Abnormal returns to acquirers and their determinants in the global personal luxury goods industry

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ABNORMAL RETURNS TO ACQUIRERS AND THEIR DETERMINANTS IN THE GLOBAL PERSONAL LUXURY GOODS INDUSTRY

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1 INTRODUCTION

On November 25th, 2019, the group LVMH Moët Hennessy Louis Vuitton SE[1] has announced its arrangement with Tiffany & Co.[2] to acquire the luxury jeweler. The deal, which is currently pending, was set to be closed in mid-2020 for approximately US\$ 16.2 billion. The target firm has been selected by the luxury group for its unique heritage. The company will complete the portfolio of 75 brands of the conglomerate and enhance its presence on the jewelry market (LVMH, 2019). Since 1990, LVMH has acquired more than 60 firms and is considered as the precursor of the consolidation movement in the luxury industry. Other firms have then followed this trend which has shifted the structure of the industry from families of craftsmen to multi-brand companies (Som & Blanckaert, 2015). The integration process of a target firm is the most challenging part of a takeover in the luxury industry. While the right level of autonomy should be left to the target to preserve its heritage and brand image, the acquirer must also be able to leverage synergies from the deal (Ijaouane & Kapferer, 2012).

Although the impact of an M&A deal on the brand image of the involved parties has already been studied, no research has been carried out on the performance of the bidder around a takeover (Chung et al., 2014). This thesis thus aims to assess the performance of luxury bidders resulting from the announcement of acquisitions. By focusing on the stock prices of those companies we will shed light on this hitherto unexplored aspect of research.

To understand the relevance of this analysis for the luxury market, this work starts by contextualizing the industry and its associated M&A activities. The short-and long-term event study approaches to evaluate announcement and post-announcement abnormal returns are further presented in the Literature Review. After having introduced the advantages, drawbacks, and assumptions underlying these methods, the findings of previous related research are introduced. Unclear results are reported in the event study literature concerning the abnormal returns to acquirers surrounding the announcement of M&A deals (Mateev, 2017). However, a positive announcement effect is expected in the luxury sector.

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[1] LVMH
[2] Tiffany

Long-term studies are also subject to debates concerning the relevance of the measurement methods and the reliability of the results which sometimes imply a violation of the market efficiency hypothesis (Fama, 1998). The assumptions concerning abnormal returns to luxury bidders over the long-term are therefore formulated under this hypothesis. Furthermore, the determinants of the announcement and post-announcement abnormal returns highlighted in previous studies are presented. The hypothesized effects of those drivers are drawn from prior research and their applicability to the luxury sector. Those assumptions are summarized in the Hypotheses section together with the expectations concerning announcement and post-announcement performance.

To carry out this research, the history of successful mergers and acquisitions that have been undertaken between 2000 and 2016 by listed luxury firms is obtained via Thomson Reuters Eikon. The stock returns are further downloaded from Datastream.

The outcomes of the different approaches introduced in the Methodology part are presented in the Empirical Results section. The announcement abnormal returns are assessed by subtracting to the stock returns their expected returns measured with a market adjusted model and a market model. Both models are applied with a global index. A multi-factor model with an industry index is also used as a robustness check. In the long-term analysis, the two paramount methods are applied in parallel to overcome their respective limitations as suggested by Lyon et al. (1999). The buy-and-hold post-announcement abnormal returns are thus measured with control firms matched by size and industry with the sample firms. Calendar-time portfolios returns for the bidding firms are also evaluated in a Fama-French five-factor regression to check whether they are abnormal. Finally, the impact of the acquirer-, deal-, bidder-, and country-specific characteristics on the abnormal returns is tested with cross-sectional regressions.

This thesis is concluded by checking whether M&A announcements lead to a superior performance of acquiring firms in the personal luxury goods industry. Inferences are drawn from the analysis of the abnormal returns as well as their determinants for both short- and long-term periods. Avenues for further improvements and research are finally presented.

2 SETTING THE SCENE

This thesis investigates the returns of M&A deals undertaken by acquirers active in the global personal luxury goods industry as well as their determinants. It is thus fundamental to introduce the related industry and the M&A activity in the sector to understand the motivation of this research.

2.1 Definition of a luxury brand

Although there is no consensus regarding the definition of a luxury brand, Ko et al. (2019) have recently reviewed the luxury branding literature to provide us with an appropriate definition of the term:

A luxury brand is a branded product or service that consumers perceive to:
1. be high quality;
2. offer authentic value via desired benefits, whether functional or emotional;
3. have a prestigious image within the market built on qualities such as artisanship, craftsmanship, or service quality;
4. be worthy of commanding a premium price; and
5. be capable of inspiring a deep connection, or resonance, with the consumer. (p. 406)

2.2 Overview of the global personal luxury goods industry

Consulting companies publish annual reports on the luxury industry. To conduct such research, the consulting firm *Bain & Company* collects data from a panel of firms accepted by syndicated authorities as luxury firms. These syndicates, such as the *Altagamma Foundation* in Italy, require luxury brands to respect precise guidelines to integrate their group (Kapferer, 2012). Deloitte also ranks the top 100 luxury goods companies based on their yearly consolidated sales in the annual report *Global Powers of Luxury Goods*. It also derives and presents the main trends in the industry. The consulting firm focuses on providers of luxury for personal use and examines the following sectors: ready-to-wear, bags and accessories, jewelry, and watches as well as cosmetics and fragrances (Deloitte, 2019b).

Kapferer and Tabatoni (2011) indicated that the aggregated revenues of the sector were relatively small compared to those of the largest mass retailers in the year 2009. However, the attention of the financial community was directed to the luxury industry such that the authors evoke a "luxury industry paradox" (p. 1). To understand this phenomenon, the authors have studied the financial performance of the 12 sector leaders in terms of sales. Although luxury firms yield high gross margins, the attractiveness of the sector cannot be attributed to its average growth or its profitability. The authors hypothesize that investors believe in the potential of small brands of achieving the same exceptional results obtained by their peers. Alternatively, they mention the growth potential associated with the growing middle class in the BRICS nations.

2.2.1   Recent data

Recently, Deloitte (2019b) has presented the key figures regarding the performance of personal luxury goods firms for the financial year 2017 in its report *Global Powers of Luxury Goods 2019*. The 100 leading luxury goods firms have earned US$ 247 billion in revenues. This represents a currency-adjusted composite growth of 10.8% compared to the revenues of the financial year 2016. The sales between the financial year 2015 and 2017 have also increased to reach a sales-weighted and currency-adjusted composite CAGR$_3$ of 5.3%. The composite net profit margin (based on combined total revenue and net income) has increased by 1% to reach 9.8% for the financial year 2017. From a geographical perspective, the highest share of sales (23.5%) belongs to companies based in France even though the majority (24%) of the companies have established their headquarters in Italy.

2.3   Definition of an M&A

Yoo et al. (2013) present the differences between mergers and acquisitions. They define a merger as a combination of two companies to operate as a unified organization. Both companies after having transferred all their assets and liabilities are dissolved to create a new entity. Alternatively, a firm can also take over the assets and liabilities of a target while still existing legally.

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[3] Compound Annual Growth Rate

In comparison, an acquisition refers to the purchase of the shares and/or the assets of a target firm in order to obtain management rights. The purpose is to gain control of the company instead of only investing in it.

Various researchers have proposed arguments to explain the motivation of firms that undertake takeover deals. Cai et al. (2016) enumerate some of those incentives such as the will to increase market power, the enhancement of operating efficiency, CEO hubris, growth opportunities associated with a target and its market, or even the desire to build an empire.

Rao-Nicholson et al. (2016) relate M&A deals with the performance of a company. They underline the positive impact of economies of scope, the realization of synergies, and the establishment of a market monopoly. However, they also indicate obstacles that can hinder the performance of a firm. For example, the difficulty to deal with human capital or the management of a large structure.

2.4 The M&A activity in the luxury industry

Luxury has evolved from family businesses to multi-brand corporations. The sector is now dominated by conglomerates and since the early nineties, their serial acquisitions have saved many designers or family firms from going bankrupt. LVMH is considered as the initiator of the consolidation wave (Som & Blanckaert, 2015). The group, created in 1987 from the merger of a leather firm and a cognac and champagne company, has acquired more than 60 luxury brands over the last thirty years (Ijaouane & Kapferer, 2012). Conglomerates have been able to leverage synergies among their brand portfolio, launch a variety of new products, and increase their market share. However, other family-owned businesses such as Ralph Lauren or Armani have managed to resist to those acquisitions. Hermes, one of those brands, has also undertaken vertical acquisitions to strengthen its supply chain (Som & Blanckaert, 2015).

The integration of a target brand in a luxury group plays an important role in the success of acquisitions. Ijaouane and Kapferer (2012) explain that synergies have to be managed appropriately to protect the brand equity of the target. The authors have ranked different types of synergies leveraged by luxury groups. Corporate synergies are the most important type of synergies in the luxury industry.

Acquirers have been able to create value through the sharing of expertise regarding luxury branding, distribution, market intelligence, and talent management. Financial synergies are also important as new businesses can benefit from the pooling of financial resources implemented by conglomerates. On top of that, better loan conditions are granted to newly acquired firms thanks to their parent company. Nevertheless, market power synergies do not apply to the luxury industry. Indeed, exploiting the top seller's market share to promote newly acquired businesses may damage the partner's brand image. However, acquired brands can benefit from the bargaining power of their parent vis-a-vis wholesalers or journalists. Finally, efficiency and growth synergies are present in the luxury goods industry. The pooling of resources enables economies of scope and efficiency gains. The sharing of know-how may also help target brands to expand in new markets, extend their product line, and anticipate market trends.

2.4.1   Recent data

Recently, Deloitte (2019a) has analyzed the M&A activities of the luxury goods industry in its annual report *Fashion & Luxury Private Equity and Investors Survey 2019*. The personal luxury goods industry registered 145 M&A deals with an average value of US$ 117 million for the year 2018. This represents an increase of 11 deals compared to 2017 and is due to an increase of takeovers in the cosmetics and fragrances sector. The bidder's investment stake is more than 50% in 85% of the deals which has been driven by a boom of the strategic investors.

3   LITERATURE REVIEW

3.1   M&A performance evaluation

Andriuskevicius (2017) has investigated and criticized the existing research concerning M&A performance. The author presents short-and long-term event studies, accounting studies, and, managers' subjective assessments as the best-established methods to measure the effects of M&A performance on a corporate level. He also uses an adapted comparison matrix [4] established by Papadakis and Thanos (2010) to introduce the strengths and weaknesses of those approaches.

We admit that there are a variety of stakeholders affected by M&A activities. However, we choose to assess the profitability of those deals from a shareholder's prospect (Martynova & Renneboog, 2011). As a result, we will employ short-term stock market-based measures to assess the impact of M&A transactions on acquiring firms. Indeed, it allows us to estimate the changes in returns to shareholders due to the deal. Although this is only a measure of stockholders' forecast of future performance, company-and deal-specific data are easily accessible online (Papadakis & Thanos, 2010). On top of that, this is the most commonly used method to evaluate acquisition performance (Zollo & Meier, 2008). The other methods do not fit for this study as managers from large luxury groups are difficult to reach for an executive's survey. Because of distinct accounting laws, accounting-based measures are not adapted to cross-border acquisition studies either (Andriuskevicius, 2017). A long-term event study will also be conducted to evaluate the post-announcement performance of acquiring firms (Papadakis & Thanos, 2010).

3.2   The event study approach

An event study allows us to assess the impact of an event on a corporate share price. The measure of the abnormal returns arising from an (unforeseen) event provides an indication of its impact on shareholder wealth (Kothari & Warner, 2007).

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[4] The comparison matrix is available in appendix 1.

There are three assumptions underlying the use of the event study methodology and the analysis of its results. Firstly, the market efficiency hypothesis entails that all information available should be reflected by the security price of a firm. As a result, the present value of future cash flows resulting from the event should be integrated into the share price. Secondly, the unexpectedness of an event implies that investors become aware of an event at its announcement date. The deviation of the returns can thus be associated with the feedback of investors to the event announcement. Thirdly, the study must remove the impact of other confounding events during the study period as they are misleading for the analysis of the main event impact (McWilliams & Siegel, 1997).

The use of long-horizon studies to assess post-acquisition performance has been highly debated (Hendricks & Singhal, 2005). Indeed, the observation of persisting abnormal returns in the long-term is not in line with the market efficiency hypothesis (McWilliams & Siegel, 1997). Others argue that those returns result from methodological issues. In either case, the study of long-horizon returns remains interesting to get a broader picture of an M&A economic impact (Hendricks & Singhal, 2005).

This thesis does not aim at presenting all the research concerning M&A performance. Nevertheless, in the following section, we present the conclusions of different studies that have used a capital market-based approach to assess a takeover impact on the acquiring firm performance (both in the short-and long-term).

3.2.1 Short-term event studies

The empirical literature concerning the short-term event studies reports almost unanimously significantly positive abnormal returns to shareholders of target firms (Bruner, 2002). However, the results concerning the returns to acquiring firms' shareholders have been widely debated and inconclusive (Mateev, 2017). As they seem more interesting to investigate, the focus of this study is set on the bidders' returns from M&A deals.

King et al. (2004) have analyzed 93 published studies and used meta-analytic techniques to evaluate post-acquisition performance. While they find low and significant abnormal returns on the day of the acquisition announcement, they report either non-significant or negative post-announcement abnormal returns to acquiring firms for subsequent event windows. They conclude that acquisitions do not lead to a better performance of the acquirers. However, various studies have been conducted since this meta-analysis and have focused on specific markets, regions, or industries to present their findings on M&A announcement abnormal returns (Meinshausen & Schiereck, 2011).

Campa and Hernando (2004) studied bidders' average cumulative abnormal returns for a sample of deals undertaken between 1998 and 2000 by European acquirers. The results indicate that they are not significantly different from zero. It means that the net present value of the acquirers does not increase over the announcement period. The authors also highlight differences in the returns of takeovers involving stakeholders from regulated and unregulated industries. While the returns are significantly positive for the deals in unregulated industries, they are negative and insignificant for acquirers operating in industries under government control. They conclude that heavily regulated environments hinder the success of M&A deals. Conversely, Martynova and Renneboog (2011) conclude that acquisitions generate synergies in their study of the abnormal returns to European acquirers during the fifth merger wave (1993 to 2001). They identify low, yet significantly positive, cumulative average abnormal returns to acquirers over a 10-day window surrounding the announcement date. Recently, Mateev (2017) has used a sample of European acquirers involved in transactions between 2002 and 2010. He also finds significantly positive cumulative average abnormal returns for European bidders over different event windows (up to ten days surrounding the announcement date). He concludes that merger announcements are positively perceived by the shareholders of European acquirers.

Beneish et al. (2008) studied abnormal returns to US tobacco manufacturers that have undertaken M&A deals between 1957 and 2002. They find significantly positive mean and median abnormal returns over a 3-day event window centered around the acquisition announcement date. However, while they identify positive returns between 1957 and 1984, they indicate that the returns for the subsequent period (1985 to 2002) are not statistically different from zero. Furthermore, they report that the returns of the second period are statistically lower than those of the first period. They further conclude that acquisitions in the tobacco industry create value for bidders because it reduces expected expropriation costs.

Kiesel et al. (2017) investigated M&A deals in the logistic service industry between 1996 and 2015. They identify significantly positive abnormal returns to bidders over a 10-day event window surrounding the deal announcement. This underlines the investors' optimism concerning future synergies and gains associated with the deal. However, announcement returns vary in the short-term depending on the type of service provider. For example, air cargo companies benefit from large and significantly positive average abnormal returns for an 11-day period surrounding the announcement date. Conversely, sea freight carriers do not earn significant abnormal returns. Recently, Dranev et al. (2019) have focused on acquisitions of targets active in the fintech industry between 2010 and 2018. They identify significantly positive abnormal returns up to a 21-day event window centered around the takeover announcement date. This also indicates a significant shareholders' optimism vis-a-vis M&A announcements in this industry.

The luxury industry has also been subject to investigation concerning the acquisition announcement abnormal returns to bidders. Königs and Schiereck (2006) have reviewed 196 transactions between 1993 and 2005 in the luxury goods industry. The results indicate significantly positive cumulative abnormal returns from M&A announcements for different event windows. Although the results indicate a positive investors' reaction to M&A deals, this remains an explorative study. The authors suggest to modify the models, analyze supplementary sub-samples, and study different value creation determinants.

3.2.2   Long-term event studies

The long-term post-acquisition returns have been widely investigated in the literature. The methods applied to calculate those returns and the findings of these studies have been the subject of many debates (Craninckx & Huyghebaert, 2011).

Franks et al. (1991) have studied the post-acquisition performance over a 36-month period for deals undertaken by US bidders between 1975 and 1984. They obtain different results depending on the selected benchmark. They apply both an event-time and a calendar-time method. While they obtain significantly positive abnormal returns with a value-weighted benchmark, an equally-weighted benchmark leads to negative returns.

They do not report any significant returns when using an eight-portfolio benchmark (which they consider as the most relevant one). As a result, they conclude that post-deal abnormal returns identified in previous studies are subject to methodological errors concerning the choice of the benchmark. Gregory (1997) has investigated long-term post-takeover returns to UK acquirers between 1984 and 1992. The author addresses the benchmark selection issue by using six asset pricing models. The results indicate significantly negative long-term abnormal returns no matter the benchmark applied.

Loughran and Vijh (1997) use a sample of US acquirers for a period starting in 1970 and ending in 1989 to study their post-takeover performance over a 5-year window. They calculate buy-and-hold abnormal returns and select peer firms based on their required return on equity, size, and book-to-market value. They identify negative abnormal returns for companies that have performed a share merger and positive returns for those that have undertaken a cash tender offer. The authors conclude that markets are inefficient when these deals take place. Mitchell and Stafford (2000) consider the research concerning post-acquisition returns and the identification of long-term abnormal returns as irrelevant. They highlight cross-correlation between the acquirer's abnormal returns. They criticize the use of mean multiyear buy-and-hold abnormal returns combined with bootstrapping as this method relies on the returns' independence hypothesis. They also encourage the use of a calendar-time portfolio method to account for this relationship between the abnormal returns.

André et al. (2004) have studied a sample of Canadian firms that have undertaken acquisitions between 1980 and 2000. Because of the problems raised by the event-time approach such as the cross-correlation problem, the authors follow calendar-time portfolio methods and use the Fama-French three-factor model. Their findings indicate significantly negative abnormal returns over a 3-year post-acquisition period. Dutta and Jog (2009) have also investigated the long-horizon returns to the shareholders of Canadian acquirers between 1993 and 2002. Firstly, they use an event-time method and calculate the buy-and-hold abnormal returns with three different benchmarks. They do not find statistically significant returns with the most adapted benchmark (with the same method as Loughran and Vijh (1997)). The authors also use a calendar-time approach to identify long-term post-acquisition abnormal returns. However, they do not find significant returns with the Fama-French three-factor regression. Their results are thus consistent with the efficient market hypothesis.

To our knowledge, post-acquisition abnormal returns in the context of the luxury industry have not been studied yet. As a result, this thesis will be an explorative research concerning the long-term performance of luxury acquirers.

3.3 Determinants of abnormal returns

On top of assessing the size and the significance of short-and long-term abnormal returns from M&A announcements in the personal luxury goods industry, this thesis aims at identifying their underlying determinants. Those drivers are chosen based on their relevance for the sector and their impact identified in various event studies.

3.3.1 Cross-border acquisition

Internationalization is the main growth strategy for fashion and luxury firms (Deloitte, 2019a). Because of globalization and the growing competition at the international level, cross-border deals have been increasing in this sector. To this day, only the impact of cross-border takeovers on luxury firms' brand image has been investigated. Chung et al. (2014) highlight the importance of the acquirer and target country compatibility on the perception of both a luxury brand and its heritage. There are also general risks associated with cross-border acquisitions that are summarized by McCarthy and Aalbers (2016). While institutional differences inflate the cooperation costs, cultural divergences may also negatively impact takeover success. The authors indicate that cultural discrepancies are associated with a longer deal negotiation period and difficulties to accommodate the foreign workforce. Cultural gaps may also lead to an exclusion feeling on the part of workers as well as conflicts between the entities. Furthermore, Danbolt and Maciver (2012) introduce the risk of valuation error as a hypothetical reason for lower bidder returns in cross-border acquisitions.

Concerning the impact of geographic expansion on takeover abnormal returns, Mateev (2017) reports that the results of many event studies are unclear. Moeller and Schlingemann (2005) have studied acquisitions undertaken by US firms from 1985 to 1995. They identify significantly higher announcement returns for companies involved in domestic acquisitions than cross-border deals.

Conversely, Danbolt and Maciver (2012) find that short-term abnormal returns to cross-border UK acquirers are greater than the returns earned by domestic bidders. The sample consists of a series of M&A deals that have been undertaken between 1980 and 2008. In a recent study focusing on the logistics service industry, Kiesel et al. (2017) do not identify a significant impact of geographic expansion on the long-term abnormal returns to acquirers. They hypothesize that it results from a balanced situation of the drawbacks and advantages of internationalization.

3.3.2 Industry relatedness between the bidder and the target

The luxury industry is dominated by large conglomerates and multi-brand companies. The group LVMH owns more than 60 brands operating in different sectors such as Wines and Spirits or Watches and Jewelry (Ijaouane & Kapferer, 2012). However, the downsides of industry diversification are supported by the diversification discount hypothesis (Martin & Sayrak, 2003). The authors report the main causes of diversified firms' underperformance. They underline capital misallocation issues in conglomerates due to information asymmetry between the operating segments. Agency-problems may also be prevalent in diversified companies. Barai and Mohanty (2014) have put forward the strategic fit hypothesis to introduce the advantages of industry-related acquisitions. The authors explain that the similarity between businesses fosters the sharing of expertise and the transfer of sector knowledge. Those elements allow the combined company to increase its efficiency. Moreover, the whole entity becomes more profitable as it benefits from a larger market share. In contrast, the authors also report some benefits related to diversified entities. For example, those companies reduce their financial risk as they benefit from uncorrelated cash flows.

In the event study literature, many authors have identified higher abnormal returns to companies involved in industry-related acquisitions (Nicholson & Salaber, 2013). Martynova and Renneboog (2011) have studied takeovers undertaken by European acquirers during the fifth takeover wave. The results indicate that industry-related deals lead to significantly higher announcement abnormal returns for bidding firms compared to a diversification strategy (0.63% and 0.36%). The disparity is even more noticeable over the 2-month pre-announcement period. The mean cumulative abnormal returns are -1.41% before industry diversification and 1.43% before industry-related deals. Megginson et al. (2004) identify similar results in their long-term study of post-acquisition abnormal returns.

While industry-related deals increase the 3-year post-acquisition abnormal returns, focus-decreasing takeovers lead to a significant decrease in shareholders' wealth. Conversely, Mateev (2017) does not identify any statistical difference between announcement abnormal returns for European acquirers involved in intra-industry deals or corporate diversification.

3.3.3 Target status

The listing status of a target is frequently studied in the event study literature. Different theories have been put forward to explain its impact on abnormal returns resulting from M&A deals. The managerial motive hypothesis postulates that the market will perceive the acquisition of a private firm better than a listed firm (Draper & Paudyal, 2006). The authors indicate that managers pay large premiums to acquire public firms as they bring more private benefits. This tends to drive the share price down. Conversely, managers do not want to pay an excessive price for public targets. Furthermore, the takeover of a private firm is associated with the creation of synergies and investors' wealth maximization. The authors also underline the difficulty to integrate large public companies compared to non-listed entities. Alternatively, Mateev (2017) presents the liquidity hypothesis which postulates that the market for non-listed firms is less liquid than the market for public firms. The competition is thus less important between the buyers of private firms. Consequently, bidders benefit from a large bargaining power and pay lower premiums for the targets. The monitoring hypothesis accounts for both the payment method and the target status (Chang, 1998). The creation of outside blockholders is associated with the acquisition of a private target with equity. This subsequently improves the monitoring of managerial performance.

As far as the empirical literature is concerned, Faccio et al. (2006) studied acquisitions undertaken by Western European firms between 1996 and 2001. Their results indicate that acquirers of non-listed firms earn significantly positive abnormal returns over a 5-day period centered around the announcement date. In contrast, acquirers of public firms earn zero or negative short-term abnormal returns. Antoniou et al. (2007) investigated the announcement and post-acquisition returns to UK serial acquirers from 1987 to 2004. They identify significantly positive abnormal returns over a 5-day period for the acquirers of privately-held targets. They do not find significant abnormal returns for buyers of public firms in the short-term. Over a 3-year post-acquisition period, the abnormal returns are significantly negative regardless of the listing status of the target.

Draper and Paudyal (2006) studied acquisitions undertaken by UK companies between 1981 and 2001. The results indicate that acquirers of non-listed firms earn significantly positive abnormal returns around the bid announcement. In contrast, the acquirers of public firms experience insignificant or negative abnormal returns. In addition, the authors report higher abnormal returns for bidders acquiring private targets with equity than with cash. Acquirers of public firms do not earn significant abnormal returns with cash payments and negative returns with stock payments.

3.3.4 Acquirer size

As already mentioned, the personal luxury goods industry is dominated by large multi-brand companies (Ijaouane & Kapferer, 2012). However, multiple studies underline the negative relationship between the acquirer size and the abnormal returns resulting from M&A activities (Bouzgarrou & Navatte, 2013). Those findings are consistent with the hypothesis of an important managerial hubris in large firms. Indeed, Moeller et al. (2004) suggest that it is easier for managers to undertake acquisitions and pay large premiums as they have more resources. Alternatively, the authors suggest that large firms have fewer growth opportunities and are more prone to agency costs.

In the event study literature, Moeller et al. (2004) find higher abnormal returns associated with acquisitions undertaken by small firms compared to large firms. They study a sample of US domestic acquisitions undertaken between 1980 and 2001. The authors highlight a 2.24% difference between the takeover announcement abnormal returns of small and large firms. More specifically, they identify positive abnormal returns for small acquirers, except for public acquisitions with an equity payment. In contrast, they report that large bidders experience significant losses regardless of the payment method. Meinshausen and Schiereck (2011) also underline a negative correlation between the natural logarithm of the acquirer market capitalization and the share price surrounding M&A deals in the fashion sector. Concerning long-term studies, Bouzgarrou and Navatte (2013) report a negative relationship between the 36-month cumulative abnormal returns and the size of the acquirer. Their sample is composed of acquisitions conducted by French companies between 1997 and 2006.

3.3.5   Acquisition experience

Serial acquirers are expected to accumulate experience by conducting multiple acquisitions. As a consequence, it should have a positive impact on their performance (Antoniou et al., 2007). However, there is a consensus in the event study literature over the declining performance of frequent acquirers as they perform high-order deals (Renneboog & Vansteenkiste, 2019). Diverse arguments have been put forward to justify this phenomenon. Klasa and Stegenmoller (2007) suggest that negative abnormal returns subsequent to the last deal of a takeover sequence reflect a decrease in the industry growth opportunities. Billet & Quian (2008) identify negative announcement abnormal returns related to high-order acquisitions of US public targets. They suggest that CEOs become overconfident as they undertake multiple acquisitions and accumulate experience. This growing hubris explains why they pursue value-destructive deals. Aktas et al. (2009) nuance the effects of hubris infected CEOs on frequent acquisitions and the deal announcement abnormal returns. They suggest that rational CEOs accumulate experience and bid more aggressively from deal to deal. Conversely, over-confident CEOs learn to adjust their bid as they undertake multiple deals. The negative relationship between the abnormal returns and serial acquisitions should thus be observed only for rational serial acquirers. The authors also present alternative hypotheses (budget constraints or a growing competition) to explain declining abnormal returns in serial acquisitions.

In the event study literature, Fuller et al. (2002) report significantly positive abnormal returns over a 5-day period surrounding the announcement of the first takeover of a private firm. They find lower, yet positive, cumulative abnormal returns for subsequent deals. For public target acquisitions, they identify insignificant returns for the first bid. However, they report significantly negative returns for fifth and higher-order bids. Those acquisitions involve US acquirers between 1990 and 2000. Antoniou et al. (2007) studied the abnormal returns to UK bidders involved in three or more acquisitions within a 3-year period. They identify significantly positive cumulative abnormal returns over a 5-day period centered around the first deal announcement date. In contrast, the returns for the fifth deals or higher-order deals are negative and insignificant. Meinshausen and Schiereck (2011) also highlight the negative relationship between the takeover frequency and the cumulative abnormal returns of acquirers from the fashion industry. They attribute these results to decreasing investment opportunities from multiple acquisitions. In contrast to other studies, Doukas and Petmezas (2007) study the post-deal abnormal returns of UK acquirers of private targets.

While abnormal returns are insignificant within the three years following a first acquisition, they are significantly negative for higher-order deals. The authors attribute those findings to the overconfidence developed by managers as they conduct multiple M&A deals.

3.3.6   Family firm

Carcano et al. (2011) indicate that the luxury industry is dominated by family firms. The author presents the resources specific to family firms that provide them with a competitive advantage. Those strengths are summarized in appendix 2. The luxury industry provides an interesting setting to examine the impact of family ownership on the abnormal returns resulting from M&A deals. Anderson and Reeb (2003) indicate that family ownership may reduce agency conflicts. Because a significant share of their wealth is tied to the firm welfare, families are incentivized to control managers closely. Furthermore, the authors explain that families invest in projects with a long-term perspective compared to other shareholders. The increased monitoring should also lead to better acquisition decisions (André et al., 2012). On the other hand, families may pursue private benefits at the expense of firm performance and shareholders' wealth (Feito-Ruiz & Menéndez-Requejo, 2009). Craninckx and Huyghebaert (2015) suggest that families are incentivized to diversify corporate risk and ultimately diversify their wealth via acquisitions. They would thus pay high premiums to secure those deals.

In the event study literature, Ben-Amar and André (2006) examine M&A deals undertaken by Canadian firms between 1998 and 2002. They identify significantly positive cumulative abnormal returns around the announcement date of M&A deals. They further report a positive relationship between those returns and family ownership. Feito-Ruiz and Menéndez-Requejo (2009) study the acquisitions involving European acquirers between 2002 and 2004. They identify a positive impact of family ownership on the abnormal returns surrounding the announcement date of a deal. Those results hold regardless of the legal and institutional divergences between the country of the acquirer and the target. However, the authors indicate that major shareholder ownership has a negative impact on the announcement abnormal returns when it reaches 32.11%. Similarly, André et al. (2012) identify a non-linear relationship between family ownership and the abnormal returns to acquirers surrounding M&A deals. The authors postulate that risk-averse family blockholders undertake deals with less value creation potential because their wealth is tied to the firm activity.

Bouzgarrou and Navatte (2013) studied the long-term post-acquisition abnormal returns for a sample of French acquisitions undertaken between 1997 and 2006. The calendar time approach indicates positive and significant post-acquisition returns over a 3-year period for family firms. In contrast, the long-term abnormal returns are insignificant for the other firms. This indicates a weak outperformance of family firms over other companies in the long-term.

4 HYPOTHESES

This section summarizes the main results of the event studies presented in the Literature Review as well as the theories that have been proposed to justify their inferences. We use these elements to formulate hypotheses concerning the stock performance of acquiring firms and its determinants.

As indicated in the previous section, the results of short-term event studies concerning M&A announcement abnormal returns vary with the focus industry, country, or region. Multiple studies have reported negative or insignificant abnormal returns (e.g. Campa & Hernando, 2004; King et al., 2004). However, the luxury industry is dominated by serial acquirers that have been able to turn many targets into successful brands. Therefore, we expect the shareholders of the acquiring firms to be optimistic concerning the success of the announced takeovers. Furthermore, various event studies have reported significantly positive abnormal returns around the announcement of M&A deals (e.g. Martynova & Renneboog, 2011; Mateev, 2017; Dranev et al. 2019). Finally, positive short-term abnormal returns to luxury acquirers is consistent with the findings of Königs and Schiereck (2006).

> Hypothesis 1 (H_1): Luxury acquirers realize significantly positive abnormal returns at the announcement of an M&A deal.

The existence of post-announcement abnormal returns has been widely debated. Many authors have reported negative abnormal returns to acquirers over long periods (e.g. André et al., 2004). Campbell et al. (2009) also underline the underperformance of acquirers involved in Real Estate Investment Trust (REIT) mergers. Datta et al. (2001) obtain similar results for low equity-based compensation firms. However, Dutta and Jog (2009) admit that methodological issues are associated with the predominant approaches applied to measure post-acquisition performance. Furthermore, their results do not contradict the market efficiency hypothesis. Similarly, we do not expect to observe post-deal abnormal returns for acquirers operating in the luxury industry.

> Hypothesis 2 (H_2): Luxury acquirers do not realize significant abnormal returns in the long-term period following the announcement of an M&A deal.

Event studies are unclear concerning the effect of cross-border acquisitions on the abnormal returns to acquirers (Mateev, 2017). Cross-border acquisitions are risky for luxury firms as it can damage the brand image of the involved parties. Furthermore, many general risks are associated to this type of deal and the cultural discrepancies. Therefore, we expect to observe a negative relationship between cross-border deals and the associated abnormal returns.

Hypothesis 3 (H_3): In the luxury industry, a cross-border acquisition has a negative impact on the abnormal returns from the deal.

The luxury industry is dominated by conglomerates. However, we expect industry-related acquisitions to have a better impact on the abnormal returns to acquirers than industrial diversification. This is consistent with the results of various event studies (e.g. Nicholson & Salaber, 2013). This is also in line with the strategic fit and diversification discount hypothesis (Martin & Sayrak, 2003; Barai & Mohanty, 2014).

Hypothesis 4 (H_4): In the luxury industry, the acquisition of a target operating in the same sector as the bidder has a positive effect on the abnormal returns from the deal.

Event studies report almost unanimously higher abnormal returns from the acquisition of a private target than for the takeover of a listed company (e.g. Draper & Paudyal, 2006; Faccio et al., 2006; Antoniou et al., 2007). Those results are supported by various theories such as the liquidity hypothesis, the monitoring hypothesis, and the managerial motive hypothesis. As a result, we expect to obtain similar results as these event studies.

Hypothesis 5 (H_5): In the luxury industry, the acquisition of a non-listed target has a positive effect on the abnormal returns from the deal.

Although the luxury industry is dominated by large groups, event studies report a negative relationship between the size of the acquirer and the abnormal returns from the deals (e.g. Moeller et al., 2004; Bouzgarrou & Navatte, 2013). This is explained by the agency costs and the managerial hubris associated with large entities. Therefore, we expect a negative relationship between the abnormal returns from M&A deals and the size of the acquirer.

Hypothesis 6 (H_6): In the luxury industry, the size of the acquirer is negatively related to the abnormal returns from M&A deals.

Although the leaders of the luxury industry are serial acquirers, there is a consensus in the empirical literature over declining abnormal returns from deal to deal (e.g. Fuller et al., 2002; Antoniou et al., 2007). Those results may be attributed to a decrease in the industry growth opportunities, growing competition in the sector, or the managers becoming over-confident as they undertake multiple deals. As a result, we expect to observe lower abnormal returns from acquisitions undertaken at the end of a takeover sequence.

Hypothesis 7 (H_7): In the luxury industry, serial acquirers earn lower abnormal returns from M&A deals undertaken at the end of a takeover sequence.

Event studies indicate that family ownership has a positive impact on the abnormal returns from M&A deals up to a certain share of ownership (e.g. Feito-Ruiz & Menéndez-Requejo, 2009; André et al., 2012). Family ownership is expected to reduce agency-conflict. Furthermore, families invest in projects that will bring long-term benefits to the company. However, owners may avoid valuable acquisitions if those deals represent a significant risk for their wealth invested in the firm. Nevertheless, we expect higher abnormal returns for family-owned acquirers as family conglomerates dominate the luxury industry.

Hypothesis 8 (H_8): In the luxury industry, family-owned acquirers realize higher abnormal returns from M&A deals than non-family firms.

Luxury products and services are characterized by an expensive price (Ko et al., 2019). As a result, we expect takeovers involving countries populated by wealthy individuals to have a positive impact on the abnormal returns from those deals.

Hypothesis 9 (H_9): In the luxury industry, acquisitions involving entities located in wealthy countries yield higher abnormal returns.

5 METHODOLOGY

5.1 Data gathering

The sample is drawn from the successful M&A deals announced by acquirers active in the personal luxury goods industry. As the definition of this industry lacks precision, the studied companies are the firms classified in the *Global Powers of Luxury Goods Top 100* (Deloitte, 2019b, pp. 21-23). The history of mergers and acquisitions is extracted from Thomson Reuters Eikon as well as acquirer-, deal- and target-specific information. Stock market data is extracted from Thomson Reuters Datastream. A sample of 111 successful M&A deals[5] is obtained after the application of restrictions that are frequently applied in event studies:

1. The acquirer must be listed on the stock market and its stock prices should be available on Datastream. However, targets may be public or non-listed;

2. The percentage of the acquired stake is equal or superior to 50% to account for a controlling stake transfer (Meinshausen & Schiereck, 2011);

3. The deal status is "completed". As done by Meinshausen and Schiereck (2011), we do not account for rumors of M&A deals and withdrawn transactions;

4. The deals have been announced between 2000 and 2016 inclusively. Three years of post-announcement data should be available for the long-term study;

5. We exclude clustered deals that involve the acquisition of more than one target, except on the same day, within a 10-day period. Antoniou et al. (2007) apply almost the same criterion to avoid overlapping effects among the acquirer returns in the short-term analysis;

6. Conn et al. (2005) limit their sample to deals that have a minimum value of 5% the market capitalization of the bidder during the announcement month. Those acquisitions are not expected to impact the acquirer stock price. However, we do not apply this threshold as the deal value is not available for the majority of the sample.

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[5] The sample of M&A deals is available in appendix 3.

5.2 Measuring the short-term abnormal returns

The different steps summarized by MacKinlay (1997) are followed to conduct the short-term event study.

First of all, the studied event as well as the event window must be defined. The takeover announcement has been chosen as the event of interest. However, the period during which the share price fluctuations will be studied must be determined. McWilliams and Siegel (1997) indicate that choosing the length of the event-window is a crucial decision in the design of an event study. The authors report that an event window should be sufficiently short to control for confounding events and long enough to capture the relevant effects of the event. Martynova & Renneboog (2011) suggest studying the pre-event period to account for information leakage, insider trading, or market anticipation of the deal. Furthermore, Mackinlay (1997) specifies that the use of a multiple-day event window also captures the post-announcement price effect. In event studies, Conn et al. (2005) indicate that a 3-day window is the most frequently studied event window. However, Danbolt and Maciver (2012) apply an additional 11-day window to account for pre-announcement effects. Similarly, we apply multiple event windows up to eleven days surrounding the deal announcement date.

The performance of the share price can only be defined as "abnormal" in comparison to a benchmark (Brown and Warner, 1980). In event studies, the predominant models measure the abnormal return of a security at a certain time as the difference between the stock post-event return and its estimated expected "normal" return. MacKinlay (1997, p. 15) presents the general formula to calculate the abnormal return of a stock at a certain time as follows:

$$AR_{i,t} = R_{i,t} - \mathrm{E}(R_{i,t}|X_t) \qquad (1)$$

where $AR_{i,t}$, $R_{i,t}$, and $\mathrm{E}(R_{i,t}|X_t)$ are respectively the abnormal, actual, and normal return of security i at time t.

MacKinlay (1997) introduces statistical and economic methods to model the normal return of a security. The author indicates that economic methods rely on both economic and statistical restrictions.

However, because of the increased complexity and the small gains associated with economic models, we choose to apply a simple market model (Campbell et al., 1997). Fama (1998) also outlines the limited impact of the model chosen to forecast the normal return of a security in short-term studies as daily expected returns are approximately zero.

The market model is presented by MacKinlay (1997, p. 18) as illustrated in eq. (2). The author indicates that the model assumes a linear relationship between the stock return and the market return. This relationship follows from the hypothesized joint normality of the asset returns. Defrancq et al. (2016) use the market model with the MSCI Europe index to investigate the impact of acquisitions undertaken by European firms. Because the sample of this research is international, the MSCI World index is used as the market portfolio for the model.

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$
$$\text{with } E[\varepsilon_{i,t}] = 0 \text{ and } Var(\varepsilon_{i,t}) = \sigma_{i,t}^2 \tag{2}$$

where $R_{i,t}$ and $R_{m,t}$ are respectively the return of security i and the market portfolio at time t, $\varepsilon_{i,t}$ is the zero mean disturbance term.

In the market model, the intercept α_i and the systematic risk β_i are estimated in an Ordinary Least Squares (OLS) regression for each security. The stock returns are regressed on the index returns over an estimation period prior to the event (McWilliams & Siegel, 1997). Campbell et al. (1997) propose to use a 120-day estimation window before the event window. The estimation interval should not overlap with the studied period to eliminate the influence of the event on the estimations (MacKinley, 1997). As in many event studies with daily data, a 200-day estimation window before the beginning of the event window is applied in this study (Armitage, 1995).

It is important to specify that the returns are continuously compounded. Henderson (1990) indicates that those returns enhance the normality of their distribution. As done by Danbolt and Maciver (2012), we calculate the log-transformed returns from Total Returns Index (TRI) data downloaded via Datastream as follows:

$$R_{i,t} = \ln\left(\frac{TRI_{i,t}}{TRI_{i,t-1}}\right) \tag{3}$$

The market model accounts for the change in the market return and deducts it from the stock return. This ultimately decreases the variance of the abnormal return. This reduction is reflected by an important R^2 of the regression (Campbell et al., 1997). Furthermore, this variance reduction is greater when a multi-factor model is applied to similar firms. For example, companies that operate in the same sector (MacKinlay, 1997). However, there is no suitable market index for the luxury industry over the studied period. Therefore, a multi-factor model with the MSCI ACWI Consumer Discretionary index and the MSCI World index is applied to cross-check the results of the market model. Nevertheless, as conglomerates in the luxury industry make frequent acquisitions, we also apply a market adjusted model. This approach does not require any estimation period. Many event studies that have investigated the short-term abnormal returns to serial-acquirers have used this method (e.g. Fuller et al., 2002; Conn et al., 2005). The authors indicate that takeover attempts during the estimation period make the estimation of the regression parameters less meaningful. This method considers that the expected return of a security is equal to the return of the market at the same moment. The adjusted market model presented in eq. (4) is perceived as an adaptation of the market model with the parameters α and β respectively equal to 0 and 1 (Dyckman et al., 1984).

$$\text{E}[R_{i,t}] = R_{m,t} \tag{4}$$

In order to draw conclusions from the announcement of acquisitions in the luxury industry, the abnormal returns must be aggregated (MacKinlay, 1997). The returns are firstly aggregated across the sample firms as in eq (5). We obtain the average abnormal return of each day of the event interval. The mean abnormal returns are further cumulated over different time windows to obtain the cumulative average abnormal returns as presented in eq. (6).

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t} \tag{5}$$

$$CAAR_{[t_1,t_2]} = \sum_{t=t_1}^{t_2} AAR_t \tag{6}$$

where AAR_t is the average abnormal return at time t, N is the number of observations, $CAAR_{[t_1,t_2]}$ is the cumulative average abnormal return measured over the interval $[t_1, t_2]$.

5.2.1 Significance tests

Different event studies apply a *t*-test to evaluate the statistical significance of the mean cumulative abnormal returns (e.g. Conn et al. 2005; Antoniou et al., 2007). Furthermore, those studies estimate the *t*-statistics with the cross-sectional fluctuations of the abnormal returns. The *t*-test is one of the most commonly employed parametric tests (Ahern, 2009). Although there are other accepted parametric tests, we apply a simple *t*-test and complete it with a non-parametric test.

We employ a cross-sectional *t*-test to test the null hypothesis that the average cumulative abnormal returns are not statistically different from zero. Under the null hypothesis, if the cumulative abnormal returns are normally distributed, the test statistic follows a Student's *t*-distribution (Barber & Lyon, 1997). If the returns do not follow a normal distribution, the statistical significance of the event study results may be misinterpreted (Brown & Warner, 1980). However, if the abnormal returns are independent and identically distributed, the Central Limit Theorem (CLT) ensures that their distribution approximates a normal distribution for a sufficiently large sample (Barber & Lyon, 1997). We adopt the notation of Barber and Lyon (1997, p. 358) in eq. (7) to present the formula of the *t*-statistic.

$$t_{CAAR} = \frac{CAAR_{[t_1,t_2]}}{\sqrt{\mathrm{Var}(CAAR_{[t_1,t_2]})}} \qquad (7)$$

where $CAAR_{[t_1,t_2]}$ is the cumulative average abnormal return measured over the interval $[t_1, t_2]$, $\mathrm{Var}(CAAR_{[t_1,t_2]})$ is the cross-sectional variance of the return.

In order to approximate the variance of the cumulative abnormal returns, we use the cross-section of the abnormal returns (Brown & Warner, 1985). The absence of overlap between the event windows of the studied stocks is required to avoid cross-sectional correlation in the excess returns (MacKinlay, 1997). A violation of this assumption inadequately increases the rejection rate of the null hypothesis (Dyckman et al., 1984). We adopt the notation of MacKinlay (1997, p. 28) to present eq. (8) which is the estimated variance of the cumulative average abnormal returns.

$$\mathrm{Var}\big(CAAR_{[t_1,t_2]}\big) = \frac{1}{N^2} \sum_{i=1}^{N} (CAR_{i,[t_1,t_2]} - CAAR_{[t_1,t_2]})^2 \qquad (8)$$

Compared to parametric tests, non-parametric approaches do not formulate specific assumptions on the distribution of the returns (MacKinlay, 1997). As far as the performance of parametric tests is concerned, Corrado and Zivney (1992) indicate that the rank test is better than the sign test to evaluate the statistical significance of the abnormal returns. A rank test is thus applied as a robustness check for the inferences based on the t-test (MacKinlay, 1997). A rank is assigned to the abnormal returns of each security over the estimation and the event window (Campbell & Wesley, 1993).

The notation of Aktas et al. (2007, p. 134) is adopted to present the test on the event date in eq. (9) and the associated standard error in eq. (10).

$$t_{rank} = \frac{\frac{1}{N}\sum_{i=1}^{N} K_{i,0} - \overline{K}}{S(K_t)} \qquad (9)$$

$$S(K_t) = \sqrt{\frac{1}{T}\sum_{t=1}^{T}\left(\frac{1}{N}\sum_{i=1}^{N}(K_{i,t} - \overline{K})\right)^2} \qquad (10)$$

where $K_{i,0}$ is the rank of the security i abnormal return at time 0 and $\overline{K}$ is the expected rank measured as $\frac{T+1}{2}$. T is equivalent to the number of days in both the estimation and event window (Campbell & Wesley, 1993).

However, to calculate the test statistic for an event window of multiple days, we follow the procedure presented by Cowan (1992, p. 346) as indicated in eq. (11).

$$t_{rank} = d^{1/2}\frac{\overline{K}_D - \overline{K}}{S(K_t)} \qquad (11)$$

where d is the number of days over the event window, $\overline{K}_D$ is the cross-sectional mean rank over the same window.

5.3 Measuring the long-term abnormal returns

There are two predominant methods to measure the post-event long-term abnormal returns. Those are the calendar-time portfolio approach and the buy-and-hold benchmark method (Ang & Zhang, 2004). As in Dutta and Jog (2009), both methods are applied in this research to measure the 1-, 2- and 3-year performance of a firm in the post-event period. The methodologies are often combined to alleviate their associated issues (e.g. Conn et al., 2005; Dutta & Jog, 2009; Bruyland et al., 2019). This solution is also encouraged by Lyon et al. (1999).

There are advantages and drawbacks associated with both approaches. On the one hand, the calendar-time abnormal returns do not reflect the investor practice. This method is also prone to the bad model problem when the sample firms belong to the same sector. On the other hand, it is effective in the case of cross-sectional correlation among the observations (Lyon et al., 1999). Conversely, the buy-and-hold benchmark method does not eliminate the cross-sectional dependence among the abnormal returns. Furthermore, this approach is also prone to the bad model problem as no benchmark reflects the exact performance of another firm if the event had not taken place (Ang and Zhang, 2015). Mitchell and Stafford (2000) further indicate that these measurement errors are accumulated over a long period. Although the model reflects the experience of the investor from purchasing shares and keeping them over a certain period, there are other trading strategies.

5.3.1 Buy-and-hold abnormal return approach

The buy-and-hold abnormal return method has been used extensively in long-horizon event studies (Kothari and Warner, 2007). The buy-and-hold abnormal return (BHAR) of a security is calculated as the difference between its compounded return and its expected buy-and-hold return if the event had not taken place (Campbell et al., 2009). Barber and Lyon (1997) present this approach for security i over period T as indicated in eq. (12).

$$BHAR_{i,t} = \prod_{t=1}^{T}\left[1 + R_{i,t}\right] - \prod_{t=1}^{T}\left[1 + E(R_{i,t})\right] \qquad (12)$$

where $BHAR_{i,t}$, $R_{i,t}$, $E(R_{i,t})$ are respectively the buy-and-hold abnormal return, the monthly return and the expected return of security i. T refers to the holding period.

Various benchmarks have been used in event studies to proxy the expected return of a sample firm in the absence of a merger event (Campbell et al., 2009). Many studies have used a reference portfolio or a control company matched with the focus firm (Ang and Zhang, 2015). The authors underline the importance of the benchmark selection. They indicate that the use of a non-adapted benchmark leads to misinterpretations of the consequences of the event. Barber and Lyon (1997) outline significant biases in test statistics when the buy-and-hold abnormal returns are obtained with a reference portfolio. Conversely, they report well-specified test statistics when they use control firms that have a size and a book-to-market ratio similar to the sample firms. It eliminates the skewness, new listing, and rebalancing biases associated with a reference portfolio. Furthermore, the idea of matching the sample firms with control firms has been used in many studies concerning long-term post-acquisition performance. Datta et al. (2001) use peer companies matched by size, book-to-market ratio, and one-year pre-acquisition stock return as benchmark for the sample firms. Bruyland et al. (2019) have also selected firms comparable to the sample companies in terms of size, market-to-book ratio, one-year pre-bid performance, and industry. Lyon et al. (1999) encourage the selection of control firms on the basis of other characteristics than just the size and the book-to-market ratio. They indicate that test statistics are not correctly specified when only those criteria are applied in certain sampling situations.

The method applied in this research is close to the approach followed by Lyon et al. (1999) to identify control firms. Firstly, non-bidding firms operating in the consumer discretionary sector are gathered. This is the most comparable sector to the luxury industry with a large number of players. Firms that have carried out M&A deals[6] within a 6-year period centered around the announcement date are excluded from the matching universe. Then, the companies with a market value of equity between 70% and 130% of the market capitalization of a sample firm are selected. As done by Bruyland et al. (2019), this variable is measured one month prior to the bid announcement. The book-to-market ratio is not taken into account to identify the control firms due to time constraints and data availability. Each benchmark has been identified via Thomson Reuters Eikon and is presented in appendix 4 with it associated sample firm.

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[6] Only the deals that meet the restrictions presented in the Data gathering part are considered as acquisitions.

5.3.1.1 Significance tests

Ang and Zhang (2015) present the main tests to assess the significance of the buy-and-hold abnormal returns. While bootstrapping-based tests have higher power than the Student's *t*-test, the measured statistical significance constantly changes as they rely on random sampling. As far as non-parametric tests are concerned, their performance varies according to the selected benchmark.

As done by Campbell et al. (2009), the Student's *t*-test is applied to test the null hypothesis that the long-term abnormal returns are on average zero. The skewness-adjusted *t*-test is not selected for this research as the skewness problem is already eliminated by the selection of a control firm as benchmark. The procedure applied by Barber and Lyon (1997, p. 358) to test the statistical significance of the buy-and-hold abnormal returns is presented in eq. (13). The authors use the cross-sectional standard deviation of the returns.

$$t_{BHAR} = \sqrt{N} \frac{\overline{BHAR_T}}{(\sigma_{BHAR})} \tag{13}$$

The test assumes that the abnormal returns are independent and follow a normal distribution. However, the sample observations are cross-sectionally correlated, which can distort the interpretation of the results and their statistical significance (Dionysiou, 2015).

A non-parametric test is applied as a robustness check for the results obtained with the *t*-test. Ang and Zhang (2004) highlight the high power of Fisher's sign test to assess the statistical significance of long-term abnormal returns calculated with a single firm benchmark. They also indicate that the test is well specified in this context. In addition, they underline the great performance of the testing method in small samples.

5.3.2 Calendar-time portfolio approach

As an alternative to the buy-and-hold abnormal return method, the calendar-time portfolio (CTP) approach is applied to measure long-term stock price performance (Kothari & Warner, 2007). Compared to the buy-and-hold abnormal return approach, the calendar-time portfolio method controls well for the cross-sectional dependence issue.

By aggregating the returns of the firms into a single portfolio, it alleviates the cross-sectional correlation among the observations (Lyon et al., 1999).

This study follows the procedure presented by Lyon et al. (1999) to apply the calendar-time portfolio methodology with a multi-factor model. The complete model is presented in eq. (14). Each month from February 2000 to November 2019, the return of an equally weighted portfolio is calculated. The portfolio is rebalanced monthly to only include firms that have undertaken an acquisition within the past 12, 24, or 36 months (Mitchell & Stafford, 2000). In event studies, the monthly abnormal return is obtained by estimating the intercept of the portfolio with a multi-factor model. Indeed, Dutta and Jog (2009) use the Fama-French three-factor model from 1993 to regress the post-event excess returns on the different factors of the model. Bruyland et al. (2019) have also applied the Carhart four-factor model from 1997. In this research, the recent Fama-French five-factor model (2015) is applied. The model is similar to the three-factor model complemented with a profitability and an investment factor. The three-factor model was reported as incomplete because it was not able to capture the change in average returns due to those factors (Fama & French, 2015).

$$R_{p,t} - R_{f,t} = \alpha_i + \beta_i(R_{m,t} - R_{f,t}) + s_i SMB_t + h_i HML_t + r_i RMW_t + c_i CMA_t + \epsilon_{i,t} \quad (14)$$

where $R_{p,t}$ is the monthly return on the calendar-time portfolio, $R_{f,t}$ is the risk-free rate, $R_{m,t}$ is the market return. The monthly factors $SMB_t, HML_t, RMW_t, CMA_t$ correspond to the difference between the returns on diversified portfolios of respectively small and big stocks, high and low book-to-market stocks, stocks with robust and low profitability, stocks of low and high investment firms. $\epsilon_{i,t}$ is the zero-mean residual (Fama & French, 2015, pp.2-3).

As in Bruyland et al. (2019), the different factors for developed countries are downloaded from the website of Kenneth French[7]. The coefficients of the model are estimated by regressing the excess returns of the portfolios against the factor returns. The abnormal performance is studied by analyzing the approximated intercept and its statistical significance (Kothari and Warner, 2007). It represents the mean monthly abnormal return realized by the portfolio of event firms (Mitchell & Stafford, 2000).

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[7] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/index.html

If the model captures the fluctuations of the expected stock returns, the null hypothesis assumes no abnormal performance and the intercept should be zero (Ang & Zhang, 2004).

5.4 Measuring the drivers of the abnormal returns with multivariate regressions

To study the determinants of the announcement and post-bid abnormal returns, multivariate cross-sectional regressions are performed. Kothari and Warner (2007) indicate that cross-sectional tests are applied in the majority of event studies. Those tests are useful to identify the impact of specific factors on the abnormal returns. Even when the returns do not significantly differ from zero, the impact of the event varies from firm to firm and the use of cross-sectional tests is relevant. The hypothesized impact of bidder-, transaction-and target-specific factors presented in the Hypotheses section can thus be tested.

The abnormal returns are regressed on those characteristics. The coefficients are estimated with OLS regressions. The models rely on the assumption that the error terms are not cross-sectionally correlated and homoscedastic (MacKinlay, 1997). However, the homoscedasticity assumption is eliminated. As advised by MacKinlay (1997) the t-statistics are obtained by using the method proposed by White in 1980 to obtain heteroscedasticity-consistent standard errors. As in Meinshausen and Schiereck (2011), a Durbin-Watson test is applied to identify the presence of autocorrelation. Because of the large number of explanatory variables, the correlation matrix of those variables is built to spot excessive correlations (Brooks, 2008).

The cross-sectional regressions are presented in eq. (15) for the short-term analysis and in eq. (16) for the long-term study. The dependent variables and the explanatory variables are detailed in the following sub-sections.

$$
\begin{aligned}
CAR_i = \alpha_0 &+ \beta_1 Domestic_i + \beta_2 Serial_i + \beta_3 Private_i + \beta_4 Subsidiary_i \\
&+ \beta_5 Related_i + \beta_6 Family_i + \beta_7 Size_i + \beta_8 AcqGDPPC_i \\
&+ \beta_9 TarGDPPC_i + \beta_{10} AcqGDPPCgr_i + \beta_{11} TarGDPPCgr_i
\end{aligned}
\tag{15}
$$

$$
\begin{aligned}
BHAR_i = \alpha_0 &+ \beta_1 Domestic_i + \beta_2 Serial_i + \beta_3 Private_i + \beta_4 Subsidiary_i \\
&+ \beta_5 Related_i + \beta_6 Family_i + \beta_7 Size_i + \beta_8 AcqGDPPC_i \\
&+ \beta_9 TarGDPPC_i + \beta_{10} AcqGDPPCgr_i + \beta_{11} TarGDPPCgr_i
\end{aligned}
\tag{16}
$$

5.4.1 Dependent variables

The dependent variable of the regression in the short-term analysis is the cumulative abnormal return from each deal over a 3-day event window centered around its announcement. The drivers of the buy-and-hold abnormal return of each deal over a 1-, 2-and 3-year window are also identified with cross-sectional regressions. Those dependent variables are frequently used in short-and long-term event studies (e.g. Conn et al. 2005; André et al., 2012; Bruyland et al. 2019)

5.4.2 Independent variables

- *Domestic*: This dummy variable takes the value one if the target and the acquirer are established in the same country. Many event studies use a dummy variable to assess the impact of cross-border or domestic deals on abnormal returns (e.g. Mateev, 2017; Bruyland et al., 2019).

- *Serial*: This dummy variable takes the value one if the deal is the third or higher-order acquisition undertaken by the acquirer within a 3-year period. Antoniou et al. (2007) use this criterion to identify serial acquirers when selecting their sample firms.

- *Private*: This dummy variable takes the value one when the target is a non-listed firm. Faccio et al. (2006) use a similar variable to assess the impact of the listing status of the target on the abnormal returns.

- *Subsidiary*: This dummy variable takes the value one when the target is a subsidiary of the acquirer. The non-listed targets in the sample are subsidiaries or stand-alone entities. This variable is applied to complement the study concerning the impact of the target status on the abnormal returns.

- *Related*: This dummy variable takes the value one when the target operates in the exact same sector as the acquirer.

Many studies use the SIC[8] code of the acquirer and the target to assess the industry relatedness between the entities (e.g. Martynova & Renneboog, 2011). However, for simplicity, this variable is based on the comparison of the industry classifications provided by Thomson Reuters Eikon.

- *Family*: This dummy variable takes the value one when the acquirer is a family firm. As in Ben-Amar and André (2006, p. 525), a company is considered as a family firm when the largest controlling share is held by a family. The ownership data is obtained on Thomson Reuters Eikon for the year of the deal announcement.

- *Size*: This variable is the logarithm of the acquirer market capitalization in US\$ measured the month prior the deal announcement. The variable has been applied by Moeller et al. (2004) to evaluate the impact of the acquirer size on the abnormal returns.

- **The wealth of the prospects:** *AcqGDPPC* and *TarGDPPC* are the logarithms of the Gross Domestic Product per capita (GDPPC) in US\$ of the acquirer and the target country over the year of the deal announcement. *AcqGDPPCgr* and *TarGDPPCgr* represent the growth of the GDPPC in the acquirer and target country the same year. Those variables are obtained from the World Bank online database[9]. They have been selected to evaluate the impact of the wealth of the population in the countries of interest on the abnormal returns.

[8] Standard Industrial Classification
[9] https://data.worldbank.org/

6 EMPIRICAL RESULTS

6.1 Short-term analysis

This section is dedicated to the analysis of the cumulative average abnormal returns. As a reminder, the normal returns have been calculated over the event window with a market adjusted and a market model. Both models are based on the MSCI world. A multi-factor model with the additional MSCI ACWI Consumer Discretionary Index has been employed as a robustness check for the results of the market models. The abnormal returns and the results of the associated statistical tests are presented in Table 1. Fig. 1 depicts the average abnormal returns accumulated from $t= -5$ to $t= +5$ for the sample of 111 M&A deals.
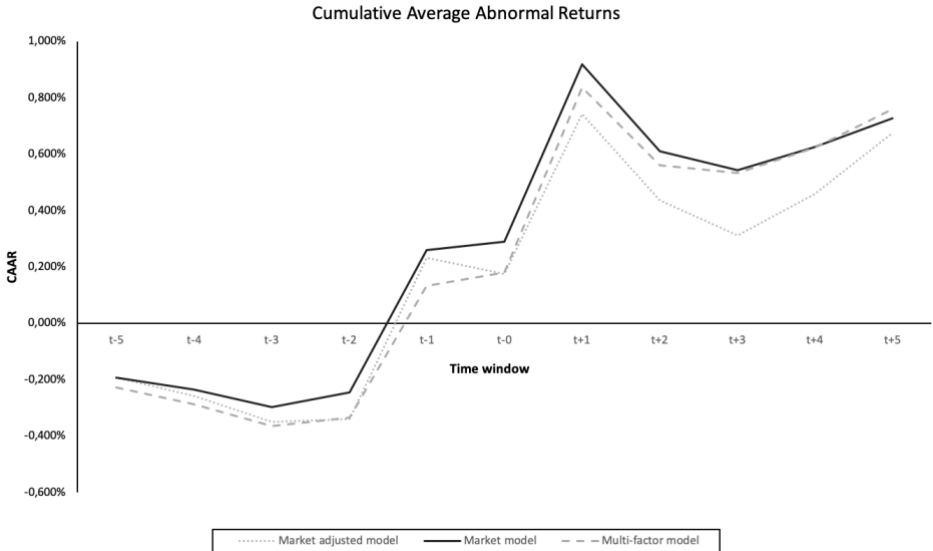
Fig. 1.

Representation of the cumulative average abnormal returns to luxury acquirers around the M&A deal announcement date from day t = -5 to day t = +5.

Graph 1 reports a positive impact of the event on the acquirer stock returns. The positive cumulative average abnormal returns prior to the bid indicate that the market slightly anticipates the deal. Yet, there is an even stronger positive announcement effect the day following the bid. In order to gain further insights into the deal effects in the short-term, the statistical significance of the cumulative average abnormal returns over different windows presented in Table 1 is analyzed.

The cumulative average abnormal returns are partitioned into different sub-periods in Table 1. Their value and statistical significance vary according to the period studied. It is also interesting to see that the returns slightly differ from one model to another. All models indicate positive abnormal returns accumulated over the studied windows. The only exception is the negative return on the announcement day when measured with the market adjusted model. However, none of the abnormal returns on the announcement day are statistically different from zero. Over a 7-day window starting five days prior to the deal announcement, the returns range from 0.743% to 0.919% depending on the applied model. Although this might be a sign of information leakage prior to the deal announcement or a sign of insider trading, none of the statistical tests report statistically significant results. Over the longest time window, an 11-day period centered around the announcement date, the returns reach 0.760% when measured with the multi-factor model. However, the returns are still not statistically different from zero.

In contrast, when measured over a 3-day window centered around the announcement date, the cumulative average abnormal returns reach up to 1.172%. Those mean returns are higher than any returns calculated over the other event windows. Furthermore, they are significant at the 5% significance level for the three models with both the cross-sectional t-test and the Corrado rank-test. These results outline a positive and robust announcement effect clustered around the event date. These inferences are reinforced by the study of the cumulative abnormal returns one day prior to the event and one day following the M&A announcement. Depending on the applied model and statistical test, the event windows $t = -1$ to $t = 0$ and $t = 0$ to $t = +1$ yield positive and statistically significant returns at the 10% significance level. Those abnormal returns are respectively 0.514% and 0.704% with the multi-factor model.

As underlined by Meinshausen and Schiereck (2011), positive and statistically significant abnormal returns over the 3-day period around the deal announcement contrast with the results of various event studies. While those positive returns indicate an increase in the net present value of the firm, Campa and Hernando (2004) do not identify such a significant variation for European acquirers. However, those results are in line with the findings of Fuller et al. (2002) for frequent acquirers or Beneish et al. (2008) for US tobacco producers. As a result, we conclude that the market positively reacts to M&A deals announced by acquirers from the personal luxury goods sector. As Kiesel et al. (2017) suggest for the logistics service industry, investors anticipate the synergies and improved performance of the acquiring firms.

Investors seem to believe in the ability of luxury brands to find the right balance between the realization of synergies and leaving enough autonomy to the targets. Those synergies have been discussed in the Setting the scene part. As a reminder, they are the corporate, financial, market power, and growth/efficiency synergies. A poor integration management of the target could harm the brand image of the involved parties and reduce its sense of responsibility (Ijaouane & Kapferer, 2012). The drivers of the abnormal returns to acquirers are further investigated in the Multivariate analysis section. However, the positive effect of M&A deals seems to be clustered around the announcement date. Indeed, the abnormal returns are not statistically different from zero over longer event windows. Investors do not seem to anticipate the deal and the effects of the event do not seem to last over a long period. This is consistent with the market efficiency hypothesis which advances that financial news is quickly incorporated into security prices (MacWilliams & Siegel, 1997).

As a consequence, those results confirm the first hypothesis which states that the announcement of M&A deals in the luxury industry is positively perceived by the markets and yield significantly positive cumulative average abnormal returns in the short-term.

Table 1

Cumulative average abnormal returns and associated test statistics.

| | **Market adjusted model** N=111 | | | | **Market model** N=111 | | | | **Multi-factor model** N=111 | | | |
| | | | Test statistics | | | | Test statistics | | | | Test statistics | |
Time window	CAAR	Std Dev	*t*-test	Rank test	CAAR	Std Dev	*t*-test	Rank test	CAAR	Std Dev	*t*-test	Rank test
0	-0.058%	0.0029	-0.196	0.062	0.029%	0.0029	0.101	0.443	0.046%	0.0028	0.162	0.560
[0; +1]	0.510%	0.0040	1.264	1.439	0.658%	0.0040	1.664*	1.884*	0.704%	0.0039	1.800*	2.060*
[-1; 0]	0.513%	0.0032	1.593	1.352	0.535%	0.0032	1.661*	1.632	0.514%	0.0032	1.618*	1.541
[-1; +1]	1.081%	0.0045	2.407**	2.243**	1.164%	0.0046	2.547**	2.615**	1.172%	0.0045	2.575**	2.617**
[-5; +1]	0.743%	0.0060	1.241	0.277	0.919%	0.0062	1.491	0.891	0.837%	0.0063	1.334	0.591
[-5; +5]	0.676%	0.0083	0.811	-0.317	0.727%	0.0090	0.809	0.084	0.760%	0.0090	0.841	0.063

*Significant at the 10% level.
**Significant at the 5% level.
***Significant at the 1% level.

6.2   Long-term analysis

6.2.1   Results of the buy-and-hold benchmark method

The long-term wealth effect of an M&A deal announcement is measured with the buy-and-hold abnormal return approach. As described in the Methodology part, the long-term return of each security is reduced by the return of a non-merging firm matched by size and industry with the sample firm. Control firms are selected among companies operating in the consumer discretionary industry instead of the luxury sector. Indeed, this matching universe is made up of a larger selection panel. However, book-to-market ratio similarities are not taken into account in the selection process. This may induce the use of inappropriate benchmarks. Nevertheless, in certain sampling situations, even when control firms are matched by size and book-to-market ratio, the approach may generate misspecified test statistics (Lyon et al., 1999). Nonetheless, the authors indicate that a control firm used as a benchmark eliminates the listing, the rebalancing, and the skewness biases. The mean buy-and-hold abnormal returns over post-announcement periods ranging from twelve to thirty-six months are reported in Table 2. The returns are presented with their *t*-statistic from a *t*-test as well as the *p*-value obtained with a sign test.

Table 2 reports negative long-term abnormal returns over different holding periods. Luxury acquirers underperform non-merging firms on average by 9% over a 12-month interval following a takeover announcement. In addition, the security returns further deteriorate over longer periods. Indeed, the mean buy-and-hold abnormal returns over a 2-and 3-year post-announcement period are approximately -18% and -27% respectively. The standard cross-sectional *t*-test indicates that the post-announcement returns are significantly different from zero at the 5% significance level. Over a 3-year holding period, the returns even reach the 1% significance level. However, a large share of the sample is composed of serial bidders which have undertaken multiple acquisitions within the same holding period. Because of the cross-sectional dependence among those observations, the returns are not independently and identically distributed. The normality assumption for the buy-and-hold abnormal returns is thus violated and the chance to falsely reject the null hypothesis of zero mean abnormal returns is increased (Dionysiou, 2015). In contrast, Fisher's sign test does not report statistically significant long-term abnormal returns at the 5% significance level.

Non-parametric tests do not rely on a specific distribution of the returns. However, the sign test assumes independence across the abnormal returns, which is not respected in this research (MacKinlay, 1997).

The observation of negative long-term abnormal returns is consistent with the empirical results of event studies concerning the post-announcement abnormal returns. For example, Campbell et al. (2009) report statistically significant negative post-acquisition abnormal returns (-10%) over a 5-year period for REITs. Conn et al. (2005) also identify significantly negative long-term abnormal returns for domestic and cross-border acquisitions of public firms. However, they report insignificant returns for deals involving private targets. Despite consistent results with prior studies, the buy-and-hold abnormal return approach does not provide a clear answer on the post-deal performance. While the *t*-test outlines significantly negative long-term returns, the sign-test indicates that these returns are not statistically different from zero. The lack of independence between the returns also yields misspecified test statistics. Furthermore, the control firms only exhibit size similarities with sample firms. They do not operate in the exact same industry as those companies. The bad model problem exposed by Ang and Zhang (2015) thus occurs because the benchmarks do not reflect the performance of the sample firms if the event had not taken place. These errors are also accumulated over time. As a result, the calendar-time portfolio method is necessary to draw reliable inferences about the long-term stock performance of acquiring firms.

Table 2

Mean buy-and-hold abnormal returns and associated test statistics.

Mean buy-and-hold abnormal returns N=111				
			Test statistics and *p*-values	
Holding period	$\overline{\text{BHAR}}$	Std Dev	*t*-test	Sign test (*p*-values)
12-month	-9.082%	-2.057	-2.057**	0.219
24-month	-17.964%	-2.546	-2.546**	0.704
36-month	-27.239%	-2.977	-2.977***	0.068*

*Significant at the 10% level.
**Significant at the 5% level.
***Significant at the 1% level.

6.2.2 Results of the calendar-time method

The post-acquisition abnormal returns are also estimated with a calendar-time method. Combining event-time and calendar-time approaches to identify long-term abnormal returns following corporate events has been encouraged by Lyon et al. (1999). The authors indicate that the calendar-time portfolio method alleviates the cross-sectional dependence problem highlighted for the buy-and-hold benchmark approach. Dionysiou (2015) outlines that both methods have their advantages and weaknesses which is why they should be regarded as complementary. Table 3 reports the calendar-time abnormal returns estimated with the Fama-French five-factor regression model for three different periods. The inferences concerning post-acquisition stock performance rely on the analysis of the regression intercept. This parameter is obtained by regressing the excess returns of monthly rebalanced and equally-weighted portfolios on five factors proposed by Fama and French (2015). The monthly returns of each portfolio are the mean returns of firms that have undertaken an M&A deal within the past twelve, twenty-four, or thirty-six months.

The calendar-time findings presented in Table 3 do not support the results of the buy-and-hold abnormal return approach. The results indicate positive monthly average returns over the studied post-acquisition intervals. Indeed, the value of the intercept is 0.39% for the 1-year period, 0.26% for the 2-year interval, and 0.18% for the 3-year horizon. Positive calendar-time abnormal returns over different time windows indicate that event-portfolios have surpassed what had been forecasted (Dionysiou, 2015). Despite this identified post-announcement overperformance of luxury bidders, the t-test demonstrates that the results are not statistically different from zero.

The results of the calendar-time approach indicate that luxury acquiring firms do not earn significant post-announcement abnormal returns. Similarly, Dutta and Jog (2009) do not find significant post-acquisition abnormal returns for Canadian bidders. Like these authors, the weak evidence of post-acquisition performance reported in this research is consistent with the efficient market hypothesis. Stock prices do not adapt progressively to new information and it does not lead to post-deal underreaction or overreaction (Fama, 1998). Even though the buy-and-hold abnormal returns are significantly negative under the standard t-test, conclusions are drawn from the calendar-time approach. Indeed, due to inappropriate benchmarks and overlapping returns, the event-time method is not reliable.

Furthermore, the sign test also indicates insignificant abnormal returns. Kothari and Warner (2007) precise that it remains unclear whether long-term abnormal returns are the result of mispricing or methodological issues. Fama (1998, p. 303) also specifies: "If a reasonable change in the method of estimating abnormal returns causes an anomaly to disappear, the anomaly is on shaky footing, and it is reasonable to suggest that it is an illusion."

As a consequence, the results confirm the second hypothesis which states that luxury acquirers do not realize post-announcement abnormal returns in the long-term. The study indicates positive announcement abnormal returns over a short-term window. However, this shift in the reaction of prices to the announcement of acquisitions is ephemeral and disappears in the long-term (Fama, 1998).

Table 3

Fama-French 5-factor regression results.

Calendar-time abnormal returns N=111					

12-month calculation period					
Factors	*Alpha*	$R_m - R_f$	*SMB*	*HML*	*RMW*	*CMA*
Coefficients	0,0039	1,2215	-0,0521	-0,0228	0,5850	0,0475
t-test	1,136	13,560***	-0,305	-0,119	2,520***	0,178
Adjusted-R^2			0.55			
F-statistic			53,115			

24-month calculation period					
Factors	*Alpha*	$R_m - R_f$	*SMB*	*HML*	*RMW*	*CMA*
Coefficients	0,0026	1,1761	-0,0289	-0,0060	0,4706	0,1450
t-test	0,903	15,284***	-0,197	-0,036	2,364**	0,627
Adjusted-R^2			0.59			
F-statistic			65,742			

36-month calculation period					
Factors	*Alpha*	$R_m - R_f$	*SMB*	*HML*	*RMW*	*CMA*
Coefficients	0,0018	1,2396	0,0278	0,0067	0,4684	0,2252
t-test	0,686	17,218***	0,198	0,043	2,462***	1,014
Adjusted-R^2			0.63			
F-statistic			81,538			

*Significant at the 10% level.
**Significant at the 5% level.
***Significant at the 1% level.

6.3 Multivariate analysis

Four cross-sectional regressions are conducted in order to outline the drivers of the abnormal returns surrounding M&A announcements as well as the post-event returns in the luxury industry. The cumulative average abnormal return obtained with the market adjusted model over a 3-day window around the deal announcement is the dependent variable for the short-term analysis (Model 1). For long-term models, the dependent variables are the mean buy-and-hold abnormal returns one, two, and three years after a takeover announcement (Model 2, 3 and, 4).

Table 4 reports the coefficients estimated with the different cross-sectional regressions and their associated statistical significance. As in Faccio et al. (2006), the *t*-statistics are calculated using heteroscedasticity-robust standard errors. This procedure is also encouraged by MacKinlay (1997) as it is not reasonable to foresee homoscedastic residuals. The correlation matrix presented in appendix 5 does not indicate multicollinearity in the data. Indeed, no excessive correlations are highlighted between the explanatory variables (Brooks, 2008). In addition, results of the Durbin-Watson test are presented in appendix 6. They suggest that there is no autocorrelation in the residuals of the models presented in Table 4. However, the models involving the cumulative average abnormal returns obtained with the market model or the multi-factor model as dependent variables are excluded from this study. Indeed, the Durbin-Watson test reports that the residuals of those models are autocorrelated.

Model 1 only outlines the significant impact of the variable *TarGDPPC* on the deal announcement abnormal returns. The regression reports a positive impact of the GDP per capita in the country of the target firm on the 3-day cumulative abnormal return of the bidder. More precisely, the coefficient of the variable is 0.028 and is statistically different from zero at the 10% significance level. This means that a one percent increase of the GDP per capita in the target country on the year of the event is expected to raise the short-term abnormal returns by 0.028%[10], *ceteris paribus*. The GDP per capita has been used to proxy a country's wealth as done by Rossi and Volpin (2004) with the Gross National Product per capita. The findings of the short-term analysis are thus consistent with the hypothesis that acquisitions of targets operating in countries with a wealthy population are positively perceived by the markets.

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[10] The GDP per capita of the target country is a log-transformed variable. Therefore, a one percent increase of the independent variable increases the dependent variable by $\ln(1.01) * 0.028$.

Indeed, recently, there has been a growing interest among luxury firms for the High-Earners-Not-Rich-Yet (HENRYs) consumer class. This segment is attractive for luxury brands because of the significant and growing discretionary income of those clients (Deloitte, 2019b). This clearly illustrates the importance of wealthy prospects for luxury brands.

In the long-term analysis, Model 2 outlines a positive and significant relationship between the acquisition of a private target and the 1-year post-event abnormal returns. Indeed, the dummy variable *Private* is statistically significant at the 10% significance level. The deals involving private targets result in abnormal returns which are 25% higher than deals involving public targets, *ceteris paribus*. This is consistent with the findings of Faccio et al. (2006) for Western European firms in the short-term. However, the significance of the variable disappears in subsequent models. Furthermore, only eight deals involve public targets in the sample. This is too small to interpret the variable correctly. In contrast, the growth of the GDP per capita in the target country the year of the deal announcement is a significant driver of the 1-and 2-year post-event abnormal returns. Both Model 2 and Model 3 indicate the significantly positive impact of the variable *TarGDPPCgr* on the long-term abnormal returns. Consequently, a one-unit change in the variable increases the 1-and 2-year post-announcement abnormal returns by respectively 5.6% and 9.5%, *ceteris paribus*. The growth of the GDP per capita is used as a proxy for the change in a country's wealth the year of the acquisition announcement. Those findings are thus close to the results of the short-term model and highlight the positive market reaction to acquisitions in countries with rising prosperity.

However, the significance of the variable *TarGDPPCgr* vanishes in the analysis of the 3-year post-event abnormal returns. The acquirer size is the only significant variable identified in Model 4. The regression highlights the positive impact of the acquirer size on the buy-and-hold abnormal returns three years after the announcement of an M&A deal. The model suggests that a one percent increase in the variable leads to a 0.178%[11] gain in the post-deal returns. This result is not consistent with the negative impact of the bidder size on the long-term abnormal returns reported by Bouzgarrou and Navatte (2013) for French acquirers. Moeller et al. (2004) suggest that managerial hubris explains the poor performance of deals undertaken by large firms.

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[11] The acquirer size is a log-transformed variable. Therefore, a one percent increase of the independent variable increases the dependent variable by $\ln(1.01) * 0.179$.

However, the dominance of large conglomerates in the industry and their ability to turn acquisitions into successes might counterbalance this negative effect (Ijaouane & Kapferer, 2012).

No model reports a persisting significant relationship between the short- as well as the long-term abnormal returns and the target-specific, acquirer-specific, and deal-specific characteristics. The acquiring firm size and the target status are identified as drivers of the long-term abnormal returns. While the acquisition of a private target increases the 1-year post-acquisition abnormal returns, the acquirer size positively influences the abnormal returns over a 3-year period. Although the findings concerning the acquirer size are inconsistent with other event studies, the success of multi-brand luxury groups may explain such an exception in this industry (Ijaouane & Kapferer, 2012). However, the significance of those variables varies according to the period studied. Furthermore, they only influence the buy-and-hold abnormal returns. Those returns have been calculated with inappropriate benchmarks and the measurement errors have been accumulated over time. Consequently, the results of the regressions cannot provide robust evidence that variables related to the target, the transaction, or the acquirer have a significant impact on the abnormal returns from M&A deals.

Overall, the only significant variables identified in most of the regressions are both the target country GDP per capita and its growth in the year of the deal announcement. Those variables have a significantly positive impact on the announcement, the 1- and, 2-year post-event returns. Those findings indicate that the markets positively perceive the acquisitions undertaken by luxury firms of targets located in countries with wealthy prospects. Nevertheless, the impact of variables related to the GDP per capita does not persist in the 3-year post-deal period.

As a consequence, only the hypothesis which states that luxury acquirers realize higher abnormal returns when the target is located in a wealthy country is confirmed.

Table 4

Cross-sectional multivariate regressions.

Independent variables	Short-term				Long-term			
	Model 1		Model 2		Model 3		Model 4	
	CAR		BHAR-1		BHAR-2		BHAR-3	
	Coefficients	t-statistics	Coefficients	t-statistics	Coefficients	t-statistics	Coefficients	t-statistics
Intercept	0.145	0.629	-4.123	-1.334	-3.759	-1.183	-5.444	-1.440
Domestic	-0.010	-0.919	-0.063	-0.709	0.005	0.039	-0.032	-0.188
Serial	0.003	0.354	-0.001	-0.012	0.108	0.725	0.234	1.366
Private	-0.046	-1.548	0.250	1.720*	0.017	0.087	0.456	1.569
Subsidiary	-0.002	-0.257	0.045	0.512	0.152	1.017	0.117	0.637
Related	-0.003	-0.288	0.123	1.141	-0.059	-0.316	-0.051	-0.224
Family	-0.007	-0.611	-0.016	-0.120	-0.013	-0.071	-0.026	-0.097
Size	0.000	-0.070	0.049	1.341	0.063	0.991	0.179	2.019**
AcqGDPPC	-0.036	-1.453	0.247	0.866	0.169	0.493	0.305	0.741
TarGDPPC	0.028	1.958*	0.065	0.538	0.103	0.447	-0.018	-0.067
AcqGDPPCgr	-0.268	-0.692	-2.831	-1.017	-4.732	-0.860	-3.482	-0.509
TarGDPPCgr	0.469	1.392	5.591	2.980***	9.500	2.185**	6.600	1.215
Observations	110		110		110		110	
F-statistic	1.22		1.310		0.994		1.894	
Adjusted-R^2	0.0451		0.0303		-0.0006		0.083	

*Significant at the 10% level.
**Significant at the 5% level.
***Significant at the 1% level.

7 CONCLUSION

For thirty years, the luxury industry has seen numerous mergers and acquisitions. This consolidation movement initiated by LVMH has led to the emergence of large conglomerates which today dominate the industry. These acquisitions saved many family firms from their financial difficulties. In addition, luxury acquirers have been able to grow their market share, diversify their activities, and leverage all sorts of synergies (Som & Blanckaert, 2015). However, the integration process of the target firm is of paramount importance. Indeed, the brand image of both parties can be negatively impacted if the right level of autonomy is not left to the target (Ijaouane & Kapferer, 2012). The aim of this study is thus to investigate the effects of M&A announcements on the performance of luxury firms. Stock market-based measures are selected to assess the impact of these deals on acquiring firms. Both a short-term and a long-term event study are carried out to evaluate the announcement and post-announcement abnormal returns resulting from M&A deals.

The empirical literature provides unclear results concerning the short-term abnormal returns to acquirers. Some studies report negative or insignificant abnormal returns to bidding firms (e.g. Campa & Hernando, 2004; King et al. 2004). Other research investigates the M&A deals in specific industries or regions. Some report significant positive abnormal returns from the announcement of those deals (e.g. Martynova & Renneboog, 2011; Dranev et al., 2019). Nevertheless, the abnormal returns to acquirers in the luxury industry have only been the subject of an explorative study conducted by Königs and Schiereck (2006). The authors report significantly positive cumulative abnormal returns surrounding the announcement of an M&A deal.

In this research, the findings of the short-term event study are consistent with the results of the empirical studies that outline a positive market signal from the announcement of an acquisition. Indeed, positive 3-day cumulative abnormal returns are obtained with three different models[12] used to proxy the normal returns of the sample securities (up to 1.172%). Furthermore, the statistical significance of these results is robust across both a parametric *t*-test and a non-parametric Corrado rank test.

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[12] As a reminder those models are the market adjusted model, the market model, and the multi-factor model.

The results indicate that the markets positively perceive the announcement of an M&A deal in the personal luxury goods industry. Indeed, the abnormal returns reflect the unexpected effect of the event on shareholders' wealth (Kothari & Warner, 2007). It is thus concluded that investors anticipate the benefits and synergies associated with acquisitions and neglect integration issues that could tarnish the entities' brand image. However, this effect seems to disappear over longer time windows. Indeed, the cumulative abnormal returns over event windows greater than three days are not significantly different from zero. The post-announcement long-term returns are thus calculated to investigate more in-depth the presence of abnormal returns one, two, and three years after the event.

Several long-term event studies report significantly negative abnormal returns to acquirers following the announcement of an M&A deal (e.g. André et al., 2004; Campbell et al., 2009). Those results outline the underperformance of acquiring firms in the long-term. However, these studies assume that the markets are not efficient and that stock prices moderately accommodate to new information (Fama, 1998). Other authors do not identify long-term abnormal returns and attribute the findings of prior studies to methodological issues (e.g. Fama, 1998; Dutta & Jog, 2009).

This research is also prone to methodological issues. Indeed, the negative returns obtained with the buy-and-hold benchmark approach suffer from cross-sectional correlation. Consequently, the *t*-statistics are not reliable because the underlying normality assumption is violated (Dionysiou, 2015). The non-parametric Fisher's sign test does not report statistically significant results at the 5% significance level either. Furthermore, the benchmarks, which are control firms, are not perfect non-event peers of the studied firms. This leads to measurement errors that are aggregated over the holding periods (Ang & Zhang, 2015). Therefore, inferences are only drawn from the results of the calendar-time method. The monthly average returns measured over post-acquisition intervals with the Fama-French five-factor model are not significantly different from zero. It is thus concluded that the announcement of an M&A deal does not lead, on average, to long-term abnormal returns.

Although positive abnormal returns are observed around a takeover announcement, the markets quickly adapt to the information and the abnormal returns disappear in the long-term. Those results are consistent with the market efficiency hypothesis which states that the security prices reflect all the information available to investors (almost) immediately (McWilliams & Siegel, 1997).

Finally, the drivers of the short-and long-term abnormal returns are investigated with four different cross-sectional regressions. The short-term model highlights a significantly positive relationship between the abnormal returns from the deal announcement and the GDP per capita of the target country in US$. The long-term models mostly underline the significantly positive impact of the GDP per capita growth in the target country on the buy-and-hold abnormal returns up to two years following the event. Nevertheless, the positive impact of those variables vanishes when the 3-year post-announcement abnormal returns are studied. The GDP per capita related variables are applied to proxy the wealth of the target country population and its growth the year of the deal announcement. It is important to interpret the results of long-term regressions with care. Indeed, the dependent variables, the buy-and-hold abnormal returns, may be subject to measurement errors due to inappropriate benchmarks. However, the findings of the regressions indicate that the market may positively anticipate the benefits of the deals undertaken in countries with a wealthy population or a population that becomes wealthier. These inferences are consistent with the premium price that characterizes luxury products and services that only wealthy consumers can afford. This is also reinforced by the focus set by luxury firms on the HENRYs, a growing middle-class introduced by Deloitte (2019b). Other variables related to the target, the acquirer, or the deal are not interpreted as significant drivers of the abnormal returns from M&A deals in the luxury industry.

8 AVENUES FOR FURTHER RESEARCH

Firstly, the main limitation of this study is the fact that it only focuses on public firms and evaluates the forecast of the investors concerning the performance resulting from M&A deals. However, the real economic performance of the deal could be assessed with accounting-based measures (Andriuskevicius, 2017).

Secondly, the use of both the calendar-time method and the buy-and-hold benchmark approach has been encouraged to evaluate the long-term post-announcement abnormal returns (Lyon et al. 1999). However, the control firms selected as benchmarks for the buy-and-hold abnormal return approach could be selected more appropriately to avoid the bad model problem (Ang & Zhang, 2015). Taking into account book-to-market ratio similarities is the minimum to be consistent with the study of Lyon et al. (1999). Indeed, the authors indicate that the returns are higher for small firms with great book-to-market ratios. Furthermore, the consumer discretionary sector includes many firms that are too different from luxury firms and that operate in disparate sub-sectors. An alternative would be to only consider the firms active in the markets13 studied by consulting firms to elaborate their annual reports on the trends in the luxury industry. Other variables could also be taken into account when searching for peers (e.g. Bruyland et al (2019) use the pre-bid performance).

Finally, the impact of other variables on the announcement and post-announcement abnormal returns in the luxury industry could be investigated. For example, other event studies have studied the effects of the payment method, the deal value, the cultural difference on the abnormal returns (e.g. Conn et al., 2005; Defrancq et al., 2016; Kiesel et al., 2017). This research has also highlighted the impact of GDP per capita related variables in the target country the year of the deal announcement. As those results outline a significantly positive relationship between the wealth of the population in the target country and the abnormal returns, it would be interesting to further study the impact of similar variables. The emergence of the HENRYs is of great interest for luxury brands as they represent valuable prospects for luxury firms (Deloitte, 2019b). The share they represent in the target country's population could thus be a relevant factor to study. Likewise for the share of the middle class in the target country's population.

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13 Those markets are described in the section Setting the scene.

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APPENDICES

Appendix 1 – Measures of M&A performance

Table 1. Classical methodologies measuring M&A performance.

Measure	Definition of failure and methodology, metrics	Advantages	Disadvantages
Accounting based measures	Failure exists when the adjusted (for industry and size effects) post-merger returns of the combined firm are lower than the average size and industry adjusted pre-bid returns of each of the merging firms. Examples of accounting metrics include ROA, return on investment, cash flows *etc.*	Synergies obtained from an acquisition are reflected in long-term accounting measures. Measure direct effects as opposed to CARs which measure investors' expectations for the future.	Narrowest measure as they gauge only economic performance. Reflect past performance of the Firm. Aggregate data and not information for specific acquisitions. Should be avoided in cross border acquisitions due to the different accounting standards from country to country.
Short term stock market based measures	Researchers compare the returns to shareholders of both bidders and targets during a period surrounding the takeover announcement (usually some days), to "normal" returns from a period (*e.g.* from 120 to 30 days) unaffected by the event. The acquisition is considered to be successful if the CARs are positive.	Direct measure of stock-holder value. Data are easily accessible for all publicly traded firms.	Short-run studies they measure investors' expectations and not realized performance. Cannot be used for privately held firms. Fail to take into account that acquisitions have multiple motives.
Long term stock market based measures	In long-term studies, based on the premise that an acquisition may have a negative impact on the long-run wealth of shareholders researchers evaluate post-merger performance of acquirers usually some years after the deal closure (*e.g.* 5 years).	Direct measure of stock-holder value (Lubatkin, Shrieves, 1986). Data are easily accessible for all publicly traded firms (Campa, Hernando, 2004; Lubatkin, Shrieves, 1986; Schoenberg, 2006).	Cannot be used for privately held firms. Fail to take into account that acquisitions have multiple motives.
Managers subjective assessments	Executives of the acquiring firm are asked to rate the extent to which the original goals set before the acquisition are effectively materialized or not. Questions refer to both financial (*e.g.* ROA, return on investment, sales growth, growth in profits) and nonfinancial factors (*e.g.* managerial prestige, competitive position, personnel development possibilities). Failure exists when expectations are higher than their materialization.	Suitable when researchers encounter problems obtaining objective measures of performance. M&A performance is captured as a multidimensional phenomenon. Takes into consideration that M&As have multiple motives.	Responses may be subject to managerial bias. Need for multiple respondents.

Source: (Andriuskevicius, 2017, p. 13)

Appendix 2 – Strengths of family firms operating in the luxury industry

Strengths	Definition
Continuity	Refers to the sustainability of the mission maintained in the long-term and the accumulation of business capabilities.
Community	Refers to a strong team culture and professional values which unit the groups and are promoted by strong leaders.
Command	Refers to quick decision making and the spirit of innovation which is enabled by the transfer of knowledge in families.
Connections	Refers to trustworthiness and stable relationship with business partners.

Source: (Author's creation based on the work of Carcano et al., 2011)

Appendix 3 – Sample of M&A deals

Announcement date of the deal	Acquirer	Target
26/01/00	LVMH Moet Hennessy Louis Vuitton SE	Miami Cruiseline Services
12/04/00	The Estee Lauder Cos Inc	Gloss.com
25/04/00	Swatch Group AG	Montres Jaquet-Droz SA(Cupola Venture Partners 1 Ltd)
16/05/00	Shiseido Co Ltd	Bristol-Myers Squibb Co-Sea Breeze Brand & Related Assets
16/05/00	Shiseido Co Ltd	Laboratoires Decleor SA
26/05/00	Swatch Group AG	Universo Group
5/06/00	The Estee Lauder Cos Inc	Bumble & Bumble Products LLC
27/06/00	Compagnie Financiere Richemont SA	Stern Cie(Orior Holding SA/Pargesa Holding SA/Parjoint NV)
20/07/00	Compagnie Financiere Richemont SA	Les Manufactures Horlogeres (Mannesmann AG)
28/08/00	LVMH Moet Hennessy Louis Vuitton SE	Art & Auction Magazine
9/10/00	Swatch Group AG	Glashuetter Uhrenbetrieb GmbH
20/11/00	LVMH Moet Hennessy Louis Vuitton SE	Les Grands Magasins de la Samaritaine
8/12/00	KOSE Corp	Wood
11/07/01	Polo Ralph Lauren Corp	PRL Fashions of Europe srl
25/08/01	LVMH Moet Hennessy Louis Vuitton SE	Morellato SpA
13/11/01	Polo Ralph Lauren Corp	Polo Brussels SA
3/04/02	KOSE Corp	Phil International
23/04/02	Swatch Group AG	Rubattel Et Weyermann SA
15/10/02	Polo Ralph Lauren Corp	Seibu Department Stores-Polo Japanese Master License
13/01/03	The Estee Lauder Cos Inc	Darphin Group of Cos
15/01/03	Swatch Group AG	SID Sokymat Identifikations-Komponenten GmbH
9/05/03	The Estee Lauder Cos Inc	American Designer Fragrances- Michael Kors Fragrances Product Line
30/06/03	Tiffany & Co	Tiffany Ginza Building, Tokyo
17/07/03	The Estee Lauder Cos Inc	Rodan & Fields LLC
26/09/03	Compagnie Financiere Richemont SA	Habillages de Garde Temps Petitjean SA
1/12/03	Hugo Boss AG	MH Shoe AG
18/12/03	Interparfums SA	Nickel SA
22/12/03	Movado Group Inc	Ebel SA

12/02/04	Revlon Inc	Revlon Inc
26/05/04	Polo Ralph Lauren Corp	RL Childrenswear Co LLC- Certain Assets
23/05/05	Polo Ralph Lauren Corp	Ralph Lauren Footwear Co Inc
23/01/06	Polo Ralph Lauren Corp	Polo Jeans Co
2/05/06	LVMH Moet Hennessy Louis Vuitton SE	Calzaturificio Monique SRL
29/08/06	LVMH Moet Hennessy Louis Vuitton SE	Piazza Sempione
9/10/06	Compagnie Financiere Richemont SA	Minerva SA
9/10/06	Compagnie Financiere Richemont SA	Fabrique d'Horlogerie Minerva
19/10/06	Swatch Group AG	MOM Le Prelet SA
12/07/07	Hermes International SCA	Soficuir International
23/07/07	LVMH Moet Hennessy Louis Vuitton SE	Les Echos SA
16/10/07	Compagnie Financiere Richemont SA	BestinClass SA
16/11/07	Compagnie Financiere Richemont SA	Donze-Baume SA
10/01/08	Swatch Group AG	H Moebius & Sohn Co
5/02/08	Safilo Group SpA	Grupo Sunglass Island
5/02/08	Safilo Group SpA	Just Spectacles
1/06/08	LVMH Moet Hennessy Louis Vuitton SE	La Fugue
20/06/08	Van De Velde NV	Eurocorset SA
11/07/08	Swatch Group AG	Burri SA-Watch Division
11/08/08	Compagnie Financiere Richemont SA	Manufacture Roger Dubuis SA
1/09/08	LVMH Moet Hennessy Louis Vuitton SE	Royal Van Lent Shipyard BV
18/09/08	Onward Holdings Co Ltd	CREATIVE YOKO Co Ltd
30/09/08	The Estee Lauder Cos Inc	Applied Genetics Inc Dermatics
1/05/09	Tiffany & Co	Lambertson Truex LLC
3/07/09	Sanyo Shokai Ltd	Paul Stuart Japan-Stores (3)
9/11/09	Onward Holdings Co Ltd	Island Co Ltd
14/01/10	Shiseido Co Ltd	Bare Escentuals Inc
14/03/10	Compagnie Financiere Richemont SA	NET-A-PORTER Ltd
22/04/10	Van De Velde NV	Euretco BV-LinCherie stores (42)
18/05/10	The Estee Lauder Cos Inc	Smashbox Beauty Cosmetics Inc
16/07/10	Burberry Group PLC	Kwok Hang Holdings Ltd-China Stores(50)
31/08/10	Hermes International SCA	Meister Zurich
8/02/11	LVMH Moet Hennessy Louis Vuitton SE	Nude Brands Ltd

7/03/11	LVMH Moet Hennessy Louis Vuitton SE	Bulgari SpA
17/03/11	Revlon Inc	Mirage Cosmetics Inc-Certain Assets
18/07/11	Restoque Comercio e Confeccoes de Roupas SA	Foose Cool Jeans Ltda
16/08/11	Van De Velde NV	Rigby & Peller Ltd
10/11/11	LVMH Moet Hennessy Louis Vuitton SE	ArteCad SA
17/11/11	Safilo Group SpA	Polaroid Eyewear AG
30/11/11	Pola Orbis Holdings Inc	Jurlique International Pty Ltd
6/03/12	Hermes International SCA	Nateber SA
16/03/12	Onward Holdings Co Ltd	Byrds Association
16/03/12	Onward Holdings Co Ltd	Bath Village
16/03/12	Onward Holdings Co Ltd	NAIMA
11/04/12	Trinity Ltd	Gieves & Hawkes PLC
12/04/12	Swatch Group AG	Simon Et Membrez SA
3/05/12	LVMH Moet Hennessy Louis Vuitton SE	Tanneries Roux SAS
13/06/12	LVMH Moet Hennessy Louis Vuitton SE	Societe Nouvelle de Chemiserie Arnys SA
18/07/12	Samsonite International SA	High Sierra Sport Co
2/08/12	Samsonite International SA	Hartmann Inc
21/09/12	Compagnie Financiere Richemont SA	Peter Millar
2/10/12	Compagnie Financiere Richemont SA	VV SA
31/10/12	PVH Corp	Warnaco Group Inc
1/02/13	LVMH Moet Hennessy Louis Vuitton SE	Johnstone River Crocodile Farm
2/05/13	Salvatore Ferragamo SpA	Brasil Fashion Comercio de Roupas Ltda-Points of Sales(3)
8/07/13	LVMH Moet Hennessy Louis Vuitton SE	Loro Piana SpA
31/07/13	LVMH Moet Hennessy Louis Vuitton SE	Hotel Saint-Barth Isle de France
30/08/13	Pandora A/S	City Time do Brazil Comercio e Importacao Ltda
3/03/14	Pandora A/S	Pan ME A/S
14/03/14	Prada SpA	Angelo Marchesi Srl
17/03/14	KOSE Corp	Tarte Inc
2/04/14	Samsonite International SA	Societe de Gestion des Boutiques Lipault Sarl
14/04/14	LVMH Moet Hennessy Louis Vuitton SE	Societe du Domaine des Lambrays SARL

28/05/14	Samsonite International SA	Speculative Design Products Inc
18/06/14	Chow Tai Fook Jewellery Group Ltd	Hearts On Fire Co LLC
30/07/14	Kering SA	Ulysse Nardin SA
12/08/14	Pandora A/S	Hannoush Jewelers Inc-Concept Stores(27)
1/10/14	Restoque Comercio e Confeccoes de Roupas SA	Dudalina SA
15/10/14	The Estee Lauder Cos Inc	Le Labo Inc
19/12/14	The Estee Lauder Cos Inc	GLAMGLOW Inc
19/03/15	Interparfums SA	Parfums Rochas SAS
30/04/15	Revlon Inc	CBBeauty Ltd
26/05/15	LVMH Moet Hennessy Louis Vuitton SE	S.N.C. Le Parisien Libre
9/07/15	Coty Inc	Procter & Gamble Co-Beauty Business(43)
19/10/15	Coty Inc	Beamly Inc
2/11/15	Coty Inc	Hypermarcas SA-Beauty Business
2/02/16	PVH Corp	TH Asia Ltd
25/02/16	The Estee Lauder Cos Inc	By Kilian SAS
3/03/16	Samsonite International SA	Tumi Holdings Inc
1/08/16	Burberry Group PLC	Burberry Group PLC-Chinese retail operations
17/10/16	Coty Inc	Jemella Ltd
21/10/16	The Estee Lauder Cos Inc	Becca Inc
14/11/16	The Estee Lauder Cos Inc	Too Faced Cosmetics LLC

Source: (Author's creation)

Appendix 4 – Sample firms and control firms for the buy-and-hold benchmark method

Announcement date of the deal	Acquirer	Market value[14] of the acquirer one month prior the announcement date	70% of the acquirer market value	130% of the acquirer market value	Control firm	Market value of the peer during the month prior the announcement date
26/01/00	LVMH Moet Hennessy Louis Vuitton SE	32 724.18	22 906.93	42 541.43	Target Corp	32 863.20
12/04/00	The Estee Lauder Cos Inc	5 575.99	3 903.19	7 248.79	Toyota industries corp	5 035.78
25/04/00	Swatch Group AG	3 763.86	2 634.70	4 893.02	Next PLC	2 944.30
16/05/00	Shiseido Co Ltd	5 519.33	3 863.53	7 175.13	Toyota industries corp	5 673.48
16/05/00	Shiseido Co Ltd	5 519.33	3 863.53	7 175.13	Toyota industries corp	5 673.48
26/05/00	Swatch Group AG	4 205.71	2 944.00	5 467.42	Next PLC	3 066.42
5/06/00	The Estee Lauder Cos Inc	5 397.35	3 778.15	7 016.56	Toyota industries corp	5 582.19
27/06/00	Compagnie Financiere Richemont SA	12 715.02	8 900.51	16 529.53	H&M	15 673.90
20/07/00	Compagnie Financiere Richemont SA	12 973.34	9 081.34	16 865.34	H&M	15 673.90
28/08/00	LVMH Moet Hennessy Louis Vuitton SE	40 623.64	28 436.55	52 810.73	Daimler	52 348.22
9/10/00	Swatch Group AG	5 011.64	3 508.15	6 515.13	Next PLC	3 524.88
20/11/00	LVMH Moet Hennessy Louis Vuitton SE	36 945.39	25 861.77	48 029.01	Daimler	46 463.34
8/12/00	KOSE Corp	1 214.43	850.10	1 578.76	Ross Stores Inc	1 429.88

[14] Market values are in million US$.

11/07/01	Polo Ralph Lauren Corp	857.23	600.06	1 114.40	Hisense home appliances group co ltd	959.11
25/08/01	LVMH Moet Hennessy Louis Vuitton SE	24 459.48	17 121.64	31 797.32	Lowe's company	29 428.47
13/11/01	Polo Ralph Lauren Corp	586.55	410.59	762.52	Bellway PLC	625.87
3/04/02	KOSE Corp	987.97	691.58	1 284.36	Hisense home appliances group co ltd	746.20
23/04/02	Swatch Group AG	2 898.40	2 028.88	3 767.92	Ross Stores Inc	3 022.55
15/10/02	Polo Ralph Lauren Corp	965.34	675.74	1 254.94	Fielmann AG	749.06
13/01/03	The Estee Lauder Cos Inc	3 596.68	2 517.68	4 675.68	Next PLC	3 695.26
15/01/03	Swatch Group AG	3 008.75	2 106.13	3 911.38	Ross Stores Inc	3 500.03
9/05/03	The Estee Lauder Cos Inc	3 653.69	2 557.58	4 749.80	Hermes	4 736.90
30/06/03	Tiffany & Co	4 014.77	2 810.34	5 219.20	Hermes	5 213.95
17/07/03	The Estee Lauder Cos Inc	4 093.37	2 865.36	5 321.38	Hermes	5 318.04
26/09/03	Compagnie Financiere Richemont SA	9 487.59	6 641.31	12 333.87	Dior	8 327.63
1/12/03	Hugo Boss AG	719.98	503.99	935.97	Nifco inc	764.77
18/12/03	Interparfums SA	265.64	185.95	345.33	Jumbo SA	238.77
22/12/03	Movado Group Inc	217.79	152.45	283.13	Steven Madden Ltd	268.89
12/02/04	Revlon Inc	85.59	59.91	111.27	Baccarat SA	65.24
26/05/04	Polo Ralph Lauren Corp	1 606.55	1 124.59	2 088.52	Tempur Sealy International	1 562.42
23/05/05	Polo Ralph Lauren Corp	2 281.51	1 597.06	2 965.96	Tempur Sealy International	1 959.77
23/01/06	Polo Ralph Lauren Corp	3 303.07	2 312.15	4 293.99	Ross Stores Inc	4 281.20
2/05/06	LVMH Moet Hennessy Louis Vuitton SE	48 403.51	33 882.46	62 924.56	McDonald's corp	42 815.15
29/08/06	LVMH Moet Hennessy Louis Vuitton SE	48 829.18	34 180.43	63 477.93	McDonald's corp	43 276.98

9/10/06	Compagnie Financiere Richemont SA	25 026.47	17 518.53	32 534.41	Dior	18 083.97
9/10/06	Compagnie Financiere Richemont SA	25 026.47	17 518.53	32 534.41	Dior	18 083.97
19/10/06	Swatch Group AG	6 441.37	4 508.96	8 373.78	D.R. Horton Inc	7 596.19
12/07/07	Hermes International SCA	14 771.71	10 340.20	19 203.22	TJX companies Inc	12 727.25
23/07/07	LVMH Moet Hennessy Louis Vuitton SE	57 098.98	39 969.29	74 228.67	Target Corp	54 725.18
16/10/07	Compagnie Financiere Richemont SA	32 209.05	22 546.34	41 871.77	Dior	23 193.01
16/11/07	Compagnie Financiere Richemont SA	34 542.44	24 179.71	44 905.17	Las Vegas Sands corp	44 755.80
10/01/08	Swatch Group AG	8 920.67	6 244.47	11 596.87	Genuine Parts Co	8 287.54
5/02/08	Safilo Group SpA	953.40	667.38	1 239.42	Nifco inc	1 229.05
5/02/08	Safilo Group SpA	953.40	667.38	1 239.42	Nifco inc	1 229.05
1/06/08	LVMH Moet Hennessy Louis Vuitton SE	55 579.19	38 905.43	72 252.95	Target Corp	44 098.93
20/06/08	Van De Velde NV	670.08	469.06	871.10	Dine Brands Global Inc	839.06
11/07/08	Swatch Group AG	8 765.54	6 135.88	11 395.20	Falabella SA	11 327.86
11/08/08	Compagnie Financiere Richemont SA	28 251.02	19 775.71	36 726.33	Dior	20 124.85
1/09/08	LVMH Moet Hennessy Louis Vuitton SE	53 098.46	37 168.92	69 028.00	Target Corp	37 360.15
18/09/08	Onward Holdings Co Ltd	1 868.73	1 308.11	2 429.35	Under Armour INC	1 336.13
30/09/08	The Estee Lauder Cos Inc	5 098.02	3 568.61	6 627.43	D.R. Horton Inc	3 944.95
1/05/09	Tiffany & Co	2 709.00	1 896.30	3 521.70	D.R. Horton Inc	3 072.55
3/07/09	Sanyo Shokai Ltd	431.11	301.78	560.44	Dine Brands Global Inc	503.14
9/11/09	Onward Holdings Co Ltd	1 244.59	871.21	1 617.97	Under Armour INC	1 102.90
14/01/10	Shiseido Co Ltd	8 329.11	5 830.38	10 827.84	Oriental Land Co. Ltd	6 237.92

14/03/10	Compagnie Financiere Richemont SA	18 365.92	12 856.14	23 875.70	Dior	17 359.43
22/04/10	Van De Velde NV	568.69	398.08	739.30	Descente Ltd	440.86
18/05/10	The Estee Lauder Cos Inc	7 782.37	5 447.66	10 117.08	Carmax Inc	5 620.55
16/07/10	Burberry Group PLC	4 501.43	3 151.00	5 851.86	Carmax Inc	4 754.71
31/08/10	Hermes International SCA	14 036.78	9 825.75	18 247.81	Dior	18 236.22
8/02/11	LVMH Moet Hennessy Louis Vuitton SE	81 427.90	56 999.53	105 856.27	McDonald's corp	78 572.31
7/03/11	LVMH Moet Hennessy Louis Vuitton SE	78 667.20	55 067.04	102 267.36	McDonald's corp	77 256.25
17/03/11	Revlon Inc	478.99	335.29	622.69	Descente Ltd	404.09
18/07/11	Restoque Comercio e Confeccoes de Roupas SA	774.02	541.81	1 006.23	Jumbo SA	946.31
16/08/11	Van De Velde NV	756.37	529.46	983.28	Coats group PLC	927.79
10/11/11	LVMH Moet Hennessy Louis Vuitton SE	66 139.41	46 297.59	85 981.23	H&M	46 357.59
17/11/11	Safilo Group SpA	441.23	308.86	573.60	Breville group LTD	386.69
30/11/11	Pola Orbis Holdings Inc	1 712.92	1 199.04	2 226.80	Bellway PLC	1 433.97
6/03/12	Hermes International SCA	37 752.27	26 426.59	49 077.95	Booking Holdings Inc	27 230.56
16/03/12	Onward Holdings Co Ltd	1 396.91	977.84	1 815.98	Bellway PLC	1 508.37
16/03/12	Onward Holdings Co Ltd	1 396.91	977.84	1 815.98	Bellway PLC	1 508.37
16/03/12	Onward Holdings Co Ltd	1 396.91	977.84	1 815.98	Bellway PLC	1 508.37
11/04/12	Trinity Ltd	1 321.81	925.27	1 718.35	Columbia Sportswear	1 667.10
12/04/12	Swatch Group AG	13 948.61	9 764.03	18 133.19	Macy's Inc	16 488.29
3/05/12	LVMH Moet Hennessy Louis Vuitton SE	89 165.85	62 416.10	115 915.61	McDonald's corp	99 957.75
13/06/12	LVMH Moet Hennessy Louis Vuitton SE	84 087.98	58 861.59	109 314.37	McDonald's corp	93 392.88
18/07/12	Samsonite International SA	2 629.00	1 840.30	3 417.70	Casio computer co	1 846.31
2/08/12	Samsonite International SA	2 350.76	1 645.53	3 055.99	Casio computer co	1 846.31

21/09/12	Compagnie Financiere Richemont SA	29 622.35	20 735.65	38 509.06	Dior	26 999.99
2/10/12	Compagnie Financiere Richemont SA	32 819.06	22 973.34	42 664.78	Dior	25 974.84
31/10/12	PVH Corp	6 624.50	4 637.15	8 611.85	Urban Outfitters Inc	5 466.14
1/02/13	LVMH Moet Hennessy Louis Vuitton SE	92 913.30	65 039.31	120 787.29	McDonald's corp	88 560.75
2/05/13	Salvatore Ferragamo SpA	4 669.00	3 268.30	6 069.70	Fielmann AG	3 884.96
8/07/13	LVMH Moet Hennessy Louis Vuitton SE	89 658.38	62 760.87	116 555.89	McDonald's corp	98 530.44
31/07/13	LVMH Moet Hennessy Louis Vuitton SE	89 658.38	62 760.87	116 555.89	McDonald's corp	99 252.25
30/08/13	Pandora A/S	4 571.65	3 200.16	5 943.15	Sharp Corp	5 175.53
3/03/14	Pandora A/S	7 386.58	5 170.61	9 602.55	Shimano Inc	8 300.57
14/03/14	Prada SpA	18 768.46	13 137.92	24 399.00	Oriental Land Co. Ltd	13 712.09
17/03/14	KOSE Corp	1 882.02	1 317.41	2 446.63	KB Home	1 593.66
2/04/14	Samsonite International SA	3 808.96	2 666.27	4 951.65	Moncler	4 581.97
14/04/14	LVMH Moet Hennessy Louis Vuitton SE	91 635.45	64 144.82	119 126.09	H&M	64 376.48
28/05/14	Samsonite International SA	4 463.67	3 124.57	5 802.77	Moncler	4 310.39
18/06/14	Chow Tai Fook Jewellery Group Ltd	14 033.16	9 823.21	18 243.11	Oriental Land Co. Ltd	13 970.84
30/07/14	Kering SA	27 835.79	19 485.05	36 186.53	Dior	36 150.37
12/08/14	Pandora A/S	10 081.31	7 056.92	13 105.70	Shimano Inc	10 397.31
1/10/14	Restoque Comercio e Confeccoes de Roupas SA	691.73	484.21	899.25	Konka group co ltd	601.66
15/10/14	The Estee Lauder Cos Inc	17 869.13	12 508.39	23 229.87	Oriental Land Co. Ltd	16 649.15
19/12/14	The Estee Lauder Cos Inc	17 578.49	12 304.94	22 852.04	Oriental Land Co. Ltd	19 180.76
19/03/15	Interparfums SA	869.62	608.73	1 130.51	Jumbo SA	1 129.54
30/04/15	Revlon Inc	1 782.30	1 247.61	2 316.99	Formosa Tafetta Co Ltd	1 779.42

26/05/15	LVMH Moet Hennessy Louis Vuitton SE	89 185.69	62 429.98	115 941.40	McDonald's corp	94 643.69
9/07/15	Coty Inc	2 476.57	1 733.60	3 219.54	Pola Orbis	3 121.51
19/10/15	Coty Inc	2 801.39	1 960.97	3 641.81	Pola Orbis	3 385.80
2/11/15	Coty Inc	2 657.43	1 860.20	3 454.66	Pola Orbis	3 456.61
2/02/16	PVH Corp	6 035.32	4 224.72	7 845.92	Hugo Boss	5 858.23
25/02/16	The Estee Lauder Cos Inc	19 600.23	13 720.16	25 480.30	Galaxy Entertainement	13 765.33
3/03/16	Samsonite International SA	3 816.17	2 671.32	4 961.02	Moncler	3 659.47
1/08/16	Burberry Group PLC	6 883.41	4 818.39	8 948.43	Porsche automobil holding SE	7 483.13
17/10/16	Coty Inc	1 902.92	1 332.04	2 473.80	USANA HEALTH SCIENCES INC	1 639.52
21/10/16	The Estee Lauder Cos Inc	19 652.86	13 757.00	25 548.72	Galaxy Entertainement	16 097.12
14/11/16	The Estee Lauder Cos Inc	19 561.77	13 693.24	25 430.30	Galaxy Entertainement	16 841.85

Source: (Author's creation)

Appendix 5 – Matrix of the correlations between the explanatory variables

	Domestic	Serial	Private	Subsidiary	Related	Family	Size	AcqGDPPC	TarGDPPC	AcqGDPPCgr	TarGDPPCgr
Domestic	1.00										
Serial	0.05	1.00									
Private	0.11	0.07	1.00								
Subsidiary	-0.10	0.12	0.19	1.00							
Related	-0.04	-0.01	-0.11	-0.05	1.00						
Family	-0.18	0.00	0.10	-0.14	-0.30	1.00					
Size	-0.01	0.34	-0.01	-0.06	-0.34	0.33	1.00				
AcqGDPPC	-0.07	0.12	-0.12	0.20	0.22	-0.34	0.13	1.00			
TarGDPPC	0.19	0.17	-0.04	-0.09	0.00	0.04	0.18	0.41	1.00		
AcqGDPPCgr	0.06	0.10	-0.19	-0.04	0.04	-0.09	0.20	-0.12	0.01	1.00	
TarGDPPCgr	-0.03	-0.12	-0.07	0.07	-0.09	-0.10	0.13	-0.06	-0.13	0.64	1.00

Source: (Author's creation)

Appendix 6 – Durbin-Watson test for cross-sectional regressions

	Dependent variables		
	CAR [-1;1] (Market adjusted model)	CAR [-1;1] (Market model)	CAR [-1;1] (Multi-factor model)
Durbin-Watson statistic	2.311	2.417	2.418
p-value	0.195	0.061	0.061
	Dependent variables		
	BHAR-1 year	BHAR-2 years	BHAR-3 years
Durbin-Watson statistic	1.897	1.752	1.784
p-value	0.376	0.098	0.138

Source: (Author's creation)

EXECUTIVE SUMMARY (Dutch version)

De impact van acquisities op de aandelenkoersen van overnemende bedrijven is uitgebreid bestudeerd in de literatuur van de evenementenstudie. Door het meten van de abnormale rendementen van overnames in verschillende industrieën of regio's zijn gemengde resultaten gerapporteerd. In gelijkaardige studies zijn de determinanten van deze rendementen onderzocht door te kijken naar de invloed van transactie-, bieder-en doelvennootschapspecifieke kenmerken. Het doel van dit proefschrift is dus om de prestaties van overnemers die actief zijn in de luxe sector te evalueren, evenals de determinanten ervan.

Ten eerste worden de luxemarkt en de bijbehorende overnameactiviteiten gepresenteerd. Het doel is om de relevantie van dit onderzoek voor deze ongewone sector te onderstrepen. Daarna, wordt de literatuur van de evenementenstudie samengevat met de onderliggende veronderstellingen. Abnormale rendementen uit de aankondiging van overnames die in de voorgaande landen- of sectorspecifieke studies zijn geïdentificeerd worden gerapporteerd. De impact van de heersende determinanten van de abnormale rendementen wordt ook geschetst. Ten tweede worden het proces van gegevensverzameling en de criteria voor het trekken van de steekproef ingevoerd. Vervolgens worden de methoden voor het beoordelen van de omvang van de abnormale rendementen van overnames over korte-en langetermijnperiodes gedetailleerd. We rapporteren elke aanpak met de bijbehorende statistische testsen. De toegepaste regressies om de impact van specifieke variabelen op de abnormale rendementen te bepalen worden verder gepresenteerd.

De resultaten van de korte-en langetermijnmethodologieën worden gerapporteerd met de resultaten van de regressies. Ten eerste worden de abnormale rendementen gemeten rond de datum van de aankondiging van de transactie ingevoerd. Ze benadrukken de positieve impact van het evenement over een tijdspanne van 3 dagen. Daarna worden de abnormale rendementen gemeten met de *buy-and-hold benchmark* methode gepresenteerd. Echter, alleen de *calendar-time abnormal return* benadering wordt als betrouwbaar beschouwd voor de lange-termijn onderzoek. Deze methode rapporteert geen abnormaal rendement op lange-termijn. Dat is consistent met de efficiënte markthypothese. Ten slotte wordt een significant verband geschetst tussen variabelen die verband houden met het Bruto Binnenlands Product (BBP) per capita in het doelland en de rendementen in de regressies.

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The impact of M&A deals on the stock prices of acquiring firms has been extensively studied in the event study literature. By measuring the abnormal returns from acquisitions in different industries or regions, researchers have reported mixed results concerning the short- and long-term effects of those events. In similar studies, the determinants of the abnormal returns have been examined by looking at the influence of transaction-, bidder- and target-specific characteristics. The purpose of this thesis is thus to evaluate the performance of acquirers operating in the personal luxury goods industry as well as its drivers.

First of all, the luxury market and its associated takeover activity are presented. The purpose is to underline the relevance of this research for this uncommon sector. The event study literature is then summarized together with its underlying assumptions. The short-and long-term abnormal returns from M&A announcements identified in the prior country- or industry-specific studies are thus reported. The impact of the prevailing drivers of the post-announcement performance on the abnormal returns is also outlined.

Secondly, the data gathering process and the criteria applied to clean the sample are introduced. The methodologies to detect and assess the size of the abnormal returns from M&A deals over short-and long-term periods are then detailed. We report each approach with its associated statistical tests. The cross-sectional regressions used to determine the impact of specific variables on the abnormal returns are further presented.

Then, the results of both short-and long-term methodologies are reported with the results of the regressions in the subsequent order. Firstly, the abnormal returns measured around the deal announcement date are introduced. They highlight the positive impact of the event over a 3-day time window. The long-term abnormal returns measured with the buy-and-hold benchmark procedure are then presented. However, only the calendar-time abnormal return approach is considered as reliable for our post-announcement findings. This approach does not report any abnormal return in the long-term which is consistent with the efficient market hypothesis. Finally, the significance of GDP per capita related variables in the target country identified in the regressions outlines their positive relationship with the abnormal returns.