How to make intangible assets more tangible: the case of trade names

ERASMUS UNIVERSITEIT ROTTERDAM

Abstract

Due to growing presence and importance of intangible assets in recent years, research to brand value has gained popularity. This study developed and tested an alternative method to measure brand value by capitalizing marketing expenditures over the last twenty years for the fourteen largest companies in the designer fashion industry. This study finds that there are multiple factors driving brand value, such as revenue growth, company age, and finds a positive value for the Covid-19 pandemic in the year 2020. However, the results show that the percentage of brand value is lower than expected relative to the market value of invested capital, indicating there is still an unknown factor that is not captured in this research, which determines brand value.

Erasmus School of Economics | MSc Financial Economics

Anne Monfils, 622513

Supervisor: Dr. R.H.G.M. Cox

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1. Introduction

Intangible assets have become increasingly important for businesses in the modern world in the past decades: examples are the development of the internet, power of media platforms and latest, artificial intelligence. Haskel and Westlake (2018) found that for the United States, intangible assets account for more economic value than tangible assets, creating an intangible economy. Traditional methods, such as the discounted cash flow analysis, may not fully capture the value of intangible assets anymore, and new methods need to be developed to account for their unique characteristics on balance sheets. Several studies have shown that the share of intangible assets compared to tangible assets have experienced strong growth since the second half of the 20th century, and this trend is expected to continue in the years ahead (Stewart, 1995; Clausen & Hirth, 2016). According to research by Nakamura (2010), intangible investment expenditures have increased from approximately 4% of U.S. GDP in 1977, to a small 10% by 2006, and to account for this on the balance there has not been developed a straight-forward method yet (Sullivan & Wurzer, 2009). Brands play a major part when it comes to overall firm value in certain industries, such as the designer fashion industry. A large part of intangible assets consists of brand value when looking at that sector, emphasizing its importance and hence, need for recognition. Next to the relevance for accountancy, recognizing intangibles is often perceived skeptically when looking at it from a finance point of view. However, it is crucial to both sides of a deal to value a company at its true worth, including its internally generated assets such as brand value. Besides, a strong and fair-valued intangible asset can serve as collateral, providing additional security and enhanced opportunities for financial leverage for both the acquiring and target firm (Lim et. al, 2020). This paves the way for improved decision-making, enhanced financial positions, and ultimately, maximizing shareholder value.

Among the three main categories of identifiable intangible assets[1] as defined by Lim et. al (2020) is the category that entails marketing-based intangible assets, which is the category of interest for this thesis. The focus of this paper will be specifically on the determination of

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[1] An intangible asset is identifiable if it arises from contractual or other legal rights, or is separable from the business, as stated by Statement of Financial Accounting Standards (SFAS). Retrieved from: https://strategiccfo.com/articles/gaap-ifrs-statement-of-financial-accounting-standards-sfas/ on April 10, 2023.

trade name value[2], and what factors significantly influence this value in the high-end industry of luxury goods, predominantly in the direction of apparel, bags, and other luxury accessories. The aim is to enhance the understanding of the development of a trade name, and to determine what factors add value to a brand. This paper adds to existing research by developing and testing an alternative method that focuses on capitalizing marketing investments instead of using traditional approaches, and cross-checking this with a more simplified brand value derived from the market value of invested capital of firms, benchmarked with prior purchase price allocations. Most researchers have investigated intangible assets as a whole, whereas I view upon the specific underlying value creation of a brand, proposing a new point of view. Moreover, by this approach the value of a brand becomes more tangible, improving transparency on the balance sheet, and for example facilitating the process of using intangibles as collaterals to decrease financial risks.

Based on the literature, it is expected that large autonomous brands generate a higher return on invested capital than brands with many acquired brands underneath, as the total cost of maintenance – the marketing expenses – are higher for brands with numerous sub brands than for autonomous brands. This is due to the fact that it simply costs more to maintain and advertise for multiple brands, than for one brand solely. Moreover, it is expected that higher investments in sales and marketing in the past will have a positive influence on the established trade name. Lastly, based on the literature it is expected that growth and profitability are drivers of trade name value and therefore, have a positive relationship with brand value. The data used to be able to perform the tests is retrieved from Capital IQ, an elaborate database that provides all recent and relevant data for the companies of interest. The sample that is selected are the fourteen largest companies in terms of market capitalization in the luxury goods industry with a main focus on those that are active in the designer fashion industry. The firms included are the listed mother companies, not the sole brands. For example, the holding of Kering is included in the sample, instead of its sub-brands Gucci or Balenciaga individually. The brand values are estimated over a twenty-year time period, from 2003-2022, as most data is available for the included firms in that estimation window. Including less would decrease validity of the study

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[2] In this paper the words trade name value and brand value will be used indifferently for pointing out a company's name.

due to limited data, and including more would result in a very minimal sample, as not all companies in the sector have been listed for long.

The analysis of the results gives interesting insights. When estimating trade name value, the outcomes are lower than expected for both applied methods. There appears to be a factor of influence that is larger than what is captured in the two brand value estimations, leaving an interesting venue for further research. From the regression with as dependent variable brand value estimated through capitalizing marketing investments, it is implicated that the market capitalization, the EBIT margin and a company's age are significantly of influence for measuring brand value. The second approach yields different outcomes, finding significant relations for the adjusted return on invested capital, growth rate, number of brands, company age, monthly average number of Google hits, and the Covid year in 2020

The remainder of this paper is organized as follows. Section 2 presents the theoretical framework that serves as the basis for the developed hypotheses. Section 3 describes the methodology to test the hypotheses and elaborates on the data that will serve for the empirical methods. Section 4 provides the results of the analysis and finally, in section 5 I will discuss the results, limitations, avenues for further research and lastly, conclude this paper.

2. Literature review

This section of the paper is dedicated to providing an overview of the existing studies and research findings related to the development of brand value in the context of finance. This section aims to explore various perspectives and methodologies used in valuing intangible assets, as well as their significance for firms in the luxury goods industry and implications for the future.

2.1 Determining Brand Value

To be able to determine brand value, it is crucial to identify key factors underlying the intangible asset. He & Calder (2020) describe that investments in intangibles have become more and more subject to the growth and profitability of firms, and argue that these factors are mainly reflected through brand value. By realizing more growth and increasing market share, driving profitability and overall value, a firm can differentiate itself from competitors. On the contrary, the challenge of determining other main factors attributing to trade name value is complicated. When a firm acquires another company, intangible costs, including brand value, are capitalized and visible on the balance sheet under the note of intangible assets. Whereas if the brand remains internally, it will often be expensed (Abeysekera, 2016). This contradiction continues to this day, resulting in conflicting standards when it comes to reporting and measuring brand value (Sinclair & Keller, 2014). Yet, firms focus foremostly on treating investments into brand value as direct costs rather than the value that is created from these expenses. Accountants are often reluctant to treat brands as assets, as it is difficult to measure under traditional GAAP standards. Besides, brands and their intangible nature could be subject to impairment, for which management could be held accountable, which makes them reluctant to acknowledge brands as assets on the balance sheet (Lev, 2019). The ongoing discussion indicates that there is no consequent method to measure exactly what an internally developed brand is worth, however, there is a growing movement of researches advocating for treating brand value as a financial asset (Calder & Frigo, 2019).

2.1.1 Existing Approaches

There are several existing approaches when assessing brand value, from different perspectives. Marketers mainly apply methods that include metrics such as brand awareness, purchase intention and customer loyalty. However, these metrics serve as diagnostics from a

consumer point of view, and do not deliver financial outcomes that a CFO would be interested in (Lehmann & Reibstein, 2006). On the contrary, there are three main accounting-based approaches to determine trade name value (He & Calder, 2020). The first one is the "market approach", where a brand is assessed next to a comparable brand that has been valued in a transaction. Hence, this approach relies mainly on multiples retrieved from similar transactions. However, it is not widely used, as brands are often unique and it is difficult to find a set of relevant and comparable firms. The second method is the "income approach", where the valuation of the brand is performed through pricing the impact of a brand on the net present value of relevant cash flows. This method is best explained through the "royalty relief approach", measured by adding up the royalties that a firm would have to pay to license the brand. With the hybrid approach, a company's future sales are estimated, followed by estimating the applicable royalty rate. Third, a suitable discount rate for future cash flows needs to be determined, incorporating risks associated with the asset. Finally, the discounted cash flows derived from the royalty payments are summed up to arrive to an estimated brand value. Logically, estimating the required factors as described above requires carefully opted inputs, depending on many factors such as for example economic environment, industry and market position, but also on the expected lifetime of a brand. Nevertheless, accounting standards consider this the most important method of the three, however, no scientific evidence supports its use (Rubio et. al, 2016). The third and last method is the "cost approach", where the costs to create, reproduce or replace a brand are identified and replicated. Costs here can include marketing expenditures, periods of price reductions or employee-development costs. This approach is not widely used, as it is very labor-intensive to determine and replicate all costs included, and moreover, all costs together rarely equate the eventual brand value. Additionally, the formerly explained valuation techniques do not capture an important aspect as hypothesized by He & Calder (2020), which is that the methods do not consider brand strength, and according to the authors that could explain price premia when regarding two identical products, both from a different company. The second reason why they argue that the existing methods are insufficient, is that the models are too complex to implement. Lastly, the authors argue, amongst others, that the different approaches yield diverging outcomes for point estimates of values, underscoring the need for a standardized brand valuation method.

2.2 Designer Fashion Industry

The designer fashion industry has been experiencing large growth in the past decade, due to the worldwide rise of the middle upper class and new market penetration in (predominantly Asian) emerging markets (Li et. al, 2012). Where Covid-19 caused revenues to decline for many firms worldwide, designer fashion firms such as Hermès and Louis Vuitton Moët Hennessy ("LVMH") prolonged their rise in revenues in especially Asia (Hermès International, 2020; LVMH, 2020). Therefore, this exceptional industry of luxury fashion attracts attention, and requires a distinct approach for the valuation of a trade name, as the factors involved apparently differ in terms of impact from for example the consumer goods industry. The former industry relies heavily on reputation and status, whereas for the latter affordability and accessibility are important. Annual reports of the acquiring firms in large transactions in the depicted industry report under the section "business combinations" their purchase price allocations after a deal, and show that around 55% of the deal is paid for the brand alone, averagely (see Table 2). Finally, it yields for every industry that growth potential and profit margins drive value more than anything else, even though exclusivity and growth seem to contradict (Kapferer & Valette-Florence, 2019). Luxury brands generally have been established for a significant time, and in addition to that, embody more exclusivity, customer loyalty and as a consequence, have more pricing power (Davcik & Sharma, 2014). In recent years, a growing number of researches has been conducted on the topic of branding strategies in the luxury goods industry (Hennigs et. al, (2013); Wu et. al, (2015)). One direction of this is lifestyle branding, a strategy that pursues consumers to categorize themselves by buying products that they want to identify with, an intangible asset of the product that is consumed. The cognitive influence of wanting to belong to a certain category, has a direct effect on the willingness to pay of consumers (Massara et. al, 2019). More interestingly, the effect this psychological concept has on the profitability of high-end fashion houses, such as Dior and Gucci for example, is notorious. This is the concept where He & Calder (2020) refer to in their research by evaluating brand strength – the willingness to pay of consumers should align with the strength of a brand. In other words, the market-to-book value of large high-end fashion companies is high, as a result of a large portion of intangible assets as opposed to tangible assets.

2.3 Applications to Finance

Highly relevant research on the effect of intangibles on financial leverage has been conducted by Lim et. al (2020), where they study the effect of a higher value of intangible assets on financial leverage in firms. The authors find that a higher amount of identifiable intangible assets encourages higher leverage through potential future cash flows, confirming a strong positive relation between identifiable intangible assets and firm leverage. Besides, they support the view that intangibles should become more visible on balance sheets, to provide a better understanding of firms' ability to take on debt. Additionally, they mention that a strong position in intangible assets can serve as collateral, providing additional stability for firms and their shareholders. This is not only supported by Clausen & Hirth (2019), but also elaborated, as they propose a new earnings-based measure for the valuation of intangibles. The authors use R&D investments as a proxy for intangible intensity and find that a higher measurement of intangible assets is associated with higher levels of leverage and higher average firm value. The latter is consequently measured as either market capitalization or acquisition prices in M&A transactions. On top of that, the more recent their data is, the larger the effect seems to be. Another class of identifiable intangible assets is the one of patents, that can, reversely, serve as a proxy for R&D investments as researched by Hochberg et. al (2018) and Mann (2018). In line with the former exhibited studies, the authors examine the effect of patents on the process of lending in venture capital, where they find that an increased number of patents and thus, higher R&D investments, has a significant positive influence on the amount of debt fundraising for firms. To address the third and most interesting group of intangibles for this paper, the marketing-based class, the research conducted by Larkin (2013) reveals interesting outcomes. She proves that a more positive perception of a firm in its turn reduces cash flow volatility in the long run, as a consequence of brand investments. By assessing consumers' brand evaluations, she finds that a more positive attitude towards a firm's products diminishes financial tension and augments debt capacities. More generally stated, a higher perception of value reduces the perceived riskiness of a firm, facilitating in its turn lower cash flow volatility as well as higher credit ratings. Another research by Goldfarb et. al (2009) state that brand equity is becoming an important intangible asset rapidly as a product of well-invested marketing expenses. When looking in more detail into marketing costs and its profitability, they dive deeper into the underlying drivers of brand value based on quantitative research. In their framework, they perceive brand value as the extra profit that is earned above basic product

features. Intuitively, the researchers find that advertising has a positive impact on sales, whereas price does not. Another paper in a similar direction of Goldfarb et. al (2009), is the one from He & Calder (2019). In their research, they attempt to bridge the gap between brand equity, which is the marketing-based brand value such as awareness and customer loyalty, and brand strength, where brand equity is linked to consumer choices in the market and eventually, to the difference in cash flows when comparing a strong brand to a less established brand. By contrasting the outcomes with accounting-based practices, they find that there is room for improvement between the cooperation of marketing and finance departments to maximize brand value for either group. One study combining the marketing- and finance-perspective approach is the one by Davcik & Sharma (2014), investigating the effect of marketing investments such as sales and advertising costs on pricing strategies for brands. They state that brand innovation and equity in turn enables companies to draw price premia, viewing brand equity as an antecedent of price, instead of the opposite. Furthermore, where regular mergers and acquisition have many known effects on the target as well as the acquirers, the impact on brand equity is often overlooked. Especially in a luxury goods industry such as accessories for high end customers, profits as a result from reputation may be of large substance. There are several ways in which an acquisition can affect the acquiree or acquirer. For example, a firm can gain from economies of scale or better management capacity. However, it may also suffer reputational loss or other negative spillover effects caused by one of the involved parties (Chu et. al, 2021). This proves once more that conservative methods are no longer sufficient to capture the complete value of the intangible asset like a well-established trade name.

The following hypotheses have been developed based on the literature:

Hypothesis 1: Capitalizing sales and marketing expenses can explain brand value as a percentage of the market value of invested capital.

Hypothesis 2: The adjusted return on invested capital is higher for stand-alone brands than for companies with multiple brands under its wing.

Hypothesis 3: Higher revenue growth has a positive effect on brand value.

Hypothesis 4: *Higher profitability has a positive effect on brand value.*

With this research I will add to existing literature by aiming to bridge the gap between the identifiable intangible trade name value and the balance sheet. There has been little research conducted on the costs and benefits of a brand name, which can be very useful for the future of valuation and M&A practices.

3. Methodology & Data

This section describes the methodology and data used to quantify and analyze the above stated hypotheses. To find the right approach to measure trade name value is a challenge, as the traditional approach to valuing trade names often involves proxies for parameters or methods including and analyzing excess earnings. This study proposes an alternative methodology that capitalizes sales and marketing expenses, which are typically expensed in conventional accounting practices. The method that will be used recognizes sales and marketing investments, and acknowledges that these do not only generate revenue in the year of the expense, but are viewed as an investment into a firm's brand value over time. A second approach, serving as a cross-check to validate regression analysis outcomes, available purchase price allocations from previous transactions in the industry will be analyzed to evaluate what percentage of goodwill is allocated to brand value. Building on the derived brand values by the developed alternative approach, this study concludes by performing a regression analysis on the generated values from both approaches to identify the factors that most significantly determine brand value. The estimated brand values serve as the dependent variable in the model, with various financial and non-financial metrics as independent variables.

3.1 Sample & Time window

The sample consists of the fourteen largest companies in terms of market capitalization in the fashion designer industry for the time period of 2003-2022, measured on December 31st, 2022[3]. The number of firms included is limited, and arises predominantly from a quality over quantity perspective. The sample includes the firms LVMH, Hermès International, Kering, Tapestry, Hugo Boss, Compagnie Financière Richemont, Burberry Group, Ralph Lauren, Christian Dior, Moncler, Brunello Cucinelli, Prada, Salvatore Ferragamo and Capri Holdings. Brands that are amongst these companies are dominating luxury brands such as Gucci, Chloé, and Cartier. These companies constitute the outstanding few of the industry, known for their longevity, status and quality. With these 14 firms it is expected to achieve a reliable and robust dataset and finally, results. Selecting beyond these 14 firms would allow for less quality and consistency not to be assured, however, it is to be acknowledged that the sample size is small.

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[3] Retrieved from: www.companiesmarketcap.com on May 27th. Adjustments in the sample have been made based on the segment of products offered by the firms in the list provided.

3.2 Data

The primary source of data for this research has been the S&P Capital IQ platform, a database known for its reliable and extensive financial information. Via the Capital IQ platform the key financial metrics have been retrieved, such as the market capitalization, revenues and marketing expenditures. Moreover, the annual reports per year for the firms included in the sample have been retrieved from the database, to determine the suitable tax rate and more importantly, check whether the automatically generated values are including the right factors. Additionally, the inputs geographic revenue splits, margins and the number of sub-brands have been retrieved from the annual reports of the sampled firms. The collected data serves as inputs for the DCF performed and described in section 3.3.1.1, and for the regression analysis as will be described in section 3.5. The secondary source of data has been Refinitiv, where analyst equity reports are available to cross-check with the numbers retrieved from Capital IQ, or complement missing values. The data is summarized into panel data, for the available years per company. The maximum years of data for individual firms is 20 years, whereas for firms with less availability, the maximum number of years is included. By creating panel data both individual characteristics and dynamics of the change over time are captured in the model. Table 1 exhibits the descriptive statistics for the regression analysis.

Table 1. Descriptive Statistics. Where BrandValueCI is the brand value retrieved from the capitalizing intangible approach; BrandValueMVIC the brand value as a percentage of MVIC per company, and AdjRoIC20Y is the adjusted return on invested capital estimated over twenty years per company. Gfc_dummy08 and Covid_dummy19 are dummy variables for the global financial crisis in 2008 and Covid-19 in 2019, respectively.

Variable	Obs	Mean	Std. Dev.	Min	Max
BrandValueCI	229	7947.939	13930.034	205.74	62840.384
BrandValueMVIC	229	14695.662	25771.062	506.924	197282.47
MarketCapitalization	229	25304.07	45962.002	908.48	366251.93
AdjRoIC20Y	229	.156	.051	.046	.278
EBITmargin	229	.195	.075	-.077	.415
GrowthRate	229	.109	.172	-.37	.769
NumberofBrands	229	10.009	16.929	1	75
SalesAsia	229	.314	.15	0	.617
GoogleSearches	221	2361495.6	2048304.2	26031.083	9612752.8
Gfc_dummy08	229	.05	.218	0	1
Covid_dummy19	229	.05	.218	0	1

To ensure the accuracy and consistency of the data retrieved, all datapoints of the included companies have been checked for potential outliers and other discrepancies. This led to the discovery of that Kering was an investment firm under the name PPR up until 2011, with no business in the fashion industry at all. Therefore, only data from 2011 has been included for this firm, despite more years of data being available. On this basis, all firms in the sample have been thoroughly examined and diverging datapoints have been excluded from the analysis.

3.3 Trade Name Valuation

The determination of a trade name involves several steps, designed to provide an accurate assessment of the value of a brand. In the following sections the intermediate steps will be illustrated to create a good understanding of the final results. First, the application of the Discounted Cash Flow model will be explained to arrive to the applied rates and values. Second, the method used to capitalize marketing expenditures is explained, and to conclude this section the relief from royalty approach is described that will be used to cross-check the outcomes from the capitalizing approach. In both valuation practices there will be accounted for differences in currency, as well as differences between a company its filing and trading currency.

3.3.1 Capitalizing Intangibles

Sales and marketing investments, such as advertising and promotions, are incredibly important when it comes to increasing brand awareness, customer loyalty and finally, brand value of a company. Hence, brand expenses can be viewed as long-term investments, rather than a short-term expense. To arrive to a complete value, various factors are important. By the use of a combination of both a historical analysis and the Discounted Cash Flow (DCF) approach, it is possible to determine the main parameters that drive brand value. By leveraging the strengths of both methods, it provides a structured and systematic approach to enhance the understanding the value of a trade name, enabling firms to make informed decisions with regard to brand development and maintenance.

3.3.1.1 Discounted Cash Flow method

The DCF-method is a widely acknowledged and robust approach for valuing businesses, and its application to brand valuation provides important insights into the sensitivities of brand value. In this study, the DCF is instrumental to estimating the enterprise value of the selected

firms by projecting and discounting future cash flows, based on historical figures. This allows for a comprehensive analysis of a brand's financial performance and its potential impact on enterprise value. Moreover, the DCF approach enables the identification of key value drivers that influence the brand's future cash flows, such as growth rates, pre-tax margins, and competitive dynamics. By conducting sensitivity analyses within the DCF framework, it becomes possible to quantify the impact of changes in these value drivers on a brand's present value. This analysis provides valuable insights into the factors are most critical and can significantly affect the brand's worth, empowering to prioritize strategic actions and allocate resources effectively to maximize brand value. By incorporating both historical analysis and sensitivities from the DCF it enhances the accuracy and robustness of eventual outcomes for the trade name value.

Lastly, the DCF is used to determine inputs for the construction of the mechanical data from before 2003. As the brand value is determined from 2003-2022, from 1982 has to be available to come to a 20-year brand value for year 2003 as well. The average historical forecasted growth rate, as reported by analyst equity report estimates from source Refinitiv, has been taken as the standard, and the same yields for the EBIT margin and sales & marketing expenditures. The decision to opt for a fixed percentage of marketing expenditures as of revenue arises from the analysis of the marketing expenditures of firms in the period 2003-2022. This appeared to be a consistent relationship for every firm in the sample.

3.3.1.2 Weighted Average Cost of Capital & Long-term Growth Rate

The determination of the weighted average cost of capital (WACC), that is utilized as the discount rate for future cash flows in the implied relief from royalty method, is a crucial step in the process of valuing the brand. For this, annual reports are analyzed for the firms in the sample, as well as cross-checked with forecasts from analyst equity reports, and finally performed a simplified DCF to analyze the sensitivity of the value drivers revenue growth, profitability and the discount rate. Historically, the WACC for the included companies has been between 7.0% and 10.0%. Therefore, a WACC of 8.5% is used as a benchmark for the DCF per firm in 2022. From the 8.5% as a starting point, adjustments in the risk-free rate by the FED or the ECB have been accounted for, running from 2022 backwards to 2003. The difference in rate is added or subtracted from the benchmark rate, depending on the movement of the risk-free rate. The long-term growth rate (LTGR) has been concluded on 3.0% for firms with a

considerably strong growth in recent years, such as LVMH and Hermès, whereas for firms with relatively stable to low growth, the LTGR varies between 2.0% and 2.5%. The 2.0% bottom is aligned with expected inflation in the long run, and the 0-100 basis points added serve as a premium for companies with exceptional performance in recent years.

3.3.1.3 Sensitivity Analysis

A sensitivity analysis will be performed for two reasons: the first one being measuring the impact of changes in factors, and the second one being visualizing adjustments in factors to arrive to the correct estimation of the enterprise value. The factors included in the sensitivity analyses are the WACC, revenue growth and EBIT margin. Whereas it is more general to use the EBITDA margin, the EBIT margin has been deliberately chosen, as firms in the designer fashion industry have relatively low depreciation and amortization, and therefore, it is expected that the validity of outcomes will not be affected by utilizing the EBIT margin instead. The EBIT margin range for the sensitivity is based on the historically forecasted margins of equity analysts, from 2022 backwards. The average of the available forecasts per year is summarized into a first and third quartile range for the analysis of the sensitivity of the EBIT-margin. The same approach yields for the range of revenue growth, where prior equity reports have been summarized into an average growth rate forecast, to conclude into a first and third quartile. The WACC sensitivity range is based on the industry average as described in the paragraph above. This range is equal for all firms in the analysis. The final outcomes of the various rates are chosen carefully to finally come to an enterprise value in 2022 that is close to the market capitalization of that specific firm in December 2022. The difference in currency has been considered when comparing the two values.

3.3.1 Capitalizing Intangible (continued)

After finalizing the above steps, it is possible to continue with the capitalization of the expenditures into sales and marketing. As previously stated, the capitalization of the brand name is expected to have a large impact on the market value of a particular brand, and to be reflected in the Market Value of Invested Capital (MVIC) over Book Value of Invested Capital (BVIC). Large brands in the designer fashion industry carry an enormous trade name value through reputation and status compared to other market segments. Therefore, their MVIC/BVIC ratio is expected to be relatively high. The MVIC and BVIC are determined as follows:

$$MVIC = Market\ Capitalization\ + Net\ Debt \qquad (1)$$

$$BVIC = Total\ Assets - Total\ Liabilities + Net\ Debt \qquad (2)$$

After calculating the book value of invested capital and return on invested capital, the capitalization of the brand expenses will be performed. The assumed lifetime of the sales and marketing expenditures is predetermined on twenty years. This decision has been made as a result of data availability and practicality. To limit the number of years in which mechanical data has to be used, as there is little availability of data over twenty years for the included firms, the final timespan is carefully selected for this research. The starting value of the brand is in t_{-20} and finally adds up to the brand value in t_0, equal to 2003. Repeating the former method per year up until 2022 leads to an estimated brand value for the fourteen companies over twenty years.
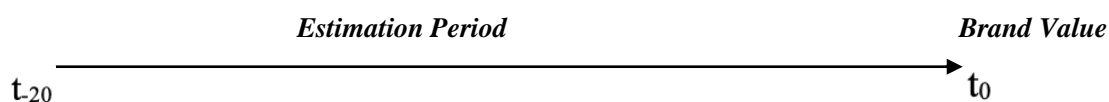
Important to note is that the book value of invested capital solely incorporates internally generated intangibles, such as trade names. Therefore, the net intangible assets (often "other intangible assets" on balance sheets), among which brands, is added back the NOPAT to arrive to the adjusted NOPAT, corrected for taxes. Finally, the adjusted NOPAT is divided by the adjusted invested capital, to arrive to the adjusted return on invested capital, which thus, accounts for internally as well as externally generated brand values. The adjusted values are determined as follows:

$$Adjusted\ Invested\ Capital = Invested\ Capital +$$
$$Accumulated\ Capitalized\ Brand\ Value \qquad (3a)$$

$$Adjusted\ NOPAT = NOPAT + Net\ Intangible\ Assets * (1 - Tc) \qquad (3b)$$

$$Adjusted\ RoIC = \ Adjusted\ NOPAT/Adjusted\ IC \qquad (3c)$$

The full amount of other intangible assets includes, but is not limited to solely brands. However, for all of the companies included in the sample the percentage of brands under net intangible assets amounted to at least 90%, hence, no adjustments have been made to the value. The final brand value is then determined as follows:

$$Brand\ Value_t = Brand\ Value_{t-1} + Marketing\ Expenses_t -$$
$$Accumulated\ Amortization_t + Acquired\ Brand\ Value_t \qquad (4)$$

Where the accumulated amortization in time t is the total amount of amortization accumulated up until the year t, and acquired brand value in time t is the difference in acquired brand value in that year as compared to the previous year.

3.3.2 Brand Value as a % of MVIC

Besides the estimation of brand value through the capitalization of marketing expenses, a percentage of the MVIC will serve as a second approach to obtain values for the trade name value per company. By analyzing purchase price allocations from former large transactions in the designer fashion industry, of which some are available in the annual report of the acquiring firm, the average of 55.4% of the entire transaction is paid for the brand. The numbers are visible in Table 2 below.

Table 2. Brand allocation previous transactions. The table below shows large transactions in the luxury brand sector over the past decade, with the amount of the purchase price allocated to brand value as a percentage of the total price paid.

Year	Target	Acquirer	Price (mn)	Allocated to Brand (mn)	%
2021	Tiffany & Co	LVMH	13100	6124	46.7%
2020	Stone Island	Moncler S.p.A	1021	775	75.9%
2019	Versace	Capri Holdings	1800	948	52.7%
2017	Kate Spade	Tapestry, Inc.	2397	1300	54.2%
2017	Jimmy Choo	Capri Holdings	1447	558	38.6%
2017	Christian Dior	LVMH	6000	3500	58.3%
2015	Stuart Weitzman	Tapestry, Inc.	520	267	51.3%
2013	Loro Piana	LVMH	1987	1300	65.4%
Average					*55.4%*

As a rough estimate, 50% the MVIC-value per year per company will be taken as the initial brand value, benchmarked by the outcomes of prior acquisitions as visible in Table 2. Thereafter, there will be differentiated between the different companies depending on their historical growth rates. As this approach is more a top-down approach compared to the bottom-up approach of capitalizing marketing expenditures, it is expected to generate valid outcomes by using historical figures of the MVIC. The average historical growth rate +/- 1% is will be taken as the bandwidth for revenue growth, and the companies between this range fall into the 50% category. The companies above this range, or below, fall into the 60% category or 40% category, respectively.

The above-described approach generates a brand value that is expected to capture a larger part of growth in brand value, which is more in line with the MVIC development that has been growing exponentially over the last years.

3.3.2.1 Validity – Implied Relief from Royalty

To validate the results obtained from the above method, a cross-check with the implied relief from royalty method will be conducted. Firstly, by taking the percentages from the MVIC of the companies in the sample, brand values per year in the period 2003-2022 will become available. Secondly, by calculating the weighted average cost of capital (WACC) for each of the firms, the discount rate for each year is estimated. The method that will be applied to estimate the historical WACCs, is by taking the WACC as used in the DCF for 2022, and adjusting that rate backwards by the change in the interest rate environment, to eventually obtain yearly discount rates per company. The future WACC will be equal to the WACC in year 2022, and as tax rate the same rate will be used as in the DCF. The final step before calculating the implied royalty rate, is to estimate revenue for the sample time window. This will be done by taking the average growth rate over the period 2003-2042, and growing the revenue from 2003 by this percentage. Finally, the priorly mentioned inputs will be combined into the estimation of the implied royalty rate, which is calculated as follows:

$$Implied\ Royalty\ Rate = \frac{Brand\ Value_{MVIC_t}}{Discount\ Factor_t} / (Revenue_t * (1 - T)) \tag{5}$$

Where T is the average historical tax rate as determined by prior research from annual reports of the companies. Finally, the implied royalty rate will be cross-checked with the

average historical EBIT margin of the included companies. When taking 40%, 50%, or 60% of the MVIC as brand value, the implied royalty rate is expected to come close to 40%, 50%, or 60% of the EBIT margin per company, depending on the assigned category. Hence, when the above condition is met, the obtained brand value is in line with expectations.

3.4 Regression Analysis

3.4.1 Dependent Variables

The dependent variable in the financial brand valuation model is brand value, which measures a brand's financial worth and is determined with the alternative approach as explained in the methodology section 3. It is the variable that the model wants to be able to explain. Essentially there will be two regressions, with both overlapping and diverging independent variables included. In this research the dependent variable is brand value, as estimated by the capitalizing intangible approach, and as a percentage of MVIC. The variables that are applicable to both analyses are the following:

3.4.2 General Independent Variables

Google Searches: The variable Google Searches is included to account for social media engagements in the past twenty years. As it is not possible to measure the number of followers at an exact point in history for every company, the amount of hits on Google is the best proxy for estimating the popularity of a brand over time. For this variable, Google Trends has been used to measure the searches. Additionally, for firms with multiple brands under its umbrella, the brands that account for at least 95% of total revenue have been summed up into one number for each sampled company. For example, for Hermès, there are four brands included in their portfolio, however, the revenue of the other three brands is minimal in comparison to the Hermès main brand. Therefore, these searches have not been included. The same yields for LVMH, where not all 75 brands have been included in the equation. The reason for this is that there is little extra explanatory power in those small brands and extracting the numbers for all would be very time consuming. Additionally, for LVMH exclusively brands active in the fashion industry have been included, to not mix industries. The Google Searches variable is a monthly average per firm per year.

Number of Brands: Brand value is not only established through marketing expenditures, but is also expected to grow when acquiring another firm and bundling those. Expectedly, including the number of brands underneath a certain company's wing will give insight into the accumulated brand value over time of a brand. Furthermore, as in the capitalizing intangible approach revenue growth is taken as an average over time, and it was not viable to separate inorganic from organic growth, this variable accounts for inorganic growth over time.

Company Age: Intuitively, the number of years that a firm has been established, contributes to the strength of a brand. As the availability of historical data was limited to 10-20 years, it was not possible to include more years of investments to estimate the brand value. However, company age is most likely to be of influence and is therefore included in the regression as an independent variable.

Sales Asia: The last continuous general variable in the model is the portion of total revenues generated in Asia. As mentioned in section 2, the middle-upper class in Asia has seen large growth over the last decade. The interest in luxury goods has risen significantly, and the demand for "Western" brands is large. Expected is, that firms with a substantial portion of sales in Asian regions, will also have a larger brand value than firms that do little business in the East. For this reason, annual sales in Asia as a percentage of total sales is included as an independent variable in the model. Also, this proxies growth opportunities that have been taken in the past, one of the main value drivers of brand value.

Dummy Global Financial Crisis: The global financial crisis (GFC) period around 2007-2009 affected a large part of the world. Therefore, the variable is included in the analysis as a control variable to isolate the potential effect this crisis had on brand value in the designer fashion industry. As the estimation period is not substantially large, only one year (2008) will be taken as a dummy to capture the effect of the economic downturn.

Dummy Covid-19: To visualize the worldwide effect of Covid-19 that started around the end of 2019, a second control variable is included in the regression models to capture the influence of the pandemic. As 2020 was a full year where the Covid-virus was active, 2020 is

taken as the dummy year to assess potential impact on brand value. As designer fashion companies are on the high-end spectrum with regard to customers, it is expected that Covid has little to no negative effect on brand value.

3.4.2.1 Independent Variables Brand Value – Capitalizing Intangible

Market Capitalization: The market capitalization of the firms included in the sample is included as a determinant of size, which expectedly will explain a portion of brand strength, influence and hence, value. The relation is not one-on-one, as other financial factors and market conditions may play a larger role than size by itself. However, the variable is expected to give insight into the impact of size on trade name value.

EBIT margin: Including the EBIT margin in the regression analysis for determining brand value is essential, as it captures the relation between a company's profitability and value attributable to the brand. It serves as a measure of financial performance, and is not included in estimating brand value for the approach where marketing expenditures are capitalized. Therefore, the EBIT margin is included and expected to not cause endogeneity in the model.

3.4.2.2 Independent Variables Brand Value – MVIC

Adjusted RoIC: Including the adjusted return on invested capital is crucial to test the relation between brand value and a firm's capital allocation, reflecting its ability to utilize resources effectively. Additionally, the adjusted form accounts for the acquired and internally generated brand values so far, hence, giving insight into the efficiency of the invested capital into a sampled company's brand(s).

Revenue Growth: The last independent variable for the regression analysis on brand value estimated as a percentage of the MVIC is revenue growth. By analyzing the effect of historical revenue growth on the brand value twenty years later, it is expected to become visible how influential and significant this relation can be. This variable cannot be included in the model where the dependent variable is the brand value estimated by capitalizing marketing expenditures, as it will give endogeneity issues. However, to be able to determine the impact of revenue growth on brand value, it is essential in the second regression model.

3.4.3 Robustness & Validity

To account for the multicollinearity of the dependent variables, the diagnostic variance inflation factor test will be performed to ensure the validity of the regression results.

$$Variance\ Inflation\ Factor\ (VIF)_i = \frac{1}{1-R_i^2} \tag{6}$$

Next to the VIF, the regression models are also tested for heteroskedasticity via a Breusch-Pagan test. If the null hypothesis, that states that error terms are normal, is rejected, heteroskedasticity is present. To deal with plausibly present heteroskedasticity, heteroskedasticity-robust standard errors will be used, following the below calculation:

$$se(\hat{\beta}_j) = \sqrt{\frac{\sum_{i=1}^{N} e_{ji}^2 e_i^2}{RSS_j^2} * \frac{N}{N-K-1}} \tag{7}$$

As the sample is relatively small and hence, the data is limited, including numerous independent variables may deteriorate the validity of the regression. For this reason, the selected variables are central in the analysis to determine brand value. The independent variables have been selected, as they capture different aspects of a company's financial performance, market presence, and brand investments, all of which are important for understanding the factors that enhance brand value.

3.5 Model Specification

Finally, the regression model for brand valuation will look as follows. There are two separate sets of a similar model, one where the independent variable is brand value estimated by capitalizing marketing expenses, and the second being brand value as a percentage of the MVIC of a company. Regression 1 for brand value is constructed as follows:

$$Brand\ Value\_CI_t = \beta_0 + \beta_1 * Market\ Capitalization_t + \beta_2 * EBIT\ Margin_t +$$
$$\beta_3 * Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 *$$
$$CompanyAge_t + \varepsilon \tag{8}$$

Regression 2 includes the dummy variable for the Global Financial Crisis in year 2008 and is as follows:

$$Brand\ Value\_CI_t = \beta_0 + \beta_1 * Market\ Capitalization_t + \beta_2 * EBIT\ Margin_t + \beta_3 * Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 * CompanyAge_t + Gfc\_dummy08 + \varepsilon \qquad (9)$$

Regression 3 includes the dummy variable for the first full year of the Covid pandemic in 2020 and is as follows:

$$Brand\ Value\_CI_t = \beta_0 + \beta_1 * Market\ Capitalization_t + \beta_2 * EBIT\ Margin_t + \beta_3 * Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 * CompanyAge_t + Covid\_dummy20 + \varepsilon \qquad (10)$$

The last regression model includes both dummy variables and is constructed as follows:

$$Brand\ Value\_CI_t = \beta_0 + \beta_1 * Market\ Capitalization_t + \beta_2 * EBIT\ Margin_t + \beta_3 * Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 * CompanyAge_t + Gfc\_dummy08 + Covid\_dummy20 + \varepsilon \qquad (11)$$

The basic regression for the second set of regression models, with as dependent variable brand value estimated by taking a percentage of the MVIC, includes independent variables adjusted return on invested capital and growth rate. The reason for this is that these two variables are not correlating with the dependent variable, whereas they would in the first set of regression. The two variables EBIT margin and market capitalization are left out in the second regression model set, as these are expected to correlate with the market value of invested capital. The regression model is as follows:

$$Brand\ Value\_MVIC_t = \beta_0 + \beta_1 * Adjusted\ RoIC_t + \beta_2 * Growth\ Rate_t + \beta_3 * Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 * CompanyAge_t + \varepsilon \qquad (12)$$

The remaining three models including the dummy variables are constructed as (9), (10), and (11), and are in appendix A. The outcomes of the regression analyses will be discussed in section 4.

4. Results

4.1 Outcomes estimated Brand Value Capitalizing Intangible

For the outcomes of brand value by capitalizing marketing expenses, expectations are that when a firm has a lower percentage of brand value compared as a percentage of the MVIC of that firm, the adjusted return on invested capital will be relatively high. The drivers for brand value in the model are revenue growth, marketing expenses and acquisitions, which are embodied in the acquired intangible assets that are added back to brand value each year. Where the adjusted return on capital is negatively affected by a higher number of acquisitions, the market value of invested capital is positively influenced by the same occurrence. The difference here is the change in profitability of the firm due to the acquisition, thus, an increase or decrease in the EBIT margin of the company. However, profitability is taken as an average over time in the model, so not gradually visible what the yearly effect is in the brand value, which can be seen as a limitation of the estimation model. In Table 3 on the next page the results of the brand valuation by capitalizing the marketing expenditures per year are summarized.

Table 3. Summary of outcomes brand value through capitalizing marketing expenses. In the following table the median brand values per company, and median adjusted return on invested capital are visible, over a period of twenty years. The last row exhibits the median of the sample, and not the average, as this gives a less skewed result in comparison with the average, that considers outliers more. The last three columns give insight into the average inputs per firm for the final estimate of the brand value. Dior is Christian Dior, Boss is Hugo Boss, BC is Brunello Cucinelli, SFER is Salvatore Ferragamo, and RL is Ralph Lauren.

	Median Brand/MVIC	Median Adj. RoIC	Average fc. EBIT Margin	Average fc. Growth Rate	Marketing Exp.
LVMH	43.9%	11.8%	21.1%	7.1%	11.5%
Hermès	4.9%	20.5%	29.8%	9.6%	5.0%
Dior	80.6%	9.4%	19.9%	6.1%	11.3%
Moncler	10.2%	14.0%	29.4%	10.6%	6.3%
Tapestry	4.9%	10.4%	21.2%	8.4%	4.9%
Kering	39.3%	6.0%	22.7%	5.9%	5.2%
Boss	29.3%	16.3%	13.4%	4.5%	7.2%
Prada	12.3%	11.5%	17.4%	8.8%	5.9%
Capri	15.4%	8.6%	17.4%	6.1%	3.0%
BC	8.4%	14.2%	13.1%	11.0%	4.8%
SFER	17.6%	16.8%	14.3%	6.8%	5.5%
RL	18.6%	10.5%	12.0%	5.2%	5.9%
Richemont	21.3%	11.6%	20.8%	6.3%	10.2%
Burberry	15.6%	15.7%	18.6%	8.1%	6.5%
Median	*16.6%*	*11.7%*	*19.3%*	*7.0%*	*5.9%*

As visible in Table 3, the majority of the median brand value as a percentage of MVIC is between 10% and 20%, with certain outliers above and below that will be discussed below. The same yields for the adjusted return on invested capital, where the median result of the sample lies within a range of 10% and 20%. The choice for the median, and not the average values, is because there are outliers such as Christian Dior, and the results are less skewed by taking the median. The brand value as a percentage of MVIC is predominantly below the expected 40% as a percentage of MVIC, by the capitalizing intangible approach as executed. The results show that this is only the case for LVMH and Dior, and Kering coming close to the hypothesis. In the paragraph below the outlying results per company are further discussed.

LVMH: LVMH is one of the largest firms worldwide[4] and known for its many acquisitions since the appointment of Bernard Arnault as its CEO. Therefore, it is expected that its profitability is moderate and the brand value a high percentage of the MVIC, due to already incorporated trade name values in its acquired intangible assets. Additionally, LVMH has a relatively high percentage of revenue assigned to marketing expenditures, which contributes to steering brand value upwards. Therefore, the return on invested capital adjusted for brand expenses is relatively low. This is also visible in the first line of the table above, where the adjusted return on invested capital is below the median of the companies in the sample.

Hermès: The outcomes for Hermès determine the other side of the spectrum. Where LVMH has done a lot of acquisitions, Hermès has foremostly generated its brands internally and has not engaged in large M&A transactions. Combined with a high profitability margin, high average forecasted growth and a low percentage of brand value over the MVIC, it is expected and confirmed in the results above that the adjusted return on invested capital is the highest of the sample.

Dior: As can be seen in the table above, Christian Dior is an outlier with respect to the sample. The firm has seen a number of acquisitions over the years and is a very well-established brand, which resulted in a high value of brand/MVIC. The former then expects to translate itself into a relatively low adj. RoIC, as a result of the average EBIT-margin and the low growth rate. This is also true when looking at the table.

Hugo Boss: For Hugo Boss the expectation of the adjusted RoIC is fairly low in relation to the other companies in the sample. This is due to the fact that the firm has made no to barely any large acquisitions over the years, its low profitability and low growth rate. Surprisingly, the firm yields a very high median brand value over MVIC ratio (29.3%). The former results in a median adjusted RoIC of 16.3% for Hugo Boss, which is relatively high compared to the sample. As a cross-check, an implied relief from royalty-approach is performed, to justify the obtained brand value in 2022. This led to a 4.2% royalty rate, which is 31.3% of the EBIT-

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[4] Rank 13 of all companies worldwide on July 6, 2023. Retrieved from https://companiesmarketcap.com/lvmh/marketcap/ on July 6, 2023.

margin. The result is in line with the rule-of-thumb of the relief from royalty-approach, where the royalty rate should roughly be between 25% and 33% of the EBIT-margin. Hence, the brand value outcomes seem to be in line with theory, however, contradicts intuition.

Kering: Kering is a similar business in terms of profitability as LVMH, however, Kering is still a newly assembled set of companies, where it was first investment company PPR. It entails large brands such as Gucci, Balenciaga, and multiple other iconic names. Since 2011, the business has shifted its focus solely towards the luxury fashion industry. Because of its relatively younger characteristics, Kering has a less stable growth rate and profitability over the past years, resulting in a lower adjusted return on invested capital, as compared to more established companies LVMH and Hermès. The 6.0% median adjusted RoIC is fairly low in comparison to the entire sample, resulting from the relatively low EBIT margin and high amount of invested capital.

Tapestry: The median percentage of brand value divided by MVIC is the lowest of the sample with a 4.9%, however, the average is still a more convenient 9.4%. The average forecasted growth rate and EBIT-margin are 8.4% and 21.1% respectively, which is little above average for both of the percentages. Tapestry Inc. – formerly Coach Inc. – acquired Kate Spade and Stuart Weitzman in recent years. These inputs together raise the expectation that the adjusted RoIC should be considerably below average of the sample – which is also showcased in the table.

Brunello Cucinelli: For Brunello Cucinelli the brand value over MVIC is relatively low, as compared to the other firms in the sample. The company has lowest investments in the brand in terms of marketing expenses, and also a relatively low profitability. However, the growth rate is among the highest of the sample. Summarizing the previously named points, the adjusted RoIC of Brunello Cucinelli is expected to be moderately higher than the sample average, which is also the case.

The other companies report values that are around the median, and perform as expected. By combining the above outcomes, it is possible to draw the precautious conclusion that there

is a negative correlation between the brand value over market value of invested capital and the adjusted return on invested capital. This is exhibited in Figure 1 below.
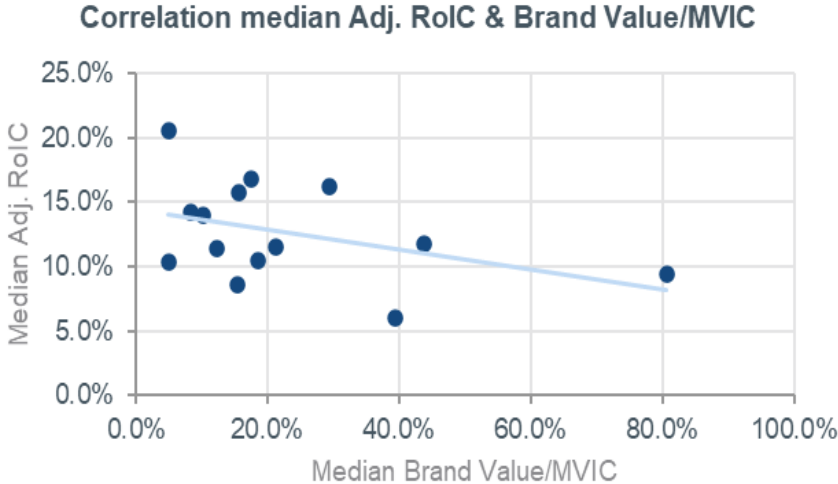

Figure 1. Correlation median adjusted return on invested capital and brand value/MVIC. The trendline shows a negative relation between the two variables, indicating the higher the adjusted return on invested capital, the lower the median brand value over MVIC.

Intuitively, there are other factors that influence brand value other than marketing expenses, acquisitions and growth influencing brand value. Therefore, this estimation model has its limitations in terms of validity of outcomes. The next section discusses the results of brand value estimated by a second approach, to complement the theory and hypotheses prior discussed.

4.2 Outcomes estimated Brand Value as a % of MVIC

The outcomes of brand value as a percentage of the MVIC per company are reported in Appendix B, due to the size of the exhibit. The percentage of MVIC allocated to brand value has been differentiated based on the average historical growth rate as described in the methodology over the timespan 2003-2022, where high-growth firms are allocated 60% of MVIC to brand value, medium-growth firms have 50% of its MVIC allocated to brand value, and low-growth firms are allocated 40% of MVIC to brand value. The firms that are in the high-growth section are Hermès, Tapestry, Burberry, Moncler, Brunello Cucinelli and Prada. The medium-growth group consists of the following: LVMH, Dior, Salvatore Ferragamo and Capri Holdings. The low-growth companies are Hugo Boss, Kering and Ralph Lauren.

To test the brand values from the second approach for validity, an implied relief from royalty method has been applied as explained in section 3.3.2.1. The numbers are included in Appendix C due to the size of the exhibit. To measure whether the values are within a valid range from the benchmark as added in the last column of the exhibit, a 3% margin has been taken above and below the average EBIT margin per company. This value range serves to correct for taking the average EBIT margin over twenty years, instead of the exact EBIT margin per year.

2a.

2b.

2c.

2d.
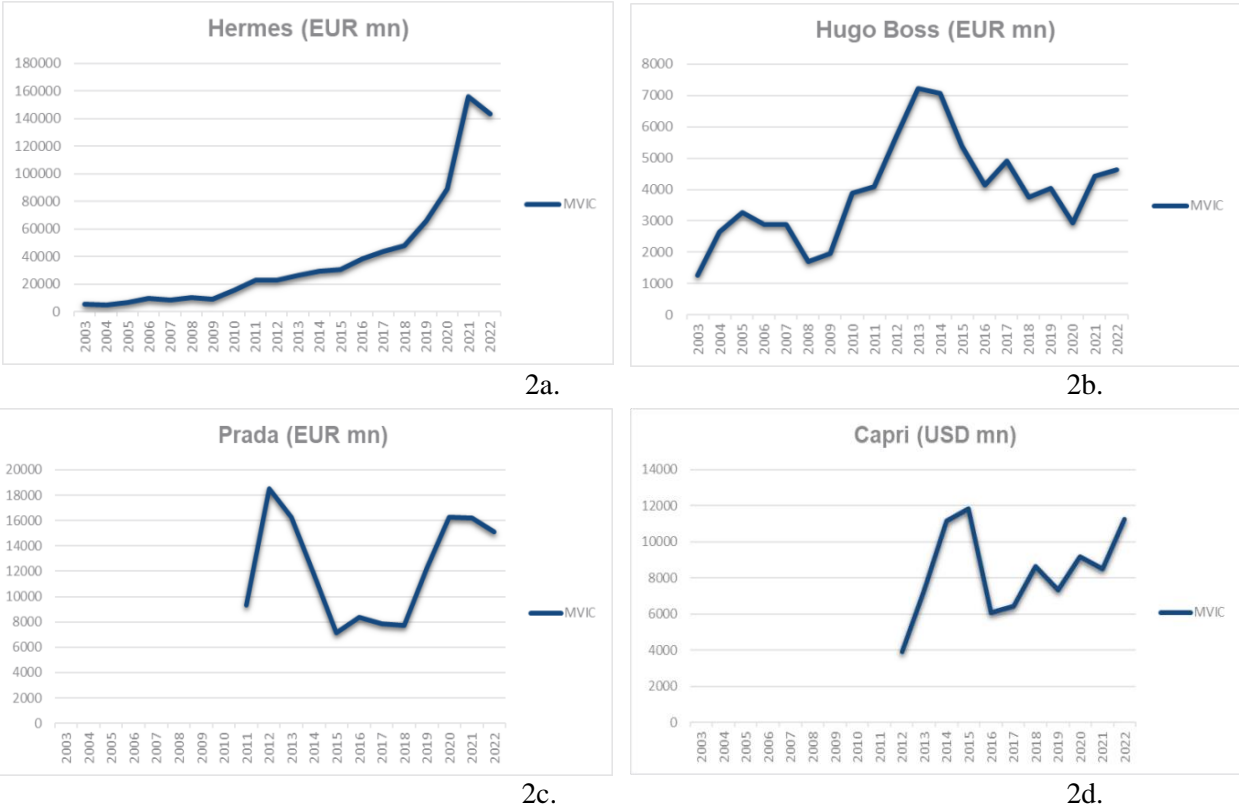
Figure 2. Development MVIC for Hermès in 2a, Hugo Boss in 2b, Prada in 2c, and Capri in 2d.

For Hermès, the implied royalty rate is within the 18.7% EBIT margin range for the period 2003-2008, with an exception in 2004. In 2009 and 2004 it experienced a drop, due to the financial crisis and an unknown reason in 2004. Thereafter, the implied royalty rate surges towards 54% in the final years, indicating an enormous rise in MVIC, not reflected in the EBIT margin of the firm, therefore reflecting abnormally high implied royalty rates. The MVIC development for four companies with different trends, including Hermès, is visible in Figure 2 The same pattern is followed by Moncler and Brunello Cucinelli, where both companies experience a stronger rise in MVIC than in profitability in the last six years of the sample time

window, resulting in implied royalty rates that fall outside the benchmark values, consisting of the assigned percentage times the EBIT margin. In the case of LVMH, only 2008 falls outside the 3% bandwidth from the 50% EBIT margin, assumably due to the financial crisis. After 2019, a similar pattern to Hermès shows, where the MVIC is rising more quickly than its profitability. Furthermore, Kering also follows a similar pattern to Hermès and LVMH, where the initial years from 2011 up until 2016 are in line with expectations drawn from the EBIT margin, however, the years after MVIC growth exceeds improvement in profitability. Besides, the scenario for LVMH occurs for Christian Dior as well, where, with exception of 2008, the curve is only exceeding the boundary values in most recent years. A firm following a different pattern is Hugo Boss, which experienced a peak in MVIC between 2010-2016, which results in an implied royalty rate in these years that does not match with the boundary values set by multiplying the assigned percentage by the EBIT margin. The same outcomes yield for Burberry and Ralph Lauren, resulting in an MVIC exceeding profitability in years 2006-2014 for Burberry, and from 2005-2014 for Ralph Lauren. For both, the other years outside the timespan, the implied royalty rate matches the expected value, indicating a brand value that proxies projected values for Burberry and Ralph Lauren. Salvatore Ferragamo, which got listed in 2011, started its first years with a relatively high implied royalty rate when comparing it to its EBIT margin benchmark, however, in the past five years the company restored balance when looking at the results. Prada follows somewhat the same pattern, resulting in a relatively high implied royalty rate in first years, followed by suitable outcomes from 2015-2019, and ending the last years with higher royalty rates again. Two companies that are consistently on a higher implied royalty rate than implied from the calculation of the benchmark are Richemont and Capri. Both firms are predominantly above the upper boundary value, with exception for Richemont in 2008. Finally, Tapestry is the outlier of the sample, where the implied royalty rate exceeds expected percentages in the years 2003-2016. The reason for this can be a variety of factors, such as a precarious EBIT margin that is not accounted completely for in the approach, unstable revenues and a volatile MVIC.

Interpreting the above outcomes leads to the conclusion that the profitability of firms does not move at the same pace with the MVIC, when benchmarking these results with the average EBIT margin. Logically, the market moves faster and implied royalty rates give insight into when this is, as compared to the average profitability of the companies included of the

sample. In this estimation process of brand value, cross-checked by the implied royalty rate, growth is partially included in the growth of revenues over years. However, the MVIC tends to outperform in periods of success, as visible in the peaks shown in Figure 2 and Appendix D, leading to discrepancies and abnormal values for the implied royalty rate. In conclusion, there appears to be a factor driving the MVIC other than profitability and revenue growth, that is not captured by the approach as constructed above.

4.3 Results Regression Analysis

4.3.1 Results Brand Value Capitalized Intangible

In Table 4, which is exhibited on page 37, the outcomes of the regression models as described in section 3.5 are reported. The dependent variable in this set of regressions is brand value determined via capitalizing marketing expenses, with standard independent variables market capitalization, EBIT margin, number of brands, percentage of total sales in Asia, amount of Google searches per year and company age. The dummy variables controlling for the GFC and Covid-19 are separately included in regressions 2 and 3, and together embodied in regression 4. By performing a Breusch-Pagan test to test the null hypothesis of heteroskedasticity, stating that variances are constant, it was encountered that the hypothesis could be rejected and hence, heteroskedasticity was present in the model. Therefore, robust standard errors have been implemented to offset the deflated effect of non-normal variances in the error terms.

For the first regression, denoted by in column 1, the results show that a 1% increase in market capitalization results in an increase of 0.193 of brand value, at a 1% level significance. The market capitalization can therefore be interpreted as being of significant positive influence on brand value, however, with a low coefficient value. Another factor resulting in a significant relationship with brand value is the EBIT margin, showing that a one percent increase in EBIT margin leads to a -13321.7 decrease in absolute value of the trade name, significant at the 5% level. This contradicts expectations, as the literature section of this research stresses the importance of growth and profitability on brand value. A possible explanation for the counterintuitive outcome is that the EBIT margin is taken as an average of forecasted values over the estimation period, and not fluctuating along economic waves. Besides, an improved EBIT margin over the years did not result in higher marketing expenditures for the included

companies, hence, where profitability went up, brand value remained stable relative to revenue. Finally, a rise in EBIT margin can be caused by a cut in marketing-based activities, personnel or other brand investments not included in the model, possibly causing the negative relationship. The coefficient of a company's age is negative, which can be interpreted that the older the firm becomes, has a negative impact on the firm's trade name value. A one-year increase in company age leads to a decrease 37.9 in the sample's companies, on a 1% significance level. This is again a counterintuitive effect, as older firms are expected to have, amongst other, longer established customer relationships, and thus, higher relative brand value. One counterargument for this result is that the age of the company is not controlled for in the estimation of the trade name values, as the brand value is calculated based on marketing expenditures over the last twenty years, and hence, does not account for longer established brands. Another limitation of this regression model, possibly causing other variables to show negative relations, is that there were no measurable variables available that were expected to have a negative relation with brand value, such as negative news. Therefore, there might occur omitted variable bias in the model causing other variables to show inflated negative relationships with brand value. The independent variables number of brands, Google searches and sales in Asia do not have a significant influence on brand value, and therefore, are not able to explain brand value in this regression model and hence, no conclusions can be drawn from the observations in the table. The constant reports a highly significant value at a 1% level possibly indicates that there are omitted variables not included in the model.

The following regressions include the dummy variables accounting for the GFC and Covid-19, in years 2008 and 2019, respectively. In column 2, a dummy variable is included to capture the impact of the global financial crisis in 2008. Where intuitively it is expected that this economic downturn would result in a negative impact on brand value, the observation of 3345.1 states otherwise. The positive value can partially be explained by the way the brand value is constructed. As brand value is calculated as accumulated marketing expenditures, that are a set percentage of revenue, each year the absolute brand value increases, as revenue never drops below zero in the data of the sampled companies. This can cause the results to give a skewed effect of certain periods on the absolute brand value reported. On the contrary, the dummy variable accounting for the first full year of the Covid crisis in 2020, is reporting a negative value of -3755.7 in regression and column 3, indicating a negative impact on brand

value in 2019. However, both dummy variables are not statistically significant and therefore, no direct conclusions can be drawn from the outcomes. The last regression, presented in column 4, includes both dummy variables at the same time. Again, the global financial crisis dummy reports a positive value of 3298.9, and the Covid-19 dummy a negative value of 1280.4, Nevertheless, both remain insignificant and therefore, no statements can be made about the influence of the GFC or Covid crisis.

The R^2 of 0.522 indicates that 52.2% of variation can be explained by the model. The percentage remains stable over the different regressions when analyzing the reported values in columns 2, 3 and 4. The adjusted R^2 of 0.510 represents that 51.0% of variation can be explained by the model, when correcting for the complexity of the model. The value remains relatively constant over the regressions when moving to the columns on the right. The former observations indicate that including year-dummies for certain macro-economic influences are not improving the overall model fit, as they do not appear to capture significant variance of the model. The 52.2% R^2 is considerably positive, as the model includes limited variables due to the limited sample size. Lastly, to test for multicollinearity, a variance inflation factor test has been performed. The results of this validity test are in column 5 of Table 4, and show that there is no multicollinearity occurring, validating the independent variables included in the set of regressions. The F-statistic is significant on a 1% level for all regressions.

Table 4. Results regression analysis BrandValueCI. The following table exhibits the outcomes of the regression analysis models as described in section 3.5, with independent variable brand value estimated through capitalizing marketing expenses. Regression 1 is the basic model including all general dependent variables, and regression 2, 3 and 4 include either one, or both dummy variables accounting for the global financial crisis and Covid-19. Column 5 reports the variance inflation factor per variable based on regression 4. The asterisks *, **, and *** indicate a 10%, 5%, and 1% level of respectively. The robust standard errors are denoted in the parentheses.

	(1)	(2)	(3)	(4)	(5)
BrandValueCI					**VIF**
MarketCapitalization	0.193***	0.195***	0.198***	0.200***	2.179
	(0.040)	(0.040)	(0.041)	(0.042)	
EBITmargin	-13321.681**	-14114.561**	-19393.128***	-20247.09***	1.478
	(6464.802)	(6476.481)	(7089.74)	(7101.431)	
#ofbrands	130.394	124.669	115.077	109.144	2.063
	(86.094)	(87.197)	(88.284)	(89.373)	
SalesAsia	1334.935	1872.887	2889.251	3447.641	1.392
	(3320.33)	(3382.022)	(3442.42)	(3497.868)	
GoogleSearches	0.000	0.000	0.000	0.000	1.658
	(0.000)	(0.000)	(0.000)	(0.000)	
CompanyAge	-37.885***	-38.933***	-37.868***	-38.930***	1.312
	(14.532)	(14.748)	(14.449)	(14.669)	
Gfc_dummy08		3345.147		3393.100	1.032
		(3315.468)		(3319.438)	
Covid_dummy19			-3755.744	-3786.498	1.026
			(3210.422)	(3214.143)	
Constant	7645.413***	7588.178***	8412.353***	8360.579***	
	(1790.561)	(1786.849)	(1970.355)	(1967.087)	
R-squared	0.522	0.524	0.526	0.528	
Adj. R-squared	0.510	0.509	0.510	0.510	
F-statistic	38.98	33.51	33.71	29.59	
(p-value F-stat)	(0.000)	(0.000)	(0.000)	(0.000)	

4.3.2 Results Brand Value % of MVIC

The second set of regression models and their respective outcomes are reported in Table 5 on page 40, with dependent variable brand value estimated as a percentage of the MVIC. The outcomes of this regression analysis serve as a second approach to compare outcomes of the previously exhibited regression models. Equal to the capitalized intangible analysis, the

regression models have been tested for heteroskedasticity, and following the outcomes, robust standard errors have been applied.

For the basic regression model in column 1, excluding the dummy variables, the adjusted return on invested capital, estimated by adding the accumulated internally and externally generated brand value to the "regular" return on invested capital, results in a highly positive and significant relationship with brand value on a 1% level. A 1% increase in the adjusted RoIC, impacts the absolute brand value by a negative number of 100176.1. This is in line with the correlation shown in Figure 1, where a higher adjusted RoIC is associated with lower brand value relative to MVIC. Also, the growth rate for revenue is of positive influence, with for each 1% increase in the growth rate a 16855.3 increase in absolute brand value, significant on a 10% level. The number of brands factor reports a highly positive and significant relationship with brand value, where one extra brand results in a 768.4 increase in brand value, significant on a 1% level. The last two factors in the second model with a significant impact, are Google Searches and Company Age, with both a positive significance on a 1% level. Here, the variable for company age justifies the intuition of an older company containing a higher brand value, contradicting the outcome of the first set of regressions in 4.3.1. A one-year older company adds 161.0 value to the brand in place. Again, the variable capturing sales in Asia is not proving significant impact on brand value and, hence, not able to predict brand value in this research.

Regression 2 in the second column reports a value of -6493.8 for the year of the financial crisis in 2008, negatively affecting brand value in that year. The continuous independent variables in the second model are not affected in terms of significance, and the dummy variable itself is also not significant. Therefore, the GFC is not of proved impact on brand value as estimated in the model. The third column represents the regression model including the dummy variable for Covid-19 in the year 2020, and the results are highly interesting. Firstly, the variable itself reports a positive value of 19891.7, significant on the 1% level. Where Covid hit many industries with a negative impact, the designer fashion industry maintained an upward trend in MVIC and thus, brand value, in the year 2020. This is also graphically visible when looking at the MVIC development curves of the companies in the sample in Appendix D. It is arguable whether the dummy variable for 2020 can be completely devoted to Covid, as the rise brand

value is possibly arising from other factors that are not included in the model, hence, an omitted variable bias could be applicable here. It was expected that sales in Asia would have shown more explanatory power for the rise in brand value over recent years. For the fourth and last regression, where both the GFC and Covid dummies are included, the results are comparable to regression 3. Covid remains highly significant on a 1% level and is capturing a positive influence on brand value in the year 2020. The dummy variable for year 2008 is not significant and does not provide any reliable information. After controlling for Covid in regressions 3 and 4, the significance of independent variable growth rate increased from a 10% level to a 1% level, indicating that there is possibly a confounding effect between the growth rate and brand value when not including Covid individually. More generally, one could rise the debate whether there is causality between brand value and the independent variables, as growth can determine brand value, however, higher brand value can also support growth. The same yields for the number of brands, Google searches and sales in Asia. With a stronger brand, there is more familiarity and hence, higher values for the formerly named variables. On the other hand, to establish brand value a company first has to invest in developing products, commercial relations and other brand-related activities, to be able to reach a certain audience. It is difficult to state what direction the causal relationships run precisely; however, it should be taken in mind when interpreting the results that there is possibly a reinforcing effect going both ways.

The R^2 of 0.482 indicates that 48.2% of variation can be explained by the model. The percentage remains stable over the different regressions when analyzing the reported values in columns 2, 3 and 4. The adjusted R^2 of 0.467 represents that 46.7% of variation can be explained by the model, when adjusted for the complexity of the model. The value remains relatively constant over the regressions when moving to the columns on the right. Therefore, a 48.2% R^2 is considerably positive, as the model includes limited variables due to the limited sample size. Hence, the model fit as compared to the complexity of the model can be seen as moderately well. The former observations indicate that including year-dummies for certain macro-economic influences are not improving the overall model fit, as they do not appear to capture significant variance of the model. Lastly, to test for multicollinearity, a variance inflation factor test has been performed. The results of this validity test are in the last column of Table 5, and show that there is no multicollinearity occurring, validating the independent variables included in the models. The F-statistic is significant on a 1% level for all regressions.

Table 5. Results regression analysis BrandValueMVIC. The following table exhibits the outcomes of the regression analysis models as described in section 3.5, with independent variable brand value estimated through capitalizing marketing expenses. Regression 1 is the basic model including all general dependent variables, and regression 2, 3 and 4 include either one, or both dummy variables accounting for the global financial crisis and Covid-19. Column 5 reports the variance inflation factor per variable based on regression 4. The asterisks *, **, and *** indicate a 10%, 5%, and 1% level of respectively. The robust standard errors are denoted in the parentheses.

	(1)	(2)	(3)	(4)	(5)
BrandValueMVIC					**VIF**
AdjRoIC20Y	-100176.13***	-95966.596***	-107777.3***	-104720.26***	2.671
	(32046.956)	(32382.507)	(32433.484)	(32755.953)	
GrowthRate	16855.343*	16332.766*	31097.968***	30476.493***	1.025
	(9530.59)	(9546.908)	(11019.405)	(11058.228)	
#ofbrands	768.355***	769.283***	798.218***	798.318***	1.463
	(193.516)	(193.420)	(189.237)	(189.381)	
SalesAsia	11964.86	11381.412	6872.871	6560.976	1.549
	(7496.949)	(7526.274)	(7855.484)	(7872.909)	
GoogleSearches	0.002***	0.002***	0.002***	0.002***	1.770
	(0.001)	(0.001)	(0.001)	(0.001)	
CompanyAge	161.031***	159.083***	176.843***	175.204***	2.797
	(50.902)	(50.985)	(50.604)	(50.778)	
Gfc_dummy08		-6493.81		-4502.569	1.033
		(4734.076)		(4736.543)	
Covid_dummy19			19891.674***	19529.751***	1.010
			(6725.574)	(6743.798)	
Constant	-1488.455	-1602.562	-2431.141	-2493.107	
	(3737.337)	(3765.628)	(4065.906)	(4076.746)	
R-squared	0.482	0.484	0.485	0.501	
Adj. R-squared	0.467	0.467	0.468	0.467	
F-statistic	15.07	12.91	13.31	12.41	
(p-value F-stat.)	(0.000)	(0.000)	(0.000)	(0.000)	

5. Conclusion

This master thesis research developed and tested an alternative approach to estimating brand value, by capitalizing marketing expenses over the past twenty years, and treating those as investments into brand value instead of costs during a fiscal year. Additionally, brand value as a percentage of the included firms' market value of invested capital has been estimated, to serve as an extra point of view on brand value. Finally, by analyzing the outcomes via an OLS regression analysis, including both financial and non-financial parameters, interesting results have been retrieved. By capitalizing the marketing expenses of the companies, a median value of 16.6% was found for the brand value divided by the MVIC of the respective company. The expected value of this metric was around 50%, as benchmarked by prior purchase price allocations in similar deals. This rejects the hypothesis that by capitalizing marketing expenses it is plausible to approach brand value in fashion designer companies. Secondly, the hypothesis was formed that the adjusted RoIC should be higher for companies that only maintain one brand, as opposed to companies that maintain multiple brands. The results have shown that this is true, and hence, the hypothesis is not rejected. However, it must be noted that the sample is small and included exceptions, hence, it is a precautious assumption. The last two hypotheses were expected to be answered in the regression analysis, which were that higher growth and higher profitability margins would result in a higher brand value. The regression analysis reported a positive and significant value for revenue growth and hence, cannot be rejected. For the EBIT margin, or profitability, the analysis did not show a significant effect and hence, the last hypothesis will be rejected.

This research has proven that there are drivers of brand value, which are not captured by the implemented methods. As touched upon priorly, there appears to be a factor driving brand value that is larger than capitalizing marketing investments, or a benchmarked percentage of the market value of invested capital. A first limitation in estimating brand value through capitalizing marketing expenditures, is that it is not clear as to what costs are all devoted to the brand solely. This can differ for each company and be put under "marketing", however discounts, personnel costs, and other costs not directly linked to improving a brand can be included too, resulting in "noisy" data for the estimation of the value. Another limitation of this study with regard to the data is the limited sample size, reducing statistical power and higher risk of biases. Two main biases in this research have been omitted variable bias, and causality.

The choice for the small sample was considered carefully as including more firms would reduce the validity of the sample. A consequence of the small sample size is the limitation of independent variables in the regression analysis and hence, the risk of omitted variables and drawing conclusions that might be assigned to other factors, such as with the year 2020 that seems attributable to Covid. Additional control variables such as the dummy variables for the GFC and Covid-19 improve the precision and reliability of the research; however, including qualitative variables such as customer awareness could be of interest to capture a hybrid brand value in further research. Moreover, it a difficult to include suitable financial metrics that were not correlating with brand value. The included variables market capitalization and growth rate are, as mentioned in the analysis, are possibly subject to causality with regard to brand value. Higher brand value can lead to a higher market capitalization, even though it is also possible in reverse, and the same yields for the growth rate. It is difficult to state which direction this relationship runs, but it is important to consider when interpreting outcomes. Additionally, there were limited variables available to include determining brand value, that did not involve qualitative research. Followers on social media for example are not measurable at specific points in time, as well as negative news on a worldwide level. Therefore, to maintain validity in the relatively small regression model, only variables that were well measurable and available have been included. The variable Google searches, that embodied the hits on Google averagely per month per company, resulted in a very low value in both regressions without any significance and was therefore not as influential as expected beforehand. Moreover, percentage of total sales in Asia were expected to explain the rise in MVIC in past years for companies that distributed extensively to the continent; however, the regression did not result in any statistical power for this hypothesis.

In this study, an analysis was conducted based on historical forecasts and historical data. Plausibly, by estimating growth rates and cash flows in the upcoming years, it could lead to a more valid result than now obtained. In this research, to avoid the look-ahead bias, historical data and forecasts have been included; however, by using the data until now and estimating future rates, perhaps the analysis generates more precise outcomes. Moreover, there has not been differentiated in organic and inorganic historical growth, as this was not possible to separate in the available data. Finally, it remains a highly interesting venue of research to attempt to encounter the missing piece of brand value, as it appears to be of large influence in

the designer fashion industry. Another extensive future research could be based on combining the various existing methods to come to a multi-dimensional approach, capturing all aspects of brand value. Lastly, testing the impact of brand value would be an interesting venue for future research in other industries, where brands do not play a major part in decision-making for customers.

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7. Appendices

7.1 Appendix A.

Regression models with as dependent variable brand value estimated as a percentage of MVIC, including dummy variables Gfc_dummy08 and Covid_dummy20 separately in (13) and (14), and together in (15).

$$Brand\ Value\_MVIC_t = \beta_0 + \beta_1 * Adjusted\ RoIC_t + \beta_2 * Growth\ Rate_t + \beta_3 *$$
$$Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 *$$
$$CompanyAge_t + Gfc\_dummy08 + \varepsilon \tag{13}$$

$$Brand\ Value\_MVIC_t = \beta_0 + \beta_1 * Adjusted\ RoIC_t + \beta_2 * Growth\ Rate_t + \beta_3 *$$
$$Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 *$$
$$CompanyAge_t + Covid\_dummy20 + \varepsilon \tag{14}$$

$$Brand\ Value\_MVIC_t = \beta_0 + \beta_1 * Adjusted\ RoIC_t + \beta_2 * Growth\ Rate_t + \beta_3 *$$
$$Number\ of\ Brands_t + \beta_4 * Google\ Searches_t + \beta_5 * Sales\ Asia_t + \beta_6 *$$
$$CompanyAge_t + Gfc\_dummy08 + Covid\_dummy20 + \varepsilon \tag{15}$$

7.2 Appendix B.

Brand values estimated by taking a percentage of the market value of invested capital per company. The market value of invested capital is determined by formula (1) on page 18. The percentages are determined following the methodology in section 3.3.2, and are denoted by the colors presented in the table below.

Brand Values (MVIC)

Perc. of MVIC	40.0%
Perc. of MVIC	50.0%
Perc. of MVIC	60.0%

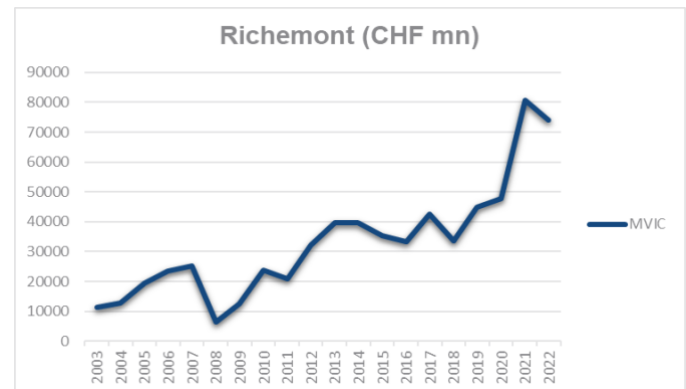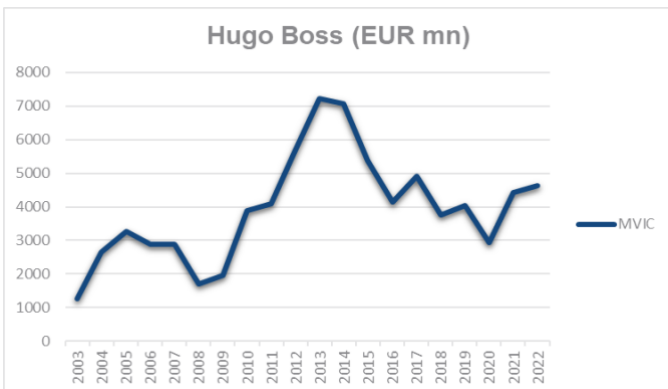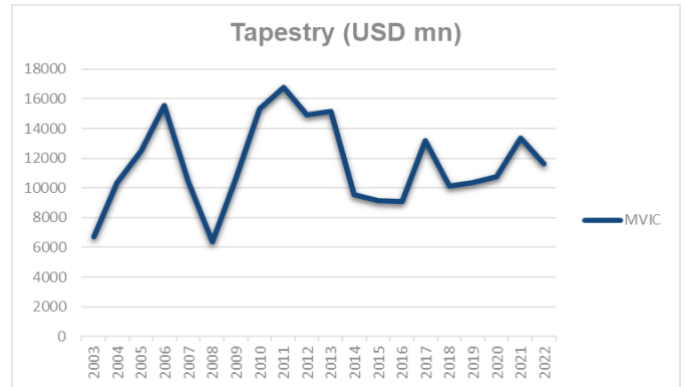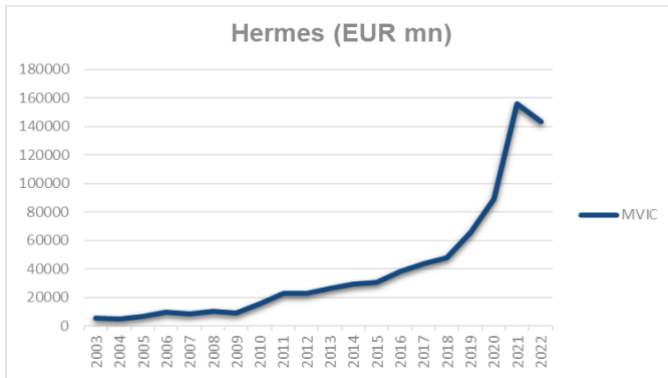|		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Hermes	1	3,334.22	2,924.76	4,253.11	5,768.96	5,231.76	6,074.67	5,616.92	9,418.06	13,767.85	13,747.50	15,872.68	17,626.76	18,598.16	23,051.53	26,254.11	28,944.61	39,725.31	53,382.44	93,510.38	86,267.95
LVMH	2	17,235.18	16,507.60	20,611.21	21,408.98	22,120.10	14,117.87	20,747.06	31,370.99	30,270.89	37,473.48	36,508.15	36,374.43	39,497.25	48,274.52	66,223.59	68,891.18	114,937.09	138,086.45	197,282.47	185,108.90
Boss	3	506.92	1,059.47	1,307.77	1,154.86	1,154.87	679.94	779.68	1,559.21	1,631.42	2,269.17	2,891.78	2,824.68	2,152.49	1,656.26	1,964.70	1,500.19	1,615.58	1,174.46	1,765.96	1,853.75
Kering	4									7,277.06	8,384.38	9,332.92	10,059.81	10,118.26	12,800.75	21,341.62	21,473.78	32,180.71	32,283.56	37,013.37	26,577.87
Richemont	5	5,640.76	6,380.96	9,665.51	11,694.53	12,554.86	3,205.88	6,203.74	11,946.75	10,405.33	16,011.03	19,876.24	19,872.79	17,683.84	16,607.45	21,209.64	16,836.88	22,480.82	23,819.06	40,341.94	37,061.75
Tapestry	6	4,020.42	6,210.06	7,501.71	9,323.33	6,242.65	3,836.11	6,343.41	9,188.85	10,050.87	8,947.01	9,104.78	5,720.92	5,475.82	5,460.27	7,920.61	6,087.19	6,227.87	6,475.60	8,005.02	6,991.26
Burberry	7	996.64	1,091.70	1,237.58	1,712.74	1,524.62	570.52	1,406.12	2,781.03	2,929.80	3,067.10	3,774.68	4,012.75	2,787.53	3,419.24	3,974.74	3,754.06	5,695.71	4,397.71	4,441.63	4,697.26
RL	8	1,170.39	1,714.41	2,200.68	3,086.56	2,434.91	1,730.97	2,938.29	3,947.52	4,868.42	5,196.17	6,250.96	6,460.98	3,929.10	2,946.78	3,270.33	3,430.49	4,195.61	3,467.88	3,964.81	3,291.05
Dior	9	12,120.21	11,121.17	13,526.15	13,942.22	15,027.72	11,283.56	13,738.76	17,700.85	19,062.80	22,364.45	23,135.43	23,695.59	25,642.07	29,650.20	39,760.71	42,816.64	63,397.17	62,275.32	94,566.36	92,944.30
Moncler	10											2,474.49	1,735.34	1,969.11	2,419.99	3,805.09	4,099.49	6,053.66	7,478.15	10,343.75	8,002.47
BC	11										546.67	1,065.42	784.97	703.68	865.80	1,113.96	1,241.79	1,583.07	1,821.40	2,823.80	3,168.89
Prada	12									5,597.63	11,107.61	9,740.56	7,021.07	4,293.48	5,012.40	4,706.17	4,617.18	7,362.48	9,767.56	9,733.14	9,081.88
SFER	13									895.45	1,447.22	2,362.68	1,764.79	1,863.02	1,911.85	1,818.86	1,419.36	1,842.84	1,558.39	2,022.80	1,482.26
Capri	14									1,955.94	3,647.12	5,569.45	5,912.83	3,050.14	3,229.88	4,325.43	3,663.80	4,596.46	4,263.74	5,633.74	4,985.37

7.3 Appendix C.

Outcomes implied relief from royalty cross-check. The reported numbers in the table below represent the implied royalty rate, calculated as described in formula (5). The implied royalty rate is the rate that is required per estimation year to arrive to the brand value in year t.

Implied Royalty Rates

Perc. of MVIC	40.0%
Perc. of MVIC	50.0%
Perc. of MVIC	60.0%

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Hermes	1	16.3%	12.7%	16.0%	19.7%	17.5%	18.1%	14.7%	22.4%	27.9%	23.5%	24.9%	24.0%	21.5%	23.8%	24.4%	24.7%	29.5%	34.4%	54.7%	54.1%	18.7%
LVMH	2	12.1%	10.6%	11.8%	11.4%	11.7%	6.8%	9.1%	12.8%	10.8%	11.7%	10.7%	9.5%	9.1%	10.2%	12.9%	12.6%	18.8%	20.2%	26.8%	27.0%	10.3%
Boss	3	5.3%	10.3%	11.8%	9.9%	10.0%	5.5%	5.9%	11.3%	10.7%	13.4%	16.5%	14.8%	10.3%	7.4%	8.3%	6.1%	6.1%	4.1%	5.8%	6.6%	5.2%
Kering	4									9.1%	9.3%	9.9%	9.7%	8.7%	10.2%	15.8%	15.1%	20.5%	18.7%	20.2%	15.6%	8.8%
Richemont	5	11.1%	11.8%	16.2%	18.5%	19.5%	4.7%	8.2%	14.5%	11.3%	15.6%	18.7%	17.4%	13.8%	11.9%	14.2%	10.6%	13.1%	12.8%	20.6%	19.4%	9.0%
Tapestry	6	44.5%	63.5%	69.3%	79.7%	49.0%	25.6%	39.2%	54.9%	50.7%	38.7%	38.3%	22.1%	18.6%	17.4%	23.2%	16.5%	15.3%	13.8%	15.5%	14.1%	14.7%
Burberry	7	12.7%	12.9%	13.2%	16.9%	14.2%	4.8%	10.8%	19.8%	17.7%	16.0%	18.9%	18.3%	11.1%	12.4%	12.9%	11.3%	15.5%	10.5%	9.8%	11.3%	11.1%
RL	8	5.0%	6.9%	8.3%	11.1%	8.3%	5.2%	8.4%	11.2%	12.1%	11.5%	13.8%	13.6%	7.5%	5.4%	5.7%	5.7%	6.5%	4.8%	5.2%	4.6%	5.0%
Dior	9	9.9%	8.3%	9.2%	8.9%	9.5%	6.6%	7.4%	8.9%	8.6%	8.9%	8.7%	8.1%	7.8%	8.3%	10.4%	10.6%	14.3%	12.7%	18.1%	19.1%	10.1%
Moncler	10											27.2%	16.5%	15.8%	17.2%	24.2%	23.7%	30.2%	32.2%	40.1%	32.6%	16.7%
BC	11										10.1%	17.8%	11.3%	8.5%	9.2%	10.5%	10.6%	11.6%	11.4%	15.9%	18.9%	7.3%
Prada	12									24.0%	40.8%	33.1%	21.0%	11.1%	11.6%	9.9%	9.0%	12.6%	14.7%	13.4%	13.3%	9.7%
SFER	13									8.9%	12.6%	19.3%	13.0%	12.1%	11.4%	10.1%	7.4%	8.6%	6.5%	7.9%	6.2%	6.2%
Capri	14									13.2%	21.5%	32.2%	31.8%	14.6%	14.6%	18.2%	14.4%	16.7%	13.5%	16.4%	15.3%	10.3%

7.4 Appendix D.

Development of the market value of invested capital (MVIC) per company from 2003-2022. The MVIC is described in formula (1) on page 18 and is reported below in the filing currency of each company.

Hermes (EUR mn)

LVMH (EUR mn)

Kering (EUR mn)

Tapestry (USD mn)

Hugo Boss (EUR mn)

Richemont (CHF mn)

Dior (EUR mn)

Burberry (GBP mn)

Appendix D continued.

Ralph Lauren (USD mn)

Moncler (EUR mn)

Brunello Cucinelli (EUR mn)

Salv. Ferragamo (EUR mn)

Prada (EUR mn)

Capri (USD mn)