Brand value and firm performance nexus: Further empirical evidence

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Abstract

Establishing a link between brand value and firm performance is important because (1) like other forms of investment, expenditure on building brand value has to improve shareholder value; (2) it provides marketers with the necessary justification that brand investments have the required pay-off; (3) it allows for brand equity to be included in the balance sheet. Previous research has provided evidence to support a positive relationship between the two variables, but they tend to be based on individual-level data. Studies that are based on secondary and/or third-party information are not rigorous in their methodology. In this paper, we use a panel data framework comprising the leading 50 US companies between 2000 and 2005 to establish the nexus between brand value and various measures of firm performance. We also utilise the price and returns model to show that brand value could provide some value-added information for future share price predictions.

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INTRODUCTION

Academic and practitioner interest in brand–related research has increased dramatically over the past two decades. Since the seminal work of Aaker,[1] there has been a burgeoning interest in the nature of brand attitudes, brand equity, brand loyalty and their measurement, antecedents and consequences (eg Aaker,[2] Yoo *et al.*,[3] Pahud De Mortanges and Van Riel,[4] Aaker,[5]). It appears that business interest in branding has increased in tandem with academic concerns. In its recent edition of *Advertising Ratios and Budgets*, Schonfeld & Associates report staggering growth rates in advertising budgets of well-known brands.[6] For instance, Nestle will increase its 2007 budget by 9.1 per cent over the previous year to $17.2bn. Target and Wal-Mart will increase their advertising expenditure by 13.3 per cent. No doubt, a large portion of the budget would be allocated to brand awareness and loyalty.

Intuitively, increased spending on advertising of one's brand name is under-standable. Brand equity is considered an intangible corporate asset. In a survey of

the top 3,500 companies in the US, *Fortune* magazine noted that intangible assets accounted for 72 per cent of a company's market value. Often 40–75 per cent of a company's intangible assets may be attributed to brands.[7] Thus, it is often suggested that brands possess economic value and create wealth for a company's shareholders.[2,4,8–11] Thus, brand value or equity is the extent to which brands increases or decreases the total value of a firm. Equally important is the notion that brands play a crucial role in the performance of companies. For example, Michell *et al.*[12] surveyed 70 senior managers of industrial companies and confirmed Shipley and Howard's[13] finding that on average, industrial firms believe branding to be important towards realising corporate success. A recent survey interview[14] of marketing and sales executives in the Top 500 European companies revealed that 90 per cent of these companies are convinced that brand orientation is a key factor to their corporate success.

For both academics and managers, the explanation for this interest is the belief that strong brands will drive improved competitive advantage. The causal mechanism underlying this process is simple. Strongly branded companies (eg IBM, Toyota, etc) are universal signals of quality.[15] By indicating quality and trust, perceived risks for purchase is reduced.[16] Therefore, brand equity increases both consumer preference and purchase intentions.[17] Aaker and Joachimsthaler[18] argue that the development of brands is the only way to remove oneself from a commodity status and price competition resulting in price premiums and consumer and trade loyalty (eg Bape, Leica, etc). Not surprisingly, strongly branded companies are able to command a premium price among customers, thus reaping a higher profit margin. Furthermore, strongly branded

companies have the ability to transfer brand values and associations (eg perceived quality) from one existing product line to another (eg Hilton added its name to the Homewood Suites line in 2000) and in the process reduce the marketing costs of brand name introduction and enhance the probability of success in a new category.[19] In short, by increasing value and decreasing costs, established branded companies should be more profitable, which in turn creates stronger values for shareholders[20,21]

Empirical analysis of the relationship between brand equity and financial performance and shareholder value has generally been straightforward when both variables are considered at the firm level using attitudinal or behavioural constructs. Estimates at the more macro-level such as those between companies' brand values and their profitability and stock performance is rather scarce. Despite a few studies that have suggested links between these constructs, evidence for the nature and magnitude of brands' effect on business performance remain limited. This paper seeks to add to the existing and relatively limited evidence in this area by estimating the relationships between brand values and financial performance as well as stock performance. The paper uses a range of measures of financial performance in order to provide a broader perspective on the nature, strength and dynamic of the relationship. Furthermore, by employing accounting models, the information usefulness and value relevance of brand equity to the stock market are examined. The paper begins with a brief overview of the motivation, key research questions and a review of pertinent literature surrounding the nexus. Thereafter, the nature of the data is discussed and the results of the analysis are reported. The final section

of the paper contains discussions and conclusions.

MOTIVATION AND RESEARCH QUESTIONS

Why is establishing the links between brand value and profitability necessary and important? Keller[22] argues that financially based reasoning is for accounting purposes (in terms of asset valuation for the balance sheet) or for merger, acquisition or divestiture purposes. Investors have a financial motivation for extracting information from the value of a brand. They would like to know the performance difference between a brand franchise and a nonbrand franchise. Aaker[2] explains that it is not easy to build strong brands because of the pressure to invest elsewhere and the results are hardly apparent in the short term. As such, it is necessary to ensure that brand value, just as with other capital investments, is doing its part in creating shareholder value.[23]

The other reason is attributed to marketers. Linking brand value to profitability is like linking marketers' efforts to profitability. During an economic slowdown or recession, in most cases, the first budgets to be cut are marketing and the related expenses, both of which are supposed to help companies understand and serve their customers better. Little attention has been paid to the effect of marketing decisions on the value of a company given that finance and marketing are generally viewed as two separate forces within companies.[10] Very often, other members within the company would argue that marketing managers make their decision based on intuition and data of questionable relevance. There is great difficulty in quantifying their effectiveness[24] and in fact marketing's longstanding inability to account for its impact on the bottom line has severely undercut its credibility.[25] Therefore, it is important to demonstrate the accountability of the influence of a marketing notion at the bottom-line to ensure the continued support marketers need to run brand building. Marketers must show that brand investments do pay off and generate adequate returns in order to justify their actions. If brands cannot produce these effects, management is better off focusing away from brands to other sources of value creation.[8,9] Clearly then, given such concerns, there is a strong case for further research evaluating the worth of brand building in relation to financial performance.

Finally, it was observed that some financial executives have developed a new enthusiasm for brands with a special interest in reporting brand value in the balance sheet.[26] According to,[27] 70 per cent of the value of the FTSE 350 companies was not explained by their balance sheets. Ambler[28] believed that brand equities were a large part of that. It should be noted that information usefulness and value-relevance are important requirements for qualifying a space in the balance sheet. So there is a need to investigate the value relevance of brand measures to accounting variations.

Based on the above discussions and these motivations, the following research questions were identified to guide the subsequent analysis.

(1) Are strongly branded companies (companies with high levels of brand values) more profitable? In other words, do brand values predict profitability?
(2) Do brand values provide new and relevant information for financial market participants after eliminating the effect of other accounting variables?

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(3) What is the incremental value of brand equity measures to stock market data? Do brand values provide investors with value–relevant information?

LITERATURE REVIEW

Conventional theories about brand equity are, to a large degree, predicated on the belief that brand value has a positive impact on business performance in the long term. Typically, the explanation for this outcome is simply that products or services with higher levels of brand equity will result in greater customer loyalty and higher resilience to endure crisis situations, higher profit margins, more favourable customer response to price change, and licensing and brand extension opportunities, to name a few,[29] thus, resulting in improved profits.

Brand equity is said to have four dimensions: awareness, associations, perceived quality and brand loyalty.[1] Each of these dimensions could influence business performance. Brand awareness is key in consumer behaviour and related to a brand's presence in the consumers' relevant set. Thus, a well-known brand is more likely to be considered for purchase and therefore to its market performance.[30,31] Brand association refers to any information linked to the brand node in the consumer's memory.[1,2,22] Researchers have found that brand associations have a positive influence on consumer choice, preferences and intention to purchase, their willingness to pay a price premium for the brand, accept brand extensions and recommend the brand to others.[3,17,32–34]

One of the prime determinants of customer satisfaction is perceived quality, and evidence has it that customer satisfaction is a direct driver of companies' profitability and stock performance.[35–37] It can also be seen as an indirect driver of business performance via its effect on customer loyalty as depicted by the service-profit chain model[38,39] and returns on quality model.[40–42] There is also evidence of a positive relationship between quality/satisfaction and retention.[43–46]

Loyalty is a key driving force for financial performance.[47] Howard and Seth[48] pointed out that greater brand loyalty among consumers leads to greater sales of the brand. The loyalty–buyer behaviour link has an important impact on financial performance too because repeat customers are generally cheaper to service than new customers.[49,50] Loyal customers are also more profitable as they are the main source of repeat purchase and positive word of mouth.[50–54]

These four dimensions represent brand equity and the behavioural relationships that underpin the link between brand equity and business performance/profitability. Since the rationales discussed above are intuitively strongly appealing, no wonder many marketers have either implicit or explicit faith in the existence of brand equity-profitability relation.

Research in the area of brand equity–performance nexus can be broadly categorised into two, based on the sources of data. The first category comprise of studies that utilise primary level data, where findings are based on surveys and interviews at the firm level. These studies tend to be industry specific. These include Kim and Kim,[55] Kim et al.[56] and Baldauf et al.[57] The second category, on the other hand comprise of those studies which are more macro in nature that is cross industries. These studies tend to use accounting and firm value measures to represent performance and third-party measures to indicate brand value. Examples of studies in this category include Aaker and Joachimsthaler,[58]

and Kerin and Sethuraman.[10] Our paper also falls into this second category. We now survey some of the above-mentioned studies.

Kim and Kim[55] found that brand equity has a positive effect on a company's performance and over 50 per cent of the variations in performance can be attributed to brand equity for fast food, chain restaurants and luxury hotels. In a related study, Kim et al.[56] consider hotels as their subjects and using a nonparametric correlation analysis between brand equity and revenue per available rooms, found that brand equity was strongly correlated with revenue per available rooms although not all components of brand equity were found to have associations with revenue per available rooms. To investigate the direct relationship between brand equity and sales of quick-service restaurants, Kim and Kim[59] regressed brand equity on sales as a simple bivariate regression model. It was found that brand equity explains over 50 per cent of variation in sales. When brand equity components—brand loyalty, brand awareness, perceived quality and brand image—were regressed on sales in a multiple regression, these components explained over 70 per ent of variations in sales.

Baldauf et al.[57] also provided supportive evidence that three brand equity components (brand awareness, perceived quality and brand loyalty) have a significant influence on subjective performance measures including profitability performance, market performance and customer value. Among building tiles resellers, it was found that brand equity components explained 34, 31 and 17 per cent variations in the performance measures, respectively. Finally, in a survey study administered to 182 respondents conducted by Cobb-Walgren et al.,[17] a positive relationship between brand equity and usage intention was found for both products (cleansers) and services (hotels). In fact, brand factors were more important than price factor for products by a ratio of 1:1.69.

We now turn to some studies that have utilised secondary sources of data. Aaker and Joachimsthaler[58] quantified the importance of branding to the bottom line. By using the data provided by EquiTrend database and perceived quality as the key brand equity measure, they found that companies with the largest gains in brand equity enjoy an average of 30 per cent stock returns. Symmetrically, companies with the largest losses in brand equity suffer from an average of 10 per cent negative stock returns. Most importantly, the relationship between brand equity and stock returns is nearly as strong as the relationship between returns on investment and stock returns. De Mortanges and Van Riel[4] compared the directional changes in brand equity's components—brand stature and brand strength—against the directional changes of three shareholder value measures (stock return index, earnings per share and market-to-book value). The results were mixed at best. The directional changes in brand stature were matched by the directional changes in the stock return index. No association was, however, found between any brand measures and earnings per share. The directional changes in brand strength on the other hand matched the directional changes in market-to-book value. The employed method was, however, limited to investigating the relationship between the direction of the change in brand equity and directional change in shareholder value. Magnitudes of those changes were ignored.

To study the brand value–shareholder value nexus, Kerin and Sethuraman[10] linked brand value to market-to-book ratios among 50 US consumer goods

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companies for 1995 and 1996. It was found that the simple correlation between brand value and market-to-book ratios was 0.51 and 0.54 for 1995 and 1996, respectively. They regressed market-to-book ratio on brand value and examined various functional forms of the relationship and suggested a power function (market-to-book ratio $= a + b \cdot$ Brand valueα where $\alpha < 1$) model that best fitted their data. This implied that the relationship between market-to-book ratio and brand value exhibits a concave relation with decreasing returns to scale.

Dawar and Pillutla[60] highlighted a possible fragility of brand equity. A product found to be defective or dangerous could damage the brand equity of the company and hence the related products offered by the company. The direct cost of a product recall is a large drop in stock price, averaging 7 per cent of net worth. The indirect costs from the damage to brand equity are higher.[61,62] In other words, mismanaged brands could also damage profitability. Moreover, the dynamics between brands and profits are sometimes oversimplified. After all, virtually all companies that are regarded as paragons of brand building have stumbled (see Doyle[8,9]).

Despite an overwhelming support for a positive relationship, the aforementioned empirical studies, particularly those utilising secondary data are subject to debate. Some studies were based on dyadic data that are typically restricted to a single or few companies and therefore subject to numerous limitations while others have only linked brand value with one single profitability variable. Given this, one can hardly be sure whether the estimated relationship is genuine or simply dependent on the chosen measure of performance. The relationship could also have occurred by chance. This may restrict a generalisation of the findings. Most importantly, all

studies in this area are cross-sectional based and as such, the robustness of the estimated relationship over time is unknown. Naturally, a true longitudinal time-series analysis of the brand equity–profitability relationship would be ideal.

Our brief review of relevant literature suggests that evidence for the beneficial impact of brand value on profitability is still relatively limited and that the nature and dynamic of the relationship may still be open to debate. Within existing studies that have examined the brand value–firm performance link, a number of issues may warrant further examination.

In this paper, we attempt to provide some new evidence that shows the impact of brand value on profitability and shareholder value. Although the proposed relationship is not totally new, this is, to our knowledge, the first time that large-scale firm-level analysis of the relationship under a panel data environment has been undertaken. It is important to note that strategic variables (eg brand value) often correlate with firm-specific variables like management skills, firm size, resources, assets and competencies or even luck (see Caves and Ghemawat,[63] Teece,[64] Werner felt[65]), and their effects can be difficult to disentangle. A failure to control for unobserved (firm-specific) factors may result in biased estimates of the impact of these strategic variables.[66] Ideally, any analysis of business performance should specifically address these unobservable factors.[67] Where this information is not available, data are collected over space and time and through a panel data estimation these firm-specific effects are controlled for. This makes it particularly suited for the analysis of the brand value–profitability relationship.[68] Given the employed method and the research settings, it is expected that our study is able to assess

the proposed relationship in a robust and effective way.

The analysis will be economy specific (namely the USA) but not industry specific and will use established sources of secondary data in order to provide a comprehensive analysis of the brand value–performance relationships. Attention will be focused on both the contemporaneous and lagged relationships so that causality is formally established.

DATA AND METHODOLOGY

Data

Data for the analysis were collected from two sources—the Business Week Top 100 Global Brand Value (BWBV) (currently available online) and a proprietary financial database, Thomson Banker One Database. Given the limitations associated with the use of organisations' own data[69] and the cost of collecting primary data for a large-scale, cross-industry study, the BWBV was identified as the most appropriate source of corporate brand value data. Business Week developed the brand value measure with Interbrand in 2000, providing sophisticated and statistically rigorous data on firm-level brand value across time. Thomson Banker One Database was chosen because it provided an extensive range of information on both financial performance and stock performance measures. The sample period is from 2000 to 2005, allowing us to build each regression model with around 300 observations.

Research methodology

Each of the five internal performance measures (ROI, ROA, gross profit margin, net margin, pretax margin) of firms is regressed on brand value to examine the

contemporaneous effect of brand value on profitability (Models 1–5).

Next, the price and returns models (Models 6 and 7) are fitted to examine the value-relevance of brand equity. A typical price model is composed of market value as the dependent variable and net income and book value on per share basis as the independent variable (see equation a and the corresponding note in Table 2); a typical returns model is composed of stock returns as the dependent variable and earnings per share and changes in earnings per share, both scaled by the opening price as independents variables (see equation b and the corresponding note in Table 2). The original idea of fitting the price and returns model was to examine the value-relevance of accounting information to the stock market (see Amir et al.,[70] Chen et al.,[71] Eason and Harris[72]). The returns model provides information about whether accounting or nonfinancial measures are promptly reflected in changes in firm value over specified period, while the price model reflects the firm's value. The price model assumes that stock prices reflect more than just the information content of earnings and book values but also other information that is released to the market (Ohlson and Shroff,[73] Ohlson,[74] Lin and Chen,[75] see also Barth et al.,[76] Chen and Wang[77]). In other words, the two models address related but different value-relevant questions. While the returns model is less problematic statistically, Kothari and Zimmerman[78] suggest using both models at once to permit more definitive inferences. Entering brand value as an independent variable into the two models allows us to examine if brand value provide new or incremental information to the stock market. The price and return models used by Ohlson[74] and Chen et al.[71] are employed here.

As the data collection is time series of cross-section observations, estimating these models straightforwardly by using the standard OLS will discard the space and time dimensions of the data. The resulting estimations will distort the true picture of the relationship between the dependent and independent variables. Therefore, it is necessary to employ other estimation methods to take the specific nature and correlation structure into account. In estimating these panel data models, two basic estimation methods are available, namely the fixed effects (FE) and the random effects (RE) models. In an FE model, the regressors may be correlated with observation-specific and time effects. In an RE model, the observation-specific effects are assumed to be random and uncorrelated with the regressors. Two popular test statistics are used to validate the assumptions and guide the selection of estimation methods. Breusch and Pagan's Lagrange multiplier test (LM) statistic is used to assess whether the data may be treated as pooled (estimate with OLS) or whether panel data estimation is required. Hausman's specification test is used to guide the choice between FE and RE when panel estimation is to be used. Note that the two-way effect model is estimated in which the time effects are taken into consideration.

RESULTS OF ANALYSIS

The analysis proceeded by first estimating the LM test statistics to assess the suitability of OLS. For models 1–5 reported in Table 1, all the LM statistics were significant at the 1 per cent level, which implies that panel data estimations are preferable over OLS. The Hausman test (H) was used to guide the choice between FE and RE estimations. For Models 1 and 2, the null hypothesis (RE is preferred over FE) is

rejected at the 5 per cent significance level, suggesting that the fixed effects procedure is more appropriate for the estimations. For Model 3 and 5, the null hypothesis (RE is preferred over FE) is not rejected at the 5 per cent significance level, suggesting that the random effects procedure is more appropriate for the estimations. Collectively, the coefficients of BV in all five fitted models are statistically significant ($p < 0.05$), confirming the presence of a contemporaneous relationship between brand values and profitability. The range of R^2 is high across models. Note that the reported R^2s for RE estimations are necessarily smaller than for other estimators[79] and should not be interpreted as the usual R^2 estimated by OLS. In fact, R^2s have little statistical meaning in the case of panel data model. One should focus on the significance of the coefficients. The average yearly growth from 2000 to 2005 of our selected companies is 822 millions. Therefore, on average, the growth of brand value contributes 0.62 million ($822 \times 7.53E - 04$) of return on investment to each company each year. A similar interpretation applies to the rest of models reported in Table 1.

Turning to the price (model 6) and returns (model 7) models which are reported in Table 2, the corresponding LM statistics and Hausman test statistics guided us to estimate the two models by the fixed effects procedure. The coefficients of BV are significantly different from zero ($3.98E - 02$) for the price model but not significant ($-7.40E - 04$) for the returns model. These suggest that, on average, each dollar increase in brand value would drive up stock price by 4 cents but it has no effect on stock return. This is evidence that brand values are value relevant with respect to its association with firm value but not predictive of

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Table 1 Regressing internal profitability measures on brand values

Model		1	2	3	4	5
DV		ROI	ROA	GPM	NM	PM
Constant	Coefficient	−6.21	−4.91	38.52***	5.98***	9.16***
	Std. error	6.93	3.88	2.71	1.37	1.74
	t-test	−0.90	−1.27	14.19	4.35	5.27
BV	Coefficient	7.53E−04**	4.15E−05**	2.47E−04**	2.01E−04***	2.90E−04***
	Std. error	3.14E−04	1.76E−04	1.12E−04	5.43E−05	7.34E−05
	t-test	2.40	2.37	2.212	3.70	3.95
R^2		0.55	0.55	0.06	0.11	0.12
RSS		31728.50	10625.29	1.09E+05	2.31E+04	3.86E+04
LM		132.58***	154.71***	635.69***	207.27***	306.63***
Hausman		5.29**	4.21**	0.51	0.03	0.85
N		336	357	327	357	357

***, **, * represent significant at the 1, 5 and 10% significance levels.

Table 2 Price model and return model

Model 6: Price Model: $MV_{it} = \alpha_i + \beta_1[NIPS_{it}] + \beta_2[BVPS_{it}] + \beta_3[BV_{it}] + \varepsilon_{it}$ Eq (a)

		Constant	NIPS	BVPS	BV	$R^2=$	0.92
Constant	Coefficient	−650.88	3.65**	0.72***	3.98E−02*	F test =	52.28***
	Std. error	523.99	1.29	6.80E−02	2.41E−02	LM =	54.55***
	t-test	−1.24	2.84	10.58	1.66	H =	94.24***
						N =	346

Model 7: Return Model: $RET_{it} = \alpha_i + \beta_1[E_{it}/P_{it-1}] + \beta_2[\Delta E_{it}/P_{it-1}] + \beta_3[BV_{it}] + \varepsilon_{it}$ Eq (b)

		Constant	EPS/P_{t-1}	EPSG/P_{t-1}	BV	$R^2=$	0.24
Constant	Coefficient	−9.97	548.38***	1.30***	−7.40E−04	F test =	1.81***
	Std. error	23.41	120.66	0.40	1.07E−03	LM =	5.96**
	t-test	−0.43	4.55	3.23	−0.689	H =	10.71**
						N =	299

***, **, * represent significant at the 1, 5 and 10% significance levels.

Notes: MV_{it}, $NIPS_{it}$, $BVPS_{it}$, BV_{it}, RET_{it} are stock price, net income per share, book value per share, brand value and stock returns of firm i at time t, respectively; E_{it}/P_{it-1} is earning per share of firm i at time t scaled by the firm's opening price; $\Delta E_{it}/P_{it-1}$ is yearly changes in earning per share of firm i at time t scaled by firm's opening price.

the changes in firm value, confirming that brand value measures could provide some incremental information to the stock market up to a certain degree. One explanation is that stock returns are dependent on factors other than just stock prices. It is observed that the overall fit (F test = 1.81) of the return model is noticeably low when compared to the overall fit (F test = 52.28) of the price model. This further indicates the difficulties in predicting stock return.

Additionally, in order to further examine the lagged effect of brand value on profitability, we further test the presence of and establish the causality in the brand value–profitability relationships. A third set of models that are estimated in

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the form of dynamic panel data models are considered. In these models, profitability measure of firm i at time t is regressed on its own lagged value (eg profit at $t-1$) as well as lagged brand value. This specification provides a typical test for causality, defined by Granger[80] (p. 428) as 'X_t is causing Y_t if we are better able to predict Y_t using all available information than if the information apart from X_t had been used'. Since the notion of 'all available information' is not easy to define, Granger's suggestion that Y_t should be regressed on its own lags and a set of lagged X_t (s) has became the norm. If the coefficient(s) on the lagged X_t (s) are statistically significant, then one may safely conclude that X_t Granger causes Y_t. Introducing a lagged dependent variable as a regressor creates a number of problems due to the fact that the lagged dependent variable and the error term might be correlated, which renders standard estimators (eg FE and RE) of panel data biased. As an alternative, this study adopts the two-step GMM-type estimation approach of dynamic panel data modelling suggested by Arellano and Bond.[81] Similarly, the price and returns models are refitted in a dynamic panel data framework.

In general, a dynamic panel data model is said to be correctly specified if it satisfies the following three conditions: it does not reject the null hypothesis of the validity of instruments; it rejects the null hypothesis of no first-order serial correlation in the differenced residuals; it does not reject the null hypothesis of no second-order serial correlation in the differenced residuals (see Doornik and Hendry,[82] p. 69). Unfortunately, none of our fitted model satisfied these conditions all at once and we are not able to obtain a sensible model to investigate the dynamics of the brand values–profitability

relationship. Given this, our conclusions are based only on the contemporaneous relationships.

CONCLUSION

In the present study, we successfully proved a link between the brand equity measure (brand values) and multiple profitability ratios and stock market performance measures. The contemporaneous relationships between brand values and profitability are significant even after controlling for unobserved effects through panel data estimation techniques. Our results revealed that strongly branded companies are more profitable and the significance of brands' effects on internal profitability is very consistent regardless of the selection of measures and thus could not have occurred by chance. The findings also provide sufficient evidence to suggest that there is a significant relationship between brand equity and the performance of the brand owner (the firm) in the stock market. Mixed results were, however, obtained when comparing the returns model and the price model. While brand values have a significant impact on share prices, it appears to have no impact on market returns. A possible explanation for this difference could be that share prices reflect investors' future perception of firms and, in this context, brands play an important role. In contrast, market return is perhaps a more complex measure with historical factors being more relevant. The current findings from the return models would suggest that brand equity measures may be of little value in predicting this particular dimension of external performance.

Prior research has indicated the interest among firms in publishing brand value measures in their financial reports. In the UK and Holland for instance, the practice of reporting brand measures in financial

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reports have been implemented for a number of years. Brand Finance plc reported that, based on their survey conducted in 2000,[83] 73 per cent of analysts and 72 per cent of companies thought that public companies should publish more information on brand values simply because they believed that these information are value-relevant to the companies' assets. The findings in this study would appear to support this trend, providing evidence to suggest that brand equity measures are linked to profitability measures and provide some increment information to the stock market.

Marketers and marketing scholars hold a belief that greater promotion of brands means greater profitability. They educate students, entrepreneurs and the public with this belief. Despite a lack of evidence, this notion is firmly rooted, theoretically and conceptually, in the literature. Linking brands to profitability has been, however, a challenge for many marketing researchers. As mentioned previously, marketing's long-standing inability to account for its impact on the bottom line has severely undercut their credibility. A combination of econometric and financial modelling is often needed to estimate the impact of brand and marketing activity on financial performance. This study highlights the potential value of panel data techniques and the uses of secondary data in obtaining more rigorous estimates of marketing relationships.

Similar to all empirical studies, limitations are not missing. As with any secondary data sources, there are concerns about their suitability for the research questions under consideration. Furthermore, the participating companies are large American companies. Our findings may not be useful for smaller companies and the relevance of our findings in other markets has to be confirmed by further research. Finally, the attempt of estimating

the dynamics of the brand values–profitability relationship was inconclusive. We were not able to suggest whether there is or no lagged impact from brands on profitability. Technically, we also failed to establish the term 'causality' for the proposed relationship from an econometrician's prospective. This limited our study to only a contemporaneous relationship. Notwithstanding these reservations, it is suggested that the results generated provide useful insights into the role of brands in determining financial and stock market performance.

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