5-2015

A Study on the Performance of the Luxury Industry during the Financial Crisis

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by

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An Honors Thesis in partial fulfillment of the requirements for the Bachelor of Science in Business Administration in Economics and Finance

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May 9, 2015

Abstract

This thesis explores the financial performance of firms engaged in the production of luxury goods and services, as measured over a recessionary period. Specifically, it relates firms' performance to the performance of the United States economy at large, as well as a control firm operating in a different market segment. This analysis revealed the comparatively poor performance of the luxury industry throughout the most recent recession. As economic conditions weakened firms within the luxury industry faced below-average earnings and profits.

Introduction

As the business cycle takes place economies experience expansionary and recessionary periods. How firms function in changing economic conditions can shed information on the state of the firm. Some industries are viewed as being cyclical; meaning that the industry is sensitive to the business cycle. Moreover, revenues and profits are typically higher in periods of economic expansion, and lower during periods of contraction. On the other hand, a firm could be counter-cyclical; meaning that the firm's performance is negatively correlated with economic conditions.

There is much debate as to where producers of luxury goods and services fit within this spectrum. Some view luxury firms as being somewhat immune to recessions while others disagree. In 2011, former Louis Vuitton Chairman and CEO, Yves Carcelle, stated, "[Louis Vuitton] doesn't see any signs of slowing down whether it's in Europe or in America. The world of luxury doesn't obey the same rule" (Doran 2011). The rule Carcelle is making reference to is the fact that many manufacturers of luxury goods and services do not experience periods of poor performance when the economy goes through a contractionary period. However, many disagree with Carcelle and believe that firms producing luxury goods and services are some of the hardest hit by a weakened economy.

The Business Cycle Dating Committee of the National Bureau of Economic Research defines a recession as a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales (NBER 2001). As economic conditions began to deteriorate around 2007, the United States' economy entered a period of recession. During this period of time, and the years following, many firms struggled to stay afloat and few prospered. Using the most recent Financial Crisis as a baseline for measurement, the performance of luxury firms can be examined to determine the extent to which the recession affected their operations.

Furthermore, a luxury good is generally viewed as a product for which demand increases more than proportionally as income rises. In other words, luxury products have a very high income elasticity. By examining a representative group of firms that produce luxury products their performance can be analyzed in comparison with the United States' economy during the 2008 recession. From this analysis it can be determined how these firms responded, measured in terms of elasticity, during the recession. This analysis will shed light as to how producers of luxury goods and services fared during the recession.

Methodology

To gain an understanding of the performance of luxury firms during the recession various forms of statistical analysis were utilized to gain an overall perspective on the performance of these firms. A group of seven firms that produce luxury products was chosen to represent the luxury industry. These firms were selected due to their large overall presence within the industry, their varying product lines, and their ability to represent the overall luxury industry. The firms chosen to represent the industry consist of Wynn Resorts, Ralph Lauren, Tiffany & Co., Coach, Nordstrom, Estée Lauder, and Movado.

The income statement was used to compare the performance of each firm during the recession. Specifically, the Form 10-Q, a quarterly performance report filed with the Securities and Exchange Commission, was utilized to find each firm's revenue and net income over the past 15 years. The revenue of each firm indicated the pure performance of the firm during the period without consideration of management quality. Net income also revealed the performance of the firm, but inherently takes into account management's ability to steer performance of a firm in varying economic conditions. By taking into account, both, the top and bottom line a more accurate conclusion can be reached regarding the performance of each firm.

Additionally, Wal-Mart was used as a pure play comparable in the non-luxury category. Wal-Mart's performance provided a solid basis for comparison within the luxury industry. To understand each firm's performance during the recession quarterly Gross Domestic Product (GDP) data was used to gauge the firms within the industry. RStudio, a language and environment for statistical computing and graphics, as well as Microsoft Excel was used to perform statistical analysis to reach a conclusion regarding the performance of the luxury industry during the recession.

First, correlations were computed between each firm's revenue and net income in relation to GDP. This rendered a general picture of how each firm performed during the recession in comparison to the economy. A positive correlation indicated that the firm's revenue or net income increased along with GDP. Conversely, a negative correlation would indicate that as the economy's performance deteriorated the firm in question still performed well. Thus, meaning it was not as affected by the recession as firms in other industries.

Next, regression analysis was utilized to understand the relationship between each firm's performance and the state of the economy in much greater detail. Regression allowed for the performance of the firm to be compared to economic conditions throughout the recession. This analysis allowed for the sensitivity of each firm to be measured by isolating the effect of changes in GDP. The sensitivity of each firm to economic conditions was measured by calculating the elasticity between each firm's earnings and GDP. The measurement of elasticity allowed for a quantifiable conclusion to be made regarding the performance of luxury firms during the recession. Wal-Mart's performance was also compared to GDP in order to get a benchmark elasticity of a comparable in another market segment.

Finally, each firm's stock price was compared to the overall stock market. Changes in each firm's stock price were compared to the S&P 500 to see how the firm performed in relation to the market. Stock price takes into consideration all information pertaining to the firm; meaning stock price is a good proxy for a firm's overall economic performance. The standard deviation of movements in price can be compared to the standard deviation of Wal-Mart and the S&P 500 to determine the relative volatility of each firm. If firms producing luxury products are consistently outperforming the market it can be inferred that luxury goods and services were not as vulnerable to the recession.

Using these three approaches a conclusion can be reached as to how each firm performed during the recession. The performance of the seven firm's will shed light as to how the overall luxury industry was affected by the recession.

Overview of Firms

Wynn Resorts, Ltd. (WYNN)

Wynn Resorts is an owner and operator of destination casino resorts. The firm maintains operations in two segments; Macau Operations and Las Vegas Operations. As of December 31, 2013, Wynn Resorts owned and operated two destination casino operations: Encore at Wynn Las Vegas and Encore at Wynn Macau. Wynn Resorts was founded in Las Vegas in 2002 (Wynn Resorts, Ltd. 2014).

Ralph Lauren Corp. (RL)

Ralph Lauren designs, markets and distributes lifestyle products which include apparel, accessories, home, and fragrance. As of March 29, 2014, Ralph Lauren conducted its business in three segments: Wholesale, Retail, and Licensing. As of the same date, the firm operated 433 directly-operated freestanding stores, 503 concession-based shop-within-shops, and 8 e-commerce Websites. Ralph Lauren was founded in 1967 and is based in New York, New York (Ralph Lauren Corporation 2014).

Tiffany & Co. (TIF)

Tiffany & Co. designs, manufactures, and retails jewelry worldwide. Its jewelry products include fine and solitaire jewelry; engagement rings and wedding bands; and non-gemstone, sterling silver, gold, and metal jewelry. Tiffany & Co. also sells timepieces, leather goods, sterling silverware, china, crystal, stationery, fragrances, and accessories. Products are sold through retail sales, Internet and catalog sales, business-to-business sales, and wholesale distribution. Tiffany & Co. was founded in 1837 and is headquartered in New York, New York (Tiffany & Co. 2014).

Coach, Inc. (COH)

Coach is a marketer of women’s and men’s accessories which include bags, accessories, footwear, wearables, jewelry, travel bags, sunwear, watches, and fragrance. Coach’s segments include: North America, which includes sales to North American consumers through Coach operated stores, the

Internet, and sales to wholesale customers and distributors; and International, which includes sales to consumers through Coach operated stores in Japan and China, Coach operated stores and concession shop-in-shops in Hong Kong, Macau, Singapore, Taiwan, Malaysia, South Korea, the United Kingdom, France, Ireland, Spain, Portugal, Germany and Italy. Coach was founded in 1941 and is based in New York, New York. (Coach, Inc. 2014).

Nordstrom, Inc. (JWN)

Nordstrom is a fashion specialty retailer, offering apparel, shoes, cosmetics, and accessories for women, men, and children in the United States and Canada. It operates in two segments: Retail and Credit. The Retail segment offers a selection of brand name and private label merchandise. As of March 6, 2015, this segment operated 292 stores in 38 states, including 115 Nordstrom stores in the United States and 2 stores in Canada. The Credit segment operates Nordstrom FSB, a federal savings bank, which provides a private label credit card, 2 Nordstrom VISA credit cards, and a debit card. Nordstrom was founded in 1901 and is based in Seattle, Washington (Nordstrom, Inc. 2014).

Estée Lauder Companies, Inc. (EL)

Estée Lauder is a manufacturer and marketer of skin care, makeup, fragrance and hair care products. Products are sold under a number of brand names including: Estée Lauder, Aramis, Clinique, Origins, MzAzC, Bobbi Brown, La Mer and Aveda. Estée Lauder is also the licensee for fragrances and cosmetics sold as Tommy Hilfiger, Donna Karan, Michael Kors, Tom Ford, Coach and Tory Burch. Additionally, Estée Lauder manufactures and sells products under the Prescriptives, FLIRT!, GoodSkin Labs, Ojon and Osiao brands. Estée Lauder also develops and sells products under a license from Kiton and hold licenses to develop and sell fragrances and other beauty products for the Marni and Aerin brands. Estée Lauder was founded in 1946 and is headquartered in New York, New York (Estée Lauder Companies, Inc. 2014).

Movado Group, Inc. (MOV)

Movado designs, sources, markets, and distributes watches in two principal business segments: Wholesale and Retail. Movado Group divides its watch brands into three categories: luxury, accessible luxury, and licensed brands. The luxury category consists of the Ebel and Concord brands. The accessible luxury category consists of the Movado and ESQ Movado brands. The licensed brands category represents brands distributed under license agreements and includes Coach, HUGO BOSS, Juicy Couture, Lacoste, Tommy Hilfiger and Scuderia Ferrari. Movado was founded in 1961 and is based in Paramus, New Jersey (Movado Group, Inc. 2014).

Wal-Mart Stores, Inc. (WMT)

Wal-Mart operates retail stores in various formats worldwide. Operations consist of three main business segments. Walmart U.S., which operates retail stores under the Walmart brand in various formats in all 50 states and Puerto Rico, as well as its online retail operations, walmart.com. Walmart International, which consists of retail operations in 26 countries and includes several formats of retail stores and wholesale clubs, including Sam's Clubs, restaurants, banks and various retail websites. Sam's Club, which consists of warehouse membership clubs operated in 48 states in the U.S. and Puerto Rico, as well as its online operations, samsclub.com. Wal-Mart was founded in 1945 and is headquartered in Bentonville, Arkansas (Wal-Mart Stores, Inc. 2014).

Results

The seven firms analyzed were unable to maintain pre-recession performance throughout the recession. Suggesting that producers of luxury products perform in accordance with the cyclical nature of the economy. Each method of analysis further supported the notion that firms selling luxury products were extremely vulnerable during the recession.

First, the correlation between each firm was calculated as well as the correlation between each firm and GDP. This is represented graphically in Figure 1 and Figure 2. Both suggest that the luxury firms analyzed displayed high levels of correlation throughout the recession. A link between each individual firm and the overall luxury industry can then be concluded based on this analysis. In other words, the seven firms used to represent the luxury industry performed in, relatively, similar manners during the recession.

Figure 1. Correlation of revenue

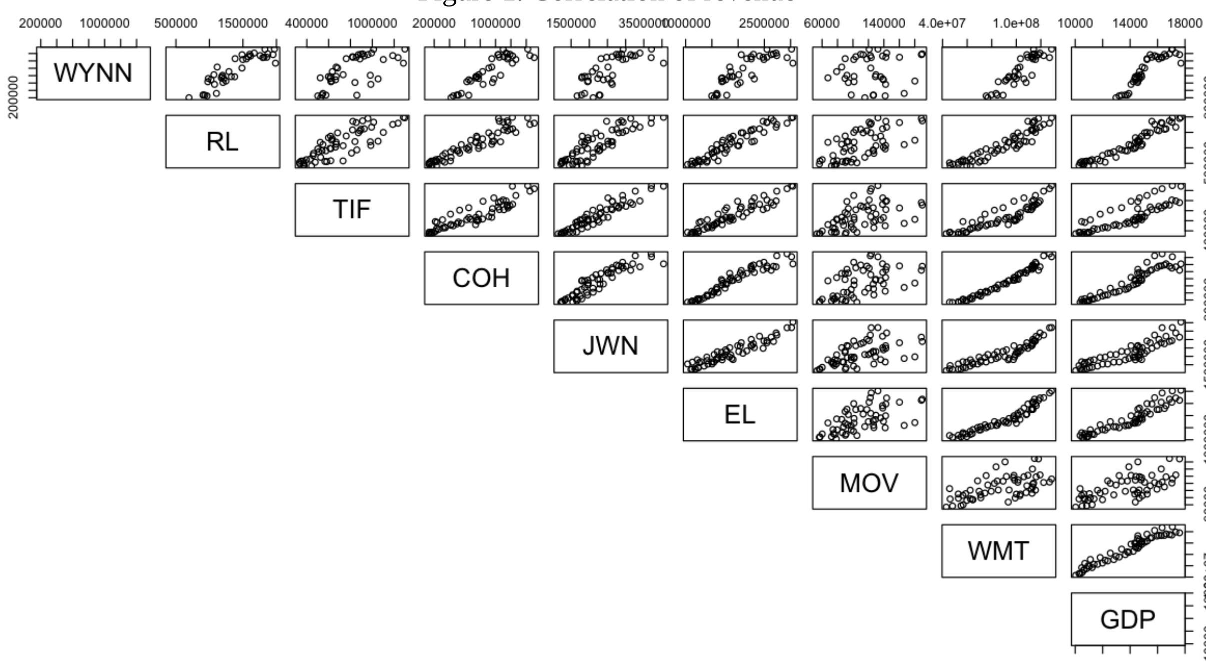
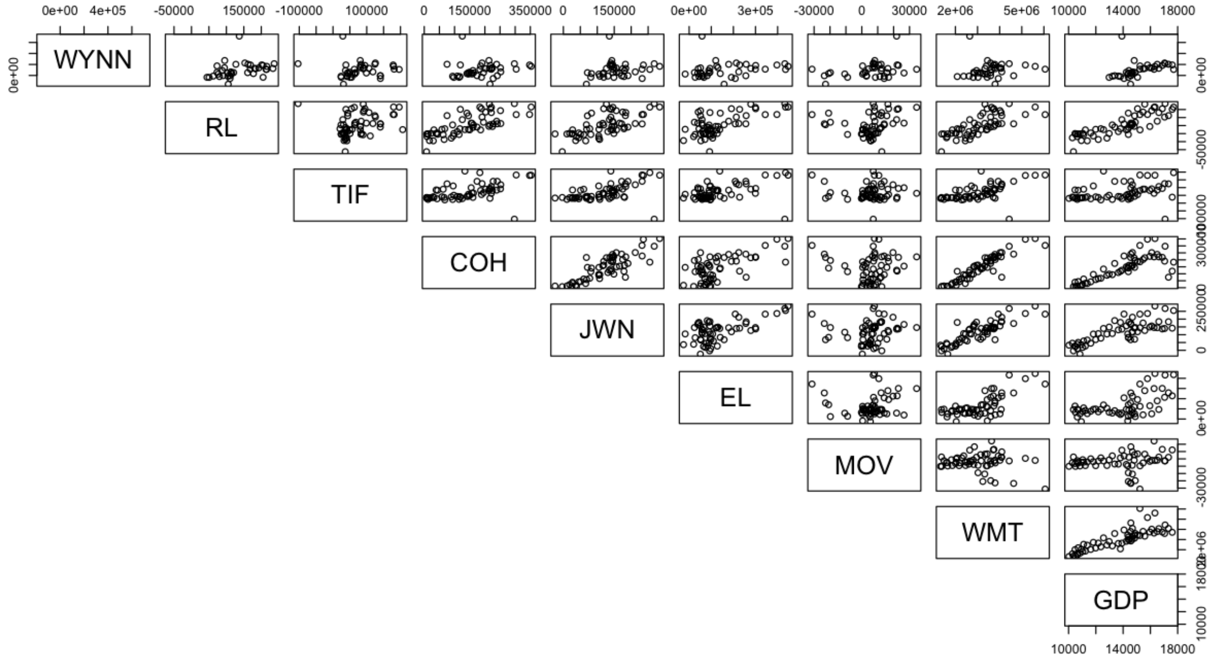


Figure 2. Correlation of net income



Additionally, analysis revealed that there is a positive relationship between each firm and GDP. If GDP grew, the overall luxury industry performed well. This positive correlation suggested that as GDP increased, each firm's revenue and net income also increased. Further suggesting that luxury firms are cyclical in nature. Correlation coefficients for each firm are displayed in Table 1 and Table 2. Revenue shared the highest degree of correlation when compared to net income. As is evident, the correlation coefficients support the fact that revenues are highly correlated with GDP. The only outlier being Movado, whose correlation coefficient was 0.6627. Even though this is significantly less than other luxury firms, a high level of correlation still exists between Movado's revenue and GDP.

Table 1. Correlation of revenue and luxury firms

	WYNN	RL	TIF	COH	JWN	EL	MOV	WMT	GDP
WYNN	1								
RL	0.894264	1							
TIF	0.660701	0.833744	1						
COH	0.882332	0.941142	0.907624	1					
JWN	0.719887	0.863708	0.945498	0.919627	1				
EL	0.830543	0.952195	0.938907	0.96162	0.942631	1			
MOV	0.102881	0.642524	0.531627	0.510944	0.564439	0.593106	1		
WMT	0.89771	0.936393	0.899124	0.983178	0.926783	0.955162	0.593827	1	
GDP	0.90388	0.961745	0.828533	0.941019	0.888255	0.932662	0.662728	0.966776	1

Table 2. Correlation of net income and luxury firms

	WYNN	RL	TIF	COH	JWN	EL	MOV	WMT	GDP
WYNN	1								
RL	0.324034	1							
TIF	0.014102	0.281966	1						
COH	0.134449	0.738533	0.455764	1					
JWN	0.198103	0.659475	0.505666	0.83693	1				
EL	0.200712	0.663523	0.423465	0.64721	0.635969	1			
MOV	0.342783	0.17492	-0.05551	-0.05037	0.100783	0.084201	1		
WMT	0.117865	0.727831	0.567512	0.920797	0.850653	0.704226	-0.14122	1	
GDP	0.377462	0.843802	0.333732	0.804437	0.784211	0.587462	0.13573	0.825591	1

The further down each firm's income statement, the less correlated the firm is with GDP. This was anticipated because management has the ability to control the performance of the firm; meaning that the overall state of the economy has less to do with the bottom line. Even though less correlation exists between each firm, nearly all coefficients are positive numbers, which indicates that a direct relationship still exists between the firm's performance and the state of the economy. Utilizing correlation analysis allowed for an understanding of the relationship of firms within the luxury industry to be established as well as a basic understanding of the positive relationship between each firm's income statement and GDP.

Next, regression analysis was performed on each firm in order to get a better idea of how each firm responded to the weakened economy during the recession. Utilizing RStudio, each firm's revenue and net income was compared to GDP in order to get a sense of how each firm performed during the recession. Table 3 and Table 4 display the results of this analysis. From this, it is evident that there is a direct relationship between GDP and revenue as well as net income. These results can be interpreted to mean that as GDP increased by one dollar, the firm's revenue or net income would increase, on average, by the calculated coefficient for each firm. For example, if GDP increased by a dollar, Nordstrom's revenue would increase by $277.63.

Table 3. Revenue regression results

Variable	Coefficient	Std. Error	t-statistic	Prob.
WYNN	293.22	22.81	12.85	3.26E-15
RL	211.9	7.99	26.5	2.00E-16
TIF	97.05	8.61	11.27	3.08E-16
COH	174.37	8.38	20.81	2.00E-16
JWN	277.63	18.85	14.73	2.00E-16
EL	235.12	12.15	19.35	2.00E-16
MOV	9.837	1.47	6.68	1.08E-08
WMT	10783.04	3.78	28.55	2.00E-16

Table 4. Net income regression results

Variable	Coefficient	Std. Error	t-statistic	Prob.
WYNN	41.76	16.84	2.48	1.78E-02
RL	26.17	2.20	11.87	2.00E-16
TIF	7.99	2.97	2.70	9.16E-03
COH	33.67	3.32	10.13	2.82E-14
JWN	24.95	2.59	9.63	1.25E-13
EL	31.13	5.73	5.43	1.25E-06
MOV	0.74	0.72	1.03	3.05E-01
WMT	395.50	35.80	11.05	8.64E-16

The coefficients for each firm vary significantly for, both, revenue and net income. In order to truly understand the firm's performance during the recession, data needed to be normalized to account for different levels of revenue and net income. Normalizing the data allowed for a true comparison to be made utilizing the measurement of elasticity.

Elasticity measures a variable's sensitivity to changes in another variable. This allowed for the change in revenue or net income to be compared to changes in GDP throughout the recession. The following equation was used to calculate each firm's elasticity:

$$Elasticity = \frac{\%\ change\ in\ earnings}{\%\ change\ in\ GDP}$$

The higher the elasticity, the more sensitive to economic conditions the firm was during the recession. Extrapolated, a firm with a higher elasticity performed worse during the recession than a firm with a lower elasticity. Comparison between the elasticity of the control firm and the elasticity of each luxury firm allowed for the performance of the luxury industry to be compared to the overall market. Table 5 exhibits the results of this analysis.

Table 5. Elasticity of firms

Variable	Revenue	Net income
WYNN	4.32	5.83
RL	2.64	3.47
TIF	1.93	1.55
COH	3.39	3.25
JWN	1.74	2.86
EL	1.74	3.16
MOV	1.24	1.83
WMT	1.69	1.79

From a revenue standpoint, six of the seven firms were more elastic than Wal-Mart. This means that every luxury firm, aside from Movado, did not outperform the comparable firm during the recession. From this, the conclusion can be made that the overall luxury industry was not able to outperform the rest of the economy in terms of revenue during the recession. This conclusion is reaffirmed when examining the elasticity at the bottom of income statement. All of the luxury firms were more elastic than Wal-Mart;

meaning that luxury firms were not able to outperform the control firm. Once again, regression analysis revealed that the performance of the luxury industry follows the cyclical nature of the economy.

Finally, the stock price of each firm was compared to the S&P 500 throughout the recession. Performance of each firm in comparison to the market is a good indicator of the overarching health of the firm. A firm with returns greater than the S&P 500 outperformed the market, while a firm with returns less than the S&P 500 underperformed the market. This comparison allows for an overall perspective of each firm to be taken. Figure 3 displays the performance of each firm in relation to the market during the recession. Luxury firms underperformed the market during the period of 2007 to 2009. Results are not as clear as other forms of analysis; however, the conclusion that luxury firm's performance declined during the recession can still be reached.

Figure 3. Stock price performance from 2007 to 2009

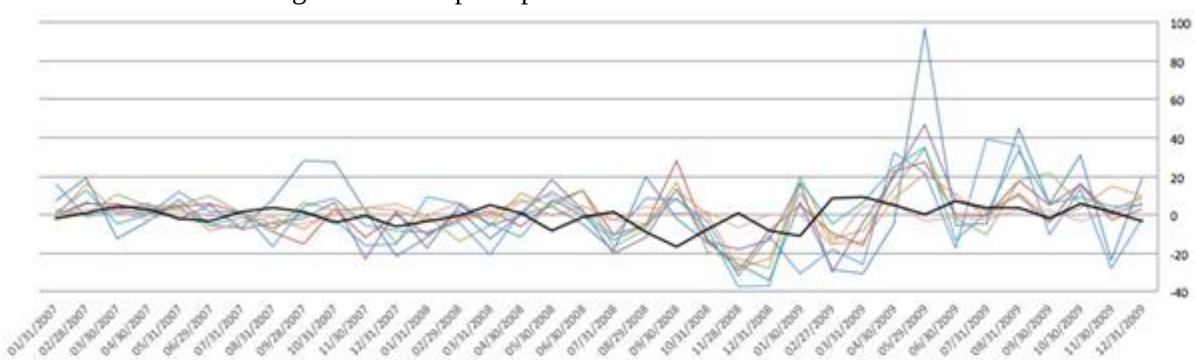
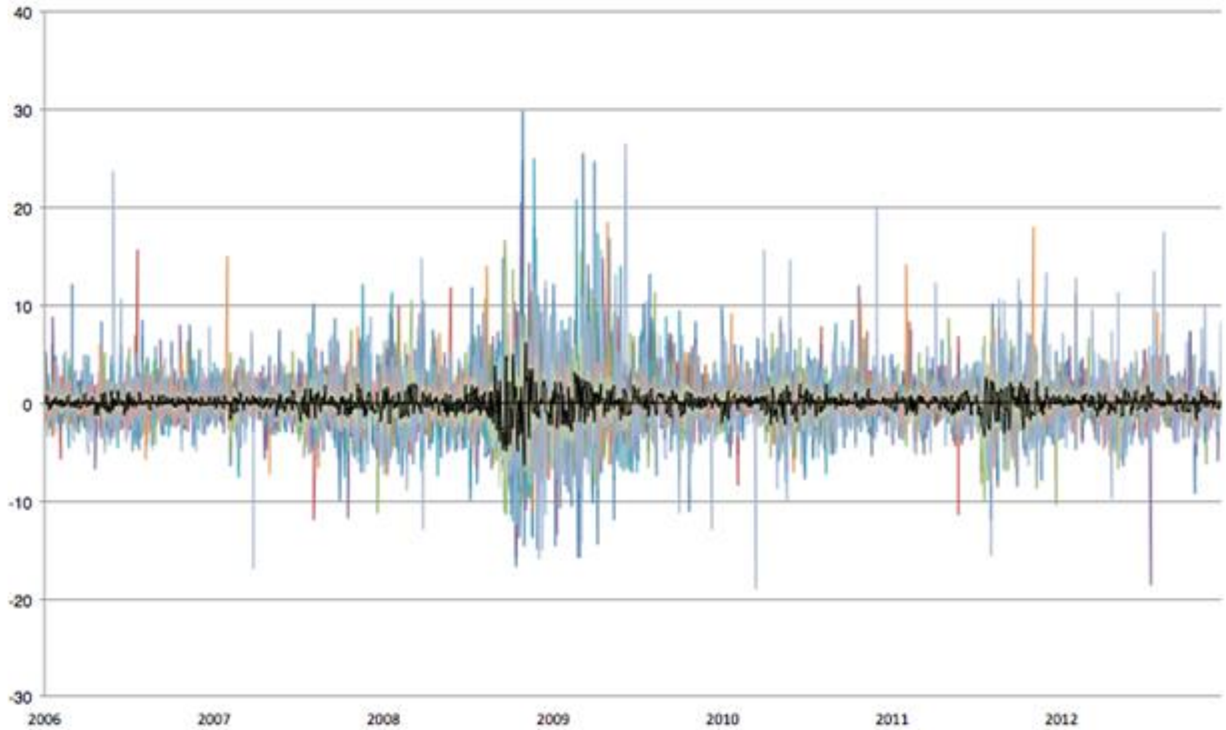


Figure 4 displays the high levels of volatility luxury firms operated in during the recession. The daily standard deviation of the seven luxury firms ranged from a 2.11% (Estée Lauder) to 3.72% (Wynn Resorts). These standard deviations can be annualized to 33.41% and 58.86%, respectively. When compared to Wal-Mart and the S&P 500 it is evident that the luxury firms were significantly more volatile than a non-luxury comparable. Wal-Mart's daily and annualized standard deviations were 1.32% and 20.87%, respectively. Whereas, the S&P 500 held respective daily and annualized standard deviation of 1.40% and 22.18%. The lower average stock prices and higher levels of volatility, again, support the conclusion that luxury firm’s performance declined during the recession.

Figure 4. Stock price volatility from 2006 to 2013



Revenue, profitability, and stock price deteriorated for luxury firms during the recession. All evidence supports the notion that the luxury industry was unable to outperform other industries during the recession.

Conclusion

Overall, it is evident that there is significant data to support the notion that luxury firms were greatly affected by the most recent recession. Analysis supported the idea that firms producing luxury products were not immune to the most recent recession.

The correlation between each firm and the overall economy indicated that as GDP decreased so did a luxury firm's performance. In other words, as the economy entered the recession luxury firms were unable to perform at pre-recession levels. From this, it can be concluded that the luxury industry typically performs in general unison with the overall economy. Like the majority of firms, luxury firms are unable to maintain revenues and profitability during a recession. Lessened sales and profitability support the conclusion that the luxury industry was not immune to the most recent recession.

Regression analysis indicated that producers of luxury products are very sensitive to changes in GDP. Initial regression analysis revealed a positive relationship between GDP and the firm's earnings. Meaning that as GDP decreased the firm exhibited lower earnings and profitability. However, this analysis did not take into account the differences in relative magnitude of revenue and net income between the different size firms. To cope with this, data was normalized to find that luxury firms exhibited a much higher elasticity than the comparable firm, Wal-Mart. The higher elasticity of each luxury firm indicated that the luxury industry was more sensitive to the weakened economy than the comparable firm. Further reinforcing the lessened performance of the luxury industry during the recession.

Comparison of each firm's stock price revealed that producers of luxury products tended to underperform the S&P 500 index during the recession. Lower stock prices were a direct result of luxury firms being unable to maintain revenues and profitability during the recession as well as other factors. Additionally, the luxury firm's performance was extremely volatile in comparison to the market and comparable firms from 2007 to 2009. Any sustained growth in stock price was typically marked by a period of sharp decline. This volatility at the firm-level displays the instability of the luxury industry during the recession.

In the end, the luxury industry was not immune to the recession even though some believed that wealthy consumers, who many thought did not feel the effects of the recession, kept their operations flourishing. Like most industries, the luxury industry is reliant on a strong economy to support healthy operational performance.

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