Booyah! An Analysis of Mad Money Stock Recommendations

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I. INTRODUCTION

Airing weeknights at 6 p.m E.T., *Mad Money* is one of the most recognizable brands in financial news. Armed with a soundboard and years of experience as a successful hedge fund manager, the show's charismatic host, Jim Cramer, issues financial advice to his audience with the goal of making them money. Since the show's initial broadcast on March 14, 2005, the audience has become quite large, with estimates as high as 250,000 viewers for a primetime broadcast. Beyond an initial primetime airing, the audience includes viewers of the numerous re-broadcasts (television and online), visitors to the show's website, and listeners of the podcast version of the show. One obvious question that comes with any financial advice is: Will this advice make me a profit? A second question that pertains to *Mad Money* is: Do the show and Jim Cramer influence the market through the actions of its audience?

Previous studies of this topic employ tests to determine Cramer's stock picking ability, as well as a traditional event-study analysis to measure the market's reaction to his stock recommendations. Analyses have also identified patterns in Cramer's stock selection style. My research departs from previous in two ways. First, this research applies concepts from the fields of behavioral economics and behavioral finance to explain Cramer's selection style, pick performance, and market impact. Second, Cramer's selections are compared to three other groups of stocks: a control group, stock recommendations offered in print editions of *Barron's* magazine, and stocks that were endorsed in columns written by investment analyst Kenneth Fisher for *Forbes* magazine.

Results from the event-study analysis suggest that Jim Cramer's selection style on *Mad Money* is indicative of a positive-feedback trading style. There is also evidence which indicates that

positive stock recommendations made on *Mad Money* or in *Barron's* magazine, generate positive abnormal returns following their announcement. Furthermore, over the long run (six months following recommendation), Cramer's stocks perform the best of all four test groups. However, over the same period, returns for Jim Cramer's recommendations are nearly identical to those of the S&P 500.

II. LITERATURE REVIEW

Despite his charm and notoriety, Jim Cramer and *Mad Money* receive little academic attention. Papers that exist on the topic focus on three areas: Jim Cramer's selection style on the show, the market impact of his recommendations, and the long run performance of his picks. While this paper reviews these topics, it also includes literature on positive-feedback/momentum investment strategies to further explain patterns in Jim Cramer's selection style.

Selection Style

Before examining the market impact and performance of Jim Cramer's recommendations, it is logical to first determine how he selects stocks to recommend.[1] Lim and Rosario (2010) provide a key insight into Cramer's stock-picking style. Through an analysis of 2260 "non-viewer" buy recommendations made on *Mad Money* broadcasts between June 28, 2005 and December 22, 2006, a pattern of statistically significant positive returns during the twenty-day period before recommendation emerges. When taken cumulatively, the raw returns of the 2260

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[1] During a standard broadcast of *Mad Money,* there are many segments including, but not limited to: Lightning Round!, Sudden Death, and Mad Mail. These segments have the common theme of Cramer receiving questions about stocks from viewers and making snap buy, hold or sell recommendations. As will be discussed in detail in the DATA AND METHODS section of the paper, these segments are not the best way to discern Cramer's selection style or ability. Instead, discussion of his selection style and ability is limited to non-viewer picks, otherwise termed "Featured Stocks."

buy-recommended stocks over the period prior to their recommendation total 4.45 percent. These returns are smaller, but still positive, when adjusted for market capitalization and industry (3.24 and 2.63 percent, respectively). This pattern of positive returns leading up to recommendation suggests that "Cramer favors a positive feedback strategy" (Lim and Rosario 2010). A positive feedback strategy is an investment strategy that aims to capitalize on the continuance of existing trends in the market. The premise is that if a stock is trending upwards it will become more attractive to investors, who then bid up the price, creating a positive feedback loop (Investopedia).

Both Grinblatt and Keloharju (2000), and Jegadeesh and Titman (1993) study the performance of positive feedback investment strategies. Grinblatt and Keloharju (2000) find that positive feedback investment strategies in Finland outperform the market average over their test period. In their words, "Momentum strategies in Finland, particularly of the 6-month ranking, 6-month holding period variety, were profitable on average from 1971-1996" (Grinblatt and Keloharju 2000). Similarly, Jegadeesh and Titman (1993) highlight an investment strategy which involves selecting stocks based on their returns over the previous six months and then holding them for six months. Test portfolios which implemented this strategy of buying past winners over a test period of 1965 through 1989 realize compounded excess returns of 12.01 percent annually.

Impact of Recommendation

Neumann and Kenny (2007), Keasler and McNeil (2008), Engelberg, Sasseville and Williams (2010), and Lim and Rosario (2010) all study the impact of Jim Cramer's recommendation on stock prices. Neumann and Kenny (2007) analyze a sample of 127 buy recommendations made on *Mad Money* episodes which aired between July 26, 2005 and September 16, 2005. They find that even when calculated relative to the market-model, Center for Research in Security Prices

(CRSP) value-weighted index, or security historical mean, average abnormal returns are significantly different than zero one trading day after recommendation (1.06, 1.09, and 1.00 percent, respectively). Average raw returns over the one-day period after recommendation are 1.13 percent. A key insight from their study is that most of the one-day return is captured by the difference between the closing price immediately before recommendation and its opening price the following trading day. Keasler and McNeil (2008) also indicate that abnormal returns on Cramer-recommended stocks peak during the periods of one and two days after announcement. However, they observe that announcement returns are largely reversed after twenty-five trading days. In their study of 826 Cramer-recommended stocks, Engelberg, Sasseville and Williams (2010) show that abnormal overnight returns on recommended stocks total 2.405 percent (with a maximum loss of 10.465 percent, and a maximum gain of 32.809 percent). Lim and Rosario (2010) provide additional evidence of the overnight period accounting for most of the one-day returns. In their study, stocks exhibit overnight returns which exceed total one-day returns. Like Keasler and McNeil (2008), Lim and Rosario (2010) discover significant abnormal returns which peak the day after recommendation, and gradually drift towards zero during the twenty-day period following recommendation.

Long-Term Performance

There is little evidence present in previous research to suggest that Jim Cramer can outperform the market over the long-term. Keasler and McNeil (2008) see no evidence of positive long-term abnormal returns in their research. Furthermore, they observe that unadjusted raw returns on recommended stocks underperform the market index by 7.1 percent over their thirteen-month study. Lim and Rosario (2010) reach a result contrary to Keasler and McNeil (2008). In their study, long-term positive excess returns for non-caller picks are 1.00 percent greater than their

benchmark. Furthermore, they note that returns on Cramer-recommended stocks may be hindered by a few factors, including the fact that Cramer makes new picks each show to generate new content, which might lead to diminishing quality in recommendations. Another possible factor is that he often advocates for an active trading style, which is not easily captured by a simple buy-and-hold analysis.

III. THEORY

Previous studies of buy recommendations made on *Mad Money* reveal the following patterns: over-performance in the period preceding recommendation, a spike in abnormal returns within one or two days after announcement, and a gradual reversal of these abnormal returns over the next twenty to twenty-five trading days. This results in either minimal or negative returns relative to the market index in the long term. What previous studies have not done, and what this study aims to do, is explain why these observed patterns exist. In my view, behavioral theories such as the *Hot Hand Fallacy*, *Expert Heuristic*, and the *Overreaction Hypothesis* illuminate these trends.

   The Hot Hand Fallacy

Often when momentum or positive feedback investing styles are discussed, they are linked to herding behavior among groups of investors. Here, since this study primarily focuses on one investor, Jim Cramer, another theory is in order. First empirically studied by Gilovich, Vallone, and Tversky (1985), the *Hot Hand Fallacy* in its most popular form is the belief among basketball fans that there is a strong pattern in streak shooting. In other words, if a player has made his last shot, or last few shots, he is more likely to make his next shot. A player fitting this criterion is considered to have a "hot hand." This belief was shown to be a myth. Gilovich,

Vallone, and Tversky show empirically that a player with a "hot hand" does not have an increased chance of making his next shot. Conversely, evidence suggests that a player may in fact have a decreased chance.[2] A form of this fallacy may likewise explain Jim Cramer's selection style.

Imagine that instead of a basketball player making a series of consecutive shots, a stock exhibits consecutive days of positive returns. In line with the fallacy, if a stock rises, it may be viewed as having an increased likelihood of increasing. This may create a positive feedback loop in which individuals purchase a stock because it has recently outperformed, generating increased price pressure, further increasing the price. A cynical view is that Jim Cramer's stock selection style is evidence that he consistently falls prey to this fallacy. However, a more optimistic view is that he is aware of the fallacy, and is attempting to exploit it to make short-term gains for his viewers. While the *Hot Hand Fallacy* explains *how* Cramer selects stocks to recommend, it does not describe *why* people listen to his recommendations. This is illustrated by the next theory.

Expert Heuristic

Originating from the landmark work of Kahneman and Tversky (1974), heuristics, simple rules of thumb that individuals use to simplify complex decisions, have far-reaching influences in numerous fields.[3] Originating from only three heuristics (representativeness, availability, and adjustment and anchoring), numerous other heuristics have emerged over time. One heuristic of interest is what is known as the *Expert Heuristic.* Under this heuristic, there are scenarios in which individuals rely on the opinion of experts to decrease the complexity and cost of making

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[2] Despite this fact, announcers still comment that "Klay Thompson is heating up" in response to his making consecutive three point shots.
[3] I would be remiss if I did not recommend that everyone reading this paper reads the insightful and accessible *Thinking Fast and Slow* by Daniel Kahneman.

decisions. For example, many people read reviews of movies before committing time and money to seeing a movie in a theater.

It is not difficult to argue that financial decisions such as which stocks to add to your portfolio are more impactful on your future and more difficult than selecting which movie to see. Therefore, it should not be surprising that an expert heuristic is prevalent in the realm of financial advice. Relating back to *Mad Money*, part of the show's popularity may be accounted for by the existence of Jim Cramer's inexpensive and accessible financial advice.[4] If the audience follows this advice, they are, in effect, deferring their portfolio decisions to Cramer. This allows him to influence the market through the portfolios of his viewers. Furthermore, after-hours buy orders placed for stocks mentioned on episodes of *Mad Money* may be responsible for the well-documented spike in positive abnormal returns during the overnight and one-day trading periods. Having answered *why* people listen to Jim Cramer, the next theory explains what happens when individuals *act* on his recommendations.

The Overreaction Hypothesis

De Bondt and Thaler's (1984) *Overreaction Hypothesis* claims that in violation of Bayes' rule, humans are not perfect probability calculators. They argue that when reacting to new information, humans improperly assign probabilities to new events, leading to inaccurate posterior probability estimates. In their words, "most people tend to overreact to unexpected and dramatic news events" (De Bondt and Thaler, 1984). When applied to stocks, this means that when positive or negative information about a stock comes out, the price of the stock "overreacts" by increasing or decreasing in price significantly. If we consider the announcement

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[4] His advice is considered inexpensive and accessible to anyone with a cable subscription that provides CNBC, or has an internet connection.

of a stock recommendation by Jim Cramer as an "unexpected and dramatic news event," we reach the same result (an immediate spike in positive abnormal returns) as what was hypothesized by the *Expert Heuristic*. Another aspect of the *Overreaction Hypothesis* is that it argues that the market slowly corrects itself for this overreaction, bringing the stock's price closer to its long-term trend line. The time it takes for the price to regress to the mean is, in part, determined by the efficiency of the market. This provides an explanation for the tendency of abnormal returns on recommended stocks to disappear within twenty to twenty-five trading days after the announcement, and the inability for Cramer to outperform the market in the long run consistently.

IV. DATA

As mentioned in the introduction, one of the ways that this research differs from previous is that Jim Cramer's recommendations are compared to three test groups. MAD MONEY and the three test groups (CONTROL, BARRON'S, and FORBES) contain stocks recommended in the first half of the 2016 calendar year. By restricting all groups to the first half of 2016, the intent is that no single group unduly benefits from its stocks being recommended in a bull market while other groups suffer from their recommendations being made in a bear market.

Mad Money

Data associated with Jim Cramer's recommendations (MAD MONEY) are collected utilizing the "Mad Money Stock Screener" tool available for free on his website, TheStreet.com. The stock screener tool recaps all recommendations made on episodes of Mad Money and allows users to sort the recommendations by call (Sell Recommendation, Negative Mention, Hold or Neutral, Positive Mention, or Buy Recommendation), as well as by the segment (Sudden Death, Game

Plan, Mail Bag, Lightning Round!, Guest Interview, Caller's Stock, Discussed Stock, or Featured

Stock) they were mentioned in. With the insights gained from Lim and Rosario (2010), and with

two of the goals of this research being to analyze Cramer's stock picking style and ability, this

sample is restricted to Featured Stocks which are Buy Recommended. Featured Stocks are stocks

which Cramer has personally researched prior to the show. For that reason, I categorize them as

the group of stocks that are most representative of Cramer's stock picking style. The "buy"

recommendation is the most direct positive action that Cramer offers. This criterion represents

the stocks which Cramer is most confident in during the segment, and offers the greatest insights

for studying Cramer's stock picking style and ability to generate positive returns. Stocks are

further restricted to those which are listed on either the NYSE or NASDAQ, and have continuous

trading data from ten days preceding their recommendation to six months after.[5] Closing and

opening price data for stocks included in this sample, as well as price data for all other samples is

collected using *Google Finance*. This sample contains 111 total recommendations of 87

companies. Of the 87 companies recommended, 70 appear only once in the sample, and 17 occur

multiple times. These companies possess a mean average market capitalization of $81.43B, with

a minimum of $4.23M and a maximum of $629.83B, respectively.

    Control Group

As part of testing Jim Cramer's stock picking ability, three other groups of stocks (CONTROL,

BARRON'S, and FORBES) and one index (S&P 500) serve as benchmarks. The CONTROL

group's inclusion tests if Cramer simply selects industries/sectors on the rise instead of specific

stocks. A control stock is paired with each recommendation made by Cramer, and is tracked over

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[5] This results in all stocks in the sample including 136 observations, one for each day of the test period and an extra observation of the opening price of the stock immediately after its recommendation.

the same period as its pair. The pairing is conducted by comparing the stock's three-digit

Standard Industrial Classification (SIC) code, and market capitalization. Because this sample

consists of stocks paired with stocks recommended by Cramer, the sample size is identical (111).

Seventy-four stocks appear only once within this sample, and 16 appear multiple times. These

stocks range in size from $3.75M to $363.79B. The mean average market capitalization of this

group is $43.25B. Even though market capitalization is part of the pairing process, there is a

large difference in the mean average price of the MAD MONEY and CONTROL samples. This

is because Cramer often recommends the largest firm in an industry and there is not always a

similarly sized firm to pair with it.

Barron's

The second benchmark is identified as the BARRON'S sample. *Barron's* is a weekly magazine

which covers financial information, market developments, and relevant statistics. It also offers

outlooks on specific stocks, which is in part why it is used as a benchmark. With an estimated

paid circulation of 438,000[6], *Barron's* magazine reaches a slightly larger audience than *Mad*

Money.[7] This sample consists of stock recommendations made in the print editions of *Barron's*

released during the first half of the 2016 calendar year. Recommendations are collected using the

"Barron's Picks & Pans" tool available on *Barrons.com*. Unlike *Mad Money, Barron's* does not

make explicit buy recommendations. Instead, outlooks such as *Bullish* (positive) or *Bearish*

(negative) are offered. To isolate *Barron's* ability to generate positive returns, the sample is

restricted to stocks with *Bullish* recommendations. The sample is further restricted to stocks

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[6] Estimated paid circulation as of July, 2016. Estimate includes both print and digital only paid subscriptions.
Source: *Statista.com*
[7] It is important to note that while their audiences may be similar in size, that is not to say that they behave similarly
in the market. This point also extends to the readers of Kenneth Fisher's *Forbes* column.

which are listed on the NYSE or NASDAQ, with continuous trading data from ten days preceding their recommendation through six months past recommendation. These restrictions generate a sample of 69 stocks, each appearing only once. This sample has a mean average market capitalization of $33.80B, and stocks range in size from $2.65M to $629.83B.

Forbes

Kenneth Fisher is an American investment analyst, and founder of Fisher Investments. A *Google Trends* search comparing the average web traffic for Jim Cramer and Kenneth Fisher in 2016 reveals that Fisher is about one-third as popular as Jim Cramer.[8] Fisher also writes monthly columns for *Forbes* magazine in which he makes stock recommendations. His popularity and the wide circulation of *Forbes*[9] make the recommendations in his columns a good benchmark against which to test the MAD MONEY sample. The FORBES sample is collected by referencing Kenneth Fisher's columns which appear in print editions of *Forbes* magazine published in the first half of the 2016 calendar year. The sample is further restricted to stocks listed on the NYSE and NASDAQ with trading data that covers the same window as the previous samples. This sample consists of 25 buy recommendations, all of which are for unique stocks (no stock appears more than once). The mean average size of the firms recommended is $132.40B, with a minimum market capitalization of $9.07M, and a maximum of $629.83B.

Descriptive statistics for all groups are summarized in Table 1.

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[8] The term "Jim Cramer" averaged a score of 60 and the term "Kenneth Fisher" averaged a score of 19.
[9] Paid circulation of *Forbes* magazine is 928,464 as of 2016. Source*: Statista.com*

Table 1: Data Set Descriptive Statistics

DATA SET	MAD MONEY	CONTROL	BARRON'S	FORBES
Total Recommendations	111	111	69	25
Companies with One Recommendation	70	74	69	0
Companies with Multiple Recommendations	17	16	0	0
Mean Market Capitalization	81.43B	43.25B	33.80B	132.40B
Median Market Capitalization	29.72B	16.92B	9.48B	61.53B
Maximum Market Capitalization	629.83B	363.79B	629.83B	629.83B
Minimum Market Capitalization	4.23M	3.75M	2.65M	9.07M
Mean Share Price	119.90	71.71	68.87	71.13
Median Share Price	79.85	63.09	44.39	57.46
Standard Deviation	155.05	56.41	82.78	58.89
Maximum Share Price	844.36	442.62	551.89	330.11
Minimum Share Price	4.29	2.45	3.70	3.69

Every recommendation for each group has 136 observations, the closing prices for the 135 trading days ranging from ten days before recommendation to six months after, and the opening price the day following recommendation. Market Capitalization and Share Price data is in $.

V. METHODS

Aside from looking at raw returns to test Jim Cramer's stock-picking ability, abnormal returns are also considered. To do so, an event-study methodology is used to test if his recommendation of a stock can generate positive abnormal returns. Returns are also adjusted for risk.

Raw Returns

The raw return to stock i over period τ is calculated using Equation 1:

$$(1)\ 1 + R_{i,\tau} = \prod_t^\tau (1 + r_{i,t})$$

where $r_{i,t}$ is the return from holding the stock i from the market close on date t - 1 to the market close on date t.

Market Model

A rudimentary interpretation of Finance Theory suggests that stock prices incorporate all available information about the prospectus of firms or the efficiency of the stock market. Given

this assumption, one can study how an event affects the price of a stock. Techniques to study these phenomena are called 'event study methods' and are inextricably linked to the work of Brown and Warner (1980, 1985). The market-model is a specific version of this methodology which is commonly used in studies of Jim Cramer and *Mad Money*, and is the method selected for this study. An event is studied within this model by calculating the difference between the actual observed returns of a stock and its expected returns over the event window. This difference is known as the abnormal return, and is calculated as Equation 2:

$$(2)\ AR_{i,t} = R_{i,t} - [\hat{\alpha}_i + \hat{\beta}_i\ (R_{mkt,t})]$$

where $R_{i,t}$ is the observed raw return to stock i over period t, $\hat{\alpha}_i$ and $\hat{\beta}_i$ are OLS estimates from the event window. For this analysis, the event window spans from ten trading days before the announcement of a stock's recommendation to six months post recommendation. Lastly, $R_{mkt,t}$ is the return of a market proxy over the event window. The proxy selected for this study is the Standard and Poor's 500 (S&P 500). This index is based on the market capitalizations of 500 large companies having common stock listed on the NYSE or NASDAQ.

Modigliani risk-adjusted performance

While all previous studies of Jim Cramer and *Mad Money* rely upon the market-model approach to study abnormal returns, many implement other measures to gauge the robustness of their findings. These alternative measures adjust for factors such as size and risk which are not included in the traditional market-model. Examples used in other papers include the Capital Asset Pricing Model (CAPM), the Fama-French Three Factor Model, and the Center for Research in Security Prices (CRSP) Value-Weighted Index. One measure not included in other studies is the Modigliani risk-adjusted performance measure. Also referred to as the

M^2, M2, Modigliani–Modigliani measure, the Modigliani risk-adjusted performance measure is a way to calculate the risk-adjusted performance of a stock or portfolio relative to a benchmark such as the S&P 500 in this study. It incorporates the Sharpe measure, which is another way to examine a stock's performance relative to risk. The advantage of the M^2 measure is that the result takes the form of a percentage, which the Sharpe Ratio does not. As a stock's Sharpe Ratio is contained within the M^2 measure, it must be calculated prior to the calculation of M^2. The first step to determining the Sharpe Ratio is calculating a stock's excess return, D, as shown in Equation 3:

$$(3)\ D_\tau = R_{i,\tau} - R_{f,\tau}$$

$R_{i,\tau}$ is the return to stock i over event window τ, and $R_{f,\tau}$ is the risk-free rate over the event window. Like previous studies, the standard proxy for the risk-free rate of the stock market used in this study is the maturity yield on ten-year U.S. treasury bonds. It is selected due to the perceived low default risk of the U.S. government, and is the proxy for this study. With the excess returns calculated, the Sharpe Ratio is found using Equation 4:

$$(4)\ S = \frac{\bar{D}}{\sigma_d}$$

In Equation 4, $\bar{D}$ is the average of all excess returns over some period, and σ_d is the standard deviation of those excess returns. Finally, the Modigliani risk-adjusted performance measure is calculated using Equation 5:

$$(5)\ M^2 = S \times \sigma_m + \bar{R}_f$$

In this context, S is the Sharpe ratio, σ_m is the standard deviation of the returns of a reference index m, and $\bar{R}_f$ is the average risk-free rate over the period in question.

If Jim Cramer's stock-selection style does incorporate some version of positive feedback strategies, then one expects the stocks he recommends to exhibit positive abnormal returns prior to recommendation. Evidence for Cramer's ability to influence the stock market would surface as a spike in abnormal returns in recommended stocks overnight and in the two days following recommendation. If an expert heuristic does exist, and investors view Jim Cramer, *Barron's* magazine, and both Kenneth Fisher and *Forbes* magazine as experts, a similar spike should occur in the concerned samples (MAD MONEY, BARRON'S and FORBES). For the *Overreaction Hypothesis* to hold, one would expect two things. First, a spike in abnormal returns would occur after a recommendation is made. Second, those abnormal returns would revert to zero, or regress to the stock's historic mean price or historic trend line.

. This result is not expected to be exclusive to the MAD MONEY sample, but to occur in the BARRON'S and FORBES samples as well. Specifically, if Keasler and McNeil (2008) and Lim and Rosario (2010) are correct, then one anticipates abnormal returns will disappear between the twentieth and twenty-fifth day after recommendation. Lastly, if Cramer cannot outperform the market in the long-run (as many other researchers have concluded), returns on recommended stocks are expected to be less than or equal to the returns of the selected reference index (S&P 500) over the same period.

VI. RESULTS

The results section is organized in chronological order. Beginning with the period preceding recommendation, the returns during the ten days prior to recommendation are analyzed. Moving to the days immediately following an announcement, announcement returns resulting from

recommendation are examined. Lastly, long-term cumulative raw returns over the entire event window are examined.

Period Preceding Recommendation

On average, stocks recommended by Jim Cramer yield positive abnormal returns during the ten-day period before their recommendation. This is the only group among the four test groups that displays statistically significant positive returns over the period. Returns are higher among all groups when measured using the market-model as compared to the M^2 measure.

Days Immediately Following Announcement

When tested using a one-tailed t-test, both the MAD MONEY and BARRON'S stock groups display statistically significant, positive abnormal returns over the two-day event window following their announcements. The FORBES group exhibits statistically significant positive returns over the one-day event window following announcement only, and the CONTROL group yields no statistically significant results. For the MAD MONEY group, the majority of abnormal returns occurs during the overnight period, diminishing after the one-day. On the other hand, the overnight period only accounts for about half of the returns for the BARRON'S group and even less in the FORBES sample.

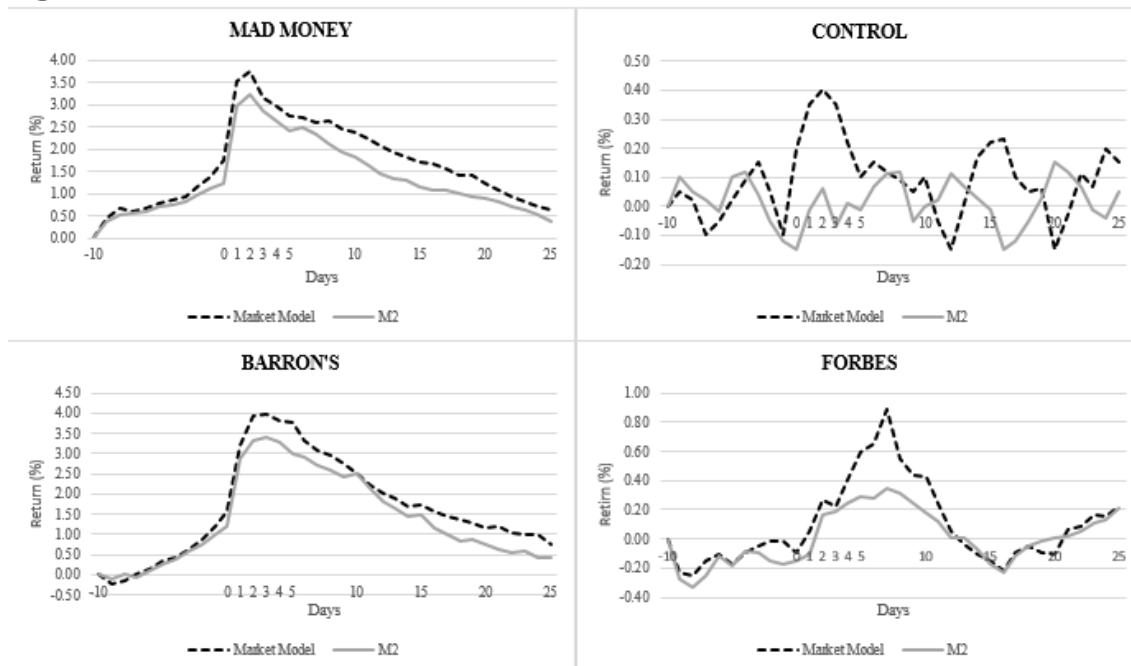Results of the one-tailed t-test are presented in Table 2.

Table 2: Abnormal Returns

Data Set	Event Period	Market Model Abnormal Returns	t-Statistic	M² Risk Adjusted Abnormal Returns	t-Statistic
MAD MONEY	-10 Days	0.61	2.55**	0.55	1.67*
N=111	Overnight	0.91	6.47***	0.82	5.23***
	1 Day	0.92	5.66***	0.85	4.46***
	2 Days	0.83	4.07***	0.71	3.14***
CONTROL	-10 Days	0.05	0.78	-0.09	-0.87
N=111	Overnight	0.10	0.90	0.01	0.78
	1 Day	0.01	0.12	-0.12	0.92
	2 Days	0.05	0.08	0.08	0.83
BARRON'S	-10 Days	0.21	0.87	0.02	0.58
N=69	Overnight	0.56	4.79***	0.44	3.27***
	1 Day	0.77	5.87***	0.79	6.11***
	2 Days	1.06	7.31***	0.88	5.64***
FORBES	-10 Days	-0.22	-1.67	-0.57	-2.12
N=25	Overnight	0.15	1.11	-0.11	-1.70
	1 Day	0.45	1.23	0.52	1.87*
	2 Days	0.32	0.89	0.21	1.17

*,**, and *** indicate significance at the 0.10, 0.05, and 0.01 confidence levels, respectively.

A visual representation of alternative types of returns for the four test groups allows additional comparisons to be made. Figure 1 depicts the average cumulative abnormal returns for stocks within each test group.

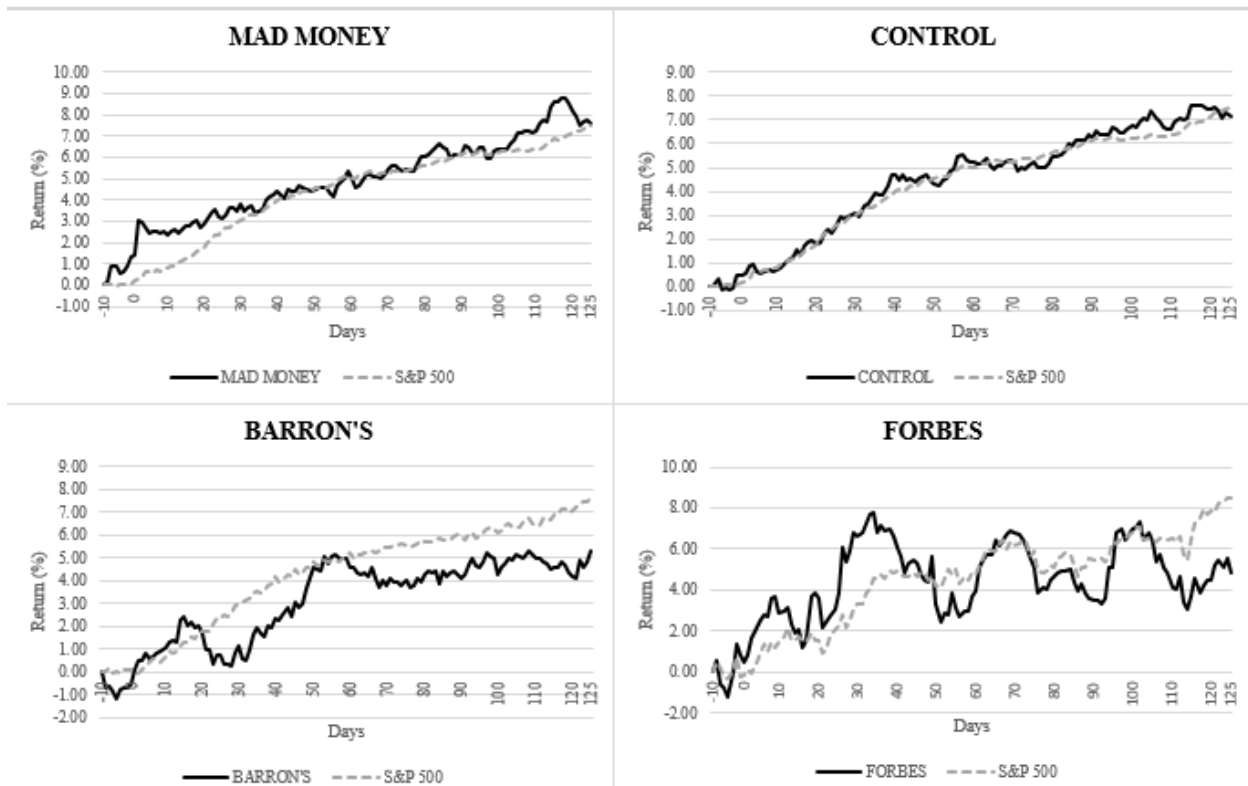Figure 1: Cumulative Abnormal Returns

Jim Cramer's recommendations display positive cumulative abnormal returns leading up to recommendation date. A large spike in abnormal returns occurs within the first day after recommendation, and peaks on the second day for the MAD MONEY test group. After the peak, there is a steady decline in cumulative abnormal returns, reaching only 0.65 percent (market-model) and 0.39 percent (M^2) by the twenty-fifth day after recommendation. The BARRON's group displays a similar relationship, exhibiting positive cumulative abnormal returns prior to recommendation, a spike in returns after recommendation, and a dissipation of returns by the twenty-fifth trading day after recommendation. Within the market and M^2 models, abnormal returns finish at 0.77 and 0.41 percent, respectively. There is a distinct peak in abnormal returns for the FORBES group, but it is not large in magnitude (0.89 percent under the market-model, and 0.35 percent under M^2). Unlike the MAD MONEY and BARRON's groups, the peak does not occur until the seventh day after recommendation. Abnormal positive returns are largely absent by the twenty-fifth trading day following recommendation. No distinguishable pattern exists among the CONTROL group since abnormal returns do not deviate much from zero during the entirety of the event window.

Long-term Returns

Figure 2 shows average cumulative raw returns for stocks within each test group.

Figure 2: Cumulative Raw Returns

Regarding raw returns, the MAD MONEY group starts off strong, with a jump in returns following recommendation day. It then proceeds to outperform the market for roughly 35 days after recommendation. Over the next 100 days there is a convergence towards the S&P 500. The group does display a small jump in returns around the end of the six-month period, and finishes just above the market (0.04 percent). There is a spike in raw returns following announcement of a recommendation among the BARRON'S group, but it is not as prevalent as those of the MAD MONEY group. Even so, stocks in the BARRON'S group outperform the market for nearly twenty days after their recommendation date. By the end of the event window, the BARRON'S group fared worse than both the market and MAD MONEY, finishing with a lackluster return of 5.34 percent. The CONTROL group stocks diverge very little from the market index over the entirety of the test period, ending 0.20 percent below the market at the end of the sixth month.

Kenneth Fisher's recommendations in *Forbes* appear much more volatile than the other samples. Returns peak at a cumulative raw-return of 7.79 percent on the 34th day after recommendation, and display large swings in returns during the rest of the test period. The FORBES group ends 3.64 percent lower than the market at the end of six months at 4.83 percent.

VII. CONCLUSIONS

With the testing complete, the results can be used to assess Jim Cramer's selection style, market influence, and performance. These conclusions are viewed in the context of the behavioral theories proposed earlier, to see how well the theories explain any observed patterns.

Selection Style

Statistically significant evidence supports the hypothesis that Cramer's stock-picking style is consistent with positive-feedback strategies. This evidence takes the form of positive abnormal returns for the MAD MONEY group prior to its recommendation date. Further supporting this conclusion is the fact that cumulative raw returns increase and exceed the market over the same period. When taken as a whole, the evidence suggests Cramer recommends "hot" stocks, lending credence to the *Hot Hand Fallacy* in this context.

Influence

There is statistically significant evidence supporting the hypothesis that Cramer generates positive abnormal returns by recommending a stock. In line with previous studies, abnormal returns over a two-day event window are primarily accounted for by the difference between the closing price on recommendation date and the opening price the following day. Similar to the MAD MONEY group, abnormal returns among the BARRON'S group spike within two days after recommendation. Combining the results from the two groups, there is a case to be made that

investors are relying upon Jim Cramer and *Barron's* magazine as expert heuristics when deciding which stocks to purchase. Contradictory evidence originates from the absence of this pattern within the FORBES group. One major caveat to this contradictory evidence is the fact that the FORBES group was the smallest sample studied, containing only 25 Fisher-recommended stocks, compared to 111 recommendations from Jim Cramer and 69 from *Barron's*.

Short-Term Performance

The MAD MONEY and BARRON'S groups exhibit significant positive abnormal returns during the announcement event window. However, most of these abnormal returns disappear by the twenty-fifth trading day after recommendation. This result aligns with results from previous studies. The pattern in returns is also similar to the *Overreaction Hypothesis*, which hypothesizes that returns spike after an "unexpected event", and slowly regress towards the historic mean. This is nearly perfectly displayed by the MAD MONEY and BARRON's groups (see Figure 1).

Long-Term Performance

Cramer's recommended stocks outperform the market index over the six-month test period, but only by 0.04 percent. This negligible difference raises doubts as to Cramer's ability to outperform the market over the long run. That said, Cramer achieves the highest performance of all the sample groups during the test period. When the groups are ranked from best six-month performance to worst, the order is: MAD MONEY, CONTROL, BARRON'S, and FORBES.

Overall, investors would have done just as well, or better in the case of some test groups, by investing in the market index (S&P 500) over the test period instead.[10]

VIII. FURTHER RESEARCH

While there are many ways to extend this research, a few options are highlighted in this final section. Specifically, descriptions of the effect of sell recommendations, the influence of other "experts," and different ways to study the impact of stock recommendations follow.

Sell Recommendations

While I limit this study exclusively to *buy* recommendations, previous studies have not. Results from those studies suggest that *sell* can generate negative abnormal returns, though their magnitude is not as great as those associated with buy recommendations. In other words, abnormal returns between buy and sell recommendations are asymmetrical.[11] This may mean that the *Expert Heuristic* not only holds for people deciding which stocks to buy, but to a lesser extent which stocks to unload from their portfolio. The *Overreaction Hypothesis* encompasses negative news as well. Like positive news, the price over-corrects in response to the news, in this case decreasing sharply; but then as time passes, the price regresses to its long-run trajectory. This may mean that there is potential profit to be made surrounding negative news, as a stock could be substantially undervalued as a result of the news. For a real-life example, one can

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[10] If one were to factor in the fees associated with buying each of the recommended stocks from each group, the test groups would have fared even worse when compared to the market index.
[11] One possible explanation for this asymmetry is the fact that for sell recommendations to have the same effect as buys, viewers must already be holding all of the concerned stocks prior to the sell recommendation.

consider the returns on Wells Fargo shares after their fraudulent accounts scandal became

public.[12]

Other "Experts"

Another topic for further study could be expanding the test groups to include other "experts".

One potential expert to include is the Chairperson of the Federal Reserve. For example, when

Alan Greenspan was the Chairman of the Federal Reserve Board of Governors, investors

speculated based on the size of his briefcase. It was theorized that if his briefcase was bulging it

was full of evidence needed to persuade other members of the Federal Open Market Committee

(FOMC) to vote for a change in interest rates. Conversely, if the briefcase was thin, then the

markets could relax because no change was likely.[13]

Different Methods

Many studies in finance examine changes in the trading volume of a stock rather than the change

in its price to discern investor activity. In Womack's 1996 study, he focuses on abnormal trading

volume instead of abnormal returns, to study the impact of brokerage analysts' stock

recommendations. Besides alternate methods to study the events themselves, there are also many

other indexes and return measurements that could be incorporated into future studies to gauge the

robustness of findings. Previously mentioned measurements that are used in other studies of Jim

Cramer and *Mad Money* include the Capital Asset Pricing Model (CAPM), the Fama-French

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[12] Obviously, not all negative news is created the same. Some negative news can create profitable situations like in the case of Wells Fargo and their accounts scandal and Volkswagen after their emissions scandal; both stocks at the time of writing have largely rebounded. Other scandals are severe enough to put a company out of business (Enron) which makes their stock valueless. Clearly, there are many factors at play regarding how resilient a company is to scandal.

[13] Perhaps Greenspan should have carried two briefcases at all times to quell this speculation.

Three Factor Model, and the Center for Research in Security Prices (CRSP) Value-Weighted Index.

Parting Remarks

Through this study of Jim Cramer and *Mad Money* some significant results emerged: Cramer's selection style aligns with a positive-feedback strategy, the announcement of his recommendation generates positive abnormal returns, which disappear after one month, and returns of his recommended stocks are nearly identical to the S&P 500 after six months. When viewed through the lens of the proposed behavioral theories (the *Hot Hand Fallacy*, *Expert Heuristics*, and the *Overreaction Hypothesis*), these results provide some insight into how investors decide which stocks to buy and sell, and how those decisions affect the market. This study only scratches the surface of the enigma that is investor decision making. While the burgeoning fields of behavioral economics and behavioral finance have made great strides into understanding how humans make decisions in economic scenarios, opportunities to conduct meaningful research remain.

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