Intellectual Property Rights and the Effect on the Equity Value of Fashion Firms

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Abstract

The fashion industry is marked by the constant changing of clothing styles each season. Consumers seek to be “on trend” by wearing the latest designs. The highly competitive, fast paced, seasonally driven nature of this industry leads fashion firms to copy one another’s designs. Unlike other industries, fashion has weak intellectual property rights to protect designers’ creative works. However, in 2017, the U.S. Supreme Court rendered a decision in *Star Athletica v. Varsity Brands* that could potentially provide more copyright protection to fashion firms. An event study methodology is used to examine the impact of the case on the equity value

I. Introduction & Literature Review

Using their intellect, humans have advanced the state of knowledge in every domain from the sciences to the arts. From the creation of prescription drugs to the writings of Ernest

investment in a new drug profitable is over $1 billion. Similarly, Doubis et al. (2015) have estimated the elasticity of innovation (as measured by the number of new chemical entities appearing on the market for a disease class) to expected market size (the willingness of the sick and others acting on their behalf, such as insurers or governments, to spend on their treatment) to be 0.231. This means that on average a producer must expect to receive an additional $2.5 million dollars in revenue in order to bring a new chemical drug to the market (Doubis et al. 2015). If there were no intellectual property rights, then pharmaceutical companies would not have an incentive to spend money on the initial research and development process. A competing firm could merely copy the product and be able to reap in the profits without contributing to the initial innovation costs of producing the product. Ultimately, a new prescription drug, which

company that produces foam clogs,

(McKinsey & Co. 2021). Yet despite the sheer size of this industry, it is apparent that fashion designers do not have strong protection over their creative works. However, in 2017, there was a decision rendered by the U.S. Supreme Court in *Star Athletica v. Varsity Brands* that could potentially provide more copyright protection to fashion firms. The issue that gave rise to the case involved two firms that both made cheerleading uniforms. Varsity made cheerleading uniforms with a distinct pattern of stripes, and Star copied this design, which led Varsity to file suit (Oyez 2022). Ultimately, in a 6-2 decision, the Court ruled in favor of Varsity and established a test to determine if the two-dimensional striped design of the cheerleading uniform was copyrightable under the Copyright Act (Oyez 2022).[1]

As for the two-pronged test, the Court had to determine if the feature of a useful article was copyrightable (Oyez 2022). A useful article holds a utilitarian or a functional value in

affect

decisions

Another more likely outcome

accessories. The coverage of *Star v. Varsity* in the popular media and legal literature suggests that the case was not only contentious, but also it represented a larger question about the role of intellectual property in fashion.

As for predictions that can be derived from the literature on fashion in relation to *Star v. Varsity*, the research is mostly theoretical and describes general trends and behaviors that consumers and producers of fashion might demonstrate. The literature on fashion originates out of the idea that fashion is a social signaling game, in which one's purchases are made with the societal standards of taste in mind (Veblen 1899). The decision that an individual makes as to what type of clothing to wear each day is not only a reflection of that individual's personal preferences, but also a reflection of what society deems to be acceptable. One's clothing style and quality is a way to indicate to others where in the social rank that individual stands. Fashion designers create, market, and sell their clothing creations to consumers, who then in turn wear their newly purchased garments for others to see.

From Veblen's work, theorists have attempted to model the demand for fashion by assuming that there are two types of consumers: trendsetters and emulators. The former seeks to wear clothing that will differentiate them from the masses of people. The latter seek to be part of the "select group," and will therefore copy or emulate the trendsetters. Leibenstein (1950) attempts to take this notion into account when trying to derive a more realistic theory of fashion consumer's demand, (see also Robinson 1961). Similarly, Adams and McCormick (1992) theorize about how the willingness-to-pay for trendsetters and emulators varies with the number of people consuming the fashion. Specifically, the willingness-to-pay for trendsetters would fall as the number of other people consuming the fashion increase, while the willingness-to-pay for emulators would rise as the number of other consumers increase. Pesendorfer (1995) breaks from

previous literature and designs a dynamic model to examine both the length of fashion cycles and how profits will vary with cycle duration. Translating the theoretical categories of consumers to the firm level, fashion trendsetting consumers would be equivalent to leading fashion firms, and fashion emulators would represent copycat firms.

There are three ways in which my thesis will contribute to the economics literature. First, in theoretical papers, it is common to assume that fashion designers have strong intellectual property rights over their designs, but in practice this not the case at all. As previously

case, then it is likely that the firm is a copycat because they were hurt by the increase in copyright protection.

III. Methodology

The first step in an event study is to identify the events. For any case heard by the Supreme Court, there are two components: oral arguments and the official release of the Court's decision. During oral arguments, each side of the litigation has 30 minutes to present its case, and the Justices are able to ask questions to the attorneys. The types of inquiries and the overall tone

Two different models

can be attributed to the event. Abnormal returns for the market model and three-factor model can be calculated as follows, respectively:

fashion firm, the average annual return of the S&P 500, and the average annual return of the fashion industry. The general formula for average annual returns is:

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where is the annual return for either a fashion firm, the S&P 500, or the fashion industry. If the annualized abnormal return is significantly different in size to any of the three benchmarks, then the result may be considered economically significant.

IV. Data

A list of 114 consumer discretionary firms was obtained from the Bloomberg Terminal. Daily data on the end-of-day adjusted stock price for each firm and the close value of the S&P 500 index was downloaded from S&P Capital IQ (Capital IQ). After eliminating companies with missing observations and including firms traded only on U.S. exchanges, the final dataset contained 72 fashion firms.

Capital IQ did not have a function to consider survivorship bias, which occurs when a sample of stocks is considered to be representative of the market without regarding firms that are no longer publicly traded.

negative and roughly followed one another. At , average daily returns became positive, while S&P 500 returns stayed negative. With news of the case being circulated just before oral arguments, higher average daily returns compared to returns on the S&P 500 suggests that investors believed that the outcome of *Star v. Varsity* would be favorable to fashion firms. However after oral arguments at , both the average daily returns and S&P 500 returns were negative again, with the former being slightly lower than the latter. Post-event it appears that the market overall was down and that investors considered the Justices' tone and questions during oral arguments to be unfavorable to the future profitability of fashion firms.

Figure 1: Plots average daily returns and the daily returns of the S&P 500 around when oral arguments. Figure 2: Plots average daily returns and the daily returns of the S&P 500 around n

Figure 2 above plots the daily stock returns averaged across all firms and the daily return for the S&P 500 for when release of the Court's decision. Frnrnr

companies with only one

for the latter this was different from the results obtained in the oral argument analysis. The CAR for Under Armour was overwhelmingly positive in both models, while the results for Adidas were the complete opposite. This is notable because the two companies' businesses are very much alike, and it would be predicted that *Star v. Varsity* would affect them in a similar manner. However, the difference might be due to Under Armour being more focused on innovative fabric technology.

Table 2 below presents the cumulative average abnormal returns (CAAR) for the release of the Court's decision. Across both normal models and in all event windows, CAAR is positive

Table 2: Using Equation (6), the cumulative average abnormal returns (CAAR) for both normal models are estimated for multiple event windows around release of the Court's decision. * significant at 10%. ** significant at 5%. ***significant at 1%.

D. Economic Significance

Appendix D Tables 3-6 present the annualized abnormal returns for each fashion firm alongside three benchmarks – a particular firm's own historical average annual return, the S&P 500's average annual return, and the average annual return of the fashion industry.[5] The average annual returns for both the S&P 500 and the fashion industry remain the same in all of the comparisons. The calculations for economic significance were only completed if the firm had statistically significant cumulative abnormal returns (CAR) for a given event window. Appendix D Table 1 notes the number of statistically significant results by event, normal model, and event window.

Across events and normal models, the results are economically significant. For example, during oral arguments, Burberry's annualized abnormal returns ranged from 141% to 236% for the market model and 213% to 283% for the Fama and French model. The 30-year historical average annual returns for Burberry, the S&P 500, and the fashion industry were 19% , 9%, and 18%, respectively. The annualized abnormal returns are significantly larger than the three historical standards, so the result is economically meaningful. Similar results can be seen around the release of the Court's decision. Fast Retailing's annualized abnormal returns ranged from 309% to 439% for the market model and 360% to 567% for the Fama and French model. The 30-year historical average annual return for Fast Retaining was 14%. There are economically significant results of similar magnitude when considering other firms as well.

Appendix D Table 2 presents the annualized abnormal returns averaged across all of the firms in the sample – whose results were statistically significant – by event, normal model, and

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event window. Overall, *Star v. Varsity* appeared to have a positive economic impact on the fashion firms. During oral arguments and for the event window , collectively the fashion firms had annualized abnormal returns of 130% for the market model and 313% for the Fama and French model. Similarly, for the same event window around the release of the Court's decision, this figure was 424% for the market model and 630% for the Fama and French model. Across both events and normal models, only two event windows had negative annualized abnormal returns averaged across firms, but for the 14 other event windows this figure was positive and very large, which shows that *Star v. Varsity* was perceived by investors to be largely

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Appendix A

Table 1: List of firms

Ticker	Name	Business Description

UFI	-0.066966**	-2.117	-0.027673	-0.348	-0.081162***	-2.626	-0.013477	-0.165
VFC	0.007994**	2.056	0.023642***	2.993	0.013833***	2.852	0.017803**	

PLCE	-0.023323	-0.457	0.005364	0.097	-0.016379	-0.325	-0.001581	-0.028
ANF	-0.017479	-1.192	-0.012377	-0.404	0.001255	0.045	-0.03111*	-1.959
RL	0.010065	0.948	0.002375	0.177	0.004409	0.327	0.008031	0.707
ZUMZ	0.028969	0.948	0.025714	0.593	0.046415	1.555	0.008269	0.198
CTHR	0.037591	1.185	-0.041942	-0.597	-0.001877	-0.031	-0.002474	-0.041
COLM	0.006262	0.124	0.009416	0.162	0.030241	0.578	-0.014563	-0.276
GIL	0.006183	0.701	0.008929	1.02	0.005456	0.622	0.009656	1.145
SKX	0.033801	1.189	0.045227	1.413	0.028468	0.903	0.05056*	1.848
HBI								

BURL	0.008684	0.49	-0.019189	-0.731	-0.006355	-0.259	-0.00415	-0.181

ZUMZ	0.035464	1.25	0.048803	1.257	0.059995**	2.026	0.024272	0.688
CTHR	0.042353	1.351	-0.029734	-0.439	0.005919	0.101	0.0067	0.116
COLM	0.01006	0.199	0.019484	0.334	0.037239	0.699	-0.007695	-0.148
GIL	0.007973	0.889	0.009796	1.139	0.007925	0.892	0.009844	1.159
SKX	0.037831	1.353	0.055704*	1.781	0.035697			

GIL	-0.00787	-0.31	0.007072	0.238	0.008485	0.278	-0.009282	-0.388
SKX	0.028908	1.271	0.071955	1.186	0.085294*	1.658	0.015569	0.495
HBI	0.002249	0.094	0.005814	0.247	0.009415	0.4	-0.001353	-0.059
PAND								

HBI	0.011534	0.373	0.007851	0.237	0.019643	0.666	-0.000258	-0.008
PAND.Y	-0.012261	-0.666	-0.036511	-1.08	-0.006916	-0.35	-0.041856	-1.357
EXPR	-0.003215	-0.173	-0.070828	-1.333	-0.017718	-0.804	-0.056324	-1.026
TLYS	-0.009966	-0.425	-0.032818	-1.389	-0.020584	-0.884	-0.0222	-0.931
BGI	0.030943	0.341	0.066864	0.777	0.035543	0.415	0.062264	0.707
IDEX.Y	0.020589	1.351	0.024909	1.582	0.01984	1.22	0.025658*	1.772
FRCO.Y	0.04263***	3.546	0.058998***	2.644	0.06218***	4.963	0.039448*	1.9
VRA	-0.052077**	-2.087	-0.042137	-1.034	-0.034555	-0.821	-0.059659**	-2.341
DLTH	0.207714*	1.769	0.264529**	2.233	0.231684*	1.937	0.240558**	2.065
TPR	-0.003323	-0.63	-0.018023	-1.078	-0.001775	-0.315	-0.019571	-1.228
DLA	0.063373	1.126	0.053505	0.851	0.069198	1.253	0.04768	0.738
CGAC	0.384125	0.831	1.199461	1.063	0.166581	0.299	1.417005	1.411
CTRN	-0.030001	-0.317	0.001582	0.017	-0.031413	-0.351	0.002994	0.03

!1" "+1	130.167	313.557	424.677	630.047
!2" "+2	-54.011	260.719	459.859	730.296
!1" "+2	52.312	294.37		

significant results in any of the four event windows were omitted from the table. Cells that contain dash marks in them had results that were not statistically significant, so tests for economic significance were not relevant. All figures in the table are expressed as percentages.

Table 4: Oral Arguments Fama and French Economic Significance (%)

LULU	-	-	215.337	-	42.159	8.787	17.85
PLCE	589.787	-	-	-	37.943	8.787	17.85
RL	-	-	319.7	-	11.787	8.787	17.85
COLM	-	120.139	-	-	18.594	8.787	17.85