

Investing in *Mad Money*: price and style effects

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Abstract

Individual investors have an incredible variety of sources for investment guidance. These include internet blogs, financial publications, books, newsletters and, of course, television shows. We examine a relatively new but widely popular source of investment advice, buy, and sell recommendations made by Jim Cramer on his popular nightly *Mad Money* show on CNBC. Our results suggest that Cramer's recommendations influence share prices of the companies that he mentions. The effects are short-lived and reverse for buy recommendations, although they persist for sell recommendations, and indicate momentum effects. Our analysis of a Cramer portfolio suggests that factor-adjusted returns are significantly different from zero for some subperiods. Factor analysis suggests that Cramer's portfolio returns are driven by beta exposure, smaller stocks, value-oriented stocks, and momentum effects. However, factor exposures change significantly during subperiods. Overall, the results suggest that, while Cramer may be entertaining and mesmerizing to many of his viewers, his aggregate or average stock recommendations are neither extraordinarily good nor unusually bad. © 2009 Academy of Financial Services. All rights reserved.

JEL classifications: G11; G12; G13

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1. Introduction

Pity the individual investor. He or she must face the daily torrent of investment data and advice from any number of sources. There are the more traditional sources of information such as financial newspapers, magazines, newsletters. There is the more sophisticated, and

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costly option of engaging a financial advisor who may have CFP®, CFA®, CPA, CLU, PhD, or any other combination of professional designations appended to their name. There are endless financial websites brimming with data and financial blogs providing opinion on every tradable security known to man. There is research presented in academic journals testing various investment strategies. In addition, there is television, a superconvenient source of visiocentric information available in 98% of all U.S. households.

One particular television program, targeting the individual investor is *Mad Money*, hosted by Jim Cramer. *Mad Money* is claimed to be the most-watched show on CNBC, with an audience in excess of 380,000 potential investors each weeknight. The objective of this research is to examine the nature and impact of stock buy and sell recommendations proffered by Cramer on his program. We examine the nature of the market impact of recommendations revealed on the show and explore the performance and style characteristics of a Cramer portfolio. The results provide insights into the performance of a popular but controversial market pundit and should be of interest to followers and detractors seeking to develop an active, or alpha-generating, investment strategy. The results also contribute to the literature on the impact of analysts' recommendations and second-hand information effects on stock prices.

Jim Cramer's nightly *Mad Money* television program debuted on CNBC in March of 2005. On each episode, Mr. Cramer presents a high-energy discussion, often aided by costumes and props, of the market and makes recommendations on various stocks. The show and its value to individual investors are controversial. Hinchey (2007) notes that the *Boston Globe* argues that, "If *Mad Money* is a business primer, it's a crash course designed for the ADHD set;" whereas also noting that the show is CNBC's top-rated show among 18- to 54-year-olds. Blodget (2007) argues that Cramer gives terrible investment advice. Even Cramer himself, notes "God knows why, but there seems to be a market for this kind of idiocy" (Cramer, 2007). The controversy includes arguments about Cramer's investment performance and the value of the advice he dispenses on *Mad Money*. Hinchey (2007) argues that if every stock recommended by Cramer was purchased at the last price on the show date and then sold five days later, only a 0.72% return would occur for the year. He claims the return is 4.90% for Cramer's strongest buy recommendations. Blodget (2007) cites one observer who argues that Cramer's picks returned 0.2% in 2006 versus a 22.5% return on a portfolio of passive index funds. Cramer himself argues that his most recent internal performance review found that the stocks he picked for the show beat the S&P 500 63% of the time (Cramer, 2007). He also notes that his contract with CNBC prevents him from owning any stock other than TheStreet.com and he indicates whether a stock he recommends is held by his charitable trust, operated through TheStreet.com.

Despite the popularity of Jim Cramer and *Mad Money* and all of the controversy surrounding them, there is no published academic study of his impact on the market, the returns from following his advice, and the style characteristics, if any, of a Cramer portfolio. This paper examines these issues and provides information of relevance to individual investors seeking to develop an alpha-generating investment strategy by following Cramer's recommendations. It also contributes to the literature on the impact of analysts' recommendations and second-hand information effects on stock prices.

2. Analysts recommendations and second-hand information effects

There is an extensive literature examining the reaction of security prices to analysts' recommendations; particularly recommendations disseminated by the business and financial media. Most analysts recommendations (first-hand information disclosed to the market for the first time) are quickly reflected in stock prices through client actions, before the mass investing public comes to know about the opinions (second-hand information). Thus, from the perspective of the average investor, analyst opinions qualify as second-hand information.

Several prior studies document the impact of analysts recommendations on security prices, see for example, Davies and Canes (1978), Groth, Lewellen, Schlarbaum and Lease (1979), Copeland and Mayers (1982), Bjerring, Lakonishok and Vermaelen (1983), Stickel (1985), Glascock, Henderson and Martin (1986), Pari (1987), Liu, Smith and Syed (1990), Barber and Loeffler (1993), Trahan and Bolster (1995), Desai and Jain (1995), Walker and Hatfield (1996), and Liang (1999). The announcement period abnormal returns documented in these studies range from 0.66% to 3.53% and are generally found to be short-lived, dissipating over the month following announcement. This is consistent with a price pressure hypothesis, whereby dissemination of second-hand information by an influential source induces temporary price pressure that quickly dissipates.

In the case of *Mad Money*, Cramer does not report any "hold for release" or non-public information; but rather reports conclusions inferred from independent analysis. However, because Mr. Cramer is not employed by anyone else, it seems likely that his recommendations represent a new opinion from a neutral source that is released to the market each weeknight. Relying on what is commonly referred to as the "mosaic theory" to define first-hand information; even a fresh analyst's opinion may be formulated based on elements that have been public for some time. Yet, a talented analyst may be able to assemble information from public sources and generate a novel inference. Cramer's recommendations may be viewed more as first-hand information, possibly with some second-hand information characteristics.

Engelberg, Sasseville and Williams (2007) examine Cramer's picks, using a somewhat limited sample of the first 391 buy recommendations made by Jim Cramer on *Mad Money* between November 16, 2005 and June 23, 2006. Consistent with other studies of analyst's information price effects, they find evidence of a short-lived price effect.

To better understand the impact and nature of Jim Cramer's recommendations made on *Mad Money*, we examine the market impact of a larger sample of his buy recommendations, spanning the period from July 28, 2005 through December 31, 2007. Additionally, we examine the sample of his sell recommendations over the same period. Beyond the event study tests, we also construct a portfolio from Cramer's buy and sell recommendations over the July 28, 2005 through December 31, 2007 period and examine the buy and hold returns on this portfolio versus returns to a market index. We then employ factor and style analysis to further explain the nature of Cramer's returns.

3. Data

3.1. Data

Engelberg, Sasseville and Williams (2007) note two Websites that catalog Cramer's recommendations: TheStreet.com and YourMoneyWatch.com. TheStreet.com is affiliated with Jim Cramer. It posts the prior two months' recommendations and offers premium access for a fee. YourMoneyWatch.com is a free site that is not affiliated with Jim Cramer, *Mad Money*, or CNBC. It posts a history of all Cramer recommendations dating back to July 28, 2005. Engelberg, Sasseville and Williams (2007) argue that YourMoneyWatch.com has a stronger standard as they only list unconditional buy recommendations that follow particular criteria. These criteria are discussed on the YourMoneyWatch.com site and include: new recommendations made during key show segments other than the "Lightning Round" or "Sudden Death" where Cramer responds to questions; unless Cramer takes extra time to elaborate on the stock or sets a price target significantly above the current price.¹ Additionally, Engelberg, Sasseville and Williams (2007) examine a sample of buy recommendations from both sites and find that the results are similar.

Because of these considerations regarding data, we develop our sample of Cramer's recommendations using the independent YourMoneyWatch.com site, which focuses on unconditional recommendations. We review the detailed history of each recommendation to avoid the inclusion of conditional and non-committal recommendations.

Engelberg, Sasseville and Williams (2007) examine only a limited sample of buy recommendations. In addition to using a more comprehensive sample of buy recommendations, we also analyze sell recommendations. Cramer does not issue primary sell recommendations, but he does issue sell recommendations for stocks that he previously mentioned as buys, thus we do not interpret sell recommendations as recommendations to sell short. We review the tracking history for each of our buy recommendations and record any clear sell recommendations.

We review the recommendations on YourMoneyWatch.com from July 28, 2005 through December 31, 2007 and develop a sample of 1,387 clear buy recommendations (440 from 2005, 604 from 2006, and 343 from 2007). We also develop a sample of 534 clear sell recommendations (53 from 2005, 318 from 2006, and 163 from 2007). For the event study, we drop firms for which the required returns are not available on CRSP (48 buy recommendations and six sell recommendations do not have data during the estimation period) and are left with 1,339 buy recommendations and 528 sell recommendations with sufficient data to conduct an event study. For our portfolio performance analysis, we also start with the same sample of 1,387 clear buy and 534 clear sell recommendations. We reduce our buys by 43. These are instances when Cramer reiterates a positive recommendation for a security he has already recommended as a buy. This results in 1,344 buy recommendations for our performance analysis. We retain all 534 sell recommendations for this analysis.²

Descriptive statistics for sample firms are provided in Table 1. Panel A shows the distribution of firms by industry. The firms are scattered across many main industry groupings, indicating that Cramer draws from a wide array of industries. Panel B provides summary statistics for assets, sales, total market capitalization, and market-to-book ratios.

Table 1 Descriptive statistics for the *Mad Money* sample

Panel A: Industry distribution				
SIC	Industry description	Number of firms	%	
0100	Agriculture, forestry, and fishing	1	0.1	
1000	Mining and construction	98	9.8	
2000	Manufacturing—Food and chemicals	179	17.8	
3000	Manufacturing—Materials and machinery	283	28.2	
4000	Transportation, communications, and utilities	96	9.6	
5000	Wholesale and retail trade	110	10.9	
6000	Finance, insurance, and real estate	94	9.4	
7000–8000	Services	141	14.0	
9000	Public administration	2	0.2	
	Total	1,004	100.0	

Panel B: Summary statistics (\$ million)				
	Assets	Sales	Total Market Capitalization	Market-to-Book Ratio
Mean	\$34,171.78	\$11,567.86	\$45,658.95	2.43
Median	\$2,771.08	\$2,010.97	\$5,935.49	1.82
Minimum	\$29.47	\$0.65	\$34.83	0.52
Maximum	\$2,187,631.00	\$375,376.00	\$2,221,073.46	36.78

Panel A reports industry distribution of the 1,004 unique firms with buy or sell recommendations on *Mad Money* between July 28, 2005 and December 31, 2007, and with data available on Compustat. Panel B reports summary statistics on assets, sales, total market capitalization, and market-to-book ratios for these firms.

The firms range in size (assets) from over two trillion dollars (Citigroup) to just over 29 million dollars (Advanced Energetics), with median assets, sales, and market capitalization of \$2.8 million, \$2.0 million, and \$5.9 million, respectively. Market-to-book ratios range from 0.52 to 36.78, with a median of 1.82. Overall, Cramer's recommendations span the main industry groupings and firm-size categories.

4. Methodology

4.1. Influence of buy and sell recommendations

We examine the stock price reaction to the announcement of Cramer's buy and sell recommendations, using the Brown and Warner (1985) standard event-study method to compute the daily excess returns. We use a two-step procedure to compute the average daily abnormal returns with stock price data from CRSP.

First, we estimate the parameters of a single-factor market model for each firm. We use the returns from Day -301 to Day -46 to estimate each firm's alpha and beta coefficients. Second, we compute the excess return by subtracting a firm's expected daily return from its actual return. We calculate the cumulative abnormal returns by summing the abnormal returns over the periods from Days 1 to 1, 0 to 0, -30 to 0, 2 to 5, 2 to 30, 1 to 5, and 1 to 30; where Day 0 represents announcement of the buy or sell recommendation on Cramer's CNBC show. Because *Mad Money* is not aired until after the market closes each day, we take

Day 1 to be the day that the information becomes known to the market. These abnormal returns are estimated for both buy and sell recommendations.

4.2. Portfolio performance

For the purposes of his CNBC show, Jim Cramer does not represent himself as a portfolio manager but he clearly is a stock picker. Still, his effectiveness in this regard can best be examined by assembling his record of picks into a portfolio. Because we are using CRSP data, daily returns are calculated from close to close. We begin by assembling a dollar-weighted portfolio of recommended stocks on July 28, 2005 purchased at the market close on the trading day after the broadcast. If Cramer's recommendations move the market, this should be reflected in prices shortly after the open on the day after a broadcast. By making trades at the close of the day after the broadcast, we rely on values more likely to be accessible to the typical retail investor. Specifically, we invest \$1 in each of the buy recommendations. As new buy recommendations are made on subsequent broadcasts, we continue to invest \$1 in each new position. Securities remain in the portfolio until they are recommended for sale. When a security is sold, we remove the cumulative value of that position from the portfolio. This results in a series of 609 daily portfolio returns that reflect the performance of all open positions.

Although the portfolio we construct is investable, its primary purpose is to evaluate the overall performance of Cramer's stock picks.

Once we have compiled a record of performance for the Cramer portfolio in absolute terms, we need to adjust for risk and style preferences. We are trying to identify the excess return, or alpha, he provides for investors. Specifically,

$$\alpha = \text{Actual return} - \text{expected return} \quad (1)$$

At this stage, there are two primary methods we employ to estimate expected return; factor analysis and style analysis. We first examine his risk-adjusted performance using the one-factor CAPM and the Fama and French (1993) three-factor and four-factor models.

The CAPM assumes only one risk factor, the market risk premium, and is represented in the following form:

$$R_{it} = Rf_t + \beta_i(RM_t - Rf_t). \quad (2)$$

If we rearrange the terms slightly, we can generate a regression equation:

$$R_{it} - Rf_t = \alpha_i + \beta_i(RM_t - Rf_t) + e_{it}. \quad (3)$$

Once we estimate values for α_i and β_i , we can rearrange the terms again:

$$\alpha_i = R_{it} - [Rf_t + \beta_i(RM_t - Rf_t)], \quad (4)$$

and α_i becomes our estimate of Jensen's alpha, or abnormal performance.

Fama and French (1993) show that there are other factors effective at explaining return. Their three-factor model is now considered the standard method for calculating risk-adjusted returns. This approach can be summarized as follows:

$$R_{it} - R_{f_t} = \alpha_i + b_i(RM_t - R_{f_t}) + s_iSMB_t + h_iHML_t + e_{it}. \quad (5)$$

In the equation, $R_{it} - R_{f_t}$ and $RM_t - R_{f_t}$ represent the Day t excess return on the portfolio and the market, respectively. SMB_t is the difference between returns for small cap and large cap, or “small minus big” securities during Day t . Finally, the differential return between value stocks (high book-to-market) and growth stocks (low book-to-market) during Day t is captured by HML_t . We estimate values for α_i , b_i , s_i , and h_i using historical data. Analogous to the Jensen’s alpha provided by a one-factor model, our three-factor alpha is simply the intercept, or α_i term we have estimated.

Finally, we add a fourth factor to capture any momentum effects.³ This factor, UMD_t , represents the difference between the better and worse performing stocks, or “up minus down” for Day t . The four-factor model is:

$$R_{it} - R_{f_t} = \alpha_i + b_i(RM_t - R_{f_t}) + s_iSMB_t + h_iHML_t + u_iUMD_t + e_{it}. \quad (6)$$

Again, the intercept, α_i , is our four-factor alpha. Daily return estimates for factors, $RM_t - R_{f_t}$, SMB , HML , and UMD are obtained from Kenneth French’s data library (mba.tuck.dartmouth.edu/pages/faculty/ken.french).

4.3. Style analysis

Perhaps Cramer’s performance as a stock picker is style driven. There are numerous examples of recommendations that would fall into any of the nine permutations of combination of small, medium, and large cap with value, blend, and growth. It would be insightful to evaluate his recommendations using the style analysis approach developed by Sharpe (1992). This approach can be summarized as follows:

$$R_{it} = b_{i1}F_1 + b_{i2}F_2 + \dots + b_{in}F_n + e_{it}. \quad (7)$$

In the equation, R_{it} represents the return on the portfolio during Day t and F_1, F_2, \dots, F_n represent the returns to style factors, typically proxied by indexes. In his original study, Sharpe used 12 indexes to explain returns for a variety of funds. The residual return, e_{it} , can be interpreted as the return resulting from manager skill in security selection. The coefficient for each style factor is determined using a quadratic programming approach. This regression technique constrains the coefficients to be non-negative and to sum to 1. This approach allows the coefficients to be interpreted intuitively as weights or proportions.

In our study, we use four style indexes to explain the returns for the Cramer portfolio. These represent large/small and value/growth combinations. We use four Russell indexes to proxy for large-value (Russell 1000 Value), large-growth (Russell 1000 Growth), small-value (Russell 2000 Value), and small-growth (Russell 2000 Growth) portfolios.

At this point, we can employ style analysis to evaluate the behavior of the Cramer portfolio for the entire period and for subperiods. This allows us to assess the extent to which Cramer’s picks expose the portfolio to specific style preferences and how these preferences change over time.

Table 2 Announcement-period returns for 1,339 *Mad Money* buy recommendations made between July 28, 2005 and December 31, 2007, and for sub-periods 2005, 2006, and 2007

	2005–2007	2005	2006	2007
Number of observations	1,339	428	586	325
CAR 1,1	1.94% (30.64)***	1.60% (15.54)***	2.36% (23.62)***	1.61% (12.61)***
CAR 0,0	0.31% (5.73)***	0.42% (4.10)***	0.26% (3.80)***	0.27% (1.82)**
CAR -30,0	3.55% (12.78)***	3.53% (6.00)***	3.24% (7.59)***	4.13% (8.87)***
CAR 2,5	-0.36% (-2.63)***	-0.59% (-3.16)***	-0.50% (-1.85)**	0.20% (0.77)
CAR 2,30	-2.03% (-5.10)***	-2.27% (-4.35)***	-2.89% (-4.58)***	-0.19% (-0.92)
CAR 1,5	1.58% (11.35)***	1.01% (4.12)***	1.86% (8.91)**	1.81% (6.33)***
CAR 1,30	-0.10% (-0.63)	-0.67% (-1.44)*	-0.53% (-0.19)	1.42% (3.28)***

Day 0 is the day of the broadcast of the show in which the recommendation is made; airing after the market close. Z-statistics are shown in parentheses.

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

5. Results

5.1. Event study results

Our results show that Cramer's recommendations influence share prices of the companies that he mentions. Table 2, reports the event study results for Cramer's buy recommendations. The abnormal returns for the buy recommendations are a positive and statistically significant 1.94% for Day 1 when his picks hit the market. They are a positive and significant 0.31% on the day of the show (Day 0) and a positive and significant 3.55% for Days -30 to 0, suggesting that Cramer is picking up on prior information and momentum. The abnormal returns are negative and significant at -0.36% and -2.03% for the Days 2 to 5 and 2 to 30 post-announcement windows, respectively. For the Days 1 to 5 and 1 to 30 windows, the results dissipate, becoming economically and statistically insignificant after 30 days.

Table 2 also shows the results for each year of the sample—2005, 2006, and 2007. The results are generally quite robust for each period, with a drop off in significance for the post-announcement windows for 2007, leaving the overall Day 1 to 30 return still positive and significant for 2007. Overall, the results suggest that Cramer's buy recommendations do influence share prices of the companies that he mentions, but the results quickly reverse, consistent with a second-hand information, price pressure effect.

Cramer's sell recommendations also influence share prices of the companies that he mentions. Table 3, reports the event study results for all sell recommendations. The abnormal returns for the sell recommendations are a negative and statistically significant -0.71% for Day 1 when his picks hit the market.⁴ They are a positive and significant 0.17% on the day of the show (Day 0) and a negative and significant -2.00% for Days -30 to 0, suggesting that Cramer is picking up on prior information and momentum over the prior 30-day window, with some positive momentum on the day of the recommendation. The abnormal returns are negative and significant at -0.54% and -2.57% for the Days 2 to 5 and 2 to 30 post-announcement windows, respectively. For the Days 1 to 5 and 1 to 30 windows, the results remain statistically significant at -1.25% and -3.28%, respectively.

Table 3 Announcement-period returns for 528 *Mad Money* sell recommendations made between July 28, 2005 and December 31, 2007, and for sub-periods 2005, 2006, and 2007

	2005–2007	2005	2006	2007
Number of observations	528	52	316	160
CAR 1,1	-0.71% (-6.00)***	-1.25% (-3.51)***	-0.65% (-3.91)***	-0.67% (-3.40)***
CAR 0,0	0.17% (4.05)***	-0.34% (0.55)	0.06% (1.77)**	0.56% (5.19)***
CAR -30,0	-2.00% (-2.81)***	-0.57% (-0.43)	-3.92% (-4.85)***	1.32% (1.97)**
CAR 2,5	-0.54% (-1.79)**	-0.61% (-0.93)	-0.44% (-1.28)*	-0.72% (-0.92)
CAR 2,30	-2.57% (-3.41)***	-4.31% (-1.87)**	-2.61% (-2.76)***	-1.93% (-1.22)
CAR 1,5	-1.25% (-4.29)***	-1.86% (-2.40)***	-1.09% (-2.90)***	-1.39% (-2.35)***
CAR 1,30	-3.28% (-4.46)***	-5.56% (-2.47)***	-3.25% (-3.43)***	-2.59% (-1.84)***

Day 0 is the day of the broadcast of the show in which the recommendation is made; airing after the market close. Z-statistics are shown in parentheses.

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

Table 3 also shows the results for each year of the sample—2005, 2006, and 2007. The results are generally robust for each period. Overall, the results suggest that Cramer's sell recommendations do influence share prices of the companies that he mentions. Unlike the buy recommendations, the results do not quickly reverse, but rather continue to exhibit negative and significant abnormal returns over the post-announcement windows. This persistence suggests that Cramer is picking up on some new information in his sell recommendations.

Overall, the event study results suggest that Cramer's buy and sell recommendations impact share prices of the companies that he mentions.⁵ There is evidence that his recommendations follow positive (negative) momentum for buy (sell) recommendations. Fig. 1 plots the daily abnormal returns and cumulative abnormal returns for ± 30 days around the announcement date. Consistent with the results of prior studies of second-hand information and price pressure effects, the positive abnormal returns associated with buy recommendations reverse in the month subsequent to the recommendations. However, the results persist at a statistically significant level for sell recommendations. Although Cramer's buy recommendations may dissipate because of a price pressure effect, or come at the end of upward momentum, his sell recommendations remain significant, indicating a real decline in value or continuing downward momentum. He may be better able to pick up on these effects for stocks that he has already recommended.

5.2. Portfolio performance and style results

We now examine the returns to a Cramer portfolio and examine the portfolio's performance and style characteristics. The portfolio is always dollar weighted. Because Cramer makes many more buy than sell recommendations, the number of positions in the portfolio grows almost monotonically from the six recommendations made on July 28, 2005 to the 771 extant recommendations still open on December 31, 2007.

The cumulative return for this portfolio for the entire period is 31.75%, or an annualized return of 12.09%. The progression of returns for the portfolio and the S&P 500 index is

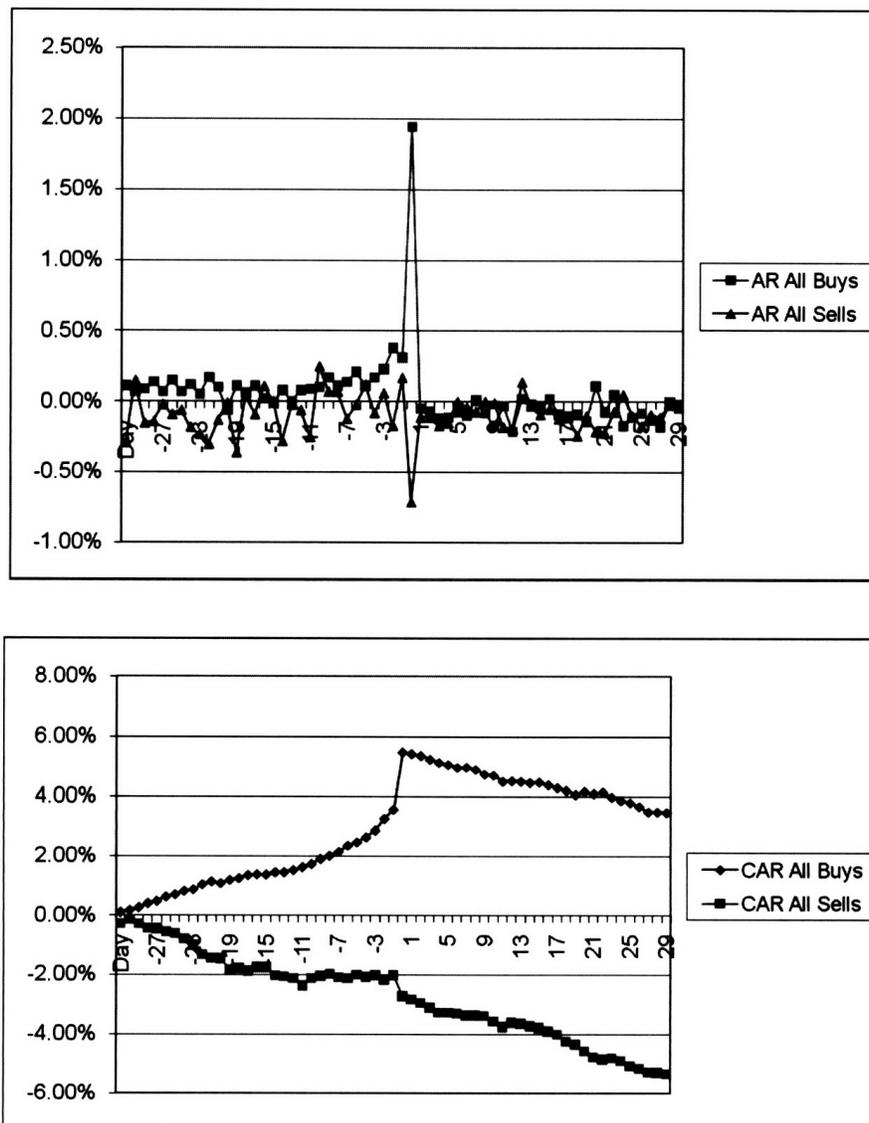


Fig. 1. Daily abnormal returns (AR) and cumulative abnormal returns (CAR) for 1,339 *Mad Money* buy recommendations and 528 sell recommendations made between July 28, 2005 and December 31, 2007. Day 0 is the day of the broadcast of the show in which the recommendation is made; airing after the market close.

shown in Fig. 2. The S&P 500 earned 18.72%, or 7.35% annualized over the same period. The Russell 1000 Growth and Value indexes earned 24.54% (9.51% annualized) and 24.77% (9.59% annualized), respectively. The Russell 2000 Growth and Value indexes earned 22.51% (8.76% annualized) and 9.39% (3.78% annualized), respectively. Thus, the Cramer portfolio outperformed all of these benchmarks.

Although our primary focus is Cramer's performance and the drivers of that performance, it is useful to consider performance from the individual investor's perspective. For an individual investor trading at the frequency needed to maintain this portfolio and using a discount broker, trades are typically priced at a flat rate such as \$9.99. Suppose an investor purchased \$1,000 of each new position. Scaling this to our model portfolio, this would

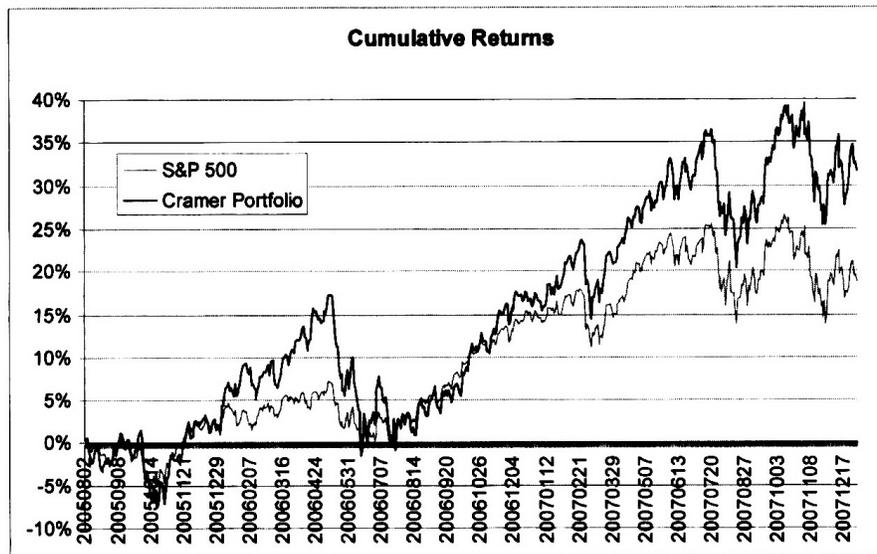


Fig. 2. Cumulative performance of a portfolio formed by investing \$1 in each unique buy recommendation and holding the position until a sell recommendation is issued. The performance of the S&P 500 is shown for comparison.

suggest a cost of \$0.00999 for a \$1 purchase. We use this as our fixed trading cost. Each purchase or sale results in a \$0.00999 reduction in the value of the portfolio. Applying this cost, the aggregate return on the portfolio is reduced from 31.75% to 22.42%, a decline of 9.32%. This is moderately better than the passive return on the S&P over the same period, 18.72%. Taxes would reduce the “take-home” return to the individual investor even further.

However, this simple comparison does not account for common factors related to return. We employ models with one, three, and four factors, previously described, to estimate expected portfolio returns. Results for regression analysis of these one-, three-, and four-factor models are provided in Table 4.

Panel A of Table 4 shows the analysis for the entire period from July 28, 2005 to December 31, 2007. The alpha for all three factor models is positive but not significantly different from zero. This suggests that a portfolio constructed as described from Cramer’s ongoing recommendations would not produce superior performance over the entire period of analysis after adjusting for market performance (RM-Rf), size (SMB), and book-to-market (HML) characteristics. The one-factor CAPM model has an estimated coefficient for the RM-Rf factor, the portfolio’s beta, of 1.2023. Systematic risk is about 20% greater than the passive S&P 500 index. All factors are highly significant in the three-factor model. Not only is there beta exposure, but the positive coefficient on SMB and HML suggests the portfolio is tilted toward smaller, value-oriented securities. When a fourth factor for momentum, UMD, is added, it is also significant and positive. This indicates that Cramer tends to recommend securities that have been trending upward (or downward for sells) in the recent past, and is consistent with the event study results reported in Tables 2 and 3. R^2 measures are high for all models, topping out at 0.97 for the four-factor model. This suggests that nearly all portfolio returns are explained by common factors.

We next divide the entire period into three subsamples representing the calendar years,

Table 4 Results of regression analysis for one-, three-, and four-factor Fama-French models for the full sample of dollar weighted returns

Panel A: Results for the entire sample, July 28, 2005 to December 31, 2007			
Factor	one-factor (CAPM)	three-factor	four-factor
α	0.0011 (0.10)	0.0094 (1.00)	-0.0009 (-0.12)
RM-Rf	1.2023 (14.51)***	1.1209 (9.67)***	1.0664 (6.77)***
SMB		0.4055 (16.90)***	0.3924 (21.59)***
HML		0.1115 (3.01)**	0.0688 (2.44)**
UMD			0.3010 (21.23)***
R^2	0.924	0.949	0.970
Panel B: Results for 2005			
Factor	one-factor (CAPM)	three-factor	four-factor
α	-0.0132 (-0.38)	-0.0077 (-0.26)	-0.0322 (-1.40)
RM-Rf	1.2744 (5.09)***	1.1271 (2.24)**	0.9654 (-0.73)
SMB		0.4128 (4.44)***	0.2546 (3.46)***
HML		0.7156 (5.74)***	0.1111 (0.94)
UMD			0.5539 (8.61)***
R^2	0.840	0.882	0.931
Panel C: Results for 2006			
Factor	one-factor (CAPM)	three-factor	four-factor
α	-0.0190 (-1.11)	-0.0267 (-2.11)**	-0.0008 (-0.08)
RM-Rf	1.3949 (15.49)***	1.1932 (8.04)***	1.0568 (2.57)**
SMB		0.5250 (15.08)***	0.4248 (14.73)***
HML		0.3246 (6.11)***	0.0468 (0.97)
UMD			0.3346 (12.11)***
R^2	0.923	0.960	0.975
Panel D: Results for 2007			
Factor	one-factor (CAPM)	three-factor	four-factor
α	0.0200 (1.62)*	0.0209 (2.07)**	0.0105 (1.29)
RM-Rf	1.1033 (8.40)***	1.0848 (8.44)***	1.0729 (8.96)***
SMB		0.2643 (10.51)***	0.3410 (16.08)***
HML		-0.1665 (-4.40)***	-0.0877 (-2.82)***
UMD			0.1810 (11.72)***
R^2	0.970	0.980	0.988

Returns are generated assuming \$1 is invested in each new buy recommendation at the closing price on the day following the broadcast. Securities remain in the portfolio until a subsequent sell recommendation is made. (*t*-statistics for two tailed tests are shown in parenthesis. All factors are tested for significant differences from 0 with the exception of the RM-Rf factor that is tested for significant differences from 1.)

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

2005 through 2007 to examine the stability of the relationships shown in Panel A. These results are provided in Panels B, C, and D, respectively. Estimated alphas are negative for 2005 and 2006 but not significantly different from zero with the exception of the three-factor alpha for 2006. This alpha, -0.0267, is significant at the 5% level. Alphas for 2007 are positive and again, the three-factor alpha is 0.0209, significant at the 5% level. These alphas provide some evidence that Cramer had a tough year in 2006 and a good one in 2007. It is

Table 5 Style analysis for the full sample of dollar weighted returns

Panel A: Securities remain in the portfolio until a subsequent sell recommendation is made					
	Large growth	Large value	Small growth	Small value	R^2
Entire period	0.1743	0.2932	0.5325	0.0000	0.9213
2005	0.0000	0.5071	0.4929	0.0000	0.7905
2006	0.0000	0.3838	0.6162	0.0000	0.8992
2007	0.4934	0.1006	0.4060	0.0000	0.9734
Panel B: Unsold securities removed from the portfolio after 60 days					
	Large growth	Large value	Small growth	Small value	R^2
Entire period	0.3511	0.0926	0.5563	0.0000	0.8579
2005	0.0000	0.4981	0.5019	0.0000	0.7899
2006	0.0343	0.3046	0.6611	0.0000	0.8831
2007	0.5674	0.0000	0.4326	0.0000	0.8573

Portfolio returns are generated assuming \$1 is invested in each new buy recommendation at the closing price on the day following the broadcast. In Panel A, securities remain in the portfolio until a subsequent sell recommendation is made. Panel B, employs a similar approach but no security is held longer than 60 days.

also clear from the year-by-year analysis that Cramer has altered his exposure to all factors over time. The estimated $RM-R_f$ factors, or betas, for the one-factor model move from 1.27 in 2005 to 1.39 in 2006 before declining to 1.10 in 2007. Estimated coefficients for the three-factor model indicate that overall market risk, or beta, is stable but again significantly greater than one for each of the three years. The coefficient for the size factor, SMB, is positive and significant for all years but peaks in 2006 before declining in 2007. The most interesting factor is the value/growth factor, HML. It is positive and significant in 2005 and 2006 indicating Cramer's relative preference for value stocks. However, this factor becomes negative and significant in 2007 suggesting that Cramer has transitioned his portfolio to one that emphasizes growth over value.⁶ In summary, the year-by-year analysis for the three-factor model indicates that Cramer retains above average exposure to the market and retains a small cap preference. His value-stock preference has become a growth-stock preference in the most recent year.

Our continuing analysis of the four-factor model shows average to above average exposure to market risk and disproportionate exposure to small firms (SMB) and firms showing positive momentum (UMD). The value/growth factor (HML) is not significant in 2005 or 2006. It is negative and significant in 2007, again indicating a preference for growth stocks. It is difficult to project too much from this limited data, but it appears that Cramer has kept his sights on small firms and maintained exposure to momentum while moving to a growth orientation in 2007.

Style analysis results are as follows. We regress portfolio returns on four Russell index returns, constraining the coefficients to be non-negative and summing to one. Results are shown in Panel A of Table 5.

Style analysis for the entire period indicates, we can replicate the portfolio with a portfolio that is approximately 18% Russell 1000 Growth, 29% Russell 1000 Value and 53% Russell 2000 Growth. The *Mad Money* portfolio is essentially a mix of growth stocks, mostly small cap and large cap value securities. The R^2 for the constrained regression is 0.921, suggesting

that, although most of the portfolio's returns can be explained with three common indexes, Cramer's approach to security selection within these style categories explains about 7.3% of the portfolio's returns.

It is important to note that overall performance also depends on Cramer's ability to pick the weights associated with the style boxes. We will examine this aspect of performance in our year-by-year analysis. We repeat this style analysis for each of our three calendar year subperiods. The sequential period analysis indicates a consistent preference for small growth. However, there is a clear movement away from large value and into large growth. In the final subperiod (2007) there is a 49.34% weighting for large growth securities and only 10.06% for large value. This still leaves a 40.60% weight for small growth securities.⁷

However, can we say that Cramer's style shift from value to growth and, to a lesser extent, from small to large, was an active choice? Many of the stocks he recommends remain in the portfolio for years. Is the superior performance in 2007 a result of making good long-term picks in earlier years? If so, some recommended small stocks may become large stocks and some value stocks may become growth stocks. On the other hand, are some of the early picks just forgotten in the continuing tide of new recommendations? Indeed, one of the problems with the subperiod analysis just reported is that performance in each successive year is dependent on the performance of securities selected in prior years. To examine whether Cramer's style shift is active or passive, we reform the portfolio to hold no security longer than 60 days. These results are shown in Panel B of Table 5.

The high turnover portfolio has a much stronger weight for large growth, 35.11%, and a much lower weight for large value, 9.26%. The weight for small growth, 55.63% is roughly the same as it was for the original portfolio. Year-by-year style analysis suggests that the reliance on large growth for the high turnover portfolio was stronger, 56.74%, than for the original portfolio. Additionally, the weight for large value goes to 0.000%. When we remove the impact of "old" recommendations from the portfolio, returns show a stronger alliance with the large growth index and a weaker relationship with the large value index. Based on the analysis for the high turnover portfolio, it appears that Cramer was actively changing his style to focus on large growth securities.

To summarize our analysis for our synthetic *Mad Money* portfolio, common factors such as the market risk premium, market premium for relative performance of small and large firms, market premium for relative performance of high book-to-market and low book-to-market firms, and market premium for relative performance of stock values trending upward and those trending downward, explain as much as 97% of the variance in returns. When a momentum factor is added to the model, it becomes a significant explanatory factor while diminishing the relevance of the high/low book-to-market factor. None of the one-factor or four-factor models examined produces an alpha that is significantly different from zero. However, the three-factor model produces an alpha that is significant and negative in 2006 and significant and positive in 2007. Even a simple CAPM model fails to produce a significant alpha for the overall time period but estimates beta exposure at 120% of the market average. Beta exposure peaks in 2006 and declines in 2007. A four-index style analysis provides similar insight. 92.1% of the portfolio's volatility is simulated by a portfolio consisting of only three Russell indexes, large cap value, large cap growth, and small cap growth. The proportions of these indexes change over time. In 2005, large cap

value explained about half of the portfolio returns. In 2007, large cap growth captured the same dominance, primarily at the expense of large cap value. Throughout the period of analysis, small cap growth remained significant. Style analysis of a portfolio holding no recommended security longer than 60 days suggests that the shift from value to growth was an active strategy and not the result of the migration of older recommendations.

Taken together, the factor models and style analysis allow for some useful insights. Our analysis clearly indicates that Cramer has shifted his exposure from value to growth over time. This is the reason for his superior performance in 2007, 15.05% when the market was up only 3.53%. The significant alpha for 2007 also indicates that, even after adjusting for his average exposures to beta, size, and value, Mr. Cramer's cumulative recommendations still benefit investors.

6. Summary and conclusion

We examine the nature and impact of stock buy and sell recommendations provided to investors by Jim Cramer on his popular *Mad Money* program. Our event study results suggest that Cramer does influence share prices of the companies that he mentions with his buy and sell recommendations. There is evidence that his recommendations follow positive (negative) momentum for buy (sell) recommendations. Consistent with the results of prior studies of second-hand information and price pressure effects, the positive abnormal returns associated with buy recommendations become insignificant in the month subsequent to the recommendations. However, the results persist at a statistically significant level for sell recommendations.

The cumulative return for a dollar-weighted portfolio formed from Cramer's recommendations over the July 28, 2005 through December 31, 2007 period is 31.75%. The S&P 500 earned 18.72% over the same period. Our factor analysis of portfolio performance for the entire period of analysis suggests that factor-adjusted returns are generally not significantly different from zero. Multivariate analysis suggests that Cramer's portfolio returns are driven by beta exposure, smaller stocks, value-oriented stocks, and momentum effects. However, when we look at performance year-by-year, it is clear that Cramer has reduced his reliance on high beta stocks and has shifted away from value and toward growth. This shift is further evidenced by style analysis that shows a significant shift from large cap value to large cap growth in 2007.

The full period results provide little compelling information that Cramer's recommendations are extraordinarily good or unusually bad.⁸ However, the year-by-year results are more intriguing. In particular, Cramer's robust performance in 2007 results from a clear shift from value to growth, particularly in large cap stocks. A three-factor Fama-French model even provides a significantly positive alpha for 2007. Yet, this model produced a significantly negative alpha for 2006. Thus, we find inconsistent evidence of Cramer's ability to add value through security selection. However, he has an advantage over the typical mutual fund manager: he is not trapped in a style box. This worked to his advantage in 2007. The obvious question: can he exploit this flexibility effectively and consistently in the future?

Based on his large and loyal viewership, Jim Cramer is certainly entertaining and

mesmerizing to his viewers. To his credit, he regularly exhorts his viewers to do their own homework and make sure they have a handle on their personal investment objectives. He frequently reminds viewers to wait at least a day or two before making any purchases to let the hubbub subside.

Our results should be of interest to individual investors seeking to develop an active, or alpha-generating, investment strategy by providing some perspective on the overall value of Jim Cramer's recommendations. This analysis also contributes to the literature on the impact of analysts' recommendations and second-hand information effects on stock prices.

Notes

1. Cramer (2007) argues that the lightning round, in which he responds to viewers' questions about random stocks in rapid succession, is one of the most "lightweight" parts of the show and that on any given night there "might not be anything worth hearing about in the whole lightning round."
2. There are also 37 instances where a recommended security drops out of the CRSP database before the end of 2007. When this occurs, we sell the security. This results in 773 open positions at the end of our performance analysis.
3. The momentum factor was introduced and validated by Carhart (1997).
4. The market-model abnormal returns for Day +1 are 1.94% and -0.71% for buy and sell recommendations, respectively. The unadjusted raw returns for Day +1 are 2.04% and -0.57% for buy and sell recommendations, respectively, whereas the corresponding market returns on Day +1 are 0.03% and 0.07% for buys and sell recommendation days, respectively.
5. It is possible that the event-study results are impacted by additional information or announcements that would affect the abnormal return from Day -1 to +1. We search the *Wall Street Journal* on Factiva for all of the buy and sell recommendations in our sample for five days before and after the announcement and exclude companies that have material other announcements within this window. These events include, for example, earnings announcements, plant closings, acquisitions, lawsuits and settlements, etc. We exclude 134 of our 1,339 buy recommendations and 79 of our 528 sell recommendations because of contaminated events, leaving a sample of 1,205 buys and 449 sells that are clean of contamination. The event-study results are economically and statistically comparable to our full sample for all event windows. For example, the Day 1 CAR for buys is 2.03% (significant at the 1% level), compared to 1.94% for the full sample. The Day 1 CAR for sells is -0.68% (significant at the 1% level), compared to -0.71% for the full sample.
6. Alternatively, this could be a passive result. If Cramer's value stocks migrated to the growth stock category from one year to the next, the coefficient on the HML factor could change sign. See Fama and French (2007) for a more complete discussion.
7. The movement away from large value is even more apparent if we look at just the last 6 months of 2007: $R = (0.5906)R_{\text{Large Growth}} + (0.0375)R_{\text{Large Value}} + (0.3719)R_{\text{Small Growth}} + (0.0000)R_{\text{Small Value}}$

8. Not surprisingly, this is consistent with the results of studies utilizing other strategies in an attempt to allow individual investors to earn positive risk-adjusted returns. See for example, Rich and Reichenstein (1993), Preece and Fibeck (1999), and Loviscek and Jordan (2000).

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