendency to overlook asset synergies and brand or trademark extension potential when valuing brands (see, e.g., Aaker 1996; Barwise, Higson, Likierman, and Marsh 1990; Kapferer 1997). Indeed, these criticisms apply in some fashion to all economic valuation practices that attempt to assign a single financial value to a brand name for its current owner (Haigh and Perrier 1997). Nevertheless, convergence of the theoretical explanation for a positive brand value-shareholder value relationship with the empirical analysis suggest that the *FW* valuation method and brand values, and the modeling effort and results described in this study, are worthy of consideration and further study.

It is also recognized that the scope of this investigation was limited. Future research might expand the sampling frame beyond publicly held U.S. consumer goods firms and examine whether the observed relationships apply to industrial product firms, or for that matter, non-U.S. companies for which brand value and M/B ratio data are available. The limited scope of this study is also apparent in the focus on the bivariate relationship between a firm's accumulated brand value and M/B ratio. While inclusion of firm sales did not alter the relationship, it is plausible that other variables might attenuate or amplify the observed association and functional form of the brand value-shareholder relationship (e.g., total company assets, or corporate brand advertising).

The cross-sectional analysis of the brand value-shareholder value relationship represents another limitation. A longitudinal analysis, which would track accumulated brand values and M/B ratios by company over time, could provide valuable insights into the dynamic nature of the relationship between these two variables.

The limitations of this exploratory inquiry indicate that a conclusive linkage between brand value and shareholder value has yet to be established. However, the conceptual argument for such a linkage is sufficiently persuasive to suggest that this relationship warrants further attention, both from a measurement and empirical perspective.

APPENDIX
Interbrand Dimensions of Brand Strength

The Interbrand Group uses seven weighted dimensions to determine a brand's strength (Andrews 1997; Birkin 1994). A brief description of, and weight assigned to, each dimension is given below:

Dimension	*Maximum Score*
1. *Leadership.* A brand that is a dominant force in its market or market sector with a strong market share is considered to be a more stable and valuable asset than a brand lower down the order. Brands that influence their market, set price points, command distribution, and resist competitive inroads score high on leadership.	25 points
2. *Geographic spread.* Brands having strong international acceptance and appeal are	

(continued)

APPENDIX Continued

deemed stronger than national or regional brands. Significant investment will have been incurred in the geographic development of such brands and they are less susceptible to competition; hence, they are more robust and stable assets.	25 points
3. *Stability.* Long-established, successful brands that evidence consumer loyalty and have become part of the "fabric" of their markets are afforded a high score.	15 points
4. *Market.* Brands in markets such as food, drinks, and publishing are in most (but not all) cases stronger than brands in technology-driven (electronics) or highly fashionable (apparel) industries since these markets are more vulnerable to technological or taste changes. A brand in a stable but growing market with strong entry barriers will thus score highly.	10 points
5. *Trend.* The overall long-term trend of a brand is a measure of its ability to remain contemporary and relevant to consumers and hence retain its value.	10 points
6. *Support.* Brands receiving consistent investment and focused support are viewed as having a stronger franchise than those that have not. The amount and quality of brand support are equally weighted.	10 points
7. *Protection.* The strength and breadth of the brand's trademark protection are critical in assessing its overall strength. If the legal basis of the brand is suspect, it may not be possible to apply a value to the brand at all.	5 points
Total	100 points

NOTES

1. If a brand does not represent a reasonable portion of a company's sales, then the observed association between brand-level performance and firm-level stock market behavior may be weak simply because the company is not adequately represented by the brand (i.e., because of measurement error). Simon and Sullivan (1993) "guesstimated" that a brand's sales should make up at least 5 percent to 10 percent of a company's sales to offset stock market "noise" when estimating brand equity effects on stock returns. The cutoff brand sales/company sales percentage of 15 applied in this study is more conservative than their guesstimate.

2. An R^2 (equivalent) for the log-log model was computed as follows. Let P be the predicted value from the log-log model [log (M/B)]. Then, predicted raw (M/B) = exp(P); the error in terms of M/B, say E = Observed (M/B) – exp (P) and sum of squared error (SSE) = E^2 summed over all observations. R^2 is computed as 1 – (SSE/SST), where SST is the sum of squares total related to raw M/B ratios.

3. The estimates from the best-fit power function models when the three outliers were included were as follows (standard errors are in parentheses):

Best-fit model (1995):

$$\text{M/B Ratio} = 0.48 + 0.54\ (\text{Brand Value})^{0.26}\ (R^2 = .32, \text{adjusted } R^2 = .30)$$
$$(.87)\quad (.11)$$

Best-fit model (1996):

$$\text{M/B Ratio} = 0.21 + 0.47\ (\text{Brand Value})^{0.30}\ (R^2 = .35, \text{adjusted } R^2 = .34)$$
$$(1.08)\quad (.088)$$

4. The brand value-M/B ratio relationship was also analyzed with BSPERCENT treated as a continuous variable. Since BSPERCENT is a measure of the representativeness of the observation in capturing a firm's brand value, more-representative observations with a high BSPERCENT should be weighted more, whereas less-representative observations with a low BSPERCENT should be weighted less. Model (1) was estimated for the 1995 and 1996 data sets separately using weighted least squares, where the observations were weighted by BSPERCENT. The basic finding of a positive nonlinear (concave) relationship between brand value and M/B ratio held in this case as well (1995: $\alpha^* = .33$, $b = .26$ [$SE = .057$]; 1996: $\alpha^* = .28$, $b = .60$ [$SE = .118$]).

5. As one reviewer rightly pointed out, it is not surprising to find a correlation between one financial measure (FW) of brand value and another financial measure (M/B ratio) that also contains some information about brand value. As detailed in the conceptual argument, future cash flows underlie both measures. Hence, a positive correlation would be expected. This article empirically validates that expectation and provides additional insights into the strength and functional form of the brand value-M/B ratio relationship.

REFERENCES

Aaker, David A. 1991. *Managing Brand Equity.* New York: Free Press.

———.1996. *Building Strong Brands.* New York: Free Press.

———and Robert Jacobson. 1994. "The Financial Information Content of Perceived Quality." *Journal of Marketing Research* 31 (May): 191-201.

Andrew, David. 1997. "Brand Strength Analysis." In *Brand Valuation,* 3rd ed. Ed. Raymond Perrier. London: Premier Books, 55-60.

Badenhausen, Kurt. 1996. "Blind Faith." *Financial World* 165 (July 8): 50-65.

———. 1997. "Most Valuable Brands." *Financial World* 166 (October 8): 62-70.

Barth, Mary E. and Wayne R. Landsman. 1995. "Fundamental Issues Related to Using Fair Value Accounting for Financial Reporting." *Accounting Horizons* 9 (December): 97-107.

Barwise, Patrick, Christopher Higson, Andrew Likierman, and Paul Marsh. 1990. "Brands as 'Separable Assets.'" *Business Strategy Review* 1 (Summer): 43-59.

"Behind the Numbers." 1996. *Financial World* 165 (July 8): 54-55.

Biel, Alexander L. 1993. "Converting Image Into Equity." In *Brand Equity and Advertising.* Eds. David A. Aaker and Alexander L. Biel. Hillsdale, NJ: Lawrence Erlbaum, 67-82.

Birkin, Michael. 1994. "Assessing Brand Value." In *Brand Power.* Ed. Paul Stobart. New York: New York University Press, 209-223.

Copeland, Tom, Tim Keller, and Jack Murrin. 1994. *Valuation: Measuring and Managing the Value of Companies.* 2nd ed. New York: John Wiley.

Duncan, Tom and Sandra Moriarity. 1997. *Driving Brand Value.* New York: McGraw-Hill.

Egginton, Don A. 1990. "Toward Some Principles for Intangible Asset Accounting." *Accounting and Business Research* 20:193-205.

Fama, Eugene F. 1970. "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance* 25 (December): 383-417.

———. 1991. "Efficient Capital Markets: II." *Journal of Finance* 46 (December): 1575-1617.

"The *Fortune* 500." 1996. *Fortune*, April 29, pp. F1-F19.

"The *Fortune* 500." 1997. *Fortune*, April 28, pp. F1-F23.

Glover, Christopher. 1997. "Alternative Methods of Brand Valuation." In *Brand Valuation*, 3rd ed. Ed. Raymond Perrier. London: Premier Books, 19-24.

Grand Metropolitan Annual Report 1996. 1997. London: Grand Metropolitan, PLC.

Haigh, David and Raymond Perrier. 1997. "Valuation of Trademarks and Brand Names." In *Brand Valuation*, 3rd ed. Ed. Raymond Perrier. London: Premier Books, 25-34.

Hirschey, Mark and Jerry Weygandt. 1985. "Amortization Policy for Advertising and Research and Development Expenditures." *Journal of Accounting Research* 23 (Spring): 326-335.

Kapferer, Jean-Noël. 1997. *Strategic Brand Management: Creating and Sustaining Brand Equity Long Term*. 2nd ed. Dover, NH: Kogan Page.

Keller, Kevin Lane. 1998. *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*. Upper Saddle River, NJ: Prentice Hall.

Kerin, Roger A., Vijay Mahajan, and P. Rajan Varadarajan. 1990. *Contemporary Perspectives on Strategic Market Planning*. Boston: Allyn & Bacon.

Kuczmarski & Associates. 1996. *Brand Asset Management for the 1990s*. Chicago.

Lane, Vicki and Robert Jacobson. 1995. "Stock Market Reactions to Brand Extension Announcements: The Effects of Brand Attitude and Familiarity." *Journal of Marketing* 59 (January): 63-67.

Lefton, Terry with Weston Anson. 1996. "How Much Is Your Brand Worth?" *Brandweek*, January 29, pp. 43-44.

Lev, Baruch. 1997. "Announcing the Foundation of the Intangibles Research Center at the Vincent C. Ross Institute of Accounting Research." *Accounting Horizons* 11 (March): 136-138.

Lindenberg, Eric and Stephen Ross. 1981. "Tobin's *q* Ratio and Industrial Organization." *Journal of Business* 54 (January): 1-32.

Longman, Kenneth A. 1995. "Valuing a Brand." *Journal of Brand Management* 2 (April): 273-279.

Meschi, Robert L. 1995. "Value Added: Refinements in Our Brand Valuation Methodology." *Financial World* 164 (August 1): 52.

Morck, R., A. Shleifer, and R. W. Vishny. 1988. "Management Ownership and Market Valuation: An Empirical Analysis." *Journal of Financial Economics* 20 (2): 293-315.

Morris, Betsy. 1996. "The Brand's the Thing." *Fortune*, March 4, pp. 72-76.

Murphy, John. 1989. *Brand Valuation*. London: Century Hutchinson.

Owen, Stewart. 1993. "The Landor Image Power Survey: A Global Assessment of Brand Strength." In *Brand Equity and Advertising*. Eds. David A. Aaker and Alexander L. Biel. Hillsdale, NJ: Lawrence Erlbaum, 11-30.

Puri, Shaifoli. 1997. "Warning: Buying Philip Morris Could Be Habit-Forming." *Fortune*, April 28, pp. 394, 396.

Schlossberg, Howard. 1990. "Brand Value Can Be Worth More Than Physical Assets." *Marketing News*, March 5, p. 6.

Schuetze, Walter P. 1993. "What Is an Asset?" *Accounting Horizons* 7 (September): 66-70.

Sheth, Jagdish N. and Rajendra S. Sisodia. 1995. "Feeling the Heat." *Marketing Management* 4 (Fall): 8-23.

Simon, Carol J. and Mary W. Sullivan. 1993. "The Measurement and Determinants of Brand Equity: A Financial Approach." *Marketing Science* 12 (Winter): 28-52.

Smith, Geoffrey N. 1994. "What's in a Name?" *Financial World* 163 (August 2): 6.

Solomons, David. 1995. "Criteria for Choosing an Accounting Model." *Accounting Horizons* 9 (March): 42-51.

Srivastava, Rajendra K., Tassadduq A. Shervani, and Liam Fahey. 1998. "Market-Based Assets and Shareholder Value: A Framework for Analysis." *Journal of Marketing* 62 (January): 2-18.

Tobin, James. 1969. "A General Equilibrium Approach to Monetary Theory." *Journal of Money, Credit, and Banking* 1 (February): 15-29.

———.1978. "Monetary Policies and the Economy: The Transmission Mechanism." *Southern Economic Journal* 37 (April): 421-431.

Varaiya, Nikhil, Roger A. Kerin, and David Weeks. 1987. "The Relationship Between Growth, Profitability, and Firm Value." *Strategic Management Journal* 8 (September-October): 487-497.

Yovovich, B. G. 1988. "What Is a Brand Really Worth?" *Adweek's Marketing Week*, August 8, pp. 18-20, 24.

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