

BRANDS MATTER:
AN EMPIRICAL DEMONSTRATION OF THE CREATION OF SHAREHOLDER VALUE
THROUGH BRANDING

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Brands Matter:

An Empirical Demonstration of the Creation of Shareholder value through Branding

Abstract

This research responds to the attendant need for empirical evidence pertaining to how marketing affects firm performance. Using the Fama-French method, common in finance, and a leading marketplace measure of a brand's financial equity value, the authors provide empirical evidence for the branding–shareholder value creation link. The results extend previous research by showing that strong brands not only deliver greater returns to stockholders than does a relevant benchmark but do so with less risk. This finding holds even when market share and firm size are considered.

Corporate attention to branding has increased steadily and significantly since the publication of Aaker's (1991) seminal work on the power of brands. Although corporate officers now may recognize branding as an important marketing activity, marketing executives still are challenged to substantiate the value of branding in clear financial terms (Doyle 2000; Lehmann 2004). The lack of financial accountability "has undermined marketing's credibility, threatened marketing's standing in the firm, and even threatened marketing's existence as a distinct capability within the firm" (Rust, Ambler, Carpenter, Kumar, and Srivastava 2004, p. 76).

The gap between marketing and finance thus is not insignificant. Special issues of the *Journal of Business Research*, *Journal of Marketing*, and, most recently, the *Journal of the Academy of Marketing Science* highlight the different schools of thought and research paradigms that fundamentally separate the functional areas of marketing and finance (Hyman and Mathur 2005; Rust et al. 2004; Zinkhan and Verbrugge 2000). Finance researchers are interested in the impact of firm strategies and decisions on investor expectations, whereas marketing researchers focus on customer reactions to marketing strategies and decisions. From a financial perspective, shareholders constitute the central stakeholder group, and the research focus centers on the creation of shareholder value; from the marketing perspective, consumers represent the major constituency, and the focus rests on the attitudes and behaviors that drive revenues in the marketplace. Furthermore, finance researchers study firm-level data and rely on information from equity markets and the firm's financial statements, whereas marketers focus on consumer data collected through surveys or experimental research. Put differently, marketing's domain is the creation of customer value, but the shareholder value space belongs to finance. Unfortunately for marketing, the ultimate metric of performance for senior management aligns with the financial school of thought (Moorman and Lehmann 2004). As Knowles (2003) states, shareholder value has become the language of the boardroom but not of the marketing group.

This research endeavors to provide a clear and compelling empirical demonstration of the way branding creates shareholder value. Using concepts, analytic approaches, and mathematical models of shareholder value creation from the discipline of finance, our research extends previous published studies that have correlated stock prices and brand value and demonstrates that changes in brand equity are associated with changes in firm values. In providing an empirical bridge across the marketing–finance divide, we also seek to contribute to arguments about a value-based redefinition of the marketing function overall (Day and Fahey 1988; Doyle 2000; Srivastava, Shervani, and Fahey 1998).

The Relationship Between Branding and Firm Performance

Many published analyses have reported a link between branding and the financial performance of a firm. Kerin and Sethuraman (1998), for example, study companies on the 1995 and 1996 Interbrand “Most Valued Brands” lists and report a positive relationship between financial brand values and market-to-book ratios. Barth, Clement, Foster, and Kaszkik (1998) find that the Interbrand values are significantly and positively related to stock prices and returns. Using their own metric for measuring brand equity, Simon and Sullivan (1993) demonstrate that brand equity comprises a large percentage (more than 151%) of the replacement value of many firms. As they note, Conchar, Crask and Zinkhan’s (2005) comprehensive meta-analysis provides evidence of a significant positive relationship between a firm’s advertising and promotion spending and the market value of the firm, thus supporting the linkage between a firm’s brand building activities and the financial performance of the firm.

Perhaps the most familiar research is Aaker and Jacobson’s (1994) empirical work, in which they consider whether product quality measures provide information about a firm’s stock prices beyond that information contained in return on investment (ROI) figures. Using EquiTrend’s 11-point perceived product quality measure as a brand equity indicator and stock

price as a firm value indicator, they create a panel data set of 34 publicly traded firms for 1991 and 1993 and regress annual stock prices on unanticipated ROI and brand equity (with the assumption that investors are aware of trends in the independent variables, and therefore, only unanticipated “surprises” or deviations from these trends affect stock prices). On the basis of the statistically significant and positive time-series correlation between changes in perceived quality and stock price movement, Aaker and Jacobson (1994, p. 201) conclude that “the explanatory power of the product quality measure compares to that of ROI ... which should be encouraging to those attempting to justify investments in product quality when tough questions are raised about the bottom line.” Their study has attained widespread recognition as evidence of brands’ ability to create shareholder value: “Aaker and Jacobson’s research shows that brand building ... did pay off where it really counts ... for the shareholder” (Pettis 1995).

Although these studies that indicate a positive relationship between measures of brand equity and stock returns are useful and important for understanding the link between branding and shareholder value, they do not unequivocally constitute evidence of shareholder value creation by brands. To address whether shareholder value is created (or possibly destroyed), we must recognize that shareholder value is both a relative (opportunity cost) and risk-adjusted concept. That is, shareholder value is not created simply through positive stock returns or increased market capitalization; rather, it occurs if and only if a company’s stock returns are higher than any returns the company’s shareholders might receive from alternative investments of similar risk.

On the Creation of Shareholder Value

One approach for assessing the creation of shareholder value is the event study method used by financial economics. The basic logic behind this method is that in an efficient market, stock prices reflect all available information about the firm. Thus, “by investigating the behavior

of the firm's stock price around the time when new information is received about an event that affects the firm's cash flows, one is explicitly testing the underlying change in the unbiased market forecast of the firm's future income" (Chaney, Devinney and Winer 1991, p. 581) and, in turn, whether the event produces abnormal movement in the price of the stock.

To assess the value of branding for shareholders within the event study framework, ideally we would observe a large number of firms both before and after a switch from a strategic orientation to a brand-focused strategy. Such an event study obviously is difficult, if not impossible, to implement because of the likely insufficient number of suitable observations. Moreover, it is difficult to operationalize the notion of a brand-focused strategy within the surprise framework because (1) a clear-cut, identifiable, time-bound event or announcement marking the beginning of a brand-building strategy typically does not exist and (2) the lengthy event window within which the market's response to a brand-building decision is likely to be felt makes it challenging to isolate the event of interest.

A highly respected alternative for assessing excess returns—far more common in the finance literature but yet to be applied in brand marketing research—is the Fama-French method (hereafter, FF). We illustrate the general idea behind the approach here; for more complete details, see Fama and French (1993). The FF approach builds on the Nobel Prize-winning insight by Markowitz (1952) that investment risk can be broken down into two components: systematic risk and unsystematic or idiosyncratic risk. Because an investor can eliminate unsystematic risk by maintaining a diversified portfolio of investments, investors in risky securities are compensated (through higher expected returns compared with returns for a risk-free investment) only for the systematic portion of their total risk. An investment's systematic risk is essentially its covariation with all other investments available in the economy. The major contribution of the FF model and other related approaches has been to show that most

covariation among investments in particular stocks could be described by each stock's covariation with a small number of fundamental risk factors that describe the aggregate variation in economic conditions. Therefore, the FF method posits a relationship between a security's expected return $E(R_{it})$ and its risk, which is measured by its exposure to four risk factors: overall market return (R), the return difference between small and large firms (SMB), the return difference between high book-to-market ratio firms and low book-to-market ratio firms (HML), and momentum (UMD).

Many finance articles assess whether the FF risk model suffers from omitted variable bias, in the sense that additional factors, beyond size, book-to-market, and momentum, could improve the model's explanatory power. A decade of intensive empirical testing of the FF model by both academics and practitioners shows that it does an extremely good job of describing observed variation in stock returns both cross-sectionally and over time and therefore does not appear to suffer from such a bias (Fama and French 2004). Mathematically, the FF model is as follows:

$$E(R_{it}) = R_{ft} + \beta_{iM} [R_t - R_{ft}] + \beta_{iSMB} SMB_t + \beta_{iHML} HML_t + \beta_{iUMD} UMD_t, \quad (1)$$

where R_{ft} is the risk-free interest rate (e.g., Treasury Bill rates).

According to the logic of the FF model, if a security's observed return R_{ft} is higher than the empirically derived expected return from the equation $[E R_{it}]$, the investment outperforms others that have similar risk. To test for such outperformance, common practice regresses the difference between the observed returns and the risk-free rate on the risk factors. The difference between the observed returns and the risk-free rate is referred to as the excess return, as exhibited by the following regression equation:

$$R_{it} - R_{ft} = \alpha_{it} + \beta_{iM} [R_t - R_{ft}] + \beta_{iSMB} SMB_t + \beta_{iHML} HML_t + \beta_{iUMD} UMD_t + \varepsilon_{it}. \quad (2)$$

The two parameters from regression equation (2) that are of particular interest in diagnosing a stock's performance are the intercept term (α_{it}) and the market beta (β_{iM}). If the observed returns are equal to the expected returns, the regression should pass through the origin, and the estimated intercept will be 0. Positive alphas indicate that an investment has outperformed its risk-adjusted benchmark; negative alphas indicate underperformance compared with the benchmark. The market beta (β_{iM}) estimates the market risk associated with an investment, and those equal to 1 indicate that the risk of the investment performs as expected. Market betas less (greater) than 1 indicate that the investment performs with less (more) risk than expected (Chan, Lakonishok and Sougiannis 2001). The other coefficients in equation (2) provide estimates of the investment's other risk factors (SMB, HML, and UMD). For these coefficients, betas equal to 0 indicate that an investment performs at the level expected in the broader market (Fama and French 2004).

We use this FF method to assess the effects of branding on firm performance. In our empirical work, we always use the full FF model for risk adjustment and report the betas for all known risk factors for diagnostic purposes. However, we focus our discussion of risk-related results on the more familiar market beta from the capital asset pricing model (CAPM) approach, which is essential for understanding whether shareholder value is created.

The Empirical Study

Overview

Although the FF model can be applied to both individual stocks and stock portfolios, we analyze only a portfolio of firms with a proven emphasis on branding. As is common in finance literature and as we describe in more detail in the portfolio construction section, we compare the performance of firms in our branding portfolio with a relevant benchmark, usually the market as

a whole.

To form, *ex ante*, a portfolio of firms with a proven emphasis on branding, we needed to select a measure of brand equity that distinguished firms according to whether they had built strong brands. Therefore, we chose estimates of brand value as provided by Interbrand, which publishes a yearly list of the world's most valued brands in the *Financial Times* and, more recently, *BusinessWeek* and provides perhaps the most well-known and widely used brand valuation method (Haigh and Perrier 1997). Interbrand brand equity valuation estimates are recognized by auditors and tax authorities in many countries around the world; more than 2,000 brands had been valued during the service's 12-year history (Tomkins 1999). Empirical studies also link Interbrand's estimates to financial performance measures such as operating margin and market-to-book ratios (Barth, Clement, Foster, and Kaszkik 1998; Kerin and Sethuraman 1998; Parkhurst 2002). In particular, Barth et al. (1998) find Interbrand's valuation estimates to be relevant and sufficiently reliable for use in financial reporting statements, with no evidence of simultaneity bias between Interbrand's values and equity market value (a firm's share prices). The Appendix provides a conceptual overview of the various analytic calculations involved in the Interbrand method.

Creating the Portfolios for Analysis

For the purpose of our research, we identified those brands that appeared on the Interbrand list at least once from the time of its first publication in 1994 until our analysis commenced in 2001 as strong brands and included them in our WMVB (world's most valued brands) portfolio. The WMVB portfolio contains the 111 companies that owned these brands, as listed in Table 1. We also report the average brand/cap ratio (i.e., the ratio of the Interbrand brand value to the company's market capitalization) for context. On average, the brand values published by Interbrand composed 37% of a company's market capitalization.

To assess whether branding creates shareholder value, we compare the market performance of the brand-focused companies in the WMVB portfolio with two benchmark portfolios: a reduced-market (RM) portfolio that contains all firms in the Center for Research in Security Prices (CRSP) database except those in the WMVB portfolio and a full-market (FM) portfolio that contains all firms in the CRSP database without exception. The CRSP database encompasses all stocks traded on the major U.S. stock exchanges, namely, the New York Stock Exchange, the American Stock Exchange, and NASDAQ. To align these data with the time periods for which Interbrand data were available, we restricted the analysis to those 13,409 company stocks listed at any time between December 31, 1993 and December 31, 2000.

In preparation for our analysis, we weighted and rebalanced the WMVB and benchmark portfolios monthly. The monthly weight for each company represents the company's market capitalization (market value of all outstanding common stock) relative to the market capitalization of all companies in the respective portfolio. In addition, because our investigation links specific brand data to corporate stock return information, we needed to transform certain data within the WMVB portfolio to align the levels of analysis in selected cases. For companies that derived their value from one primary brand (e.g., Harley-Davidson, Hallmark), brand and company data were equivalent and no transformations were required. For companies that comprise a house of brands (e.g., General Mills), we needed aggregate values for the brand portfolios. During 1999–2001, Interbrand explicitly recognized this type of branding strategy and published aggregated values of corporate brand portfolios in addition to their decomposed, single-brand valuations. Accordingly, when appropriate and available, we used these published aggregate brand values.

Analysis and Reporting Template

To determine whether branding creates shareholder value, we

1. Compare the monthly returns of the branded (WMVB) portfolio with the two benchmark portfolios;
2. Adjust returns for risk using the FF method and compare the risk-adjusted performance of the WMVB portfolio with the benchmark portfolios;
3. Assess the basic information content claim for brand equity valuation information (Aaker and Jacobson 1994) and weight firms in the WMVB portfolio according to the ratio of their brand value to the sum of all brand values in the portfolio, then compare the performance of this brand value–weighted portfolio with the risk-adjusted benchmark;
4. Control for potential confounds due to market share by creating a sample of companies matched by industry and market share and compare this sample with the WMVB portfolio to assess the robustness of our results; and
5. Offer an empirical demonstration of the shortcomings of using the popular correlational analysis to assess shareholder value creation by demonstrating that a significant positive relation between stock performance and brand equity measures can exist for firms that demonstrably destroy shareholder value during the sample time frame.

Results

Stock Market Performance of Companies with Strong Brands

As we noted, we compare the market performance of brand-focused companies in the WMVB portfolio with the RM and FM benchmark portfolios. Using the suggestion of one of the reviewers, we also replicated this analysis on the portfolio of the firms listed in Interbrand's first published list (1994). This portfolio represents a realistic buy-and-hold investment, in the sense that an investor could have purchased stock in these strong brand firms in August 1994 and still

would have realized the returns shown in our results without any need for further rebalancing. The constant set of firms thus addresses any concerns about the disruptive effects on the time series of the firms due to our rebalancing procedures. Because the results for the constant set of firms did not differ significantly from the results for the total WMVB portfolio, we report only the results from the WMVB portfolio here.

The results show that the WMVB portfolio significantly outperformed both benchmark portfolios in terms of average monthly returns. All statistical tests were conducted with an alpha set at .05; therefore, any results reported as statistically significant have a p -value of equal to or less than .05. The WMVB portfolio yielded average monthly returns of 1.98%; during the same time period, the RM benchmark portfolio on average returned 1.34% per month. For comparison, the one-month Treasury Bill rate, which proxies the risk-free rate, averaged .42% per month during the analysis period, and the market as a whole (as measured by the FM portfolio) averaged 1.52% per month (see Figure 1).

Although a comparison of returns between the WMVB and benchmark portfolios provides initial insight into a possible linkage between shareholder value and brands, the FF method was used to adjust returns for risk, such that meaningful conclusions about shareholder value creation can be reached. Therefore, we compare the FF regression results for the WMVB portfolio with those for the two benchmark portfolios. The FM portfolio, by design, had an alpha equal to 0 and a market beta equal to 1 (betas for the other risk factors in the FF equation were all equal to 0). Thus, when we compare the alpha of the WMVB portfolio to a null hypothesis of 0 or the market beta to a null hypothesis of 1, we are implicitly making a comparison with the FM portfolio.

We provide the results of the FF regressions for the WMVB portfolio and the benchmark portfolios in Table 2. The WMVB portfolio alpha of .57% per month is statistically significantly

different from the alphas for both benchmark portfolios. The WMVB portfolio also displayed below-average market risk (market beta =.85), which is statistically significantly different from the standard benchmark value of 1. The RM portfolio beta (1.07) was not significantly greater than 1. Therefore, the portfolio of firms with strong brands not only outperformed the market, but it did so with less risk.

For further diagnostic insight, we examined the betas associated with the various risk factors in the FF model. The SMB beta for the WMVB portfolio is negative and significantly different from 0. Given that the WMVB portfolio consists of relatively large firms, it is not surprising that the SMB beta is negative, which indicates that returns covary more with other large stocks than with small stocks. Similarly, the negative HML beta is to be expected. All else being equal, a firm with higher brand value—which should be reflected in its market value but, due to accounting conventions, not in its book value—should evince a lower book-to-market ratio than another firm with lower or no brand value. The inclusion of the HML factor in the FF model does not remove the effects of branding from the analysis; rather, the results demonstrate that WMVB firms have lower book-to-market ratios, as expected, and that the FF model accounts for the effect of these low book-to-market ratios on expected returns. However, even after accounting for such effects, we find a positive alpha, which indicates that WMVB firms outperform others. In other words, WMVB firms perform significantly better than the "typical" low book-to-market firm whose book-to-market ratio is not driven by brands but by some other factor, such as growth options available to the firm.

To gauge the economic significance of this FF result, consider the following application. If a person invested \$1,000 in August 1994 in the 111 strong-brand companies, his or her investment would have more than quadrupled into \$4,525 by December 2000. In contrast, the same \$1,000 investment in the overall stock market would have yielded \$3,195 by the end of

2000. Investment in brand-focused companies thus enabled a \$1330 realized gain, a clear and tangible demonstration of the shareholder value created through the discipline of branding.

Empirical Analysis of Information Content in the Interbrand Valuation Metric

The composition of the WMVB portfolio thus far, and accordingly the analyses that stem from it, does not account for any differences in brand equity valuations. That is, if a given firm appeared on the Interbrand list at least once in the analytic period, it was included in the WMVB portfolio, regardless of the magnitude of its brand value. The range of brand values for companies in the portfolio is significant; for example, in 2001, both Coca-Cola and Hilton were on the Interbrand list, yet Coca-Cola was valued at \$68.95 billion, whereas Hilton was valued at \$1.24 billion. In line with Aaker and Jacobson's (1994) basic information content claim regarding the utility of brand equity estimates, these brand values should provide incremental information about firm performance that might be of use in making investment decisions. Thus, a strong-brand portfolio that incorporates specific brand value information should outperform a strong-brand portfolio that does not consider this incremental information. This result would provide further support for our general hypothesis about the role of branding in shareholder value creation.

Our analysis considers the differential information contained in the published Interbrand values by reforming the WMVB portfolio using brand values as weights. The weighting scheme proceeded as follows: For each annual Interbrand list, we summed all published brand values, then divided each company's published brand value by the total brand value to obtain a relative brand value for a given year. We averaged the relative brand values across the 1994–2001 period to obtain each brand's weight in the overall portfolio. The greater a company's brand value is as a ratio to the sum of all brand values, the greater the percentage it occupied in the portfolio of strong brands.

When we applied the brand values weighting, the average monthly return of the WMVB portfolio increased to 2.49% per month, up from 1.98%, and again compared favorably to the benchmark of 1.34%. The FF regression results for the brand value–weighted portfolio appear in Table 3.

Alpha was again significantly different from the benchmark of 0 and increased from .57 to 1.32%. There was little difference in beta, the measure of portfolio risk, which remained significantly lower than the market benchmark of 1 (.84 market beta with brand value weights; .85 without). Thus, by weighting the WMVB portfolio according to the value of the brand assets contained within it, we find that brand-focused firms exhibit even greater risk-adjusted returns to stockholders than have been reported and thereby provide additional evidence about the effects of brand equity on shareholder value.

Performance Results Adjusted for Industry and Market Share

The rigors of the FF model notwithstanding, we performed a robustness check for our findings using samples matched on their industry and market shares. The analyses presented here consider the research of Ehrenberg and colleagues (Ehrenberg 1994; Ehrenberg, Goodhardt, and Barwise 1990), which highlights the preeminence of market share for explaining product performance differences. To evaluate whether the outperformance of the WMVB portfolio was due to market share, we first grouped all companies in the WMVB list into their 28 two-digit standard industrial classification (SIC) code industries. For each company, we computed the market share by dividing the company's annual net sales by the industry net sales for each year from 1993 to 2000. For matching purposes, we also averaged the annual market shares across 1993 to 2000. The 111 companies with the best matching market shares were selected to equal the number of companies from the WMVB. The WMVB companies accounted, on average, for 29% of their respective industries' annual net sales; the set of matching companies accounted, on

average, for 21%.

The FF regressions indicated that, unlike the WMVB portfolio, this market share–matched portfolio did not outperform the risk-adjusted benchmark; its alpha of .12 was not significantly different from 0 ($p > .05$). Thus, though the companies in the WMVB portfolio outperformed the risk-adjusted benchmark, an alternative portfolio made up of firms from the same industries and of the same size with respect to market share did not.

A second analysis, in which we provided stricter controls for market share matching, involved the legitimate argument that persistent differences in market shares between the WMVB companies and the matched set of companies (29% versus 21%; $p < .05$) drove these performance results. In this analysis, we excluded any companies in the WMVB portfolio for which a strong match on market share, within the respective SIC, could not be obtained. Although applying this more stringent matching criteria resulted in nonsignificant share differences across the portfolios ($p > .05$), the procedure reduced the effective sample size to 56 companies. The results stayed the same. The alpha for the reduced sample of 56 strong-branded companies was .79 (statistically significant from the benchmark at $p < .01$), and the alpha for the matched portfolio was $-.02$, which is not statistically different from 0. These results again indicate that outperformance is not driven solely by the market share characteristics of strong brands.

Moving Beyond Evidence of Stock Return–Brand Equity Correlations to Demonstrations of Value Creation

Our final exercise offers an empirical demonstration of the general limitations of using correlational analyses to address questions of shareholder value creation. To explore this point, we follow the stock response modeling procedure used by Aaker and Jacobson (1994) but employ a different brand equity measure (Interbrand valuation figures versus EquiTrend

perceived quality scores) and a different and more lengthy time period for analysis (seven versus three years).

For this analysis, we first restricted our sample of WMVB firms to those firms that appeared on each of the seven Interbrand lists. Although this restriction reduced the sample size to 18 firms, 6 of which were part of Aaker and Jacobson's (1994) original sample, it enabled us to ensure that we estimated the first-order autoregressive processes essential to Aaker and Jacobson's analysis on a time series of adequate length (for a list of these 18 firms, see Table 4). To meet our requirements for a complete time series, we also replaced the missing 1998 Interbrand brand values with the average of the brand values in 1997 and 1999. Given the high variability of stock returns, this smoothing, if anything, should make it more difficult to find an association between stock returns and branding.

We employed another data transformation to make the Interbrand brand values comparable across firms of different sizes, in the spirit of Aaker and Jacobson's (1994) use of standardized 11-point EquiTrend scores. We achieved this scaling by dividing all subsequent Interbrand brand values by the 1994 brand value. As a reliability check, we repeated the entire analysis using annual net sales as the scaling variable and obtained similar results. We gathered the annual ROI figures from Compustat and computed the annual returns using the monthly CRSP returns.

To obtain the surprise (unanticipated) components of the ROI and brand equity series, we estimated first-order autoregressive panel regressions with year dummies for each measure, as did Aaker and Jacobson (1994). Similar to their results, we found positive autocorrelations for both measures. In line with their approach, the surprise components for ROI and brand equity were given by the residuals from each regression. Stock returns were regressed on these residuals for both ROI and our brand equity measure.

Table 5 provides the ROI surprise and brand surprise coefficients from this regression, along with their respective t-statistics. We confirm Aaker and Jacobson's (1994) main empirical finding of a positive and significant relation between brand equity surprise and stock returns: Brand surprise has a positive and significant coefficient in our regression (t-statistic = 3.8, $p < .05$). As expected, we also found a positive and significant relation between ROI surprise and stock returns.

Although the finding of a positive relation between stock returns and brand equity measures in both Aaker and Jacobson's (1994) study and our analysis is important because it indicates that information about the value of brands is incorporated into stock prices, it does not constitute unequivocal evidence of shareholder value creation. To highlight this point, we identified two subgroups of the original 18 firms that exhibited stock market underperformance compared with the market benchmarks. Subgroup 1 consisted of five firms with average monthly stock returns below the market average of 1.52% per month; this subgroup is labeled the "< Market Return" group in Table 5. Subgroup 2 contained three firms from Subgroup 1 with monthly average stock returns below the average risk-free rate of .42% per month and is labeled the "< Risk Free Return" group in Table 5. For identifications of the firms in each of these subgroups, see Table 4.

Subgroups 1 and 2 exhibit average monthly returns of .52% and .10%. To illustrate the magnitude of their underperformance, consider that \$1 invested in the market at the beginning of the sample period would have grown to \$3.60; the comparable numbers for Subgroups 1 and 2 are \$1.55 and \$1.08, respectively. We do not provide formal risk adjustments in this analysis (if our subgroups were less risky than the market, we would expect them to have lower returns), but the magnitude of the subgroups' underperformance appears far too large to be due to risk differences alone. As we noted, Subgroup 2 even underperforms the risk-free rate of return,

which represents a textbook example of the destruction of shareholder value.

Thus, in our two subgroups that clearly underperform the market, one definitely destroyed shareholder value, and the other very likely did so (Subgroup 1 barely beats the risk-free rate). However, when we run the regression of stock returns on ROI surprises and brand surprises, both of these subgroups show the familiar Aaker and Jacobson (1994) result of a positive, significant relation between stock returns and brand equity value (see Table 5). These results show clearly that a positive relation between brand equity and stock returns does not constitute evidence of shareholder value creation.

Conclusions, Implications, and Avenues for Further Research

It has long been argued that brand development strategies create shareholder value, but compelling empirical evidence to support this claim has been lacking. Using monthly stock returns for the period 1994–2000, we find that the portfolio of brands identified as strong according to Interbrand’s valuation method displays statistically and economically significant performance advantages compared with the overall market. Firms that have developed strong brands create value for their shareholders by yielding returns that are greater in magnitude than a relevant market benchmark, and perhaps more important, they do so with less risk. These findings are robust in the face of market share and industry controls. Our results should be encouraging to marketing managers who must attempt to justify long-term investments in building brand equity, particularly when confronted with competing investment opportunities and increasing demands for spending accountability. Our findings support a value-based view of marketing that refocuses the marketing function beyond its current emphasis on product management and customer value creation toward more comprehensive concerns about the processes that create (and destroy) equity for the firm.

A direct implication of our work is that we broaden the conception of brands from the

sales space to the value space and, accordingly, move toward a deeper understanding of brand management within the framework of risk management. Our empirical results clearly support the implied role of the brand in reducing the volatility and vulnerability of cash flows, as well as a conceptualization of the brand as a powerful risk management tool for firms.

A risk orientation as a dependent variable in branding research suggests the pressing need for additional research that builds on current conceptual arguments (Srivastava, Shervani, and Fahey 1998, 1999) to demonstrate empirically how a strong brand grants the risk reduction benefits observed herein. Are risk advantages primarily a function of the accounting benefits that strong brands enable, such as reduced collection payment cycles or enhanced liquidity in cash crunches? Do particular characteristics of strong brands, such as relevant differentiation or esteem value, drive superior risk/return profiles? Are risk benefits fully captured in the consumer brand loyalties that strong brands engender or in their capacity to thwart competitive inroads? Empirical insight into the relative latent firm, consumer, brand, and market characteristics that drive risk/return patterns seems a necessary next step in theory development.

Revisiting active brand research areas using risk as a dependent variable also may prove promising. A risk-oriented view of brand architecture construction, for example, might highlight brand choices that balance the firm's risks in the same way that index funds balance market investments—a solution that would likely differ dramatically from that supported by market reach or user segmentation. Similarly, a risk conception of brand leverage decisions could prove managerially useful in ways that perceptual studies of attribute stretch and dominance have not. Brand repositioning decisions could be likewise informed by exploring the risk profiles of alternate positioning. Research dedicated to quantifying the ways in which effective brand management practices decrease a firm's risk, and mismanagement and misdefinition of the brand increase risk, is warranted.

Our work is not without its limitations, but these limitations themselves suggest promising avenues for future work. Possibly the most important insight of Markowitz's (1952) Nobel Prize-winning work was that not all characteristics of a firm affect its stock's expected return; hence, firms with potentially very different characteristics (e.g., time of entry, ownership structure, managerial talent) can be compared by measuring and adjusting for their systematic risk. This measurement and adjustment is operationalized by the FF method we used. Although we provide some robustness checks by matching variables of particular interest in the brand marketing research area—namely, industry sector and market share—other factors may be correlated with brand asset value or clarify the observed effects further (e.g., brand life cycle, brand portfolio breadth, role of brand in category decision making, quality of the advertising investment). Additional work is needed to identify the constructs within the brand value creation nomological web.

Finally, though the Interbrand method for brand equity valuation serves our empirical purposes and the results provide prima facie evidence of the credibility of these estimates overall, the brand equity metric, as with all metrics, is not without limitations. Interbrand makes no attempt to account for all brands in the marketplace. Accordingly, the analysis here does not and cannot claim to have compared “strong” versus “weak” brands in the absolute. Clearly, Interbrand's procedures allow for the error of including strong but unmeasured brands in our comparative set. Left out of consideration also are firms that do not trade publicly or strong local brands without a global presence. Although these factors affect the generalizability of our findings, they do not affect their validity. If anything, noise from these sources dampens the ability to observe effects, which strengthens the significance of our findings. Still, concerns about generalizability were not preeminent in this research, which sought foremost to demonstrate a conclusive link between brand equity and shareholder value. Further work should

investigate whether our results hold across different types of firms, brands, industries, and market conditions and for different brand equity operationalizations. Because details regarding the adjustment factors and subanalyses applied in Interbrand's proprietary value calculations are not available, academic research that builds new brand equity metrics remains a meaningful task.

Appendix A

The Five-Step Interbrand Approach to Brand Value Estimation



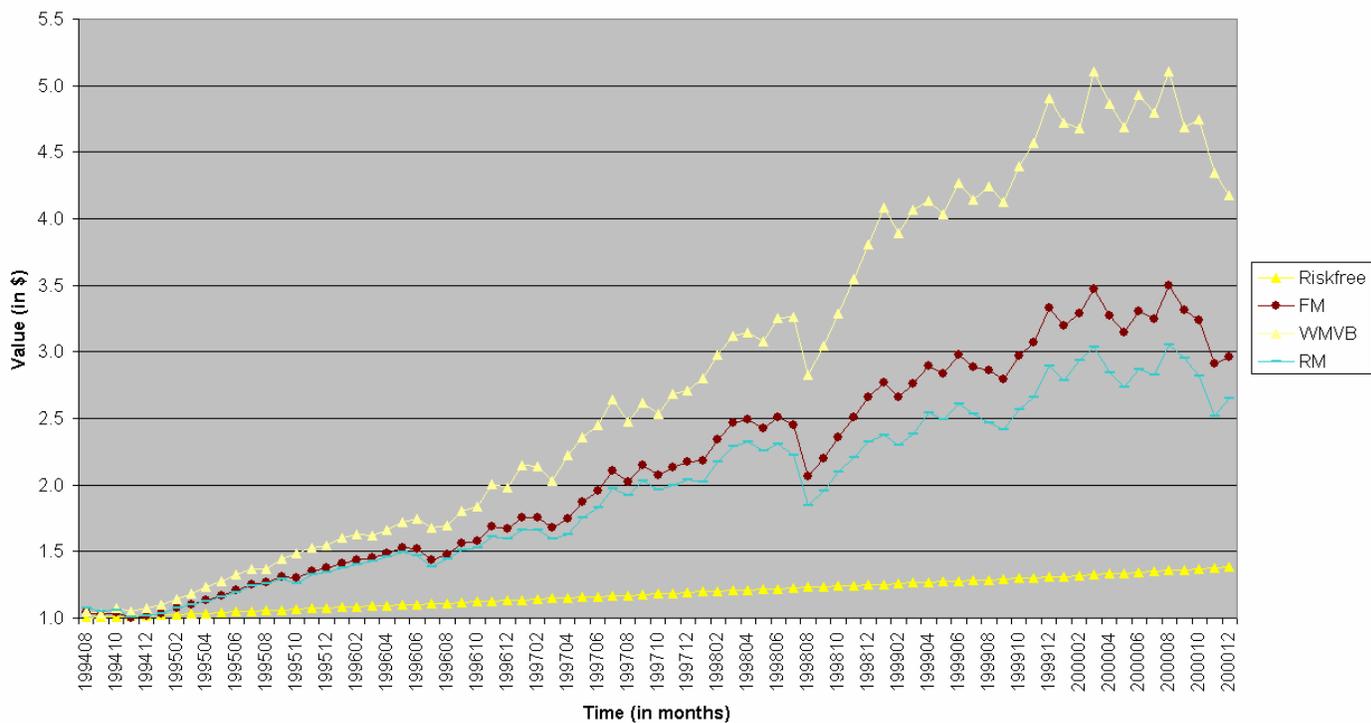
1. **Market Segmentation:** Brands influence customer choice; however, their influence differs depending on the market in which they operate. We split the brand’s markets into nonoverlapping and homogenous groups of consumers according to applicable criteria such as product or service, distribution channels, consumption patterns, purchase sophistication, geography, or existing and new customers. The brand is valued for each segment, and the sum of the segment valuations constitutes the total value of the brand.
2. **Role of Branding (RBI) Analysis:** Identify and forecast revenues and “Intangible Earnings” generated by the brand for each of the distinct segments determined in step 1. Intangible earnings are defined as branded revenues minus operating costs, applicable taxes, and a charge for the capital employed. The concept is similar to the notion of economic profit.
3. **Brand Strength Analysis (BSS):** Assess the role that the brand plays in driving demand for products and services in the markets in which it operates to determine what proportion of intangible earnings are attributable to the brand measured by an indicator referred to as the “Role of Branding Index,” which is calculated by first identifying the various drivers of demand for the branded business, then determining the degree to which each driver is directly influenced by the brand. The role of branding represents the percentage of intangible earnings generated by the brand. Brand earnings are derived by multiplying the role of branding by intangible earnings.
4. **Competitive Benchmarking:** Determine the competitive strengths and weaknesses of the brand to derive the specific brand discount rate that reflects the risk profile of its expected future earnings, as measured by an indicator referred to as the “Brand Strength Score,” which comprises extensive competitive benchmarking and a structured evaluation of the brand’s market, stability, leadership position, growth trend, support, geographic footprint, and legal protectability.

5. **Brand Value Calculation:** Brand value is the net present value (NPV) of the forecast brand earnings, discounted by the brand discount rate. The NPV calculation includes both the forecast period and the period beyond, reflecting the ability of brands to continue generating future earnings.

Source: Jan Lindemann, Interbrand

Figure 1
Monthly Returns Comparison for Portfolio of WMVB

Value of \$1 Invested in 199408



Key: *Risk-free* refers to the risk-free returns;
FM refers to the full-market portfolio;
WMVB includes the 111 companies in our portfolio of world's most valuable brands; and
RM refers to the reduced-market portfolio.

Table 1
Descriptive Statistics for Companies in the World's Most Valuable Brands (WMVB) Portfolio

| Company | Brand/Cap (%) | Company | Brand/Cap (%) | Company | Brand/Cap (%) |
|----------------------|---------------|-------------------|---------------|--------------------|---------------|
| 3COM | 5.0 | EXXON MOBIL | 13.8 | NIKE | 136.8 |
| 3M | 15.2 | FEDEX | 13.8 | NORTHWEST AIRLINES | 92.1 |
| ADOBE SYSTEMS | 10.6 | FORD MOTOR | 39.2 | NOVELL | 9.8 |
| ALCOA | 4.7 | GAP | 33.4 | ORACLE | 3.9 |
| AMAZON.COM | 28.1 | GATEWAY | 27.8 | PEPSICO | 40.6 |
| AMB PROPERTY | 36.2 | GENERAL ELECTRIC | 7.1 | PFIZER | 7.8 |
| AMERICAN EXPRESS | 18.4 | GENERAL MILLS | 49.4 | PHILIP MORRIS | 65.2 |
| AMERICAN HOME PROD. | 4.4 | GILLETTE | 57.4 | PROCTER & GAMBLE | 14.2 |
| ANHEUSER-BUSCH | 54.2 | GOLDMAN SACHS | 21.4 | QWEST | 21.6 |
| AOL TIME WARNER | 65.6 | GOODYEAR | 67.2 | REEBOK | 114.9 |
| APPLE COMPUTER | 56.0 | HARLEY-DAVIDSON | 40.2 | RJ REYNOLDS | 195.0 |
| AT&T | 20.6 | HASBRO | 21.2 | ROHM & HAAS | 6.7 |
| AVON PRODUCTS | 57.7 | HEINZ | 30.5 | SARA LEE | 26.0 |
| BAUSCH & LOMB | 65.3 | HERSHEY FOODS | 68.4 | SBC COMMUNICATIONS | 14.0 |
| BELLSOUTH | 9.1 | HEWLETT-PACKARD | 23.8 | SCHERING-PLOUGH | 1.8 |
| BLACK & DECKER | 65.4 | HILTON HOTELS | 34.7 | SOUTHWEST AIRLINES | 10.7 |
| BOEING | 6.6 | HORMEL FOODS | 13.3 | SPRINT | 24.9 |
| BRISTOL MYERS SQUIBB | 1.8 | IBM | 28.1 | STARBUCKS | 15.5 |
| CAMPBELL SOUP | 43.7 | INTEL | 20.8 | SUN MICROSYSTEMS | 31.4 |
| CENDANT | 3.9 | INTUIT | 1.0 | SYBASE | 10.7 |
| CISCO SYSTEMS | 5.8 | ITT INDUSTRIES | 4.6 | SYMANTEC | 6.9 |
| CITIGROUP | 8.4 | JOHNSON & JOHNSON | 6.0 | TEXACO | 7.3 |
| CLOROX | 31.4 | KELLOGG | 67.3 | TEXAS INSTRUMENTS | 6.3 |
| COCA-COLA | 48.9 | KIMBERLY-CLARK | 14.8 | TIFFANY & CO | 70.1 |
| COLGATE-PALMOLIVE | 44.3 | LAUDER ESTEE | 85.8 | TRICON RESTAURANTS | 113.8 |

Table 1 (cont'd)
 Descriptive Statistics for Companies in the World's Most Valuable Brands (WMVB) Portfolio

| | | | | | |
|---------------------|-------|-----------------|------|-------------|-------|
| COMPAQ COMPUTER | 32.4 | LIZ CLAIBORNE | 49.9 | UAL | 113.1 |
| COMPUTER ASSOCIATES | 10.4 | LOWES | 55.7 | US AIRWAYS | 99.2 |
| CONAGRA FOODS | 9.8 | MARRIOTT | 8.2 | UST | 50.5 |
| CONTINENTAL AIRLS | 177.3 | MATTEL | 50.9 | VERIZON | 27.0 |
| COORS | 25.5 | MAYTAG | 34.9 | VF | 68.8 |
| CORNING | 1.0 | MCCORMICK | 38.2 | VIACOM | 14.1 |
| DARDEN RESTAURANTS | 49.4 | MCDONALDS | 67.8 | WALT DISNEY | 60.2 |
| DELL COMPUTER | 37.4 | MERCK | 4.5 | WENDY'S | 55.0 |
| DELTA AIR LINES | 69.9 | MERRILL LYNCH | 32.2 | WHIRLPOOL | 36.3 |
| DOW CHEMICAL | 1.4 | MICROSOFT | 14.8 | WRIGLEY | 50.3 |
| DOW JONES | 58.1 | MOTOROLA | 22.9 | XEROX | 59.1 |
| EASTMAN KODAK | 68.6 | NEWELL RUBBERM. | 37.8 | YAHOO | 15.8 |

Table 2

Fama-French Regressions for WMVB Portfolio

| <u>Portfolio</u> | <u>Alpha</u> | <u>Market Beta</u> | <u>SMB Beta</u> | <u>HML Beta</u> | <u>UMD Beta</u> |
|------------------|--------------|--------------------|-----------------|-----------------|-----------------|
| WMVB | .57 | .85 | -.36 | -.36 | -.00 |
| FM | .00 | 1.00 | .00 | .00 | .00 |
| RM | -.25 | 1.07 | .18 | .18 | .01 |

Table 3

Fama-French Regressions for Brand Value-Weighted Portfolio

| <u>Portfolio</u> | <u>Alpha</u> | <u>Market Beta</u> | <u>SMB Beta</u> | <u>HML Beta</u> | <u>UMD Beta</u> |
|------------------|--------------|--------------------|-----------------|-----------------|-----------------|
| Weighted WMVB | 1.32 | .84 | -.26 | -.09 | -.17 |
| FM | .00 | 1.00 | .00 | .00 | .00 |
| RM | -.25 | 1.07 | .18 | .18 | .01 |

Table 4

Composition of the Sample Used to Investigate Shareholder Value Creation Effects within the Stock Response Modeling Framework

| Subgroup of Firms | Firms in Original Aaker/Jacobson (1994) Sample | Firms with < Market Returns | Firms with < Risk Free Returns |
|-----------------------------|--|-----------------------------------|--------------------------------------|
| XEROX CORP | 0 | 1 | 1 |
| KELLOGG CO | 1 | 1 | 1 |
| EASTMAN KODAK CO | 1 | 1 | 1 |
| WRIGLEY (WM) JR CO | 0 | 1 | 0 |
| MOTOROLA INC | 0 | 1 | 0 |
| PROCTER & GAMBLE CO | 0 | 0 | 0 |
| PEPSICO INC | 1 | 0 | 0 |
| COCA-COLA CO | 1 | 0 | 0 |
| KIMBERLY-CLARK CORP | 0 | 0 | 0 |
| GILLETTE CO | 1 | 0 | 0 |
| NIKE | 0 | 0 | 0 |
| MICROSOFT CORP | 0 | 0 | 0 |
| PHILIP MORRIS COS INC | 0 | 0 | 0 |
| INTL BUSINESS MACHINES CORP | 1 | 0 | 0 |
| HEWLETT-PACKARD CO | 0 | 0 | 0 |
| GENERAL ELECTRIC CO | 0 | 0 | 0 |
| COLGATE-PALMOLIVE CO | 0 | 0 | 0 |
| ANHEUSER-BUSCH COS INC | 0 | 0 | 0 |

Key: 0 = no and 1 = yes.

Table 5
Stock Response Modeling Results

| <u>Sample Group</u> | <u>ROI Surprise Coefficient</u> | <u>ROI Surprise t-statistic</u> | <u>Brand Surprise Coefficient</u> | <u>Brand Surprise t-statistic</u> |
|-----------------------------------|---|---|---|---|
| <i>Total</i> | 2.09 | 2.5 | .27 | 3.8 |
| <i>Underperforming Subgroups:</i> | | | | |
| < Market Return | 3.02 | 2.0 | .21 | 1.9 |
| < Risk Free Return | 1.72 | 1.3 | .29 | 3.3 |

Key: *Total* comprises 18 firms qualified for the out-of-sample analysis;
 < *Market* subgroup comprises the 5 firms with less than market returns; and
 < *Risk Free Return* subgroup comprises 3 firms with returns less than Treasury Bills.

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