Dissertação

Mestrado em Finanças Empresariais

Brand Value and Shareholder Value: Evidence from European NYSE Euronext Firms

Cátia Filipa Caetano Laúdo

Leiria, *setembro* de *2014*

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Dissertação de Mestrado realizada sob a orientação da Professora Doutora Natália Maria Prudêncio Rafael Canadas, Professora da Escola Superior de Tecnologia e Gestão do Instituto Politécnico de Leiria e coorientação da Professora Doutora Maria João da Silva Jorge, Professora da Escola Superior de Tecnologia e Gestão do Instituto Politécnico de Leiria.

Leiria, *setembro de 2014*

To my family

Acknowledgements

This dissertation was definitely one of the biggest challenges I had during my student life. There are some people who contributed decisively to its achievement, to whom I express my gratitude.

First of all, I would like to thank my supervisors Professors Natália Maria Canadas and Maria João Jorge, for all the help, motivation and availability throughout the development of my Master's dissertation.

I would also like to thank all the teachers of the Master, for their dedication to teaching and the knowledge transmitted.

A word for my Master's colleagues, Cristina, Ana, João and Bernardo, for their friendship.

A thankful word, as well, to my job colleagues, Ines and Marta, for their support.

I would like to express my gratitude to my brothers Pedro and Nuno for their patience and because they will always be special to me.

A special thanks to my parents for their dedication, support and encouragement over the years. I would not have concluded such an important stage in my life without you.

Finally, my sincere thanks to Mira for all the support, patience and constant encouragement.

Thank you, to all of you!

Abstract

Do strong brands create shareholder value? Since the recognition of the economic value of brands, several empirical studies have attempted to answer this question. The present dissertation examines the effects that European strong brands, as estimated by one of the world's leading brand consultancy firms (Interbrand), and whose firms are listed on the NYSE Euronext stock exchange, have on shareholder value creation for the period from July 2007 to June 2013. Specifically, we compare the performance of a portfolio of firms that owned valuable brands, with two benchmark portfolios, making use of the Fama-French's three-factor model plus a momentum factor, to adjust returns for risk. As a result, we find statistically significant evidence that the portfolio of firms with valuable brands outperformed both benchmark portfolios not only with higher returns, but also with lower risk, increasing, this way, shareholder value.

Keywords: Brand Equity, Brand Value, Shareholder Value, Fama and French - Carhart model

Resumo

As marcas valiosas criam valor para o acionista? Desde o reconhecimento do valor económico das marcas diversos estudos empíricos têm-se debruçado sobre esta questão. A presente dissertação analisa os efeitos que as marcas valiosas europeias, segundo os estudos de uma consultora de marcas líder mundial (Interbrand) e cujas empresas estão cotadas na NYSE Euronext, têm na criação de valor para o acionista. O período analisado vai de Julho de 2007 a Junho de 2013. Especificamente, é feita a comparação do desempenho de uma carteira constituída por empresas que possuem marcas valiosas com duas carteiras de referência. Para tal, é usado o modelo de três fatores desenvolvido por Fama - French em conjunto com o fator momento para ajustar a rendibilidade ao risco das carteiras. Em resultado, concluímos que existe evidência estatística significativa de que a carteira composta por empresas com marcas valiosas apresenta um desempenho superior ao das duas carteiras de referência, apresentando não só rendibilidades superiores, mas também menor risco, acrescentado assim valor para os acionistas.

Palavras-chave: *Brand Equity*, Valor da marca, Valor do acionista, Modelo de Fama e French - Carhart

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List of Acronyms

AMA – American Marketing Association

AMEX – American Stock Exchange

CAPM – Capital Asset Pricing Model

CRSP – Center for Research in Security Prices

EURIBOR – European Interbank Offered Rate

GRETL – Gnu Regression, Econometrics and Time-series Library

ICB – Industry Classification Benchmark

FM – Full Market

NASDAQ – National Association of Securities Dealers Automated Quotations

NEEMVB – NYSE Euronext European Most Valuable Brands

NYSE – New York Stock Exchange

RM – Reduced Market

US – United States

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1. Introduction

1.1 Background

Large scale brands are a phenomenon that emerged at the end of the 19th century, beginning of the 20th century, after industrial revolution, when some famous brands, such as Singer, Coca-Cola and Kodak, were born. However, it was after Second World War, mainly with globalization, in the late 1980s, that brands' explosion happened.

For many years, brands were only related with the marketing area. Indeed, the financial area did not recognize their value, because in the past tangible assets, such as manufacture, buildings and land, and financial assets, such as investments, were the main source of value in a firm. Although market was aware of intangible assets, their value was not considered. Intangible assets, like brand, gained importance among the researchers when they verified a growing gap between the book value and the market value of firms.

Since the recognition of brand as an important intangible asset, several firms have emerged, such as Interbrand, Brand Finance and Millward Brown, which use analytical methods in order to calculate brand value. However, depending on the brand valuation method used by the firm, brand values are different; for example, in 2013 Apple was the world's best brand according to Interbrand and Brand Finance publications, but the value attributed to it by both firms was different. Interbrand ranked Apple the best global brand with a value of 98.316 million dollars, whereas Brand Finance ranked Apple the world's most valuable brand with a value of 87.304 million dollars.

Nowadays, the value of brands is recognized not only by firms, but also by shareholders. Brands represent both an asset and a source of future earnings and cash-flows that can influence directly firm's performance and, consequently, the stock price. Yovovich (1988 as cited in Kerin & Sethuraman, 1998) posits that "*Strong brand names create stronger cash flows and stronger earnings which in turn creates stronger values for shareholders*" (p.260).

The effect of brand on stock performance and shareholder value has received considerable attention among academic researchers and economists. Empirical studies, the majority using strong brands of the United States (US), suggest that good brands increase shareholder wealth.

Summing up, given the relevance and topicality of the relationship between brand value and shareholder value, and allied to the lack of information on the subject of European brands, our investigation focused only on European strong brands. Specifically, in line with the research by Madden, Fehle and Founier (2006), we assess the value of brands for shareholders, using a sample of firms listed on NYSE Euronext in Europe for the July 2007-June 2013 period.

1.2 Structure of the dissertation

After the brief introductory chapter, the remainder of this dissertation consists of four more chapters. First of all, chapter 2 provides the general theoretical background on brand, highlighting some definitions. Secondly, we provide a description of some of the more relevant studies that relate brand value and shareholder value. Then, we review the pertinent features of performance measurement models. Finally, we analyse the methodological aspects that provide support for our empirical research. Specifically, we summarize the Fama and French-Carhart methodology.

Chapter 3 presents the research design. Firstly, we present the objectives and the main hypotheses. Afterwards, we provide a comprehensive description of the sample selection procedure and we describe in detail the methodology for portfolios construction. Then, we present the data that will serve as basis for our empirical research. Finally, we will exhaustively explain the construction of the variables used in the Fama and French-Carhart model.

Chapter 4 is dedicated to the presentation of the empirical results and their subsequent analysis. We begin with the results of the monthly returns comparison for the portfolios under analysis. After that, we put forward the results of Fama-French and Carhart

Regression. Finally, we compare the results of the empirical research by Madden et al. (2006) with our results.

Lastly, in chapter 5 we conclude summarizing the main empirical achievements of the study, pointing some limitations and outlining some future work directions.

2. Theoretical Background

2.1 Introduction

The aim of chapter 2 is to provide the revision of the theoretical literature considered to be essential to the foundations of our empirical work. Specifically, as brand is the central element of this work, we begin with a brief notion of the concept in section 2.2. Subsequently, in section 2.3 the main studies that support the relationship between brand value and shareholder value are presented. Finally, we review the main models used to obtain risk-adjusted returns, explicitly the Fama - French and Carhart model.

2.2 Brand

The definition of brand has not been an easy task. In fact, there are several definitions of brand both in financial and marketing literatures. In 1960, the American Marketing Association (as cited in Wood, 2000) defines brand as "*A name, term, sign, symbol or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors*" (p.664).

In the late 1980s the concept of brand equity emerged, when some firms verified a clear difference between market value and book value. Since then, different authors have proposed several definitions of brand. According to the literature, Aaker (1991) presents one of the most important brand definitions. He defines brand equity as "*a set of assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or that firm's customers*" (p.15).

However, over the last years numerous definitions of brand equity have been proposed by different authors, as shown in Table 1, in a financial and consumer based perspective.

Table 1: Brand definitions

Definitions	Studies
The added value to the firm, the trade, or the consumer with which a given brand endows a product	Farquhar (1989)
Measurable financial value of transactions accumulated on the product or service due to successful programs and activities	Smith (1991)
Incremental cash flows that accrue to branded products over unbranded products	Simon and Sullivan (1993)
Increase in the perceived usefulness and level of attractiveness that a brand gives to a product.	Lassar, Mittal and Sharma (1995)
The differential effect that brand knowledge has on customer response to the marketing of that brand	Keller (1998)

Source: Adapted from Oliveira and Luce (2012)

Summing up, a brand has value when a consumer responds differently by being in the presence of the brand. It probably provides benefits to firms, and, consequently, brings shareholder value.

2.3 Brand Value and Shareholder Value

So as to be clear about how brand equity creates value for firms and for shareholders, the need to measure brand equity value emerged. According to the literature, brand equity can be measured both at a financial level (Simon & Sullivan, 1993) and at a consumer level (Aaker, 1991). The financial approach measures the value of brand equity based on analytical methods, such as historic costs, replacement costs or potential earnings (Fehle, Fournier, Madden & Shrider 2008). On the other hand, the consumer approach measures the value of brand equity based on brand loyalty, brand awareness, perceived quality, brand associations and other proprietary brand assets (Aaker, 1991) or brand awareness and brand image (Keller, 1993).

Since the early 1980s, firms like Interbrand, Brand Finance and Millward Brown emerged to estimate brands' financial value. Interbrand (as cited in Kotler & Keller, 2012) defines brand value as *"the net present value of the future earnings that can be attributed to the brand alone"* (p.279). Other firms, such as Harris Interactive's EquiTrend calculated the brand equity score, measuring brand equity at a consumer level.

In recent years, the relationship between brand value, stock market performance and shareholder value has received considerable attention in the literature. Several researchers developed their studies taking into account the publications of brand consultants.

Aaker and Jacobson (1994), using the EquiTrend of Total Research Corporation, were the first to examine whether the movements in a firm's stock price are associated with brand equity beyond the information contained in return on investment (ROI). Brand equity was obtained by perceived quality measures from consumer surveys. The authors studied 34 firms between 1990 and 1992, and found that changes in perceived brand quality and ROI are positively related with stock returns. Mizik and Jacobson (2004 as cited in Mizik & Jacobson, 2008), in line with the study by Aaker and Jacobson (1994), included more firms and periods and obtained similar results.

Kerin and Sethuraman (1998) studied the relationship between firms' brand value, published in the Financial World magazine, and shareholder value measured as market-to-book ratio during the 1995- 1996 period for US consumer goods firms. The authors found a positive, but concave relationship with decreasing returns to scale, between brand value and market-to-book ratio.

Barth, Clement, Foster and Kaszkik (1998) found a positive and significant association between brand value and stock prices and returns. They used a sample of 1204 brands, collected from Financial World's annual surveys, owned by 183 publicly traded US firms during the 1991-1996 period.

Madden et al. (2006) studied the value of branding for shareholders, i.e., they investigated whether strong North American brands, according to Interbrand publications between 1994 and 2000, increase shareholders wealth. Adjusting returns for risk using the Fama and

French's (1993) three-factor model plus a momentum factor, they created three portfolios, in order to compare the portfolios' performance:

- World's most valuable brands portfolio: contains 111 firms that owned valuable brands, according to Interbrand publications.
- Full Market portfolio: contains all firms in the Center for Research in Security Prices (CRSP), that is 13.409 firms listed on NYSE, AMEX and NASDAQ stock exchanges.
- Reduced Market portfolio: contains all firms present in the full market portfolio with the exception of the firms belonging to the world's most valuable brands portfolio

Madden et al. (2006) concluded that brands listed on Interbrand publications have higher returns, with lower risk. In other words, firms belonging to the World's most valuable brands portfolio earn abnormal returns.

Although all these studies indicate a positive linkage between brand value and shareholder value, Johansson, Dimofte and Mazvancheryl (in press) contrary to expectation conclude the inverse. Using a sample of 50 brands collected from Interbrand and 50 brands collected from Equitrend, they investigated the stock performance of US firms during the 2008 financial crisis (September-to-December 2008). They conclude that firms with strong brands underperform the market as a whole.

2.4 Models of Performance Measurement

The Capital Asset Pricing Model (CAPM), developed by Sharpe (1964) and Lintner (1965), was based on the model of portfolio choice by Markowitz (1959) and describes the relationship between expected return and risk. Fama and French (2004) suggest that CAPM marks *"…the birth of asset pricing theory..."* The model only considers one factor in explaining the expected return, which is the market beta. In other words, systematic risk would be enough to explain the expected return, because unsystematic risk can be greatly reduced or eliminated through diversification. The CAPM is presented as follows:

$$E(R_i) = R_f + \beta_i [(R_M) - R_F] \quad (1)$$

where,

$E(R_i)$: is the expected return in portfolio /stock *i*;

$R_{f:}$ is the risk free rate;

β_i is the systematic risk in portfolio *i*;

$E(R_M)$: is the expected market return.

Over the years, CAPM has been widely used in finance to evaluate portfolios' performance (Fama & French, 2004). However, several authors have pointed out that CAPM was not a good explanation of expected returns, because market beta does not totally measure systematic risk and does not describe, adequately, the cross-section. Studies have showed that cross section of stock returns is related to some factors, such as size, book-to-market ratio of firms and return momentum.

Banz (1981) found a size effect; in other words, the author found that stocks with small market capitalization have higher average returns than stocks with larger market capitalization.

Stattman (1980) and Rosenberg, Reid and Lanstein (1985) found a positive relationship between book-to market ratio and average returns.

Jegadeesh and Titman (1993) found a momentum factor to explain returns, that is, they found that stocks with high returns over the past year tend to have high returns in the future and stocks with low returns over the past year tend to have low returns in the future.

2.4.1 Fama - French and Carhart Model

Fama and French (1993) based on previous studies (Banz, 1981; Rosenberg et al., 1985; Stattman, 1980) developed a three factor model (equation 2), which can be used to both individual stocks and stock portfolios, to estimate expected stock returns. Fama and French three risk factors are: size, which can be defined as the difference in returns of small and

big firms; book-to-market ratio, which can be defined as the difference in the returns of high and low book-to-market firms; and market, which can be defined as the overall market return adjusted for the risk free return. The model can be defined as follows:

$$R_{it} - R_{ft} = \alpha_{it} + \beta_{iM}\left(R_t - R_{ft}\right) + \beta_{iSMB} SMB_t + \beta_{iHML} HML_t + \varepsilon_i \qquad (2)$$

Carhart (1997) proposed a four factor model (equation 3) to analyse the mutual fund performance. The four factors are the three factors described above for the Fama and French model plus a momentum factor that is constructed taking the findings of Jegadeesh and Titman (1993) into account. Momentum can be defined as the difference in the returns of high and low firms' returns. We will call the Fama-French and Carhart model to four factor model proposed by Carhart (1997). The model is defined as follows:

$$R_{it} - R_{ft} = \alpha_{it} + \beta_{iM}\left(R_t - R_{ft}\right) + \beta_{iSMB} SMB_t + \beta_{iHML} HML_t + \beta_{iUMD} UMD_t + \varepsilon_i \qquad (3)$$

where,

R_{it}-R_f: is the excess return on portfolio/stock *i* in month *t*;

α_{it}: is the intercept term;

R_t- R_{ft}: is the market risk factor in month *t*;

SMB_t: is the size risk factor in month *t*;

HML_t: is the book-to-market risk factor in month *t*;

UMD_t: is the momentum risk factor in month *t*.

Regression equations (2) and (3) are normally used to evaluate portfolios' performance (Fama & French, 2012). According to Madden et al. (2006), the most important parameters of the regression equation (3), which is the one used in our study, to compare portfolios' performance are the intercept term (α_{it}) and the market beta (β_{im}). When alpha is positive and statistically significant, that means that a particular portfolio has a higher return, compared to a particular portfolio with the same risk level, that is, a particular portfolio has outperformed its benchmark; in contrast, a negative and statistically significant alpha means that a particular portfolio has underperformed its benchmark. The market beta (β_{im}) is related to the market risk or the systematic risk. When market beta (β_{im}) equals 1, that means that the return of a particular portfolio performs at the same risk level than the

market. Market beta (β_{im}) lower (greater) than 1 means that the return of a particular portfolio performs with less (more) risk than the market.

The other three coefficients (β_{iSMB}, β_{iHML}, and β_{iUMD}) are related to the risk factors: size, book-to-market ratio and momentum. β_{iSMB} lower than 0 means that, in a particular portfolio, large stocks outperformed small stocks. Conversely, β_{iSMB} greater than 0 means that small stocks outperformed. β_{iHML} lower than 0 means that, in a particular portfolio, firms with low book-to-market ratio outperformed firms with high book-to-market ratio. In contrast, β_{iHML} greater than 0 means that firms with high book-to-market ratio outperformed. β_{iUMD} lower than 0 means that, in a particular portfolio, firms with down returns in the last 2-12 months outperformed firms with up returns in the last 2-12 months. Inversely, β_{iUMD} greater than 0 means that firms with up returns in the last 2-12 months outperformed.

2.5 Conclusion

The second chapter was composed of the literature review on the core themes and concepts that are indispensable to understanding the study.

In conclusion, since the recognition of brands as a source of value, several definitions have been proposed in a financial and consumer based perspective. In the financial area, the idea that brand value influences shareholder value has received a great deal of attention among researchers. Empirical studies have found a positive brand value and shareholder value relationship.

One way to assess whether brand value creates shareholder value is to evaluate stocks or portfolios performance with models of performance measurement, such as CAPM and Fama-French and Carhart. These models describe the relationship between expected return and different kinds of risk.

Next chapter presents the research design.

3. Research Design

3.1 Introduction

This chapter presents the research design of our empirical investigation. To facilitate, the chapter has been divided into five main sections: objectives and hypotheses, sample selection, portfolios creation, data collection, and construction of the variables. In Section 3.2 we summarize the objectives and outline the research's main hypotheses. In Section 3.3 we present the composition of our sample. Section 3.4 is devoted to the creation of the three portfolios, emphasizing the construction of the portfolio with strong brands. Data description takes place in section 3.5. Finally, in section 3.6, we comprehensively explain the construction of the variables used in the Fama – French and Carhart model.

3.2 Objectives and Hypotheses

As seen in the previous chapter, the relationship between brand value and shareholder value has received considerable attention over the past years. The present study, driven by the fact that there is no similar study for European firms listed on NYSE Euronext, has as its main objective to investigate whether firms listed on NYSE Euronext in Europe that owned valuable brands, according to Interbrand publications, create shareholder value. For this purpose, the following specific objectives are proposed:

1) To compare the monthly returns of a portfolio of firms with strong brands with other two benchmark portfolios and the risk free rate;

2) To investigate whether a portfolio of firms with valuable brands, after controlling for risk using the Fama - French and Carhart methodology, earn abnormal returns compared to the two other benchmark portfolios;

In the prosecution of our goals, we define the following main research hypotheses:

H0: The portfolio of firms that own strong brands will yield a higher return than the two benchmark portfolios.

H1: The portfolio of firms that own strong brands will yield a higher return than the two benchmark portfolios, but with lower risk.

3.3 Sample Selection

In the study, a sample of firms listed on NYSE Euronext was used. The NYSE Euronext group is the world's leading and most liquid exchange group. It was created on April 4, 2007, with the merger of Euronext and NYSE Group. It is composed of equities and derivatives exchanges across the US and Europe. In Europe, NYSE Euronext is the leading pan-European stock exchange and includes the Amsterdam, Brussels, Lisbon, London and Paris exchanges.

The initial sample consists of all firms, with the exception of the real estate firms, that have common stocks with euro trading currency listed on NYSE Euronext Amsterdam, Brussels, Lisbon, and Paris every time during the July 2007-June 2013 period (72 months) with relevant Datastream data. This approach left us with 693 firms.

We choose 2007 as the first year of analysis, because 2007 was the year of NYSE Euronext creation; moreover we choose July like Fama and French 1993 to be sure that price-to-book value is available for December of year t-1. The final sample contains 567 firms that meet the following criteria:

- Monthly stock prices for the analysis period and for the previous twelve months;
- Market capitalization for the analysis period and for June 2007;
- Book-to-Market for the analysis period and for December 2006;
- Positive Book-to-Market.

Table 2 summarizes the sample selection.

Table 2: Sample selection

Selection criteria	Sample size
Firms listed on NYSE Euronext in Europe every time between July 2007 and June 2013, excluding real estate firms	693
Firms with required data available on Datastream database	607
Firms with positive book-to-market	567

Table 3 shows the market representation in our sample. NYSE Euronext Paris is undoubtedly the most representative market, with 376 firms. NYSE Euronext Amesterdam and NYSE Euronext Brussels have 81 and 78 firms, respectively, and NYSE Euronext Lisbon is the less representative market, with only 32 firms.

Table 3: Market composition

Market	Nº Firms	% of sample
NYSE Euronext Paris	376	66.3%
NYSE Euronext Amsterdam	81	14.3%
NYSE Euronext Brussels	78	13.8%
NYSE Euronext Lisbon	32	5.6%

Table 4 depicts the industry representation in our sample. Firms are classified into ten industries according to the Industry Classification Benchmark (ICB). The ICB codes are available on the NYSE Euronext web-page. The most representative industry is Industrials (22.9%) and the least representative industry is Telecommunications (1.2%).

Table 4: Industry composition

Industry	ICB industry codes	Nº Firms	% of sample
Oil and Gas	0001	11	1.9%
Basic Materials	1000	30	5.3%
Industrials	2000	130	22.9%
Consumer Goods	3000	99	17.5%
Health Care	4000	24	4.2%
Consumer Services	5000	82	14.5%
Telecommunications	6000	7	1.2%
Utilities	7000	11	1.9%
Financials	8000	81	14.3%
Technology	9000	92	16.2%

Despite the differences in the number of firms by market and by industry, our intention is to analyse the sample as a whole.

3.4 Portfolios Creation

For the analyses, in line with Madden et al. (2006), we created three portfolios: a NYSE Euronext European Most Valuable Brands (NEEMVB) portfolio, which contains firms in our sample that owned valuable brands, as estimated and published by the global branding consultancy firm Interbrand, during the period under analysis, and two benchmark portfolios: a full market (FM) portfolio that contains the whole sample, that is, the 567 firms, described in section 3.3., and a reduced market (RM) portfolio that contains the whole sample except those firms included in the NEEMVB portfolio.

3.4.1 NYSE Euronext European Most Valuable Brands Portfolio

The NEEMVB portfolio was constructed on the basis of "100 Best Global Brands" ranking published by Interbrand[1], one of the world's leading brand consultancy firms. The ranking is revised and published annually. Some other researchers carried out their empirical

[1] See www.Interbrand.com for the full list of the 100 brands.

studies using Interbrand estimates (e.g., Barth *et al*., 1998; Kerin & Sethuraman, 1998; Madden et al., 2006).

The Interbrand methodology takes both costumer and financial terms into account to determine the contribution of the brand to business results. Interbrand assesses three key components of brands' value creation: brands financial performance, the role of the brands and the brands' strength. According to Madden *et al*. (2006), "*Interbrand brand valuation estimates are recognized by auditors and tax authorities in many countries around the world*" (p.226).

Annex 1 comprises the detailed explanation of the Interbrand valuation method.

For our study, as shown in Table 5, we selected those brands that appeared on Interbrand publications at least once between 2007 and 2012. Then, we identified the firms in our sample that owned valuable brands. This procedure resulted in a NEEMVB portfolio composed by 11 firms.

Table 5: Best global brands selection

Interbrand List	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Best Global Brands	100	100	100	100	100	100
Brands not owned by a firm listed on NYSE Euronext in Europe	-90	-89	-90	-88	-89	-89
Number of brands included in the NEEMVB portfolio	10	11	10	12	11	11
Number of firms included in the NEEMVB portfolio	8	9	8	10	10	10

Table 6 portrays the firm's name, number of appearances, market and industry of the 11 firms in our sample that owned valuable brands.

Table 6: NEEMVB portfolio description

Firm	Years Present	Market	Industry
LVMH	6	NYSE Euronext Paris	Consumer Goods
PHILIPS	6	NYSE Euronext Amsterdam	Industrials
DANONE	6	NYSE Euronext Paris	Consumer Goods
HERMES	6	NYSE Euronext Paris	Consumer Goods
ROYALDUTCH SHELL	6	NYSE Euronext Amsterdam	Oil and Gas
HEINEKEN	3	NYSE Euronext Amsterdam	Consumer Goods
FIAT	5	NYSE Euronext Paris	Consumer Goods
L'OREAL	6	NYSE Euronext Paris	Consumer Goods
AXA	6	NYSE Euronext Paris	Financials
SANTANDER	3	NYSE Euronext Lisbon	Financials
ING	2	NYSE Euronext Amsterdam	Financials

Table 6 allows observing that valuable brands tend to change slowly over time, because seven of the eleven firms have brands that are present all years during the 2007-2012 period on the Interbrand list. The most representative market is NYSE Euronext Paris and the most representative industry is consumer goods.

All the firms in the NEEMVB portfolio derived from one brand, present on the Interbrand list, with the same name of the firm, but there are three exceptions: 1) Fiat, which is one of the European leading car manufacturers, derived from the brand Ferrari, one of the car brands that firm owns; 2) Louis Vuitton Moët Hennessy (LVMH), the world leader in luxury goods, derived from three brands: Louis Vuitton (fashion items), Moët & Chandon (champagnes) and Henessy (cognacs); 3) L'Oreal, the world leading cosmetic group, derived from two brands: L'Oreal, with the same name of the firm, and Lancôme.

3.5 Data

For this study, we only used secondary data, collected mainly from the Datastream database. Datastream is a global financial and macroeconomic database covering equities, stock market indices, currencies, firm fundamentals, fixed income securities and key economic indicators for 175 countries and 60 markets.
Specifically, we collected from Datastrem:

- Monthly closing stock prices;
- Monthly number of ordinary shares;
- Price -to-book value at the end of December

The proxy used to represent the risk-free rate is the one month Euro Interbank Offered Rate (Euribor) and was obtained from the European Central Bank. We choose Euribor as risk-free rate, because it is the main reference interest rate of the euro area money market.

With the collected data, we calculate for each firm: stock monthly returns, cumulative stock returns, market capitalization and book-to-market ratio as follows:

Stock monthly returns are calculated using continuously compounded return:

$$R_{i,t} = \ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right) \tag{4}$$

where:

$R_{i,t}$: is the monthly return of stock *i* in month *t*;

$P_{i,t}$: is the price of stock *i* in month *t*;

$P_{i,t-1}$: is the price of stock *i* in the month *t-1*.

Cumulative stock return is:

$$R_{i,t} = \frac{P_t - P_{t-11}}{P_{t-11}}$$

where,

$R_{i,t}$: is the cumulative return of stock *i* in month *t*;

P_t: is the price of stock *i* in month *t;*

P_{t-11}: is the price of stock *i* in month *t-11*.

As a proxy for size firm, we use market capitalization.

In addition, book-to-market ratio was calculated as being the reverse of price-to-book[2] value available on the Datastream database.

3.6 Construction of the Excess Return Variable and Risk Factors

To compare the performance of the portfolio of firms that owned valuable brands with two benchmark portfolios, we use the Fama -French and Carhart methodology (equation 3), that is, a three factor model proposed by Fama and French (1993) plus a momentum factor proposed by Carhart as seen in section 2.4.1. This methodology makes use of a time series analysis. In this section, we describe the method to calculate the dependent variable (excess return) and the four risk factors (size, book-to-market, momentum and market), which are the independent variables. The majority of other studies collect the factors from the Kenneth French's website, but in our case this was not possible, because the website has no specific data for firms listed on NYSE Euronext in Europe. Variables are calculated for each month during the July 2007-June 2013 period.

To better illustrate the construction of the variables we present Figure 1:

[2] The share price divided by the book value per share

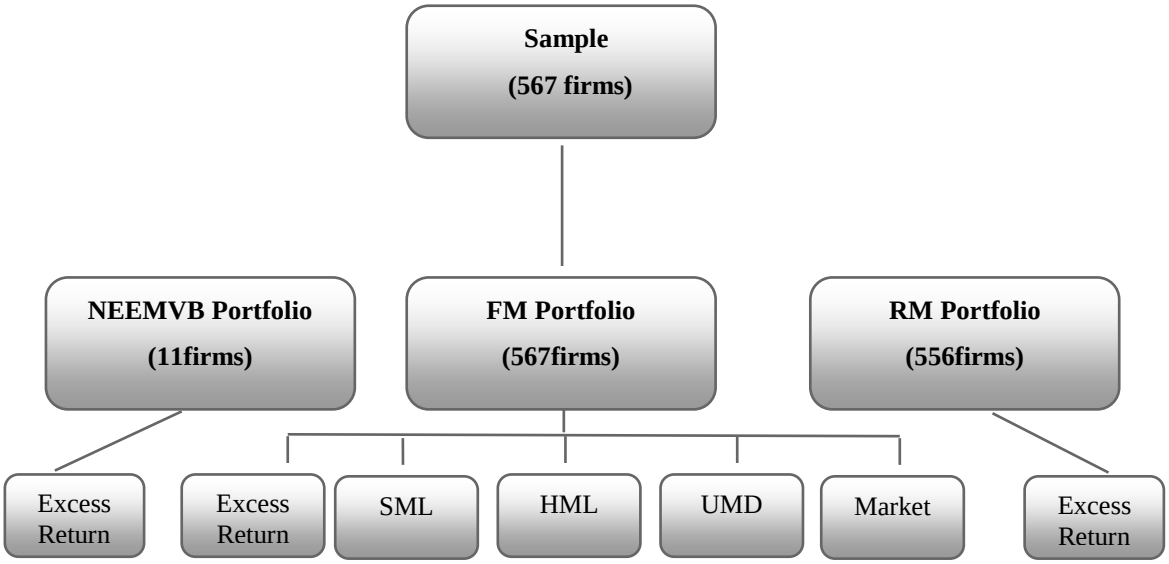

Figure 1: Variables scheme

Note. NEEMBV represents the NYSE Euronext European Most Valuable Brands portfolio; FM represents the Full Market portfolio and RM represents the Reduced Market portfolio. SMB: is the size risk factor; HML: is the book-to-market risk factor; UMD: is the momentum risk factor.

3.6.1 Excess Return Variable

Excess return, for each of the three portfolios mentioned in section 3.4, was calculated by the difference between the portfolio return and the risk free rate. Portfolio return corresponds to the value-weight monthly returns of the stocks in the respective portfolio, which is calculated as follows:

$$R_{p,t} = \sum_{i=1}^{n} w_{i,t} \times R_{i,t} \qquad (6)$$

where,

$R_{p,t}$: is the value-weight monthly return of portfolio *p* in month *t*;

$R_{i,t}$: is the monthly return of stock *i* in month *t;*

$W_{i,t}$: is the weight of each stock *i* belonging to the portfolio *p* in month *t*;

n: is the number of stocks of portfolio *p.*

The weight of each stock in a value-weighed portfolio is determined by dividing market capitalization of each stock *i* by the market capitalization of all the stocks in the portfolio *p*.

3.6.2 Size and Book-to Market Factor

Firstly, in June of each year *t*, during the 2007-2013 period, all 567 stocks were ranked according to their size (market capitalization) and their book-to-market ratio.

Then, the median market capitalization value was used to divide stocks into two groups: stocks with small (S) capitalizations and stocks with big (B) capitalizations. Also, the book-to-market ratio was used to divide stocks into three groups: stocks with low (L) (bottom 30%), medium (M) (middle 40%) and high (H) (top 30%) book-to-market ratio. Although Fama and French (1993) had used the breakpoints to split values for NYSE, AMEX and NASDAQ stocks, we use the breakpoints to split the whole sample. We considered the market capitalization of June of year *t* and the book-to-market (B/M) ratio of December of the year *t – 1* for the formation of portfolios for the period from July of year *t* to June of year *t+1*.

In June of each year *t*, after the preceding splitting, six portfolios were constructed from the interception of the two size (S, B) groups and the three B/M ratio (L, M, H) groups. The resulting portfolios are:

- S/L (Small and Low): Stocks with small market capitalization and low B/M ratio;
- S/M (Small and Medium): Stocks with small market capitalization and medium B/M ratio;
- S/H (Small and High): Stocks with small market capitalization and high B/M ratio;
- B/L (Big and Low): Stocks with big market capitalization and low B/M ratio;
- B/M (Big and Medium): Stocks with big market capitalization and medium B/M ratio;
- B/H (Big and High): Stocks with big market capitalization and high B/M ratio.

Each year, the monthly returns of each one of the six portfolios are calculated from July of year *t* to June of year *t+1* and correspond to the value-weight monthly returns (equation 6) of the stocks in the respective portfolio.

Finally, with the six portfolios previously created we construct two risk factors: SMB (small minus big) correspond to the difference between the simple average monthly stock returns of the three small stock portfolios and the simple average monthly stock returns of the three big stock portfolios[3]; HML (high minus low), correspond to the difference between the simple average monthly stock returns of the two high stock portfolios and the simple average monthly stock returns of the two low stock portfolios.[4]

3.6.3 Momentum Factor

Momentum factor (UMD) was formed on the basis of the methodology described on the Kenneth French's website.

To begin with, in each month *t* during the period June 2007 - May 2013 all 567 stocks are ranked according to their market capitalization and their prior return. Prior return of month t is the cumulative return from month *t – 11* to month *t – 1* of each stock.

Again, the median market capitalization value was used to divide stocks into two groups: stocks with small (S) capitalizations and stocks with big (B) capitalizations. Also, prior return was used to divide stocks into three groups: stocks with down (D) (bottom 30%), medium (M) (middle 40%) and up (U) (top 30%) prior return.

In each month from June 2007 to May 2013, after the two preceding sample breakdown, six portfolios were constructed from the interception of the two size (S, B) groups and three prior return (D, M, U) groups. These portfolios are:

[3] SMB = (S/L + S/M + S/H) /3 – (B/L + B/M + B/H) /3

[4] HML = (S/H + B/H) /2 – (S/L + B/L) /2

- S/D (Small and Down): Stocks with small market capitalization and down prior return;
- S/M (Small and Medium): Stocks with small market capitalization and medium prior return;
- S/U (Small and Up): Stocks with small market capitalization and up prior return;
- B/D (Big and Low): Stocks with big market capitalization and down prior return;
- B/M (Big and Medium): Stocks with big market capitalization and medium prior return;
- B/U (Big and Up): Stocks with big market capitalization and up prior return.

Moreover, in each month *t* from July 2007 to June 2013, the monthly returns of each one of the six portfolios (formed at the end of month *t – 1*) were calculated and corresponded to the value-weight monthly returns of the stocks (equation 6) in the respective portfolio.

Finally, with four of the six portfolios previously created, we constructed the momentum risk factor: UMD (up minus down) that correspond to the difference between the simple average monthly stock returns of the two up stock portfolios and the simple average monthly stock returns of the two down stock portfolios[5].

3.6.4 Market Factor

To conclude, market risk factor is the difference between the value weighted portfolio (equation 6) of all 567 stocks and the risk free rate. Risk free rate is represented by the one month return Euribor rate.

3.7 Conclusion

In the present chapter the research design was put forward. Firstly, we delimitated our objectives and our main hypotheses. Then, following the study by Madden et al. (2006), we created a portfolio of firms that owned strong brands according to the Interbrand publications and two benchmark portfolios of firms listed on NYSE Euronext during the

[5] UMD = (S/U + B/U) /2 – (S/D + B/D) /2

July 2007-June 2013 period. Finally, following the methodology of Fama and French (1993) and Carhart (1997), we calculated, for each month under analysis, the variables.

Next chapter presents the main results.

4. Empirical Results

4.1 Introduction

Chapter 4 is devoted to expose empirical results and their subsequent analysis. We begin with the presentation of the monthly returns comparison for the portfolios under analysis. After that, we refer to the results for Fama-French and Carhart Regression. Finally, we compare the results obtained with the results from the study by Madden et al. (2006).

4.2 Portfolios Performance

4.2.1 Monthly returns comparison

On a first approach, to analyse whether the portfolio with the most valuable brands outperformed the two benchmark portfolios, we compare the average monthly returns of each one of the three portfolios. Over the entire period the NEEMVB portfolio had an average negative monthly return of -2.1 percent, while during the same time period the average monthly return of the reduced market (RM) and the full market (FM) portfolios was -9.0 percent and -7.6 percent respectively. To conclude, according to the average monthly returns, the NEEMVB portfolio outperforms both the (RM) and (FM) portfolios.

Despite the NEEMVB´s monthly return negative evolution, the average monthly return of the NEEMVB portfolio still outperforms both benchmark portfolios, which highlights a positive relationship between brand value and stock performance. To better understand, Figure 2 illustrates the average monthly return of each one of the three portfolios by year. The three portfolios exhibit the same return pattern. As we can observe, between July 2007 and June 2009 the average monthly returns were negative. It may be related with the fact that this period was characterized by the threat of a global financial crisis initiated in 2008 in the US, which rapidly extended to Europe. Based on the findings, we can assume that the average monthly returns are negative during the 2007-2013 period mainly due to

negative larger returns during the July 2007-June 2009 period. When analysing Figure 2, we can verify that the NEEMBV portfolio had higher return than the RM and FM portfolios all the years, with the exception of the last year under analysis.

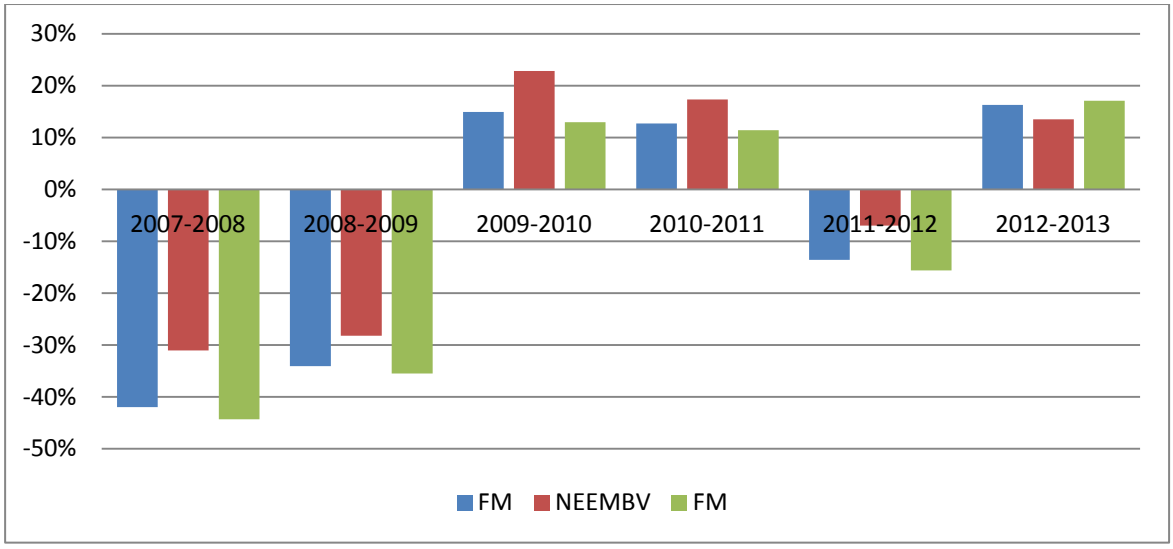

Figure 2: Average monthly returns by year

Note. NEEMBV represents the NYSE Euronext European Most Valuable Brands portfolio; FM represents the Full Market portfolio and RM represents the Reduced Market portfolio.

In order to improve our understanding about the portfolios performance, consider the following example. As we can observe in Figure 3, if an investor invested 1.00 Euro in July 2007, the investment would have decrease to 0.924 Euro in June 2013 for the NEEMVB portfolio, 0.66 Euro for the FM portfolio and 0.61 Euro for the RM portfolio.

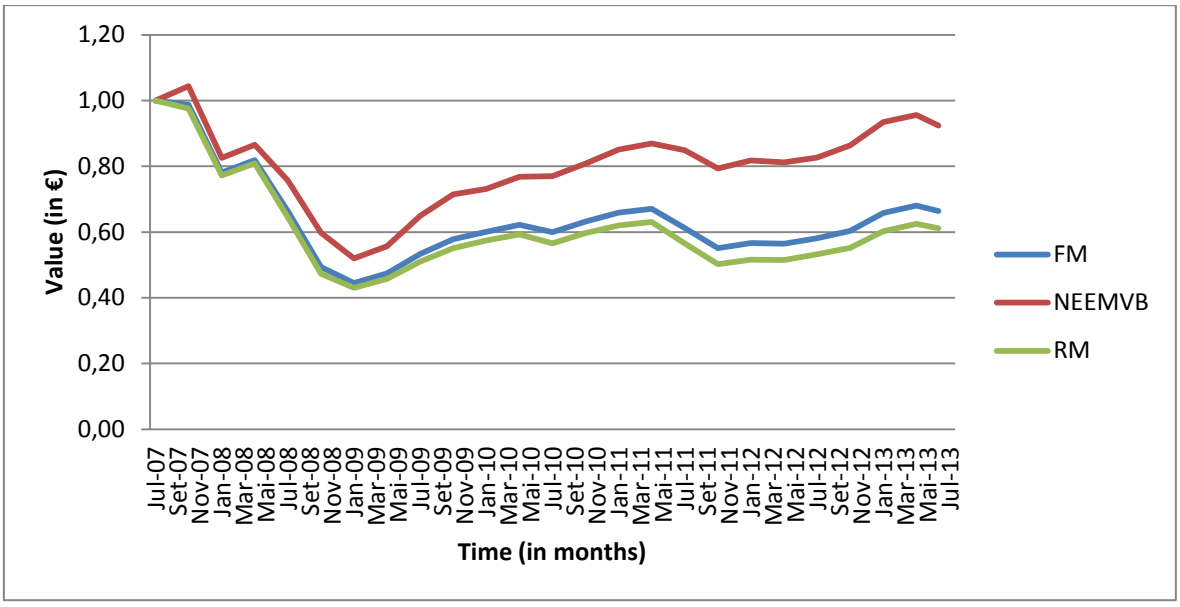

Figure 3: Portfolios monthly returns

Note. NEEMBV represents the NYSE Euronext European Most Valuable Brands portfolio; FM represents the Full Market portfolio and RM represents the Reduced Market portfolio.

4.2.2 Results for Fama-French and Carhart Regression

Although the previous results provided evidence of a possible relationship between brand value and shareholder value, we use Fama-French and Carhart regression for the three portfolios and compare the results. The parameters of the regression were estimated implementing a time series analysis, provided in the Gretl (Gnu Regression, Econometrics and Time-series Library) software.

It is noteworthy that, in this study, we used as a proxy for market value – the return value of the FM portfolio – and, therefore, market beta should be equal to 1 and the results of the intercept and the betas for the other risk factors should be equal to 0.

In Table 7, we report the results of the Fama-French and Carhart regression for the NEEMVB portfolio and the two benchmark portfolios. It reveals a NEEMVB portfolio alpha positive and statistically significant (0.04). Also, market beta of the portfolio with valuable brands is statistically significant and equal to 0.63. In contrast, RM portfolio alpha is negative and statistically significant (-0.01). Finally, market beta of the RM portfolio is statistically significant and equal to 1.09.

Betas of the other three risk factors (SMB, HML and UMD) were not statistically significant, which means that no statistical returns were obtained as compensation for these risks.

In conclusion, findings are consistent with previous results. Again, the NEEMVB portfolio outperforms both benchmark portfolios and, most importantly, with lower risk.

Table 7: Fama-French and Carhart regression

$$R_{it} - R_{ft} = \alpha_{it} + \beta_{iM}(R_t - R_{ft}) + \beta_{iSMB}SMB_t + \beta_{iHML}HML_t + \beta_{iUMD}UMD_t + \varepsilon_i$$

DependentVariable: $R_{it} - R_{ft}$ (Excess Return)

Portfolio	α	Market β	SMB β	HML β	UMD β
NEEMBV	0.04*	0.63*	-0.15	-0.15	0.17
FM	0.0	1.00***	0.00	0.00	0.00
RM	-0.01*	1.09***	0.04	0.04	-0.04

Note. The estimates reported here are obtained through the Gretl software. The table summarizes the Fama-French and Carhart regression for the three portfolios. NEEMBV: is the NYSE Euronext European Most Valuable Brands portfolio; FM: is the Full Market portfolio; RM: is the Reduced Market portfolio; SMB: is the difference in returns of small and big firms; HML: is defined as the difference in the returns of high and low B/M firms; UMD: is defined as the difference in the returns of up and down firms. The significance levels are indicated by *, **, and *** that represent 10%, 5%, and 1% level, respectively.

On a second approach, instead of using market capitalization as weight, we used brand values published yearly by Interbrand, to calculate NEEMVB portfolio returns. We follow the weighting scheme used by Madden et al. (2006). Firstly, for each year from 2007 to 2012, we summed brand values of the firms that have valuable brands in order to find the total brand value portfolio. Then, specifically for each year, we obtained each firm's weight by dividing firm brand value by the total brand value of all the firms in the portfolio. For L'Oreal and LVMH firms that derived their value from more than one brand, we aggregated values. Finally, the weight of each firm from 2007 to 2013 was averaged to find each firm's weight in the portfolio.

When we used the published brand values as weights, there was a slight difference in results. The NEEMVB portfolio average monthly return increased from -2.1 percent to -0.3 percent. This means that the NEEMVB portfolio had, again, higher average monthly returns than its benchmark portfolios.

The results of the Fama - French and Carhart regression are shown in Table 8. Alpha was again statistically significant and increased from 0.04 to 0.06, revealing, once again, that the NEEMVB portfolio outperforms FM and RM portfolios. However, market beta was not statistically significant, which means that no significant statistical returns were obtained as compensation of the market risk.

This time, the HML beta (-0.27) is negative and statistically significant at the 10 percent level, which means that, in the NEEMVB portfolio firms with low book-to-market ratio outperformed firms with high book-to-market ratio.

Betas of the other two factors (HML and UMD) were again not statistically significant.

Table 8: Fama-French and Carhart regression

$$R_{it} - R_{ft} = \alpha_{it} + \beta_{iM}(R_t - R_{ft}) + \beta_{iSMB}SMB_t + \beta_{iHML}HML_t + \beta_{iUMD}UMD_t + \varepsilon_i$$

DependentVariable: Rit - Rft (Excess Return)

Portfolio	α	Market β	SMB β	HML β	UMD β
NEEMBV	0.06*	0.42	-0.22	-0.27*	0.29
FM	0.0	1.00***	0.00	0.00	0.00
RM	-0.01*	1.09***	0.04	0.04	-0.04

Note. The estimates reported here are obtained through the Gretl software. The table summarizes the Fama-French and Carhart regression for the three portfolios. NEEMBV: is the NYSE Euronext European Most Valuable Brands portfolio; FM: is the Full Market portfolio; RM: is the Reduced Market portfolio; SMB: is the difference in returns of small and big firms; HML: is defined as the difference in the returns of high and low B/M firms; UMD: is defined as the difference in the returns of up and down firms. The significance levels are indicated by *, **, and *** that represent 10%, 5%, and 1% level, respectively.

4.4 Our Findings and the Findings from Madden et al. (2006)

Finally, in this section we compare the results of Madden et al. (2006) with our results. Even though both studies use the Fama-French and Carhart methodology, the brands of Interbrand rankings and the same method to form portfolios, there are some important differences to highlight.

Madden et al. (2006) analyse brands whose firms are traded on the major US stock exchanges (NYSE, AMEX and Nasdaq) from 1994 to 2001, and our research examines European brands whose firms are traded on NYSE Euronext during the 2007-2013 period. As a consequence of the use of two distinct regions, Madden et al. (2006) included 13.409 firms in the full market portfolio and 111 firms in the strong brands portfolio, whereas we included 567 firms in the FM portfolio and 11 firms in the NEEMVB portfolio. Table 9 compares the results of the two studies.

Another important point refers to the fact that our analysis period includes the year 2008, which is a dramatic example of a financial crisis. In fact, it was a period characterized by the volatility of financial markets, as a result of the uncertainty of investors.

Table 9: Comparison between results of Madden et al. (2006) and our results

	Results Madden et al. (2006)					**Our results**				
Portfolio	α	Market β	SMB β	HML β	UMD β	α	Market β	SMB β	HML β	UMD β
VALUABLE BRANDS	0.57	0.85	-0.36	-0.36	-0.00	0.04*	0.63*	-0.15	-0.15	0.29
FM	0.00	1.00	0.00	0.00	0.00	0.00	1.00***	0.00	0.00	0.00
RM	-0.25	1.07	0.18	0.18	0.01	-0.01*	1.09***	0.04	0.04	-0.04

Note. The estimates reported for our results are obtained through the Gretl software. The table summarizes the Fama-French and Carhart regression for the three portfolios. FM: is the Full Market portfolio; RM: is the Reduced Market portfolio; SMB: is the difference in returns of small and big firms; HML: is defined as the difference in the returns of high and low B/M firms; UMD: is defined as the difference in the returns of up and down firms. The significance levels are indicated by *, **, and *** that represent 10%, 5%, and 1% level, respectively.

Comparing the results, we can verify that the performance of the valuable brands portfolio of Madden et al. (2006) is higher than the performance of our valuable brands portfolio; in contrast, our portfolio is the one that performs with lower risk. As expected, the results are similar and, in both research studies, the valuable brands portfolio outperforms the benchmark portfolios with lower risk.

In conclusion, despite the fact that the present study and the study by Madden et al. (2006) differ in terms of region and research period, they both demonstrate the creation of shareholder value through branding.

4.3 Conclusions

In this chapter the empirical results were presented. We exhibited results from the comparison of the NEEMVB portfolio with FM and RM portfolios, using two different analyses. From the analyses, we verify that the NEEMBV portfolio has higher average monthly return and better performance than FM and RM portfolios.

Finally, comparing the results from this study with the results from the study by Madden et al. (2006), we found similar results, notwithstanding the differences in terms of region and research period.

In conclusion, the results provided empirical evidence of the positive impact of brand equity on shareholder wealth.

5. Conclusions

The purpose of the present investigation is to contribute to the understanding of the relationship between brand value and shareholder value. In particular, we focus on firms listed on NYSE Euronext in Europe for the 2007-2013 period. Although some individual conclusions had already been reported throughout the previous chapter, we will now summarize the most important results of this work.

To properly assess that brands create shareholder value, we analysed portfolios performance using monthly stock returns. On a first approach, we compared the average monthly returns of the portfolios. Subsequently, we adjusted returns for risk using the Fama and French - Carhart model and we also compared the results.

In both cases, we may conclude that the portfolio of Interbrand firms outperforms the overall market, indicating that strong brands represent a source of value for investors. Most importantly, according to the results of the Fama and French – Carhart regression, the portfolio of firms derived from the Interbrand list had statistically significant better performance, as well as lower risk, than the benchmark portfolios. With our results, we validate the most recent value-based vision of Marketing that relates branding with the process of creating shareholder's value. Moreover, a strong brand strategy may be seen as a risk management tool.

Similarly to any other research, our study has its own limitations that need to be overcome by further research. The first limitation is related with the size of the sample of strong brands, which was directly influenced by the consultant firm and the market chosen. In future research about firms, listed on NYSE Euronext, that owned strong brands, we intend to extend the selection of strong brands to other firms that evaluate strong brands apart from Interbrand, such as, for example, Brand Finance.

Another possible extension for this study is the investigation of strong brands by industry. We believe that it may be interesting to understand whether brands of different industries have different sorts of influence on shareholder value.

References

Aaker, D. A. (1991). *Managing brand equity: capitalizing on the value of a brand name*. New York: The Free Press.

Aaker, D. A., & Jacobson, R. (1994). The financial information content of perceived quality. *Journal of Marketing Research, 31*(1), 191-201.

Barth, M. E., Clement, M. B., Foster, G. & Kasznik, R. (1998). Brand values and capital market valuation. *Review of Accounting Studies, 3*(1), 41-68.

Banz, R. W. (1981). The relationship between return and market value of common stocks. *Journal of Financial Economics, 9*(1), 3-18.

Carhart, M. M. (1997). On persistence in mutual fund performance. *Journal of Finance, 52*(1), 57-82.

Fama, E. F., & French, K.R. (1993) .Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics, 33*(1), 3-56.

Fama, E.F., & French, K.R. (2004). The capital asset pricing model: theory and evidence. *The Journal of Economic Perspectives, 18*(3), 25-46.

Fama, E. F., & French, K.R. (2012). Size, value, and momentum in international stock returns. *Journal of Financial Economics, 105*(1), 457-472.

Fehle, F., Fournier, S. M., Madden, J.T., & Shrider, G. D. (2008). Brand Value and Asset Pricing. *Quarterly Journal of Finance and Accounting, 47*(1), 3-26.

Jegadeesh, N., & Titman, S. (1993). Returns to buying winners and selling losers: implications for stock market efficiency. *Journal of Finance, 48*(1), 65–91.

Johansson, J., Dimofte, C. & Mazvancheryl, S. (in press). The performance of global brands in the 2008 financial crisis: a test of two brand value measures. *The International Journal of Research in Marketing*.

Keller, K. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, *57*(1), 1-22

Kerin, R. A., & Sethuraman, R. (1998). Exploring the brand value-shareholder value nexus for consumer goods companies. *Journal of the Academy of Marketing Science, 26*(4), 260-273.

Kotler, P., & Keller K. L. (2012). *Marketing management* (14th ed.). Harlow: Pearson Education.

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics, 47*(1), 13-37.

Madden, T. J., Fehle, F., & Fournier, S. (2006). Brands matter: an empirical demonstration of the creation of shareholder value through branding. *Journal of the Academy of Marketing Science, 34*(2), 224-235.

Markowitz, H. (1959). Portfolio selection: efficient diversification of investments. *Cowles Foundation*. Monograph No. 16. New York.: John Wiley & Sons Inc.

Mizik, N., & Jacobson, R. (2008). The financial value impact of perceptual brand attributes. Journal of Marketing Research, *45*(1), 15-32.

Oliveira, M. O. R., & Luce, F.B. (2012, May). Reflections about brand equity, brand value and their consequences. Proceedings of the IV encontro de marketing da ENPAD, Curitiba, Brazil.

Rosenberg, B., Reid, K., & Lanstein, R. (1985). Persuasive evidence of market inefficiency. *Journal of Portfolio Management, 11*(3), 9-16.

Sharpe, W. F. (1964). Capital asset prices: a theory of market equilibrium under conditions of risk. *The Journal of Finance, 19*(3), 425-442.

Simon, C. J., & Sullivan, M. W. (1993).The measurement and determinants of brand equity: a financial approach. *Marketing Science, 12*(1), 28-52.

Stattman, D. (1980). Book values and stock returns. *The Chicago MBA: A Journal of Selected Papers, 4*(1), 25–45.

Wood, L. (2000). Brands and brand equity: definition and management. *Management Decision, 38*(9), 662-669.

Annex 1 – Interbrand Methodology

Interbrand's methodology looks at the ongoing investment and management of the brand as a business asset.

This means that our methodology takes into account all the many ways in which a brand touches and benefits its organization - from attracting and retaining talent to delivering on customer expectations. The final value can then be used to guide brand management, so businesses can make better, more informed decisions. There are three key aspects that contribute to the assessment:

- The financial performance of the branded products or services.
- The role of brand in the purchase decision process.
- The strength of the brand.

Financial Analysis

This measures the overall financial return to an organization's investors, or its "economic profit." Economic profit is the after-tax operating profit of the brand, minus a charge for the capital used to generate the brand's revenues and margins. A brand can only exist and, therefore, create value, if it has a platform on which to do so. Depending on the brand, this platform may include, for example, manufacturing facilities, distribution channels, and working capital. Interbrand, therefore, allows for a fair return on this capital before determining that the brand itself is creating value for its owner. We build a set of financial forecasts over five years for the business, starting with revenues and ending with economic profit, which then forms the foundation of the brand valuation model. A terminal value is also created, based on the brand's expected financial performance beyond the explicit forecast period. The capital charge rate is determined by reference to the industry weighted average cost of capital.

Role of Brand

Role of Brand measures the portion of the decision to purchase that is attributable to the brand, relative to other factors (for example, purchase drivers like price, convenience, or product features). The Role of Brand Index (RBI) quantifies this as a percentage. Customers rely more on brands to guide their choice when competing products or services cannot be easily compared or contrasted, and trust is deferred to the brand (e.g., computer

chips), or where their needs are emotional, such as making a statement about their personality (e.g., luxury brands). RBI tends to fall within a category-driven range, but there remain significant opportunities for brands to increase their influence on choice within those boundaries, or even extend the category range where the brand can change consumer behavior. RBI determinations for this study derive, depending on the brand, from one of three methods: primary research, a review of historical roles of brand for companies in that industry, or expert panel assessment. RBI is multiplied by the economic profit of the branded products or services to determine the earnings attributable to the brand (brand earnings) that contribute to the valuation total.

Brand Strength

Brand Strength measures the ability of the brand to create loyalty and, therefore, to keep generating demand and profit into the future. Brand Strength is scored on a 0–100 scale, based on an evaluation across 10 key factors that Interbrand believes make a strong brand. Performance on these factors is judged relative to other brands in the industry and relative to other world-class brands. The strength of the brand is inversely related to the level of risk associated with the brand's financial forecasts. A proprietary formula is used to connect the Brand Strength Score to a brand-specific discount rate. In turn, that rate is used to discount brand earnings back to a present value, reflecting the likelihood that the brand will be able to withstand challenges and generate sustainable returns into the future.

Strength Factors

Linking back to the way in which we at Interbrand create and manage brand value for our clients, these 10 factors give us a comprehensive framework for managing brands as well as valuing them.

Internal Factors:
Clarity, Commitment, Protection, Responsiveness

External Factors:
Authenticity, Relevance, Differentiation, Consistency, Presence, Understanding

The text above was transcript from the web site www.interbrand.com on September 20, 2014.