Day of the Week and the Cross-Section of Returns

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Abstract

This paper documents a new empirical fact. Long-short anomaly returns are strongly related to the day of the week. Anomalies for which the speculative leg is the short (long) leg experience the highest (lowest) strategy returns on Monday. The exact opposite pattern is observed on Fridays. The effects are large; Monday (Friday) alone accounts for over 100% of monthly returns for all anomalies examined for which the short (long) leg is the speculative leg. Consistent with a mispricing explanation, the pattern is fully driven by the speculative leg of the strategy. The observed patterns are consistent with the abundance of evidence in the psychology literature documenting that mood increases from Thursday to Friday and decreases on Monday.

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1 Introduction

This paper uncovers a striking pattern in the cross-section of returns. Focusing on value-weighted portfolios using NYSE breakpoints, I find that the speculative leg of many popular anomaly strategies experiences low returns on Mondays relative to the non-speculative leg.[1] The exact opposite pattern is observed on Fridays. The magnitude of the effect is large. 100% (or more) of the monthly long minus short strategy return (whether measured relative to excess returns, CAPM, or four-factor alpha) for many cross-sectional anomalies is earned on only one day of the week, Monday or Friday.

The analysis is motivated by a number of potential hypotheses. One possibility is that institutional trading behavior varies by day of the week causing predictable cross-sectional variation across day of the week. Other potential explanations are related to the timing and content of news releases. For instance, it is possible that there exists cross-sectional variation in the timing of good vs bad news announcements. Another potential explanation related to news is that good or bad macroeconomic news is systematically released on only specific days of the week generating cross-sectional return effects, for instance, due to liquidity shocks that affect some stocks more than others.

A final hypothesis is predicated on investor psychology. A prominent finding in the psychology literature is that mood increases from Thursday to Friday and decreases on Monday.[2] In general, people tend to evaluate future prospects more optimistically when they are in a good mood than when they are in a bad mood (Wright and Bower, 1992). One of the most robust findings with respect to mood is that people in good moods tend to evaluate stimuli more positively, whether these stimuli are consumer goods, life satisfaction, or past life experiences (see Bagozzi, Gopinath, and Nyer, 1999). Put simply, people tend to use their mood as the basis for forming evaluations of objects. Evidence in the psychology literature further suggests that mood most affects decision making in situations that are ambiguous and lacking concrete information (Clore, Shwarz, and Conway, 1994; Forgas, 1995; Hegtvedt and Parris, 2014). In equity markets, the presence of optimism or pessimism that is unrelated to fundamentals, usually called sentiment, delivers clear, testable cross-sectional return predictions. Specifically, a change

[1] Throughout the paper I use the term speculative to refer to stocks that are hard or highly subjective to value properly and/or stocks that have the greatest impediments to arbitrage.

[2] The psychological literature on day-of-the-week variation in mood is discussed in detail in the next section.

in sentiment will have a contemporaneous effect on returns, with the strongest effect occurring for the prices of stocks that are hard or highly subjective to value and hard-to-arbitrage (Baker and Wurgler, 2006). This hypothesis therefore predicts that relative to non-speculative stocks, speculative stocks will experience low returns on Mondays and high returns on Fridays.

Because the sentiment hypothesis delivers the clearest predictions as to which anomalies should exhibit return variation across day of the week, the initial analysis focuses on anomalies that theory predicts should be related to sentiment. Specifically, this study focuses on anomalies for which one leg is clearly speculative and one leg is clearly non-speculative. In Section 5, I test other prominent anomalies for which sentiment does not make clear predictions (e.g., momentum).[3]

Monday accounts for at least 100% of long minus short strategy returns for each of the anomalies studied for which the short leg is the speculative leg. Friday accounts for at least 100% of strategy returns for each of the anomalies for which the speculative leg is the long leg. In other words, the subset of stocks predicted to be most strongly affected by investor sentiment (small, young, high volatility, distressed, unprofitable, non-dividend paying, extreme growth, low-priced, lottery-like) perform relatively poorly on Mondays, and relatively well on Fridays. In fact, for all anomalies studied, the long minus short strategy returns exhibit opposite signs on Monday and Friday. Figure 1 graphically displays this result. In Section 5, I consider 44 other anomalies that do not have a clear speculative and non-speculative leg (e.g., momentum). A similar pattern does not exist for these anomalies. Consistent with a mispricing explanation, all of the variation is driven by the speculative leg, not the non-speculative leg. The results remain robustly present for all anomalies in every subsample period examined.

I do not find evidence that the results are attributable to firm-specific news or macroeconomic news. The observed cross-sectional return patterns are robust to the exclusion of firm-specific news announcements. The results are also robust to the exclusion of macroeconomic announcement dates. The majority of firm-specific news is released outside of trading hours (Kelley and Tetlock, 2013). If firm-specific news is responsible for the observed

[3] Momentum does not have an ex-ante clear speculative and non-speculative leg. Consistent with this, Keloharju, Linnainmaa, and Nyberg (2015) find that momentum strategy returns are not significantly related to sentiment. Baker and Wurgler (2006) and Baker, Wurgler, and Yuan (2012) also note that theory does not suggest a relationship between momentum and difficulty of valuation or arbitrage.

variation in the cross-section of returns across day of the week, then at least some of this variation should occur during the overnight trading period. Consistent with a sentiment explanation, and inconsistent with a news explanation, the effect is entirely attributable to cross-sectional differences in intraday returns, not overnight returns. Inconsistent with an institutional trading explanation, the cross-sectional variation is strongest for firms with low institutional ownership. The evidence is consistent with an explanation in which speculative stocks experience increases in stock price concurrent with increases in sentiment (Fridays) and decreases in stock price concurrent with decreases in sentiment (Mondays).

Further sentiment predictions are borne out in the data. Using data from Golder and Macy (2011) I document that mood monotonically increases from Monday through Friday. Consistent with this, I find that day-of-week variation in returns to long minus short strategies mirror this day-of-week pattern in mood. Long minus short portfolio returns monotonically increase (decrease) from Monday through Friday for strategies for which the speculative leg is the short (long) leg. For instance, a long minus short portfolio exploiting idiosyncratic volatility (for which the short leg is the speculative leg) earns average returns of 22.6 basis points per *day* on Monday, 11.4 basis points per day on Tuesday, -5.9 basis points per day on Wednesday, -7.9 basis points per day on Thursday and -15.1 basis points per day on Friday. On the other hand, the long minus short size portfolio (for which the long leg is the speculative leg) earns daily excess returns of -8.3, -6.8, 0.4, 10.5, and 20.7 basis points on Monday, Tuesday, Wednesday, Thursday, and Friday, respectively.

I find supportive evidence when examining VIX and Treasury returns. VIX, widely known as the "investor fear gauge," is an alternative measure of sentiment (Baker and Wurgler, 2007). Consistent with decreasing sentiment on Monday I document a strong and robust 2.16% average *daily* increase in VIX on Mondays. On Fridays, VIX experiences an average daily decrease of nearly 70 basis points. While decreasing sentiment is associated with increases in VIX, it is also associated with a "flight to safety," and therefore theory predicts that a decrease in sentiment will be associated with increasing returns for Treasuries. Consistent with this, I document that average returns on one-year Treasuries are nearly four times higher on Mondays than on Fridays. The results are again consistent with the psychological evidence of decreasing mood on Monday and increasing mood on Friday.

The results are related to the small, but growing literature that identifies exogenous changes in mood and shows a causal effect of these changes in mood on stock returns. For example, a number of studies find evidence that stock returns are related to sunshine (see, e.g., Saunders, 1993; Hirshleifer and Shumway, 2003; Goetzmann, Kim, Kumar, and Wang, 2015). Returns are also related to sleep disruptions caused by daylight saving time changes (Kamstra, Kramer, and Levi, 2000), and to the length of the daylight period of the day (Kamstra, Kramer, and Levi, 2003). Edmans, García, and Norli (2007) show that international sporting event outcomes have an effect on returns. Kaplanski and Levi (2010) show that aviation disasters, found in psychological studies to provoke bad mood, affect stock returns. Hirshleifer, Jiang, and Meng (2016) show that stocks exhibiting strong sensitivity to past mood fluctuations also exhibit strong sensitivity to future mood fluctuations.

Importantly, mood is a powerful determinant of individual actions, and changes in mood have been found to induce less than fully rational financial market behavior not just from individual investors, but also from institutional investors (Goetzmann, Kim, Kumar, Wang, 2015). As a testament to the importance of the day of the week in particular, studies find that Mondays are associated with adverse health outcomes, such as a spike in suicides, heart attacks, and myorcardial infarctions. Section 2 thoroughly discusses the psychological findings related to day of the week.

The study is also related to a long literature documenting that returns on the US stock market are particularly low on Mondays (early studies include, Cross, 1973; French, 1980; Gibbons and Hess, 1981). While many explanations have been put forth for the weekend effect, none has proved satisfactory in explaining the results.[4]

[4] Explanations include delays between trading and settlement (Lakonishok and Levi, 1982), specialist trading behavior (Keim and Stambaugh, 1984), measurement error (Keim and Stambaugh, 1984), and Friday closing and Monday reopening of short positions (Chen and Singal, 2003). Dyl and Martin (1985) provide evidence suggesting that delays between trading and settlement are insufficient to explain the weekend effect. Keim and Stambaugh (1984) provide evidence refuting the specialist trading behavior and measurement error explanations. Using detailed short-sale transaction data, Blau, Van Ness, and Van Ness (2009) find no evidence to support increased short selling on Monday, and further find a positive correlation between daily shorting activity and returns. Further ruling out a short-selling based explanation, Gao, Hao, Kalcheva, and Ma (2015) use data from the Hong Kong Stock Exchange and find the existence of the weekend effect even prior to the allowance of short selling on that exchange. Many of these arguments are also refuted by fact that the weekend effect exists in other countries (Jaffe and Westerfield, 1985).

Interestingly, Robins and Smith (2015) document that the weekend effect no longer exists after 1975.[5] The post-1975 period encompasses the majority of the sample period in this analysis. In contrast, I find that the cross-sectional effect holds in all subperiods. That the weekend effect is absent even though the cross-sectional results are strong is not surprising, as changes in mood deliver clear cross-sectional predictions, but not clear aggregate predictions. As Baker and Wurgler (2007) point out, with respect to sentiment, theory does not deliver clear aggregate predictability predictions. For instance, while a decrease in sentiment will lead to a decline in prices for speculative stocks, it may also lead to a flight to quality causing the prices of safe stocks to increase. As a result, sentiment predictions are clearest in the cross-section.

The findings are aligned with the abundance of evidence in the psychology literature showing that mood is low on Monday relative to Friday and that mood is high on Friday relative to Thursday. The results point to the validity of day of the week as a measure of high-frequency sentiment. This measure is particularly attractive given that it is arguably exogenous of fundamentals, and disentangling sentiment from economic fundamentals has proven to be a difficult task (see e.g., Sibley, Wang, Xing, and Zhang, 2015). Furthermore, day-of-the-week mood variation possesses a number of other characteristics that make it particularly suited for use in finance applications. First, findings in the psychology literature regarding mood on Monday and Friday are rather unambiguous. Second, in contrast to variables that might only affect a subset of the population, the day of the week is common to all investors.

The paper proceeds as follows. In section 2 I discuss psychological evidence regarding day of the week effects in mood. Section 3 discusses the data and anomalies studied. Section 4 presents the main results regarding Monday and Friday returns, and tests potential explanations related to news and institutional trading behavior. Section 5 posits and tests additional implications that follow from psychological evidence regarding day of the week effects in mood. Section 6 concludes.

2 Mood and Day of the Week

Analysis of systematic within-week variation in mood has remained an active research area in psychology since the first large-scale study was carried out by Rossi and Rossi (1977).

[5] Kamara (1996) argues that the weekend effect disappeared after 1982.

While there is debate regarding the exact pattern of weekly mood variation, one relatively indisputable finding has emerged in the literature: Friday and the weekend have higher mood than Monday through Thursday. In other words, mood increases from Thursday to Friday, and mood decreases on Monday. There are mixed results regarding the extent to which mood varies between Monday and Thursday.

Unlike the day, the month, or the year, the week is a unit of time that is dissociated from astronomical events. Furthermore, it is not associated with environmental factors in the same way as the month of the year is. For instance, weekends aren't associated with more sunshine than weekdays. Rather, mood fluctuations across days of the week result from lifestyle and sociocultural factors. The week is the source of much temporal organization and strongly influences the organization and structure of our activities. Consistent with this, day-of-the-week variation in mood is more strongly exhibited among people who are not retired (Stone, Schneider, and Harter, 2012), is stronger among full-time workers than part-time workers (Helliwell and Wang, 2015), and is stronger among employed than unemployed (Young and Lim, 2014).

The early literature examining day of the week effects in mood typically relied on small samples consisting of self-reported surveys of students. Rossi and Rossi (1977) examine daily mood in 82 college students and find that mood is higher on Friday, Saturday, and Sunday than on other days. McFarlane, Martin, and Williams (1988) reach similar conclusions in a study of 62 college students. Using a sample of 478 college students, Watson (2000) also provides evidence of increased mood on Friday relative to Monday through Thursday. Relying on a separate sample of 136 students, Watson (2000) again finds that Friday exhibits higher mood relative to Monday through Thursday. Other studies documenting higher mood on Friday relative to Monday through Thursday include, Larsen and Kasimatis, 1990; Egloff, Tausch, Kohlmann, and Krohne, 1995; Reid, Towell, and Golding, 2000; Reis, Shledon, Gable, Roscoe, and Ryan, 2000; Young and Lim, 2014.

More recently, the psychology literature has measured mood along two independent dimensions, negative affect and positive affect. Negative affect reflects the extent to which negative mood is experienced. Positive affect captures the extent to which positive mood is experienced. Negative affect encompasses feelings such as afraid, scared, nervous, jittery,

irritable, hostile, guilty, ashamed, upset, and distressed. In contrast, positive affect encompasses feelings such as excited, enthusiastic, inspired, active, alert, attentive, determined, interested, proud, and strong.

Importantly, these two dimensions vary more or less independently of one another. Low positive affect indicates the absence of positive emotion, not the presence of negative emotion. Similarly, low negative affect indicates the absence of negative emotion, but not the presence of positive emotion. That is, knowing the current level of negative affect says little about the current level of positive affect, and vice versa. The general finding in the literature is that positive and negative affect do, in fact, vary more or less independently of one another.

A couple of recent studies substantially increase our understanding by utilizing large, non-homogenous samples of individuals. Stone, Schneider, Harter (2012) rely on a telephone questionnaire carried out by Gallup Organization of US for a representative sample of 340,000 adults of at least 18 years of age. They provide strong evidence that mood on Friday is better than mood on Monday-Thursday. Specifically, they document that positive affect is higher on Friday than on Monday-Thursday, and that negative affect is lower on Friday than on Monday-Thursday. Using Gallup Survey data, Helliwell and Wang (2014) also document the existence of higher positive affect and lower negative affect on Friday relative to Monday-Thursday. These studies are informative, but still suffer from weaknesses, as they fail to control for the time of the day at which mood is measured, and fail to account for individual heterogeneity because they do not resample the same individuals.

Finally, in a recent study Golder and Macy (2011) assess variation in mood by using a sample of 2.4 million individuals making over 500 million tweets from February 2008 through January 2010. Their analysis again confirms that mood is higher on Friday than it is on Monday through Thursday. Their analysis has many advantages over previous studies. First, there is evidence that people remember mood differently than they actually experience it, causing sample participants to suffer from a recall bias when reporting what their mood was yesterday. Twitter data reflects an individual's mood in real time, and in doing so does not suffer from recall bias. Second, mood has been found to exhibit predictable within-day (diurnal) variation, but past studies fail to control for the time of the day at which mood is measured. Importantly, Twitter data contains information on the exact time of day and therefore allows for identification of

diurnal patterns in mood. Third, by undertaking their sentiment analysis via the use of Twitter data, the authors are able to exploit a far larger sample of individuals than has been previously studied. Finally, because they have multiple observations per individual, the analysis can fully control for individual heterogeneity by exploiting only within-individual variation in mood across day of the week. Using their data, I have confirmed that the pattern of higher mood (higher positive affect and lower negative affect) on Friday relative to Monday-Thursday holds for the specific closing time of the US stock market.

As a testament to the strength of the day-of-the-week effect, the decrease in mood observed on Monday is large enough to adversely affect health outcomes. For instance, there is evidence that myocardial infarctions peak on Mondays (Willich, Lowel, Hormann, Arntz, Keil, 1994; Spielberg, Falkenhahn, Willich, Wegscheider, and Voller, 1996; Witte, Grobbee, Bots, Hoes, 2005; Bodis, Boncz, and Kriszbacher, 2009; Collart, Coppieters, Godin, and Leveque, 2014). Furthermore, there is substantial evidence that suicides peak on Mondays (Blachly and Fairley, 1969; Lester, 1979; Bollen, 1983; MacMahon, 1983; Massing and Angermeyer, 1985; Maldonado and Kraus, 1991; McCleary, Chew, Hellsten, and Flynn-Bransford, 1991; Jessen and Jessen, 1999).

Because Mondays and Fridays are the days of the week for which the psychology literature makes the clearest predictions, the main analysis focuses on only these two days. Specifically, the overwhelming evidence in the literature that mood increases from Thursday to Friday, and decreases on Monday, predicts high returns for speculative stocks relative to non-speculative stocks on Fridays, and the opposite pattern on Monday. In Section 5, I utilize the Golder and Macy (2011) data to test further predictions of sentiment related to Tuesday through Thursday variation in mood.

3 Anomalies

The analysis focuses on those stocks that theory predicts should be most affected by sentiment. Baker and Wurgler (2006, 2007) predict that the stocks most affected by sentiment will be those with valuations that are the most subjective or difficult to value and those that are the most difficult to arbitrage. In practice, stocks with the most highly subjective valuations and stocks that are difficult to arbitrage are likely to be the same stocks.

There is evidence in the psychology literature that mood most affects decision making in situations that are ambiguous and lacking concrete information (Clore, Shwarz, and Conway, 1994; Forgas, 1995; Hegtvedt and Parris, 2014). Quite simply, stocks that have particularly ambiguous valuations or are the most difficult to value will be subject to investor misperceptions of valuation that vary with the current state of sentiment. On the other hand, sentiment will have little effect on investor perceptions of value for a stock that has a more concrete valuation, for instance because it is a mature, dividend-paying firm with a long earnings history or is in a stable, well-understood industry. Baker and Wurgler (2006) argue that the relevant dimensions that characterize the degree of speculativeness of a stock are size, age, profitability, dividend-payer status, distance to distress, and extreme growth. Stocks that are small, young, unprofitable, volatile, non-dividend paying, potentially close to distress, or extreme growth are likely to be more difficult or subjective to value and therefore subject to speculation. Conversely, safe, bond-like stocks are less likely to have valuations that are highly sensitive to sentiment.

If one instead thinks of sentiment as optimism or pessimism that is general to all stocks, then it will be the stocks that are most difficult to arbitrage that are most affected by sentiment (Baker and Wurgler, 2006, 2007). It turns out that stocks that are most difficult or risky to arbitrage share the same qualities as the stocks that are the most hard or subjective to value; that is, stocks with the greatest impediments to arbitrage are likely to be stocks that are small, young, unprofitable, volatile, non-dividend paying, potentially close to distress, or extreme growth. Baker and Wurgler (2006) provide evidence that stocks that inhabit these categories are sensitive to sentiment. Many papers provide additional evidence that sentiment strongly affects some or all of these subsets of stocks (see e.g., Lee, Shleifer, and Thaler, 1991; Glushkov, 2006; Kumar and Lee, 2006; Lemmon and Portniaguina, 2006; Qiu and Welch, 2006; Baker, Wurgler, and Yuan, 2012; Mian and Sankaraguruswamy, 2012; Hribar and McInnis, 2012; Seybert and Yang, 2012; Da, Engelberg, and Gao, 2015).

To this list, I add additional characteristics that also proxy for speculativeness. First, investors are likely to exhibit a greater potential to speculate in stocks with lottery-like properties (Kumar, 2009). Second, illiquid stocks face greater limits to arbitrage, and therefore should have valuations that are more sensitive to sentiment. Third, multiple papers argue that sentimental investors have a greater propensity to speculate in high beta stocks (e.g.,.Barber and Odean,

2001; Baker, Bradley, and Wurgler, 2011; Antoniou, Doukas, and Subrahmanyam, 2016). Furthermore, arbitrage of high-beta stocks is likely to be constrained for many arbitrageurs because of benchmarking concerns (Baker, Bradley, and Wurgler, 2011). Consistent with this, Stambaugh, Yu, and Yuan (2012) and Antoniou, Doukas, and Subrahmanyam (2016) find that high beta stocks are particularly sensitive to sentiment. Using a different sentiment index, Da, Engelberg, and Gao (2015) also conclude that high-beta stocks are substantially more sensitive to sentiment than low-beta stocks. Fourth, Hao, Chou, and Ko (2014) document a strong relationship between 52-week high anomaly returns and sentiment. In particular, using the Baker and Wurgler (2006) sentiment index, they document that the short leg of the 52-week high strategy (inhabited by stocks far from a 52-week high) exhibits strong variation with sentiment, as short leg returns are over 150 basis points higher following low sentiment periods as compared to high sentiment periods. Byun and Jeon (2014) argue that the speculativeness of stocks far from a 52-week high is driven by particularly high demand from irrational investors suffering from anchoring bias. Fifth, high forecast dispersion stocks are likely to be hard-to-value stocks (Zhang, 2006).

Based on these characteristics, I draw my sample of anomalies from those known anomalies that have one speculative leg and one safe, bond-like leg. The final list consists of 19 anomaly variables in the previously discussed categories, and is to my knowledge the most comprehensive list of speculative anomalies that has been compiled. Table 1 describes what the long and short legs invest in and briefly explains the category of speculativeness that the anomaly inhabits.

Anomaly 1: Idiosyncratic volatility (Ivol). High idiosyncratic volatility stocks will be most affected by sentiment.

Ang, Hodrick, Xing, and Zhang (2006) find that stocks with high idiosyncratic volatility underperform stocks with low idiosyncratic volatility. The speculative leg is therefore the short leg of the anomaly. Anomaly returns should be high on Monday and low on Friday.

Anomalies 2 and 3: Lottery (Max and Price). Stocks with lottery-like characteristics will be most affected by sentiment.

I focus on two variables to capture the lottery-like properties of a stock. Bali, Cakici, and Whitelaw (2010) find that a negative relationship exists between the maximum daily return over the past month and future stock returns. *Max* measures the highest return in the past calendar month. Low *Max* stocks outperform high *Max* stocks. The speculative leg is therefore the short leg of the anomaly.

Birru and Wang (2016a) find that investors overestimate the lottery-like properties of low-priced stocks. Birru and Wang (2016b) present evidence that low-priced stocks are overpriced relative to high-priced stocks. The speculative leg is therefore the short leg of the strategy. For both *Max* and *Price*, anomaly returns should be high on Monday and low on Friday.

Anomaly 4: Age. Young stocks will be most affected by sentiment.

Evidence exists suggesting that older firms have higher returns than younger firms. For example, IPOs tend to underperform in the long run (Ritter, 1991). I assign old stocks to the long leg of the strategy. The speculative leg is therefore the short leg of the anomaly. Anomaly returns should be high on Monday and low on Friday.

Anomalies 5 and 6: Distress (O-score and FP). Distressed stocks will be most affected by sentiment.

Campbell, Hilscher, and Szilagyi (2008) find that firms with low failure probability (FP) outperform high failure probability stocks. The speculative leg is therefore the short leg of the anomaly.

Dichev (1998) finds that firms in greater distress as measured by the Ohlson (1980) *O*-score outperform stocks that are not distressed. The speculative leg is therefore the short leg of the anomaly. For both *O-score* and *FP*, anomaly returns should be high on Monday and low on Friday.

Anomalies 7, 8, 9, and 10: Profitability (OP, ROA, E, and CF). Unprofitable stocks will be most affected by sentiment.

A number of studies find that profitable stocks outperform less profitable stocks. Ball, Gerakos, Linnainmaa, and Nikolaev (2015) find that stocks with high operating profitability (OP)

outperform stocks with low operating profitability. The speculative leg is therefore the short leg of the anomaly.

Balakrishnan, Bartov, and Faurel (2010) find that stocks with high ROA outperform stocks with low ROA. The speculative leg is therefore the short leg of the anomaly.

Following Baker and Wurgler (2006) I also examine a profitability dummy variable (E) that takes a value of one for profitable firms and zero for unprofitable firms. I assign profitable firms to the long leg of the strategy and unprofitable firms to the short leg of the strategy. The speculative leg is therefore the short leg of the anomaly.

Cash flow (CF) has also been found to predict returns (e.g., Lakonishok, Shleifer, and Vishny, 1994). I examine a cash flow dummy variable that takes a value of one for positive cash flow firms and zero for negative cash flow firms. I assign positive cash flow firms to the long leg of the strategy and negative cash flow firms to the short leg of the strategy. The speculative leg is therefore the short leg of the anomaly. For all profitability anomalies, anomaly returns should be high on Monday and low on Friday.

Anomalies 11 and 12: Payouts (D and NXF). Low payout stocks will be most affected by sentiment.

Dividend yield has been found to predict returns (e.g., Litzenberger and Ramaswamy, 1979). Following Baker and Wurgler (2006) I examine a dividend-payer dummy variable that takes a value of one for dividend-paying firms and zero for non-dividend paying firms. I assign dividend-paying firms to the long leg of the strategy and non-dividend paying firms to the short leg of the strategy. The speculative leg is therefore the short leg of the anomaly.

Bradshaw, Richardson, and Sloan (2006) find that low net external financing stocks (NXF) outperform high net external financing stocks. The speculative leg is therefore the short leg of the anomaly. For both *D* and *NXF*, anomaly returns should be high on Monday and low on Friday.

Anomaly 13: Dispersion (Disp). High dispersion of opinion stocks will be most affected by sentiment.

Diether, Malloy, and Scherbina (2002) find that stocks with low analyst dispersion of opinion outperform stocks with high dispersion of opinion. The speculative leg is therefore the short leg. Anomaly returns should be high on Monday and low on Friday.

Anomaly 14: Cash Flow Volatility (CFV). High cash flow volatility stocks will be most affected by sentiment.

Haugen and Baker (1996) and Huang (2009) find that low cash-flow volatility stocks outperform high cash flow volatility stocks. The speculative leg is therefore the short leg of the anomaly. Anomaly returns should be high on Monday and low on Friday.

Anomaly 15: 52-Week High (52-Wk). Stocks far from a 52-week high will be most affected by sentiment.

George and Hwang (2004) find that stocks near a 52-week high outperform stocks far from a 52-week high. The speculative leg is therefore the short leg. Anomaly returns should be high on Monday and low on Friday.

Anomaly 16: Beta. High beta stocks will be most affected by sentiment.

Low-beta stocks have been found to deliver high risk-adjusted returns (Black, 1972; Black, Jensen, and Scholes, 1972; Baker, Bradley, and Wurgler, 2011; Frazzini and Pedersen, 2014; Hong and Sraer, 2016). The speculative leg is therefore the short leg. Anomaly returns should be high on Monday and low on Friday.

Anomaly 17: Size. Small stocks will be most affected by sentiment.

Banz (1981) finds that small stocks outperform large stocks. The speculative leg is therefore the long leg of the anomaly. Anomaly returns should be low on Monday and high on Friday.

Anomalies 18 and 19: Illiquidity.(Illiq and Bid-Ask). Illiquid stocks will be most affected by sentiment.

Amihud (2002) finds that more illiquid stocks outperform less illiquid stocks. The speculative leg is therefore the long leg of the anomaly.

Corwin and Schultz (2012) develop a bid-ask spread methodology using daily high and low prices. Stocks with larger spreads are more illiquid and outperform stocks with lower spreads. The speculative leg is therefore the long leg of the anomaly. For both *Illiq* and *Bid-Ask*, anomaly returns should be low on Monday and high on Friday. Appendix A provides definitions of all anomaly variables examined.

For all anomalies, except size, illiquidity, and bid-ask spread, the short leg is the speculative leg. The speculative leg should perform well when sentiment is increasing and should perform poorly when sentiment is decreasing. Decreasing sentiment on Monday and increasing sentiment on Friday therefore provide clear cross-sectional anomaly predictions. Relative to the non-speculative leg, the speculative leg should perform poorly on Mondays and perform well on Fridays. The 16 anomalies for which the short leg is the speculative leg should experience high long minus short strategy returns on Monday and low long minus short strategy returns on Friday. Size, illiquidity, and bid-ask spread, for which the speculative leg is the long leg, should experience low strategy returns on Monday and high strategy returns on Friday.

4 Empirical Results

4.1 Data

Stock return data is from CRSP. The sample includes all NYSE/AMEX/NASDAQ common stocks (share code 10 or 11). Accounting information is obtained from Compustat. The sample period is from July of 1963 through December of 2013.

4.2 Anomaly Returns: Monday and Friday

As mentioned, the robust psychological finding that mood is elevated on Friday relative to Monday through Thursday predicts that returns to speculative stocks will be relatively high on Fridays concurrent with an elevation of mood from the Thursday level, and that returns for speculative stocks will be relatively low on Mondays concurrent with the decrease in mood on Monday. A straightforward prediction emerges. Anomalies for which the speculative leg is the short leg will have high strategy returns on Mondays. Conversely, anomalies for which the speculative leg is the long leg will have high strategy returns on Fridays. Table 2 shows that this prediction is borne out in the data. Panel A separately examines Monday long minus short

returns, Friday long minus short returns, and Tuesday through Thursday long minus short returns. The first 16 anomalies are anomalies for which the short leg is the speculative leg, and the last three anomalies are anomalies for which the long leg is the speculative leg.

The results are quite clear. Focusing on four-factor alphas, Panel A shows that Monday accounts for over 100% of the long minus short portfolio returns for all 16 anomalies for which the short leg is the speculative leg. This is evident based on the observation that the Tuesday through Friday long minus short strategy returns for these anomalies are all negative. On the other hand, for the three anomalies for which the speculative leg is the long leg, size, illiquidity, and bid-ask spread, over 100% of the strategy returns are earned on Fridays. Again this is evident based on the observation that long minus short strategy returns for size, illiquidity, and bid-ask spread are negative from Monday through Thursday.

Table 3 undertakes a more direct test of the main sentiment hypothesis by directly comparing Monday long minus short returns to Friday long minus short returns. The results are striking. The first two sets of columns are the same as in Table 2. Again focusing on four-factor alphas, for all anomalies the long minus short returns on Monday have the opposite sign as the long minus short returns on Friday. Figure 1 displays this result graphically.

The third set of results in Table 3 examines the magnitude of the difference in long-short returns on Monday and on Friday. The results display the large economic magnitude of the effect. For instance, examining *Ivol*, long-short portfolio four-factor alphas are 163 basis points higher on Monday than on Friday over the course of the month. Conversely, examining S*ize*, long-short portfolio four-factor alphas are 122 basis points higher on Friday than on Monday over the course of the month.[6]

4.3 Asymmetry in Long and Short Legs

Tables 4 and 5 separately examine the returns to the long and short legs of the anomalies. A sentiment-based mispricing story predicts an asymmetry when comparing the difference in returns between Monday and Friday for the long leg and for the short leg. Specifically, sentiment predicts that the exhibited pattern in Monday and Friday returns should be attributable to the

[6] Throughout the paper the SMB factor is excluded when analyzing the size anomaly, and the market factor is excluded when analyzing the beta-sorted portfolios.

speculative leg, not the non-speculative leg. Table 4 and Table 5 show that this is indeed the case. Table 4 displays the short leg only. This is the speculative leg for all anomalies except for size, illiquidity, and bid-ask.

Indeed, it is the case that the short leg is the leg that drives all of the variation for the anomalies for which the short leg is the speculative leg. In fact, the variation from the short leg alone is generally larger than that of the long minus short portfolio. For instance, the short leg of the idiosyncratic volatility strategy earns 190 basis points higher returns on Friday than on Monday during the month. In other words, a strategy that invests in the highest decile of idiosyncratic volatility stocks for only two days of each week (going long this decile on Friday and short on Monday and investing in the risk-free asset on all other days) earns an average monthly four-factor alpha of 190 basis points.

In contrast, Table 5 shows that the long leg difference between Friday and Monday is smaller in magnitude than the short leg difference for all anomalies, except size, illiquidity, and bid-ask. Size, illiquidity, and bid-ask experience differences in long leg returns between Friday and Monday that are larger than the short leg, consistent with the long legs for these three strategies being the speculative leg. Again, the difference in return from the speculative leg is larger than that of the long minus short portfolio. For example, the long leg of the size anomaly (small stocks) earns a monthly four-factor alpha that is 157 basis points higher on Friday than on Monday. The difference in long and short legs returns is consistent with the hypothesis that the day-of-the-week effect in the cross-section of returns is driven by contemporaneous variation in sentiment that primarily affects speculative stocks.

4.4 Daily Risk Premiums

The current risk-adjusted results use the Fama-French monthly factors to risk-adjust the monthly returns calculated for subsets of days. One concern is that risk premiums might vary by day. While it is not clear why risk premiums might be expected to exhibit variation that is dependent on day of the week, Table 6 decomposes monthly factors into their Monday and Friday monthly components and examines whether alphas survive this alternative risk correction. Table 6 clearly shows that this alternative risk correction does not alter the inferences.

4.5 Subsample Analysis

Recent studies find that the weekend effect does not exist in more recent time periods (Kamara, 1997; Schwert, 2003; Robins and Smith, 2015). Robins and Smith (2015) find that the weekend effect does not exist after 1975. Table 7 separately analyzes multiple subsamples. The vast majority of the sample years in the study are from the post-1975 period, as the earliest year used is 1963, suggesting that the cross-sectional patterns observed thus far are present even in periods in which the broader market level weekend effect is no longer present.

Table 7 separately examines 1963 through December of 1974, 1975 through December of 1994, and 1994 through the end of 2013. The results clearly show that the cross-sectional effects hold up in each time period. There are 19 anomalies with strategies examined for Monday and Friday for each of three subsample time periods, with the exception of five anomalies that do not have data for the 1963-1974 subsample period. Of the 104 long-short strategy time-period combinations, 103 go in the same direction as the full sample results. Only the illiquidity strategy returns on Monday in the 1963-1974 subsample period go in a direction that is not consistent with the full sample results. The results are remarkably robust across different time periods, including those time periods in which the weekend effect is not observed.

4.6 News

Macroeconomic News Announcements

While it is unlikely that good or bad economic news is systematically released on only specific days of the week, it is possible that macroeconomic news announcements generate cross-sectional return effects, for instance, due to liquidity shocks that affect some stocks more than others. I gather announcement dates of pre-scheduled monthly macroeconomic news announcements from the Bureau of Labor Statistics and the Federal Reserve. Following Savor and Wilson (2013), I focus on days when the Consumer Price Index, Producer Price Index, and employment figures are released, and days when the Federal Open Market Committee decisions are announced.

Savor and Wilson note that only 2% of the pre-scheduled announcements in their sample occur on a Monday. I find a similarly small percentage for the sample period studied in this

paper. Conversely, over 40% of announcements occur on a Friday. Table 8 examines strategy returns by day of week when macroeconomic announcement dates are excluded from the sample. The results show that the previously documented Monday and Friday patterns in the cross-section of returns are robust to the exclusion of these macro announcement dates. The results are again consistent with contemporaneous changes in investor sentiment driving the observed cross-sectional results.[7]

Firm-Specific News

A concern is that the results are driven by non-random timing of news announcements. For news announcements to explain relatively low (high) returns to speculative stocks on Mondays (Fridays), would require that speculative and non-speculative firms have systematic differences in their timing of good vs bad news announcements. I examine this possibility by focusing on earnings announcements as well as dividend and stock split announcement and ex-dates.

I obtain earnings announcement dates from Compustat. Previous work has found that earnings announcement dates are sometimes off by a day or more (e.g., DellaVigna and Pollet, 2009). To be conservative, I exclude not only the date reported by Compustat, but also the two days prior and two days after the announcement date. Because there are five trading days in a week, excluding dates from t-2 to t+2 also has the benefit of removing a roughly equal number of observations from each day of the week. Announcement dates and ex-dates for dividends and stock splits are obtained from CRSP. I also exclude the period from t-2, t+2 for dividend and stock split dates. The use of earnings announcement dates restricts the sample time period to begin in July of 1972. So as to not include observations of firms with missing earnings announcement information, I only include observations for which there is an announcement date within a two month window of the month in question.

Table 9 presents results when excluding the period from (t-2, t+2) around news dates related to earnings, dividends, and stock splits. As the table shows, the magnitude of the effect is on average unchanged. The evidence again supports the hypothesis that it is the

[7] The online appendix shows that the results are robust to also excluding Mondays that follow a Friday news announcement.

contemporaneous change in sentiment that is driving the observed differences in strategy returns between Monday and Friday.

Overnight vs Intraday

As a further test of the firm-specific news hypothesis, I decompose returns into their intraday and overnight component. Most firm-specific news is released outside of trading hours (Kelley and Tetlock, 2013). If firm-specific news announcements explain the observed variation in anomaly returns across day of the week, then at least part of this variation should occur during the overnight trading period. On the other hand, finding that the observed pattern is exclusively driven by intraday returns would not be consistent with a news explanation.

Furthermore, the psychology literature finds that mood is on average high during the weekend. Therefore, finding that the observed Monday pattern in the cross-section of returns occurs over the weekend period from Friday close to Monday open would be potentially inconsistent with a mood explanation. The news hypothesis and the mood hypothesis therefore make opposite predictions. If news explains day-of-the-week variation in the cross-section of returns, then day-of-the-week variation should show up in overnight returns. If mood explains day-of-the-week variation in the cross-section of returns, then day-of-the-week variation should primarily show up in intraday returns.

Intraday returns are calculated using the open and close prices provided by CRSP. Overnight returns are calculated as the difference between the standard CRSP-reported close-to-close return and the intraday return. Following the literature, I assume dividend adjustments occur overnight. Due to availability of CRSP reported opening prices, the sample period starts in July of 1992.

Table 10 clearly shows that all of the variation in Monday and Friday anomaly returns occurs intraday. In contrast, while the speculative leg does tend to outperform overnight, there is no day-of-the-week variation in anomaly returns for the overnight period, as the difference in anomaly returns between Friday and Monday is small and typically in the opposite direction as the pattern observed for the close to close returns. None of the anomalies have an overnight return on Friday that is statistically significantly different from Monday at even the 5% level. On the other hand, the intraday analysis shows that during the day, the difference in strategy returns

between Friday and Monday is statistically significant at the 1% level for all anomalies in the directions predicted by the mood hypothesis. Indeed, all of the day-of-the-week variation in the cross-section of returns occurs intraday. The intraday and overnight returns are consistent with day-of-the-week variation in the cross-section of returns reflecting changes in contemporaneous sentiment and are inconsistent with a news explanation.

4.7 Institutional Trading

Can the results be driven by the trading behavior of institutions? For a number of reasons this seems to be an unlikely explanation. Most importantly, the variation in returns between Monday and Friday is primarily driven by speculative stocks, and while individual investors have a preference for speculative stocks, institutions tend not to be large owners of speculative stocks. For instance, retail traders have a preference for small stocks, low-priced stocks, and stocks with lottery-like characteristics, whereas institutions have an aversion to these types of stocks (Kumar and Lee, 2006; Kumar, 2009). Gompers and Metrick (2001) and Bennett, Sias, and Starks (2003) find that institutions have preferences for large and liquid stocks.

Furthermore, the ownership of institutions has exhibited substantial time variation over the sample period analyzed. For instance, Bennett, Sias, and Starks (2003) claim that institutional ownership accounted for 7% of total US equity ownership in 1950, and 28% in 1970. Gompers and Metrick (2001) find that aggregate ownership of institutions was below 30% in 1980, but by the end of 1995 was above 50%. If institutional trading is responsible for the observed patterns, then one should expect to find clear time-variation in the cross-sectional pattern of returns. The subsample evidence does not support this hypothesis. Instead, the results are strong in all subsample periods, and exhibit no clear patterns in time variation.

Table 11 explicitly tests this hypothesis by separately analyzing low and high institutional ownership stocks. Each quarter, stocks are classified as low or high institutional ownership relative to the median institutional ownership in that quarter. Institutional ownership is defined as the aggregate number of shares owned by institutions relative to the total number of shares outstanding. The results offer no evidence that the effects are driven by the behavior of institutions. The large difference in Monday and Friday strategy returns is robustly present for both low and high institutional ownership stocks. For nearly all anomalies, the magnitude of the

difference between Monday and Friday is larger for the low institutional ownership stocks than high institutional ownership stocks.

The results in Table 11 are not consistent with institutional trading driving the observed day of the week behavior. Table 12 provides further evidence that the documented pattern is unlikely to be driven by end-of-the-week rebalancing by institutions or other traders. Prior to September of 1952 the market was open for trading on Saturdays.[8] This suggests that any end-of-week rebalancing would be less likely to occur on Fridays during this time period. Table 12 displays alphas for strategies for which data can be obtained for the time period between January 1927 and September 1952. All Friday minus Monday results again go in the expected direction, with the magnitudes often larger than those exhibited in the later time period. The results are not consistent with the documented effects being driven by institutional behavior.

5 Testing Further Sentiment Predictions

5.1 VIX

I next examine whether the day of the week is correlated with movements in the Chicago Board Options Exchange daily market volatility index (VIX). Baker and Wurgler (2007) consider the VIX index to be a measure of investor sentiment, with increases in VIX reflecting decreases in sentiment. VIX is often referred to as the "investor fear gauge," and is frequently used as a high-frequency measure of investor sentiment (e.g., Cherkes, Sagi, and Stanton, 2009; Kaplanski and Levy, 2010; Da, Engelberg, and Gao, 2015).

The VIX results are quite stark, and support the hypothesis that sentiment decreases on Monday and increases on Friday. Panel A of Table 13 shows that VIX on average increases (decreases) by 2.16% (0.68%) on Monday (Friday). Panel B of Table 13 examines average daily VIX movements on Mondays and on Fridays while also controlling for one-day lagged VIX, one-day lagged VIX squared, and for days on which there are macroeconomic announcements (CPI, PPI, employment, and FOMC announcement days). Year-month fixed effects are included where specified. Regressions in Panel B include only observations from Monday and Friday. Columns 1 and 2 show that after controlling for macroeconomic announcements and lagged

[8] The market was closed for trading on Saturdays during July and August of 1945 and also closed for trading on Saturdays from June through September for 1946 through 1952.

movements in VIX, the change in VIX is more than 2.4% higher on Monday than on Friday. Panel C shows results from regression specifications that include observations from all days of the week and include dummy variables for each day of the week (Wednesday is the excluded group). These specifications also include the five-day rolling unweighted VIX mean return, the five-day rolling mean squared, dummies for days of macroeconomic announcements, and year-month fixed effects are included where noted. The results are unchanged; Monday exhibits a statistically and economically significant increase in VIX while Friday exhibits a decrease, albeit one that is no longer statistically significant. The large increase in VIX is also quite robust. The online appendix shows that the unconditional Monday increase in VIX holds for every calendar month and for every calendar year, with the exception of 2010. The Friday decrease is exhibited in every calendar month except April, and in all but 6 calendar years. The results again support the hypothesis that the observed cross-sectional return effects reflect decreasing sentiment on Monday and increasing sentiment on Friday.

5.2 Treasury Bond Returns

Baker and Wurgler (2012) argue that times of high sentiment are likely to be associated with relatively low demand for safe assets, while decreases in sentiment are associated with "flights to quality," in which investors shift money towards safe assets such as Treasury bonds. Similarly, Da, Engelberg, and Gao (2015) argue that treasury bond returns can capture a "flight to safety," and that the returns of treasuries should be negatively related to contemporaneous changes in sentiment. Consistent with this intuition, Baker and Wurgler (2012) find that intermediate-term and long-term Treasury bonds have negative sentiment betas. That is, Treasury bond returns are low contemporaneous with increases in sentiment and high contemporaneous with decreases in sentiment.[9]

Decreasing sentiment on Monday predicts a flight to safety on Monday and therefore an increase in Treasury bond returns on Monday. Conversely, increasing sentiment on Friday predicts the opposite – low returns for Treasury bonds on Friday. I obtain data on Treasury returns from the CRSP Daily Treasury Fixed Term Indexes File. The returns reflect the performance of a hypothetical Treasury bond with fixed maturity.

[9] Relatedly, Kamstra, Kramer, and Levi (2015) document monthly variation in Treasury returns, which they attribute to seasonal variation in mood.

Panel A examines average day-of-the-week returns on Treasury bonds that range in maturity from one-months to five-years. For each maturity, Monday exhibits the largest average daily return and Friday exhibits the smallest average daily return. Panel B examines results from multivariate regressions. Following the VIX analysis, and the analysis of Savor and Wilson (2013), daily Treasury returns are regressed on one-day lagged Treasury returns, one-day lagged returns squared, an indicator for macroeconomic announcements (CPI, PPI, employment, and FOMC announcement days), and year-month fixed effects where noted. Regressions are run using data between June of 1961 (the first date available) through December of 2013, using only Monday and Friday observations. The Monday dummy measures the difference in Treasury returns between Monday and Friday. The results are again quite clear. Consistent with decreasing sentiment inducing a "flight to safety," returns for Treasuries are substantially higher on Mondays than on Fridays. Panel C repeats the analysis in Panel B while including all days. The conclusions are unchanged when including all days in the regression. For each of the specifications, Monday is statistically and economically significant and exhibits the largest coefficient. Conversely, Friday exhibits the smallest coefficient in all specifications, consistent with Fridays exhibiting a relative increase in sentiment. The results are again consistent with the notion that cross-sectional return effects documented on Monday and Friday are driven by shifts in investor sentiment.

5.3 Tuesday to Thursday

Another question which has received much attention in the psychology literature is whether there exists a "blue Monday" phenomenon. That is, whether mood levels on Monday are significantly lower than on Tuesday through Thursday, and whether mood levels potentially increase from Monday through Thursday. The evidence regarding the existence of increasing mood from Monday to Thursday is mixed. Using samples of fewer than 100 college students, Rossi and Rossi (1977) and McFarlane, Martin, and Williams (1988) find little evidence that mood on Monday is any worse than on Tuesday through Thursday. On the other hand, using a sample of 478 college students, Watson (2000) finds a pattern of slightly increasing mood from Monday through Thursday. Relying on a different sample of 136 students, Watson (2000) documents a more strongly increasing mood from Monday through Thursday. A recent study by Stone, Schneider, and Harter (2012) finds minimal support for the "blue Monday" hypothesis,

while studies by Larsen and Kasimatis (1990) and Young and Lim (2014) both find some evidence of increasing mood from Monday to Thursday. Again, these studies are confounded by an inability to control for diurnal patterns in mood, and an inability to control for individual heterogeneity, and conclusions are often drawn from small sample sizes.

As mentioned previously, the use of Twitter message data allows for a substantial improvement in the measurement of mood relative to previous studies, as it is able to capture mood in real time from a large, heterogeneous sample, while also being able to control for individual fixed effects. In this section, I exploit the Twitter data of Golder and Macy (2011) to examine the extent to which variation in mood exists across all weekdays (including Tuesday, Wednesday, and Thursday) and examine whether day-of-week sentiment predictions regarding the cross-section of returns are borne out in the data for these days. Golder and Macy (2011) use textual analysis of Twitter data to identify average mood across each hour of the day for each day of the week. Importantly, the average Twitter user does appear to be representative of the typical stock market participant.[10] Positive affect (PA) and negative affect (NA) are measured using Linguistic Inquiry and Word Count. See Golder and Macy (2011) for a detailed description of the textual analysis process.

I focus on the average mood (captured by both negative and positive affect) during the 3pm hour (measured from 3pm to 4pm) for Twitter users residing in the US, since this most closely captures mood at the daily close of the market.[11] The top panel of Figure 2 plots the average positive and negative affect at the time of the market close for each day of the week.

[10] The following statistics were compiled in a recent survey by Edison Research, (Webster (2010)). 87% of Americans in 2010 were familiar with Twitter, as compared to 88% who were familiar with Facebook. As of 2010, 17 million Americans (7% of population) used Twitter. The young are not overrepresented on Twitter, rather the 18+ and 25+ population is overrepresented on Twitter; 82% of Twitter users are 18+, as compared to 74.3% of the US population (2010 Census). And 71% are 25+, as compared to 67% of the US population. Twitter users are also substantially more likely to have an advanced degree. 63% of Twitter users over the age of 18 have a 4-yr degree or better, as compared to 40% of the US population. Only 12% of Twitter users over the age of 18 have a high school degree or less, as compared to 33% of the US population. Twitter users are also more likely to have higher household income. Of those reporting household income, Twitter users are more likely than the average American to live in higher income households (whether household income is defined as above $50,000, $75,000, or $100,000).

[11] Time is measured according to the time zone of the Twitter user. For instance, to capture the average mood of a Twitter user in the Central Time Zone during the 3pm hour in the Eastern Time Zone, I should examine their mood at 2pm. The Eastern Time Zone is the most populous in the United States (47% of the population), therefore I use the 3pm hour, because it corresponds to the time of market close in the Eastern Time Zone. The results are unchanged if I instead calculate the average of the 12pm, 1pm, 2pm, and 3pm hours (corresponding to time of market close in Pacific, Mountain, Central, and Eastern time zones, respectively), or if I weight each hour by the percent of the US population in the time zone.

Consistent with past findings, the level of positive (negative) affect is the lowest (highest) on Monday and highest (lowest) on Friday.

The bottom panel of Figure 2 plots the change in affect. Again, consistent with past findings Monday exhibits the largest decrease (increase) in positive (negative) affect, while Friday exhibits the largest increase (decrease) in positive (negative) affect. Interestingly, there does exist a monotonic increase in mood from Monday through Friday. Monday exhibits the greatest decrease in mood, followed by Tuesday which exhibits nearly no change in mood from Monday. Wednesday, Thursday, and Friday all exhibit day-over-day increases in mood, with the smallest day-over-day increase occurring on Wednesday. Thursday has the next largest day-over-day increase in mood, and Friday has the largest day-over-day increase in mood.[12] This clear pattern in change in mood across day of week leads to a clear prediction for the cross-section of returns: Anomaly returns should monotonically decrease from Monday to Friday for anomalies for which the short leg is speculative, and should monotonically increase from Monday to Friday for anomalies for which the long leg is speculative.

Table 14 presents the average daily excess returns to anomalies by day of the week, and shows that this is precisely the pattern exhibited for the vast majority of anomalies examined. Figure 3 graphically displays this striking pattern. Consistent with the within-week pattern in mood, anomaly returns are decreasing from Monday to Friday for anomalies for which the short leg is the speculative leg, and increasing from Monday to Friday for anomalies for which the long leg is the speculative leg. In the interest of space, CAPM, three-factor, and four-factor alphas are relegated to the online appendix, but all exhibit the same pattern.

5.4 Holidays

This section examines anomaly returns on days immediately preceding or following long weekends that occur due to holidays. Mood on Thursdays prior to a Friday holiday is likely to be higher than the mood on a typical Thursday for which Friday is not a holiday, and might be expected to be similar or even slightly elevated relative to mood levels on a typical Friday. The

[12] To provide some external validation of this pattern, I examine a daily index of happiness measured from Twitter. This data originates from Dodds et al. (2011). The online appendix shows that daily changes in happiness from the happiness index of Doddes et al. (2011) exhibit the same increasing pattern from Monday to Friday, with the increase in happiness growing from Monday through Friday.

same might be expected for the Wednesday prior to the Thanksgiving holiday. On the other hand, Tuesdays following Monday holidays are likely to exhibit lower mood than the average Tuesday.

Table 15 presents average daily strategy excess returns for Tuesdays that immediately follow Monday holidays, Thursdays that precede Friday holidays, and for the Wednesday before the Thanksgiving holiday. 56 of the 57 (19x3) long minus short anomaly returns have signs that are of the predicted direction of the sentiment hypothesis (the exception is the size anomaly on Tuesdays). The magnitudes are large. Comparing the magnitudes in Table 15 to those in Table 14 reveals that the magnitude of the anomaly returns on holiday Tuesdays is larger than on typical Tuesdays for 17 of the 19 anomalies. Furthermore, 12 of the 19 anomalies exhibit Tuesday holiday return magnitudes that are larger than the average Monday.

The results are even stronger for Thursdays prior to Friday holidays and for Wednesdays that immediately precede the Thanksgiving market closure. For Thursdays immediately preceding a Friday holiday, all anomaly returns go in the predicted direction. In addition, all Thursday anomaly strategy returns are larger in magnitude than the average Thursday anomaly returns, and in fact all are larger than the average Friday. The results for Wednesday are similar. All returns go in the predicted direction. All 19 of the anomalies have return magnitudes larger than the values on the average Wednesday, and 17 of the 19 anomalies have returns that are larger than those of the typical Friday. The results are again consistent with predictions from the sentiment hypothesis.

5.5 Other Anomalies

In this section I examine day-of-week variation in anomaly returns for other well-known anomalies that do not have one leg that is clearly composed of stocks that are speculative (e.g., small, young, unprofitable, volatile, non-dividend paying, potentially close to distress, or extreme growth) and one leg that is clearly non-speculative. If day-of-week variation in sentiment drives the patterns exhibited in speculative anomalies, then the same patterns are unlikely to be exhibited in anomalies for which there is not one clear speculative leg and one clear non-speculative leg.

To construct the list of additional anomalies to use, I begin with the list of 97anomalies analyzed in McLean and Pontiff (2016) and Engelberg, McLean, and Pontiff (2016). I exclude anomalies that are redundant (e.g., IPO anomalies are excluded as they are similar to the age strategy already studied), anomalies with multiple signals, anomalies with short sample periods (e.g., G-index), and anomalies with sparsely populated portfolios (e.g., spinoffs). The result is a sample of 44 additional anomalies.

The 44 anomalies typically fall into one of two groups, those with no obvious speculative leg, or those with two speculative legs. Strategy returns for anomalies for which neither leg is speculative should not exhibit sensitivity to sentiment, because neither leg will be affected by sentiment changes. Anomalies for which both legs are speculative also should not exhibit strategy returns that are sensitive to sentiment, because both the long leg and short leg should respond in the same way to sentiment changes, effectively canceling each other out. An example of an anomaly for which neither leg is obviously speculative is momentum, and consistent with this, previous research fails to find a relationship between sentiment and momentum strategy returns (see e.g., Keloharju, Linnainmaa, and Nyberg, 2015). Book-to-market and sales growth are two examples of anomalies for which both legs are speculative, because while low book-to-market (high sales growth) is associated with extreme growth, high book-to-market (low sales growth) is associated with distress. For this reason, both legs of the book-to-market anomaly and sales growth anomaly are likely to move in the same way in response to sentiment changes, and consistent with this insight, previous research fails to identify variation in long minus short portfolio returns when conditioning on sentiment (see e.g., Baker and Wurgler, 2006; Stambaugh, Yu, and Yuan, 2012).

Of course not all 44 anomalies should be expected to exhibit return patterns that are completely insensitive to sentiment. To the extent that some of the 44 anomalies have one leg that is somewhat more speculative than the other, some anomalies can be expected to exhibit variation across day of the week, but importantly any exhibited day-of-the-week patterns should be more muted than the patterns exhibited by the speculative anomalies. In fact, some of the included anomalies have been shown to exhibit return patterns that exhibit comovement with the Baker and Wurgler (2006) sentiment index, though again not to the extent exhibited by the more speculative anomalies. For instance, prior research has noted relationships between sentiment

and earnings surprises (Mian and Sankaraguruswamy, 2012), accruals (Stambaugh, Yu, and Yuan, 2012), net operating assets (Stambaugh, Yu, and Yuan, 2012), and R&D (Baker and Wurgler, 2006). But importantly, the past literature has documented that the variation exhibited by these anomalies is much less than exhibited for the speculative anomalies. For instance, for R&D Baker and Wurgler (2006) document an absolute difference in long-short strategy excess returns of 69 basis points between high sentiment and low sentiment periods. This is much smaller than they document for strategies based on size (171 basis points), age (139 basis points), or volatility (254 basis points), but higher than they document for book-to-market (20 basis points) and sales growth (15 basis points). Stambaugh, Yu, and Yuan (2012) report anomaly strategy excess return differences between periods of high and low sentiment of 70 basis points for the accruals strategy and 83 basis points for net operating assets. These are smaller magnitudes than they document for the more speculative anomalies of failure probability (196 basis points), ROA (150 basis points), *O*-score (140 basis points), beta (135 basis points), and size (126 basis points).[13] Stambaugh, Yu, and Yuan (2012) also find that returns to the asset growth anomaly exhibit significant sensitivity to sentiment (85 basis points, *t*-stat of 2.34), but Keloharju, Linnainmaa, and Nyberg (2015) find no evidence that this is the case (39 basis point, *t*-stat of 1.11). Neither Stambaugh, Yu, and Yuan (2012) nor Keloharju, Linnainmaa, and Nyberg (2015) find statistically significant variation in momentum across sentiment periods (at either the 5% or 10% level).[14] For this reason, I group the semi-speculative anomalies of earnings surprises, RD/M, accruals, and net operating assets along with the other anomalies in this section rather than the speculative anomalies.

Figure 4 examines daily excess returns for portfolios sorted by 44 different anomaly variables. Consistent with sentiment predictions, the vast majority of these anomalies fail to exhibit any clear day-of-week variation in returns. A handful of the 44 anomalies examined do exhibit somewhat linear patterns across day of the week, though none are as strong as even the weakest pattern exhibited by the speculative anomalies. From Table 14, among speculative anomalies the *smallest* absolute difference in daily strategy returns on Friday and Monday is 18.9

[13] They also document statistically significant variation for net stock issuance and composite equity issues. Because net external financing is already included as an anomaly, I don't separately study net stock issuance and composite equity issuance.

[14] Baker, Wurgler, and Yuan (2012) also note that momentum is not likely to be sensitive to sentiment, as momentum portfolios do not fall clearly into the set of stocks that are "easy to arbitrage and easy to value" or "hard to arbitrage and hard to value".

basis points for CFV, and the average is 27.7 basis points. Among the 44 other anomalies, the *largest* difference in daily strategy returns is exhibited by the analyst value anomaly which has a difference of 16.7 basis points. This relationship is driven by the correlation between analyst value and profitability. A simple analysis of the variable reveals that an important input into its construction is expected return on equity. Unsurprisingly, the outcome is that analyst value proxies for profitability with speculative unprofitable firms inhabiting the lowest decile of analyst value (the median firm in decile 1 of analyst value is in decile 1 of ROA).The anomaly with the next largest difference is RD/M which has a difference of only 11.5 basis points, and as discussed above has been shown by Baker and Wurgler (2006) to exhibit moderate sensitivity to sentiment. Overall, the patterns line up strikingly well with the sentiment hypothesis predictions.

In fact, the majority of anomalies that do exhibit somewhat linear patterns have explanations that fit the sentiment story. Other anomalies exhibiting relatively linear patterns are tax, short-term reversal, accruals, earnings surprise, AD/M, and net operating assets. Tax is a proxy for profitability with speculative unprofitable firms inhabiting the lowest decile of tax (the median firm in decile 1 of tax is in decile 2 of ROA). Short-term reversal is related to the Max anomaly, with speculative high Max firms inhabiting decile 10 of short-term reversal (the median firm in decile 10 of short-term reversal is in decile 10 of Max). While I am unaware of previous research examining the relationship between AD/M and sentiment, the relatively linear patterns observed for accruals and net operating assets are consistent with the sentiment results of Stambaugh, Yu, and Yuan (2012), and the relatively linear pattern of earnings surprise is consistent with Mian and Sankaraguruswamy (2012), though again all of these patterns are much weaker than the patterns exhibited by speculative anomalies.

6 Conclusion

This study documents strong, predictable variation in the cross-section of returns across day of the week. Relative to non-speculative stocks, speculative stocks earn low returns on Mondays and high returns on Fridays. The results are robust to different subsample periods, and are not explained by macroeconomic news releases, firm-specific news releases, or institutional trading.

Psychological research documents predictable variation in mood across day of the week, with decreases in mood occurring on Mondays and increases in mood occurring on Fridays. The cross-sectional return patterns are consistent with an explanation in which decreasing mood on Monday leads to relatively low returns for speculative stocks, and increasing mood on Fridays leads to relatively high returns for speculative stocks.

Appendix A:

Anomaly Definitions:

52-Week High (52-Wk): 52-week high is defined as the highest price in the 12 month period ending in month *t*-1 divided by price at the end of month *t*-1. Portfolios are rebalanced monthly.

Accruals: Accruals is measured following the operating accruals methodology of Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Advertising/Market Value of Equity (AD/M): Advertising/Market value of equity is measured following the methodology of Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year. Due to limited data coverage, AD/M starts in July 1974.

Age: Following Baker and Wurgler (2006), age is measured as the number of months since the firm's first appearance on CRSP. Portfolios are rebalanced at the end of June of each year.

Analyst Value (AV): Analyst value is calculated following the methodology of McLean and Pontiff (2016). Portfolios are rebalanced monthly. Because forecast data start in January of 1976, analyst value starts in February of 1976.

Asset Growth (AG): Asset growth is calculated following the methodology of McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Asset Turnover (ATO): Asset turnover is calculated following the methodology of Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Beta: Beta is measured following the methodology of McLean and Pontiff (2016). A minimum of 30 observations is required to estimate beta. Portfolios are rebalanced monthly.

Bid-Ask Spread (Bid-Ask): Bid-ask spread is calculated following the methodology of Corwin and Schultz (2012). Portfolios are rebalanced monthly.

Book-to-Market (BM): Book-to-market is measured following the methodology of Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Cash Flow (CF): Cash flow is a dummy variable that takes a value of one for firms with positive cash flow and zero for firms with non-positive cash flow. Positive cash flow firms are those for which income before extraordinary items (Compustat item IB) plus equity's share of depreciation (item DP) plus deferred taxes (item TXDI, if available) takes a value greater than 0. Equity's share is defined as market equity (price times shares outstanding from CRSP) divided by total assets (item AT) minus book equity plus market equity. Book equity is measured as shareholders' equity, plus balance-sheet deferred taxes and investment tax credit (item TXDITC, if available), minus the book value of preferred stock. Shareholders' equity is equal to stockholders' equity (item SEQQ), or common equity (item CEQQ) plus the carrying value of preferred stock (item PSTQ), or total assets (item AT) minus total liabilities (item LT), in that order, depending on availability. Book value of preferred stock is equal to redemption value of preferred stock (item PSTKRV), or liquidating value (item PSTKL), or carrying value (item PSTK), in that order, depending on availability. Financial firms are excluded. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1.

Cash Flow Variance (CFV): Cash flow variance is measured following the methodology of Hou, Xue, and Zhang (2016) (variable Vcf1). Financial firms are excluded. Portfolios are rebalanced each month. Due to limited data coverage, cash flow variance starts in July 1976.

Δ Asset Turnover (ΔATO): Following McLean and Pontiff (2016), change in asset turnover is measured as asset turnover in year *t*-1 minus asset turnover in year *t*-2. Portfolios are rebalanced at the end of June of each year *t*.

Δ CAPEX – Δ industry CAPEX (ΔCΔIC): Δ CAPEX – Δ industry CAPEX is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Δ Profit Margin (ΔPM): Δ profit margin is measured as profit margin in year *t*-1 minus profit margin in year *t*-2. Profit margin is measured as operating income divided by sales. Financial firms are excluded. Portfolios are rebalanced at the end of June of each year *t*.

Δ Sales – Δ Inventory (ΔSΔI): Δ sales – Δ inventory is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Δ Sales – Δ SG&A (ΔSΔSGA): Δ sales – Δ SG&A is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Coskewness (Coskew): Coskewness is measured according to McLean and Pontiff (2016). A minimum of 30 observations is required to calculate coskewness. Portfolios are rebalanced monthly.

Debt Issuance (Debt): Debt issuance is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year. Due to limited data coverage, debt issuance starts in July 1972.

Dividends (D): Dividends is a dummy variable that takes a value of one for dividend-paying firms. Dividend-paying firms are those for which the dividend yield is greater than 0. Dividend yield is calculated as the difference between cum- and ex-dividend returns, times the beginning of month market equity (price times shares outstanding), all divided by the market equity at the end of June of *t*-1. Portfolios are rebalanced at the end of June of each year *t*.

Down Forecast (DF): Down forecast is measured according to McLean and Pontiff (2016). Portfolios are rebalanced monthly. Because forecast data start in January of 1976, analyst value starts in February of 1976.

Earnings (E): Earnings is a dummy variable that takes a value of one for profitable firms and zero for unprofitable firms. Profitable firms are those with income before extraordinary items (Compustat item IB) greater than 0. Unprofitable firms are those with income before extraordinary items taking a value less than or equal to 0. Financial firms are excluded. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1.

Earnings Surprise (SUE): Earnings surprise is measured according to Hou, Xue, and Zhang (2014). A one-month holding period is used, and portfolios are rebalanced monthly. Due to data availability, the sample period starts in February of 1975.

Enterprise Component of Book-to-Market Enterprise (BME): Following Penman, Richardson, and Tuna (2007), enterprise component of book-to-market is measured as the book value of net operating assets divided by the market value of net operating assets. Penman, Richardson, and

Tuna (2007) define the book value of net operating assets as the sum of book value of common equity plus net debt. The book value of common equity is (Compustat item CEQ) plus any preferred treasury stock (item TSTKP, if available) less preferred dividends in arrears (item DVPA, if available). Net debt is long term debt (item DLTT) plus debt in current liabilities (item DLC) plus carrying value of preferred stock (item PSTK, if available) plus preferred dividends in arrears (item DVPA, if available) less preferred treasury stock (item TSTKP, if available), less cash and short-term investments (item CHE). The market value of net operating assets is net debt as defined above, plus P, where P is equal to the number of common shares outstanding multiplied by the stock price at the end of the fiscal period. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1.

Enterprise Multiple (EM): Following Loughran and Wellman (2011), enterprise multiple is measured as enterprise value divided by operating cash flow. Enterprise value is defined as market value of equity plus long-term debt (item DLTT) plus debt in current liabilities (item DLC) plus preferred stock (item PSTKRV) minus cash (item CHE). Operating cash flow is Compustat item OIBDP. Firms with negative operating cash flow are excluded. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1.

Failure Probability (FP): Failure probability is calculated using the definition in Hou, Xue, and Zhang (2014). With the exception that following Campbell, Hilscher, and Szilagyi (2008) lagged excess returns and profitability are replaced with their cross-sectional means when observations are missing. Portfolios are rebalanced each month. Due to limited data coverage, FP starts in January 1976.

Forecast Dispersion (Disp): Forecast dispersion is measured according to McLean and Pontiff (2016). Portfolios are rebalanced monthly. Because forecast data start in January of 1976, forecast dispersion starts in February of 1976.

Growth in Inventory (GI): Growth in inventory is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Growth in Long-Term Net Operating Assets (GLTNOA): Following Fairfield, Whisenant, and Yohn (2003), growth in long-term net operating assets is measured as GrNOA – ACC. Where

$GrNOA_t = NOA_t - NOA_{t-1}$, and $ACC_t = (\Delta AR_t + \Delta INV_t + \Delta OTHERCA_t) - (\Delta AP_t + \Delta OTHERCL_t)$ - $DEPAMORT_t$. $NOA_t = AR_t + INV_t + OTHERCA_t + PPE_t + INTANG_t + OTHERLTA_t - AP_t - OTHERCL_t - OTHERLTL_t$. AR is accounts receivable (Compustat item RECT). INVT is inventories (item INVT). OTHERCA is other current assets (item ACO). AP is accounts payable (item AP). OTHERCL is other current liabilities (item LCO). DEPAMORT is depreciation and amortization expense (item DP). PPE is net property, plant, and equipment (item PPENT). INTANG is intangibles (item INTAN). OTHERLTA is other long-term assets (item AO). OTHERLTL is other long-term liabilities (item LO). GRNOA and ACC are deflated by contemporaneous average total assets. Portfolios are rebalanced at the end of June of each year.

Herfindahl Index (HIndex): Herfindahl index is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Idiosyncratic Volatility (Ivol): Following Ang, Hodrick, Xing, and Zhang (2006), idiosyncratic volatility is measured as the standard deviation of the residuals from a regression of a stock's excess return on the Fama-French (1993) three-factor model. Idiosyncratic volatility is measured using daily returns from month *t*-1. A minimum of 15 daily return observations is required to calculate idiosyncratic volatility. Portfolios are rebalanced monthly.

Illiquidity (Illiq): Following Amihud (2002) and Hou, Xue, and Zhang (2014), illiquidity is calculated as the ratio of absolute daily stock return to daily dollar trading volume, averaged over month *t*-1 to *t*-6. Dollar trading volume is share price times volume. Trading volume of NASDAQ stocks is adjusted following Gao and Ritter (2010). A minimum of 50 observations is required for calculation of illiquidity. Portfolios are rebalanced monthly.

Industry Momentum (Imom): Industry momentum is measured according to Hou, Xue, and Zhang (2014). Portfolios are rebalanced monthly.

Investment (Inv): Abnormal corporate investment is calculated following the methodology of Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Lagged Momentum (LMom): Lagged momentum is measured according to McLean and Pontiff (2016). Portfolios are rebalanced monthly.

Leverage (Leverage): Leverage is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Leverage Component of Book-to-Market (BML): Following Penman, Richardson, and Tuna (2007), leverage component of book-to-market is calculated as book-to-market minus the enterprise component of book-to-market. The enterprise component of book-to-market (BME) is as defined above. Following Penman, Richardson, and Tuna (2007), book-to-market is equal to the book value of common equity divided by P, where both values are as defined for BME above. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1

Long-Term Reversal (LRev): Long-term reversal is measured as the return from month *t*-60 to month *t*-13. Portfolios are rebalanced monthly.

Max: Following Bali, Cakici, and Whitelaw (2011), maximum daily return is calculated as the maximum daily return in month *t*-1. A minimum of 15 daily return observations is required to calculate Max. Portfolios are rebalanced monthly.

Mergers (M&A): Mergers is a binary variable equal to one if an acquisition is reported by SDC Thomson during the previous 12 month period. To be considered a merger, 100% of the shares of the target must be acquired, and the ratio of target to acquirer market capitalization must be at least 5% in the month prior to acquisition. Portfolios are rebalanced monthly.

Momentum (Mom): Momentum is measured as the return from month *t*-11 to *t*-2. Portfolios are rebalanced monthly.

Net External Financing (NXF): Following Bradshaw, Richardson, and Sloan (2006) and Hou, Xue, and Zhang (2014), net external financing is the sum of net equity financing and net debt financing scaled by the average of total assets for fiscal years ending in *t*-2 and *t*-1. Net equity financing is proceeds from the sale of common and preferred stock (Compustat item SSTK) minus cash payments for the repurchases of common and preferred stock (item PRSTKC) minus cash payments for dividends (item DV). Net debt financing is cash proceeds from the issuance of long-term debt (item DLTIS) minus cash payments for long-term debt reduction (item DLTR) plus the net change in current debt (item DLCCH, if available). Firms with zero NXF are

excluded. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1. Due to limited data coverage, NXF starts in July 1972.

Net Operating Assets (NOA): Net operating assets is measured according to Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Net Working Capital Changes (ΔNWC): Δ net working capital is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Non-Current Operating Assets Changes (ΔNCOA): Δ non-current operating assets is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

O-score: *O*-score is calculated following the methodology of Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year *t*, based on *O*-score calculated for the fiscal year ending in calendar year *t*-1.

Operating Leverage (OL): Operating leverage is measured according to Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Operating Profitability (OP): Following Ball, Gerakos, Linnainmaa, and Nikolaev (2015), operating profitability is defined as total revenue (item REVT) minus cost of goods sold (item COGS) minus selling, general, and administrative expenses (item XSGA) plus research and development expense (item XRD) divided by total assets (item AT). Financial firms are excluded. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1.

Organizational Capital-to-Assets (OCA): Organizational capital-to-assets is measured according to Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year.

Pension Funding Status (Pension): Following Franzoni and Marin (2006), pension funding status is measured as FR = (FVPA - PBO)/Mkt Cap. For fiscal years ending before January of 1987, FVPA is equal to Compustat item PBNAA, and PBO is equal to Compustat item PBNVV. For fiscal years between January of 1987 and December 1997, FVPA is equal to Compustat item PPLAO plus Compustat item PPLAU, and PBO is equal to Compustat item PBPRO plus

Compustat item PBPRU. For fiscal years ending after December 1997, FVPA is equal to PPLAO, and PBO is equal to Compustat item PBPRO. Market capitalization is from December of calendar year *t*-1. Portfolios are rebalanced at the end of June of each year *t*, based on data for the fiscal year ending in calendar year *t*-1. Due to data availability, pension funding status starts in July of 1981.

Price: Price is calculated as the nominal price as of the last trading day of June. Portfolios are rebalanced at the end of June of each year.

R&D-to-Market (RD/M): R&D-to-market is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year. Due to the standardization of the accounting treatment of R&D expenses in 1975, R&D-to-market starts in July of 1976.

ROA: Following Hou, Xue, and Zhang (2014), ROA is measured as income before extraordinary items (Compustat quarterly item IBQ) divided by one-quarter-lagged total assets (item ATQ). Portfolios are rebalanced each month. To exclude stale earnings information, the fiscal quarter that corresponds to the most recently announced earnings must be within 6 months of the portfolio formation month. Financial firms are excluded. Portfolios are rebalanced monthly. Due to limited data coverage, ROA starts in July 1972.

Sales Growth (SG): Sales growth is measured according to Hou, Xue, and Zhang (2014). Portfolios are rebalanced at the end of June of each year. Due to the need for five years of lagged data to measure sales growth, the sample starts in July 1967.

Sales-to-Price (SP): Sales-to-price is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Seasonality (Season): Seasonality is measured as the average monthly return in the same month of the calendar year over the past 20 years. Firms without at least one year of data are excluded. Portfolios are rebalanced monthly.

Short Interest (Short): Short interest is measured according to McLean and Pontiff (2016). Portfolios are rebalanced monthly. Because short interest data start in January of 1973, the short interest anomaly starts in February of 1973.

Short-Term Reversal (Srev): Short-term reversal is measured according to Hou, Xue, and Zhang (2014). Portfolios are rebalanced monthly.

Size: Size is measured as market equity from June of month *t*, and is calculated as price times shares outstanding. Portfolios are rebalanced at the end of June of each year *t*.

Sustainable Growth (Sustain): Sustainable growth is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Tax (Tax): Tax is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Unexpected R&D Increases (RDI): Unexpected R&D increase is measured according to McLean and Pontiff (2016). Portfolios are rebalanced at the end of June of each year.

Up Forecast (UF): Up forecast is measured according to McLean and Pontiff (2016). Portfolios are rebalanced monthly. Because forecast data start in January of 1976, analyst value starts in February of 1976.

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Figure 1: Monthly Long-Short Strategy Four-Factor Alpha (%) for Monday and Friday

This figure reports monthly Carhart alphas for a long minus short strategy that invests in the anomaly on only the specified days. Portfolios are value weighted and formed using NYSE breakpoints. Anomaly definitions are in Appendix A.

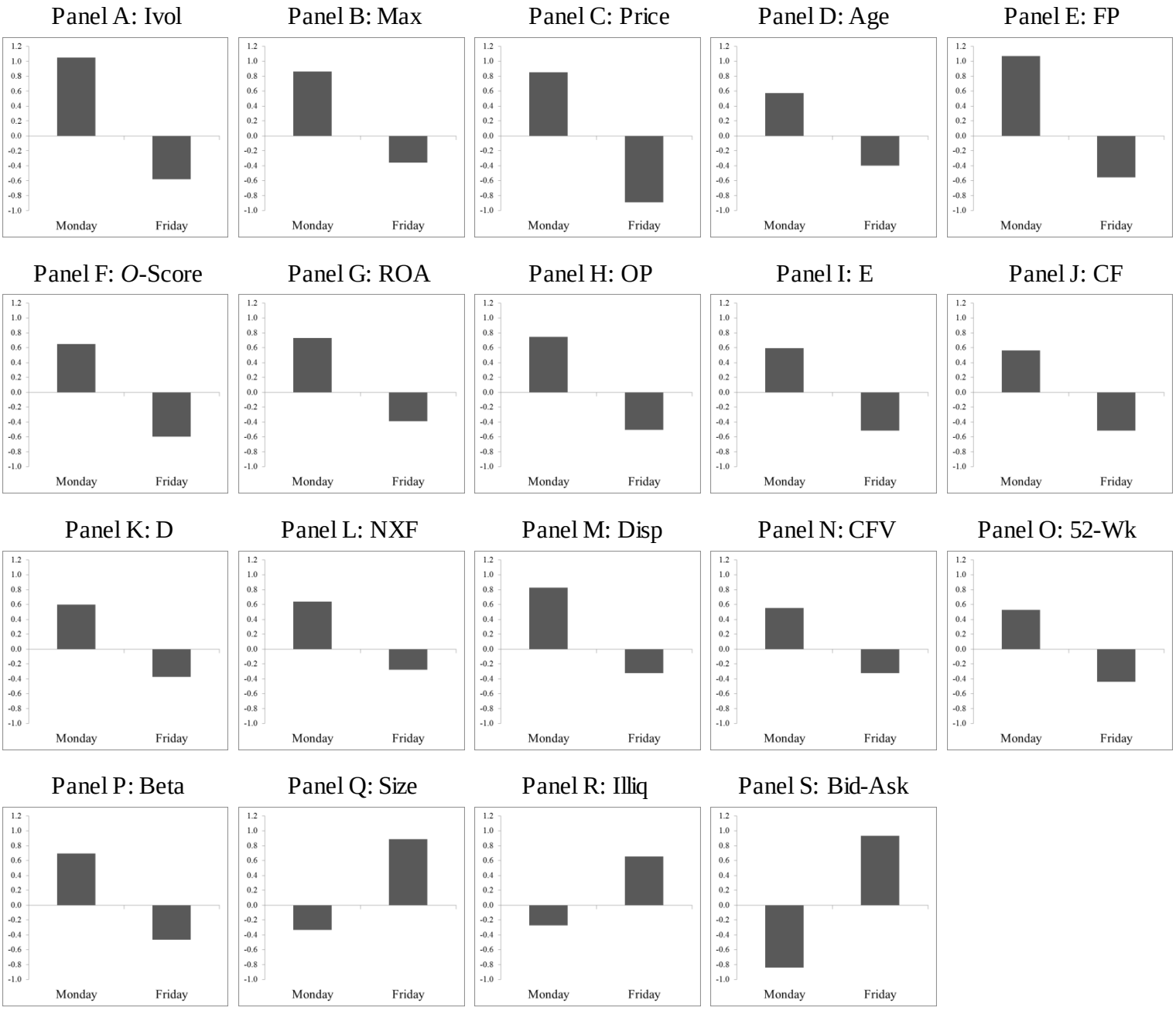
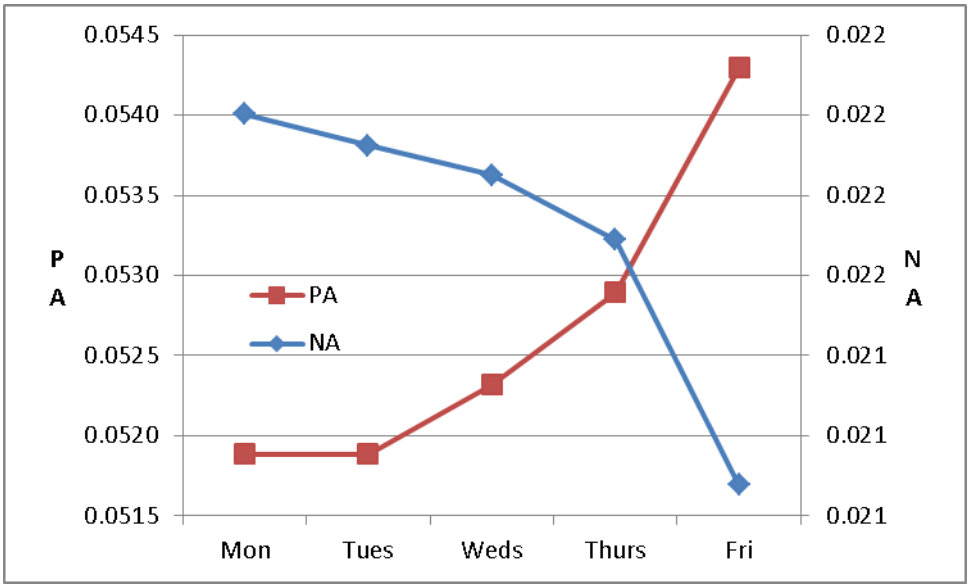


Figure 2: Level and Change of Positive and Negative Affect

Panel A plots the level of positive affect (PA) and negative affect (NA) on the specified day of the week. Panel B plots the daily change in affect relative to the previous weekday. Data are obtained from Golder and Macy (2011).

Panel A: Daily Level: PA and NA



Panel B: Daily Change: PA and NA

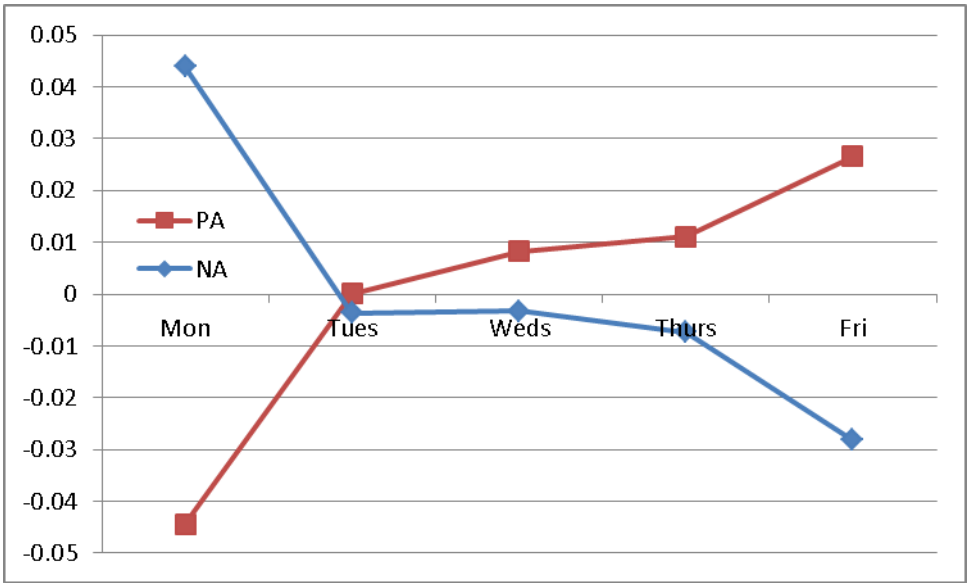
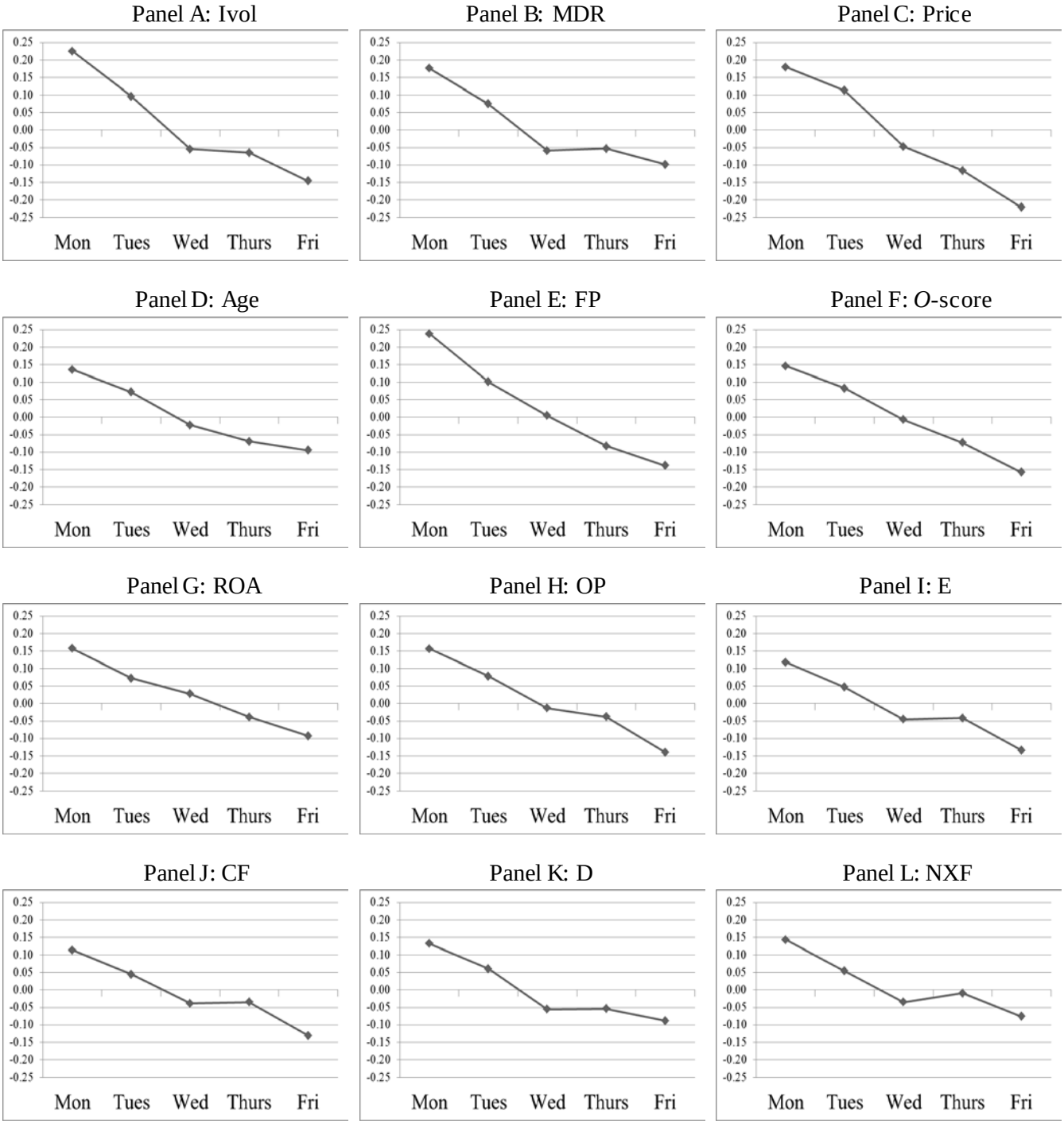
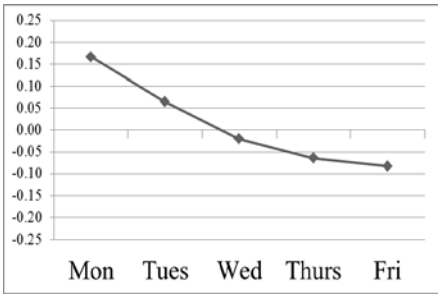


Figure 3: Daily Long-Short Strategy Excess Returns (%) for all Weekdays

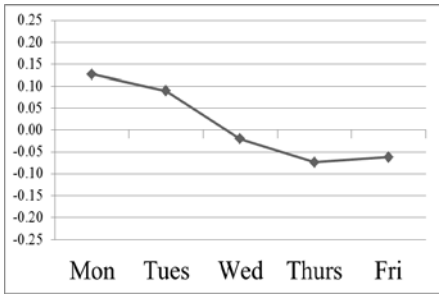
This figure reports average daily excess returns for a long minus short strategy that invests in the anomaly on only the specified days. Portfolios are value weighted and formed using NYSE breakpoints. Anomaly definitions are in Appendix A.



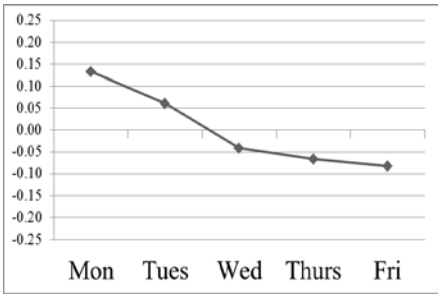
Panel M: Disp



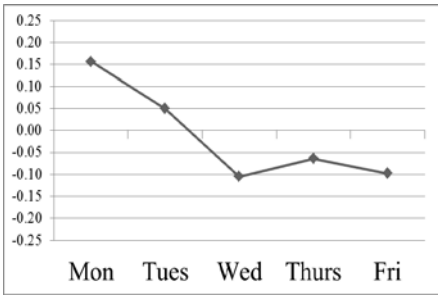
Panel N: CFV



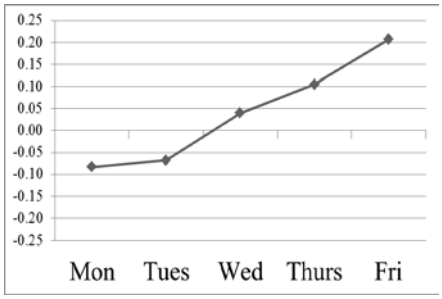
Panel O: 52-Wk



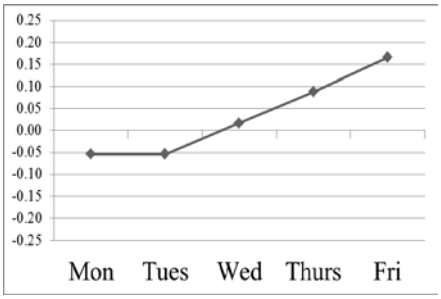
Panel P: Beta



Panel Q: Size



Panel R: Illiq



Panel S: Bid-Ask

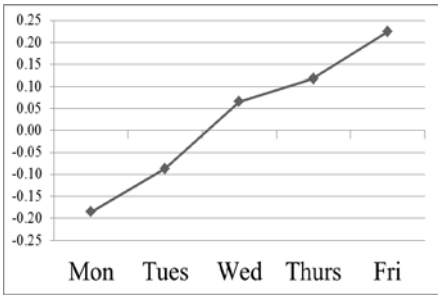
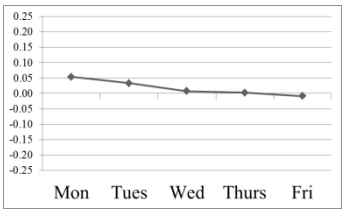


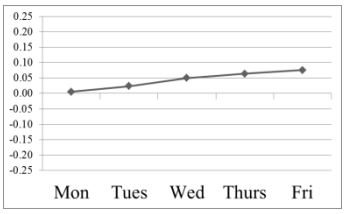
Figure 4: Other Anomalies - Daily Long-Short Strategy Excess Returns (%)

This figure reports average daily excess returns for a long minus short strategy that invests in the anomaly on only the specified days. Portfolios are value weighted and formed using NYSE breakpoints. Anomaly definitions are in Appendix A.

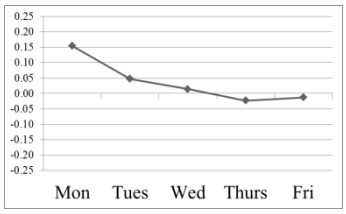
Panel A: Accruals



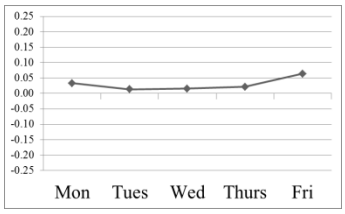
Panel B: AD/M



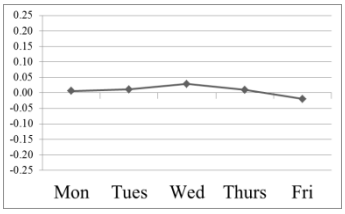
Panel C: AV



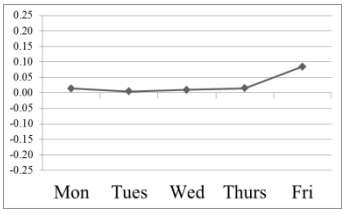
Panel D: AG



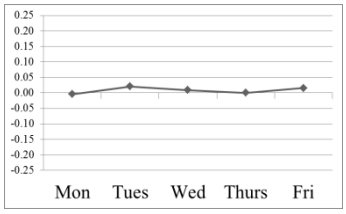
Panel E: ATO



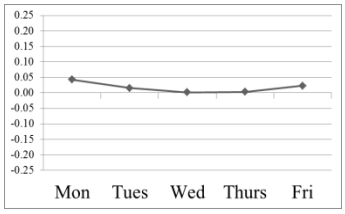
Panel F: BM



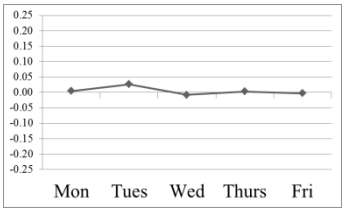
Panel G: ΔATO



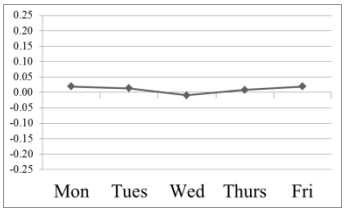
Panel H: ΔCΔIC



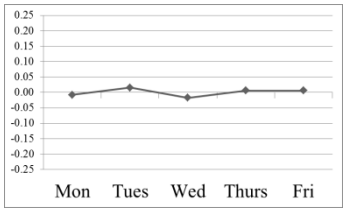
Panel I: ΔPM



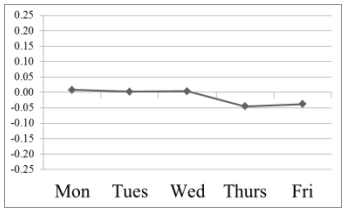
Panel J: ΔSΔI



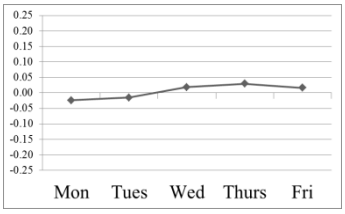
Panel K: ΔSΔSGA



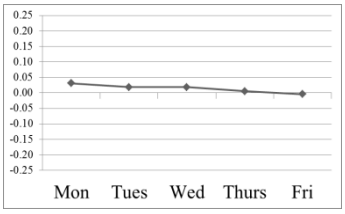
Panel L: Coskew



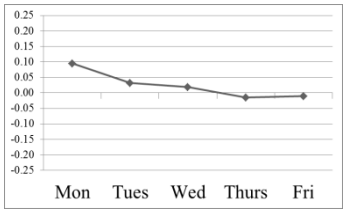
Panel M: Debt



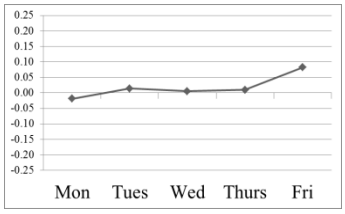
Panel N: DF



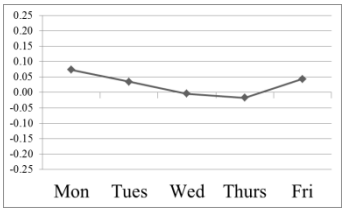
Panel O: SUE



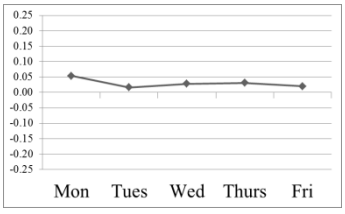
Panel P: BME



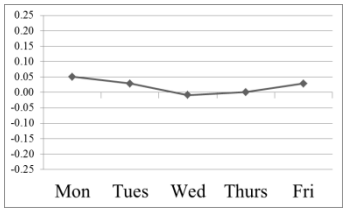
Panel Q: EM



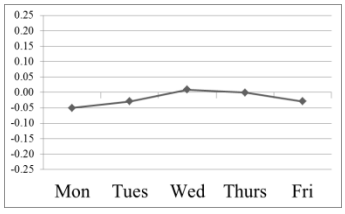
Panel R: GI



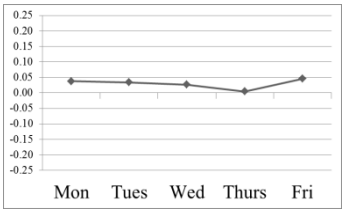
Panel S: GLTNOA



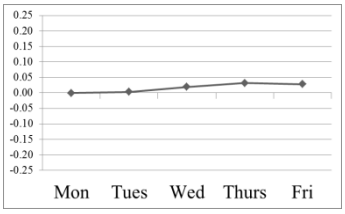
Panel T: HIndex



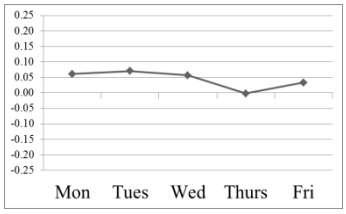
Panel U: IMom



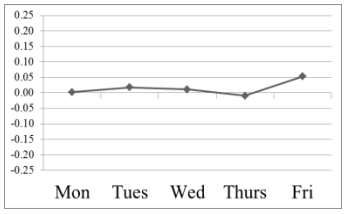
Panel V: Inv



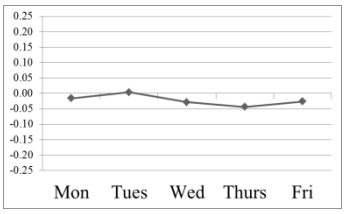
Panel W: LMom



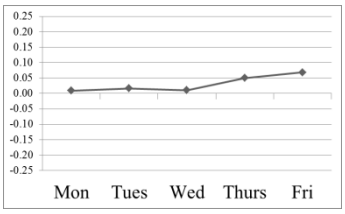
Panel X: Leverage



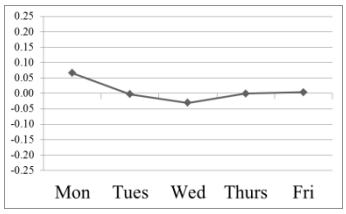
Panel Y: BML



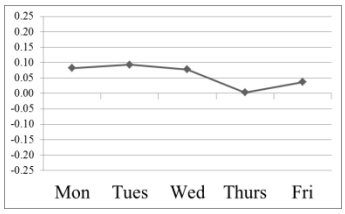
Panel Z: LRev



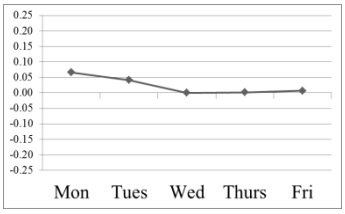
Panel AA: M&A



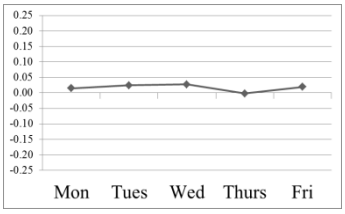
Panel AB: Mom



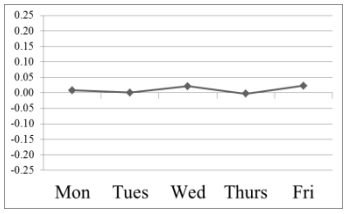
Panel AC: NOA



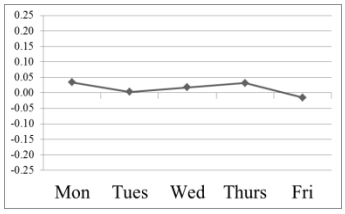
Panel AD: ΔNWC



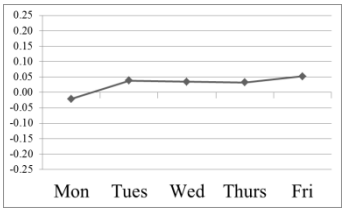
Panel AE: ΔNCOA



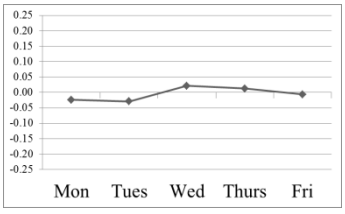
Panel AF: OL



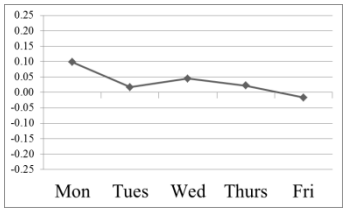
Panel AG: OCA



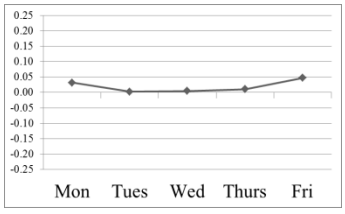
Panel AH: Pension



Panel AI: RDM



Panel AJ: SG



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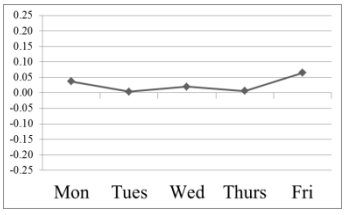
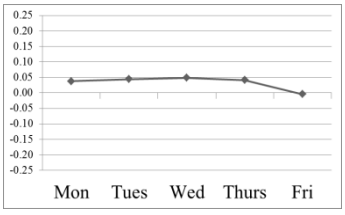


Panel AL: Season



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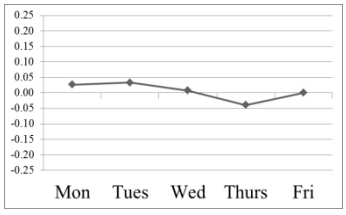

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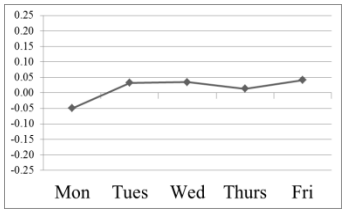

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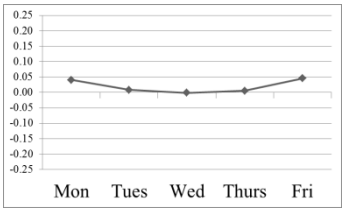

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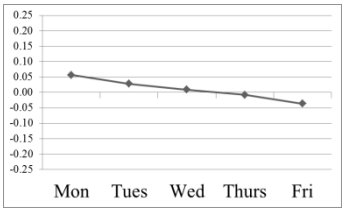

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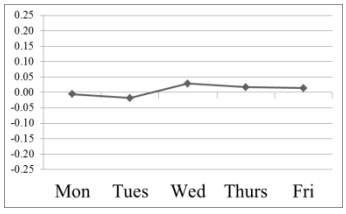

Panel AR: UF

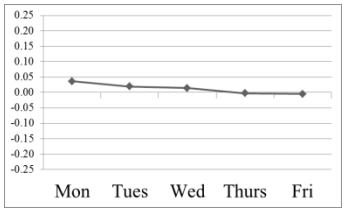

Table 1: Description of Speculative Strategies

This table describes the sample of speculative strategies. It reports the stocks composing the long leg, the stocks composing the short leg, and the predicted long minus short strategy returns on Monday and Friday. It also identifies the leg that is expected to be speculative and briefly explains why it is speculative.

Anomaly	Long Leg	Short Leg	Predicted Friday Return	Predicted Monday Return	Speculative Leg	Explanation
Ivol	Decile 1	Decile 10	Positive	Negative	Short	Volatile
Max	Decile 1	Decile 10	Positive	Negative	Short	Lottery
Price	Decile 10	Decile 1	Positive	Negative	Short	Lottery
Age	Decile 10	Decile 1	Positive	Negative	Short	Young
FP	Decile 1	Decile 10	Positive	Negative	Short	Close to Distress
O-score	Decile 1	Decile 10	Positive	Negative	Short	Close to Distress
ROA	Decile 10	Decile 1	Positive	Negative	Short	Unprofitable
OP	Decile 10	Decile 1	Positive	Negative	Short	Unprofitable
E	Pos Values	Neg Values	Positive	Negative	Short	Unprofitable
CF	Pos Values	Neg Values	Positive	Negative	Short	Unprofitable
D	Div Payers	Non-Payers	Positive	Negative	Short	Non-Div Paying
NXF	Decile 1	Decile 10	Positive	Negative	Short	Extreme Growth
Disp	Decile 1	Decile 10	Positive	Negative	Short	Hard-to-Value
CFV	Decile 1	Decile 10	Positive	Negative	Short	Hard-to-Value
52-Wk	Decile 10	Decile 1	Positive	Negative	Short	Speculative Demand
Beta	Decile 1	Decile 10	Positive	Negative	Short	Speculative Demand
Size	Decile 1	Decile 10	Negative	Positive	Long	Small
Illiq	Decile 10	Decile 1	Negative	Positive	Long	Limits to Arb
Bid-Ask	Decile 10	Decile 1	Negative	Positive	Long	Limits to Arb

Table 2: Monday, Friday, and Tuesday through Thursday Returns

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in January of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Long Minus Short Portfolio Returns

	Monday Long Minus Short				Friday Long Minus Short				Tuesday through Thursday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	0.916	1.013	1.001	1.049	-0.639	-0.587	-0.568	-0.581	0.080	-0.188	-0.234	0.093
Max	0.726	0.838	0.798	0.863	-0.425	-0.350	-0.349	-0.359	0.094	-0.147	-0.151	0.103
Price	0.734	0.781	0.869	0.851	-0.946	-0.931	-0.842	-0.890	0.476	0.537	0.646	0.618
Age	0.542	0.590	0.562	0.574	-0.411	-0.383	-0.389	-0.398	-0.137	0.037	-0.022	-0.194
FP	0.983	1.076	1.105	1.071	-0.609	-0.541	-0.464	-0.555	-0.059	-0.457	-0.754	-0.096
O-score	0.595	0.630	0.660	0.649	-0.676	-0.659	-0.582	-0.595	-0.023	-0.176	-0.328	-0.148
ROA	0.701	0.727	0.760	0.730	-0.449	-0.434	-0.364	-0.390	0.268	0.411	0.518	0.234
OP	0.651	0.688	0.755	0.746	-0.590	-0.581	-0.507	-0.507	0.103	0.268	0.475	0.272
E	0.472	0.530	0.573	0.596	-0.598	-0.558	-0.514	-0.515	-0.101	0.048	0.196	-0.008
CF	0.462	0.524	0.553	0.564	-0.601	-0.559	-0.507	-0.515	-0.049	0.104	0.249	0.059
D	0.520	0.590	0.576	0.600	-0.387	-0.350	-0.360	-0.372	-0.193	-0.043	-0.094	-0.197
NXF	0.581	0.636	0.630	0.641	-0.330	-0.312	-0.277	-0.275	-0.002	-0.164	-0.254	-0.094
Disp	0.709	0.783	0.779	0.827	-0.359	-0.329	-0.272	-0.323	-0.138	0.143	0.323	-0.001
CFV	0.519	0.586	0.555	0.554	-0.285	-0.276	-0.300	-0.323	-0.057	0.111	0.051	-0.070
52-Wk	0.556	0.638	0.627	0.530	-0.378	-0.325	-0.298	-0.439	-0.236	0.081	0.268	-0.535
Beta	0.650	0.650	0.653	0.696	-0.427	-0.427	-0.417	-0.463	-0.531	-0.531	-0.419	-0.740
Size	-0.331	-0.348	-0.359	-0.335	0.882	0.886	0.862	0.885	-0.174	-0.079	-0.041	-0.094
Illiq	-0.223	-0.226	-0.311	-0.272	0.704	0.716	0.626	0.654	0.092	0.021	-0.205	-0.148
Bid-Ask	-0.767	-0.834	-0.904	-0.839	0.971	0.935	0.848	0.934	0.260	0.016	-0.242	0.285

Table 2 (continued)

Panel B: *T*-Statistics

	Monday Long Minus Short				Friday Long Minus Short				Tuesday through Thursday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(7.61)	(9.34)	(9.31)	(8.72)	(-6.08)	(-5.15)	(-5.51)	(-5.31)	(0.41)	(-1.10)	(-1.70)	(0.62)
Max	(6.18)	(8.24)	(7.90)	(7.76)	(-4.14)	(-3.39)	(-3.91)	(-3.90)	(0.55)	(-0.95)	(-1.01)	(0.63)
Price	(7.01)	(7.70)	(9.75)	(9.04)	(-9.60)	(-9.14)	(-9.26)	(-9.82)	(5.13)	(5.54)	(7.35)	(6.15)
Age	(5.57)	(5.96)	(6.67)	(6.41)	(-5.70)	(-5.22)	(-5.92)	(-6.01)	(-1.01)	(0.31)	(-0.25)	(-1.67)
FP	(5.07)	(5.75)	(6.90)	(5.88)	(-4.64)	(-3.83)	(-3.40)	(-3.77)	(-0.25)	(-2.10)	(-4.33)	(-0.47)
O-score	(6.37)	(6.91)	(7.24)	(6.85)	(-7.97)	(-7.56)	(-7.47)	(-7.74)	(-0.15)	(-1.31)	(-3.06)	(-1.39)
ROA	(6.96)	(7.31)	(8.70)	(7.27)	(-5.97)	(-5.59)	(-5.11)	(-5.44)	(1.49)	(2.43)	(3.61)	(1.86)
OP	(8.10)	(9.03)	(9.94)	(9.66)	(-8.65)	(-7.98)	(-7.75)	(-7.01)	(0.58)	(1.64)	(3.55)	(2.05)
E	(5.63)	(6.84)	(7.26)	(7.19)	(-6.76)	(-6.34)	(-6.67)	(-6.68)	(-0.66)	(0.34)	(1.65)	(-0.08)
CF	(6.19)	(7.90)	(8.06)	(7.53)	(-6.62)	(-6.24)	(-6.53)	(-6.47)	(-0.31)	(0.72)	(1.95)	(0.52)
D	(6.70)	(7.74)	(8.55)	(8.08)	(-5.10)	(-4.58)	(-5.81)	(-5.71)	(-1.61)	(-0.40)	(-1.15)	(-1.93)
NXF	(6.55)	(7.02)	(7.33)	(7.47)	(-3.77)	(-3.51)	(-3.59)	(-3.84)	(-0.02)	(-1.29)	(-2.23)	(-0.90)
Disp	(5.14)	(6.08)	(6.72)	(6.51)	(-3.61)	(-3.23)	(-2.76)	(-3.15)	(-0.68)	(0.84)	(2.00)	(-0.01)
CFV	(4.84)	(5.52)	(6.17)	(5.30)	(-2.73)	(-2.66)	(-2.94)	(-3.17)	(-0.34)	(0.63)	(0.34)	(-0.49)
52-Wk	(3.96)	(4.86)	(5.26)	(3.95)	(-3.92)	(-3.18)	(-2.87)	(-3.74)	(-1.03)	(0.41)	(1.60)	(-2.80)
Beta	(4.91)	(4.91)	(5.23)	(4.96)	(-3.55)	(-3.55)	(-3.93)	(-3.88)	(-2.51)	(-2.51)	(-2.42)	(-3.72)
Size	(-4.10)	(-4.22)	(-4.32)	(-3.84)	(10.00)	(9.75)	(9.57)	(9.88)	(-1.03)	(-0.48)	(-0.24)	(-0.53)
Illiq	(-2.94)	(-2.89)	(-4.18)	(-3.48)	(9.09)	(9.11)	(9.87)	(9.91)	(0.63)	(0.14)	(-1.92)	(-1.21)
Bid-Ask	(-6.42)	(-7.53)	(-8.67)	(-7.87)	(10.02)	(9.22)	(9.32)	(9.55)	(1.25)	(0.09)	(-1.84)	(1.51)

Table 3: Friday Minus Monday

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in February of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Long Minus Short Portfolio Returns

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	0.916	1.013	1.001	1.049	-0.639	-0.587	-0.568	-0.581	-1.555	-1.599	-1.569	-1.630
Max	0.726	0.838	0.798	0.863	-0.425	-0.350	-0.349	-0.359	-1.151	-1.188	-1.147	-1.222
Price	0.734	0.781	0.869	0.851	-0.946	-0.931	-0.842	-0.890	-1.680	-1.712	-1.711	-1.740
Age	0.542	0.590	0.562	0.574	-0.411	-0.383	-0.389	-0.398	-0.953	-0.973	-0.951	-0.972
FP	0.983	1.076	1.105	1.071	-0.609	-0.541	-0.464	-0.555	-1.591	-1.617	-1.570	-1.627
O-score	0.595	0.630	0.660	0.649	-0.676	-0.659	-0.582	-0.595	-1.271	-1.289	-1.242	-1.244
ROA	0.701	0.727	0.760	0.730	-0.449	-0.434	-0.364	-0.390	-1.149	-1.161	-1.124	-1.120
OP	0.651	0.688	0.755	0.746	-0.590	-0.581	-0.507	-0.507	-1.240	-1.269	-1.262	-1.253
E	0.472	0.530	0.573	0.596	-0.598	-0.558	-0.514	-0.515	-1.070	-1.088	-1.087	-1.110
CF	0.462	0.524	0.553	0.564	-0.601	-0.559	-0.507	-0.515	-1.063	-1.083	-1.060	-1.079
D	0.520	0.590	0.576	0.600	-0.387	-0.350	-0.360	-0.372	-0.908	-0.940	-0.936	-0.972
NXF	0.581	0.636	0.630	0.641	-0.330	-0.312	-0.277	-0.275	-0.911	-0.948	-0.907	-0.916
Disp	0.709	0.783	0.779	0.827	-0.359	-0.329	-0.272	-0.323	-1.067	-1.112	-1.051	-1.150
CFV	0.519	0.586	0.555	0.554	-0.285	-0.276	-0.300	-0.323	-0.805	-0.862	-0.855	-0.877
52-Wk	0.556	0.638	0.627	0.530	-0.378	-0.325	-0.298	-0.439	-0.934	-0.963	-0.925	-0.969
Beta	0.650	0.650	0.653	0.696	-0.427	-0.427	-0.417	-0.463	-1.077	-1.077	-1.070	-1.159
Size	-0.331	-0.348	-0.359	-0.335	0.882	0.886	0.862	0.885	1.213	1.233	1.222	1.221
Illiq	-0.223	-0.226	-0.311	-0.272	0.704	0.716	0.626	0.654	0.928	0.942	0.937	0.926
Bid-Ask	-0.767	-0.834	-0.904	-0.839	0.971	0.935	0.848	0.934	1.738	1.769	1.752	1.773

Table 3 (continued)

Panel B: *T*-Statistics

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(7.61)	(9.34)	(9.31)	(8.72)	(-6.08)	(-5.15)	(-5.51)	(-5.31)	(-9.71)	(-10.17)	(-10.53)	(-10.02)
Max	(6.18)	(8.24)	(7.90)	(7.76)	(-4.14)	(-3.39)	(-3.91)	(-3.90)	(-7.38)	(-8.19)	(-8.51)	(-8.47)
Price	(7.01)	(7.70)	(9.75)	(9.04)	(-9.60)	(-9.14)	(-9.26)	(-9.82)	(-11.66)	(-11.89)	(-13.43)	(-13.31)
Age	(5.57)	(5.96)	(6.67)	(6.41)	(-5.70)	(-5.22)	(-5.92)	(-6.01)	(-7.87)	(-7.90)	(-8.90)	(-8.72)
FP	(5.07)	(5.75)	(6.90)	(5.88)	(-4.64)	(-3.83)	(-3.40)	(-3.77)	(-6.83)	(-6.91)	(-7.46)	(-6.95)
O-score	(6.37)	(6.91)	(7.24)	(6.85)	(-7.97)	(-7.56)	(-7.47)	(-7.74)	(-10.04)	(-10.20)	(-10.33)	(-10.17)
ROA	(6.96)	(7.31)	(8.70)	(7.27)	(-5.97)	(-5.59)	(-5.11)	(-5.44)	(-9.13)	(-9.20)	(-9.96)	(-9.07)
OP	(8.10)	(9.03)	(9.94)	(9.66)	(-8.65)	(-7.98)	(-7.75)	(-7.01)	(-11.77)	(-12.04)	(-12.59)	(-11.85)
E	(5.63)	(6.84)	(7.26)	(7.19)	(-6.76)	(-6.34)	(-6.67)	(-6.68)	(-8.78)	(-9.28)	(-9.86)	(-9.81)
CF	(6.19)	(7.90)	(8.06)	(7.53)	(-6.62)	(-6.24)	(-6.53)	(-6.47)	(-9.01)	(-9.71)	(-10.22)	(-9.87)
D	(6.70)	(7.74)	(8.55)	(8.08)	(-5.10)	(-4.58)	(-5.81)	(-5.71)	(-8.35)	(-8.71)	(-10.22)	(-9.84)
NXF	(6.55)	(7.02)	(7.33)	(7.47)	(-3.77)	(-3.51)	(-3.59)	(-3.84)	(-7.32)	(-7.47)	(-7.85)	(-8.20)
Disp	(5.14)	(6.08)	(6.72)	(6.51)	(-3.61)	(-3.23)	(-2.76)	(-3.15)	(-6.28)	(-6.77)	(-6.91)	(-7.04)
CFV	(4.84)	(5.52)	(6.17)	(5.30)	(-2.73)	(-2.66)	(-2.94)	(-3.17)	(-5.38)	(-5.81)	(-6.28)	(-6.00)
52-Wk	(3.96)	(4.86)	(5.26)	(3.95)	(-3.92)	(-3.18)	(-2.87)	(-3.74)	(-5.48)	(-5.79)	(-5.85)	(-5.44)
Beta	(4.91)	(4.91)	(5.23)	(4.96)	(-3.55)	(-3.55)	(-3.93)	(-3.88)	(-6.02)	(-6.02)	(-6.53)	(-6.30)
Size	(-4.10)	(-4.22)	(-4.32)	(-3.84)	(10.00)	(9.75)	(9.57)	(9.88)	(10.12)	(10.04)	(9.95)	(9.74)
Illiq	(-2.94)	(-2.89)	(-4.18)	(-3.48)	(9.09)	(9.11)	(9.87)	(9.91)	(8.54)	(8.48)	(9.57)	(9.05)
Bid-Ask	(-6.42)	(-7.53)	(-8.67)	(-7.87)	(10.02)	(9.22)	(9.32)	(9.55)	(11.28)	(11.77)	(12.66)	(12.25)

Table 4: Short Leg: Friday Minus Monday

This table reports monthly portfolio returns to a strategy that invests in the short leg of the specified anomaly on only the specified days. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in February of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Short Leg Portfolio Returns

	Monday Short Leg				Friday Short Leg				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	-0.982	-1.168	-1.155	-1.249	0.785	0.660	0.646	0.651	1.767	1.828	1.801	1.901
Max	-0.817	-1.005	-0.987	-1.086	0.636	0.496	0.483	0.488	1.453	1.502	1.469	1.575
Price	-0.868	-1.034	-1.088	-1.146	1.086	0.973	0.928	0.966	1.954	2.007	2.016	2.113
Age	-0.610	-0.761	-0.734	-0.799	0.543	0.427	0.444	0.454	1.153	1.188	1.177	1.253
FP	-0.876	-1.106	-1.112	-1.167	0.687	0.488	0.452	0.529	1.563	1.595	1.564	1.696
O-score	-0.712	-0.869	-0.856	-0.918	0.742	0.623	0.601	0.631	1.454	1.492	1.457	1.549
ROA	-0.740	-0.897	-0.866	-0.926	0.486	0.359	0.348	0.370	1.227	1.256	1.213	1.295
OP	-0.790	-0.954	-0.968	-1.030	0.639	0.524	0.513	0.533	1.429	1.478	1.481	1.563
E	-0.696	-0.873	-0.905	-0.988	0.787	0.648	0.629	0.640	1.483	1.521	1.534	1.628
CF	-0.691	-0.871	-0.889	-0.961	0.794	0.653	0.626	0.644	1.485	1.524	1.515	1.605
D	-0.714	-0.894	-0.884	-0.964	0.583	0.451	0.474	0.491	1.297	1.346	1.358	1.454
NXF	-0.601	-0.773	-0.730	-0.800	0.379	0.243	0.252	0.271	0.979	1.015	0.982	1.071
Disp	-0.668	-0.846	-0.818	-0.906	0.456	0.314	0.294	0.332	1.123	1.160	1.112	1.238
CFV	-0.513	-0.586	-0.555	-0.554	0.449	0.320	0.354	0.354	0.962	0.998	0.990	1.059
52-Wk	-0.758	-0.951	-0.937	-0.923	0.584	0.443	0.434	0.538	1.341	1.395	1.371	1.461
Beta	-0.740	-0.740	-0.739	-0.784	0.602	0.602	0.608	0.663	1.342	1.342	1.347	1.446
Size	-0.155	-0.271	-0.266	-0.324	0.108	0.008	0.028	0.030	0.263	0.279	0.294	0.354
Illiq	-0.153	-0.273	-0.252	-0.322	0.115	0.015	0.051	0.041	0.267	0.288	0.303	0.363
Bid-Ask	-0.077	-0.187	-0.159	-0.226	0.118	0.029	0.056	0.034	0.195	0.216	0.215	0.260

Table 4 (continued)

Panel B: *T*-Statistics

	Monday Short Leg				Friday Short Leg				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(-7.61)	(-9.34)	(-9.31)	(-8.72)	(6.08)	(5.15)	(5.51)	(5.31)	(9.72)	(9.99)	(10.17)	(9.31)
Max	(-5.05)	(-7.62)	(-7.15)	(-7.22)	(5.49)	(4.38)	(4.50)	(4.16)	(8.08)	(8.14)	(8.22)	(7.89)
Price	(-6.02)	(-8.74)	(-9.90)	(-9.47)	(10.62)	(9.47)	(9.36)	(9.30)	(12.20)	(12.59)	(12.79)	(11.83)
Age	(-4.91)	(-7.73)	(-7.06)	(-7.02)	(6.69)	(5.29)	(5.51)	(4.99)	(8.62)	(8.67)	(8.71)	(8.15)
FP	(-3.48)	(-5.20)	(-5.83)	(-5.39)	(4.21)	(2.92)	(2.70)	(2.90)	(5.74)	(5.40)	(5.70)	(5.46)
O-score	(-5.17)	(-7.74)	(-7.16)	(-7.15)	(8.18)	(7.01)	(6.55)	(6.15)	(9.54)	(9.56)	(9.36)	(8.86)
ROA	(-4.79)	(-6.80)	(-6.44)	(-6.01)	(4.67)	(3.55)	(3.40)	(3.25)	(6.98)	(6.71)	(6.64)	(6.18)
OP	(-5.75)	(-9.03)	(-8.56)	(-8.27)	(7.28)	(5.81)	(5.62)	(5.01)	(9.30)	(9.40)	(9.70)	(8.84)
E	(-4.38)	(-6.60)	(-6.22)	(-6.41)	(6.27)	(5.29)	(5.27)	(5.04)	(7.90)	(7.90)	(7.90)	(7.68)
CF	(-4.55)	(-7.10)	(-6.48)	(-6.53)	(6.25)	(5.34)	(5.28)	(5.07)	(8.38)	(8.37)	(8.27)	(7.99)
D	(-5.08)	(-7.73)	(-7.09)	(-7.17)	(5.23)	(4.20)	(4.71)	(4.43)	(8.18)	(8.22)	(8.30)	(7.95)
NXF	(-4.18)	(-5.96)	(-5.22)	(-5.33)	(3.63)	(2.38)	(2.37)	(2.29)	(5.68)	(5.60)	(5.31)	(5.14)
Disp	(-3.40)	(-4.82)	(-4.87)	(-4.90)	(3.86)	(2.52)	(2.30)	(2.35)	(4.96)	(4.83)	(4.93)	(4.82)
CFV	(-3.64)	(-5.52)	(-6.17)	(-5.30)	(3.84)	(2.72)	(3.02)	(2.88)	(5.62)	(5.33)	(5.21)	(5.05)
52-Wk	(-4.50)	(-7.23)	(-7.21)	(-6.66)	(5.06)	(3.80)	(3.68)	(3.94)	(7.27)	(7.38)	(7.98)	(7.48)
Beta	(-4.07)	(-4.07)	(-4.26)	(-4.14)	(4.40)	(4.40)	(5.00)	(4.73)	(6.37)	(6.37)	(6.48)	(6.28)
Size	(-1.44)	(-2.83)	(-2.71)	(-2.94)	(1.35)	(0.11)	(0.36)	(0.37)	(2.12)	(2.13)	(2.24)	(2.42)
Illiq	(-1.41)	(-2.80)	(-2.43)	(-2.83)	(1.52)	(0.21)	(0.70)	(0.53)	(2.18)	(2.23)	(2.31)	(2.50)
Bid-Ask	(-0.76)	(-1.94)	(-1.59)	(-2.11)	(1.90)	(0.50)	(0.92)	(0.52)	(1.79)	(1.88)	(1.81)	(2.02)

Table 5: Long Leg: Friday Minus Monday

This table reports monthly portfolio returns to a strategy that invests in the long leg of the specified anomaly on only the specified days. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in February of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Long Leg Portfolio Returns

	Monday Long Leg				Friday Long Leg				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	-0.065	-0.156	-0.154	-0.200	0.147	0.073	0.078	0.070	0.212	0.229	0.232	0.271
Max	-0.091	-0.167	-0.188	-0.223	0.211	0.146	0.134	0.129	0.302	0.313	0.322	0.353
Price	-0.134	-0.253	-0.219	-0.296	0.141	0.042	0.087	0.077	0.274	0.295	0.305	0.372
Age	-0.068	-0.171	-0.172	-0.225	0.132	0.044	0.054	0.057	0.200	0.215	0.226	0.282
FP	0.106	-0.031	-0.007	-0.095	0.078	-0.053	-0.013	-0.026	-0.028	-0.022	-0.005	0.069
O-score	-0.117	-0.239	-0.197	-0.268	0.067	-0.036	0.019	0.036	0.184	0.203	0.215	0.304
ROA	-0.039	-0.170	-0.106	-0.196	0.038	-0.074	-0.016	-0.020	0.077	0.095	0.090	0.175
OP	-0.139	-0.266	-0.213	-0.284	0.050	-0.057	0.006	0.026	0.189	0.209	0.219	0.310
E	-0.225	-0.343	-0.332	-0.393	0.189	0.090	0.115	0.125	0.414	0.433	0.447	0.518
CF	-0.229	-0.347	-0.337	-0.397	0.193	0.094	0.119	0.129	0.422	0.441	0.455	0.526
D	-0.194	-0.304	-0.308	-0.364	0.196	0.102	0.114	0.119	0.389	0.406	0.422	0.483
NXF	-0.020	-0.137	-0.100	-0.159	0.048	-0.070	-0.025	-0.004	0.068	0.067	0.075	0.155
Disp	0.041	-0.063	-0.039	-0.079	0.097	-0.015	0.022	0.009	0.056	0.048	0.061	0.088
CFV	0.010	-0.089	-0.078	-0.146	0.147	0.025	0.039	0.020	0.136	0.114	0.117	0.166
52-Wk	-0.201	-0.313	-0.310	-0.393	0.206	0.119	0.136	0.098	0.408	0.432	0.446	0.492
Beta	-0.090	-0.090	-0.086	-0.088	0.175	0.175	0.191	0.200	0.265	0.265	0.276	0.288
Size	-0.486	-0.619	-0.624	-0.659	0.990	0.894	0.890	0.915	1.476	1.513	1.514	1.574
Illiq	-0.376	-0.500	-0.564	-0.594	0.819	0.731	0.676	0.695	1.195	1.231	1.240	1.289
Bid-Ask	-0.844	-1.021	-1.063	-1.065	1.089	0.963	0.904	0.968	1.933	1.985	1.966	2.033

Table 5 (continued)

Panel B: *T*-Statistics

	Monday Long Leg				Friday Long Leg				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(-0.67)	(-1.75)	(-1.70)	(-2.11)	(2.52)	(1.38)	(1.40)	(1.19)	(2.06)	(2.15)	(2.11)	(2.29)
Max	(-1.06)	(-2.05)	(-2.25)	(-2.55)	(4.06)	(2.90)	(2.49)	(2.26)	(3.18)	(3.10)	(3.07)	(3.11)
Price	(-1.28)	(-2.77)	(-2.21)	(-2.74)	(1.89)	(0.60)	(1.21)	(0.98)	(2.34)	(2.37)	(2.41)	(2.63)
Age	(-0.64)	(-1.63)	(-1.58)	(-1.90)	(1.89)	(0.69)	(0.80)	(0.79)	(1.61)	(1.62)	(1.68)	(1.91)
FP	(0.97)	(-0.25)	(-0.05)	(-0.63)	(0.90)	(-0.65)	(-0.15)	(-0.31)	(-0.21)	(-0.14)	(-0.03)	(0.38)
O-score	(-1.09)	(-2.53)	(-1.91)	(-2.40)	(0.75)	(-0.44)	(0.24)	(0.43)	(1.44)	(1.50)	(1.58)	(2.04)
ROA	(-0.31)	(-1.41)	(-0.81)	(-1.38)	(0.39)	(-0.86)	(-0.18)	(-0.22)	(0.55)	(0.63)	(0.57)	(1.03)
OP	(-1.28)	(-2.68)	(-1.96)	(-2.42)	(0.53)	(-0.65)	(0.07)	(0.30)	(1.46)	(1.52)	(1.57)	(2.05)
E	(-2.20)	(-3.70)	(-3.33)	(-3.63)	(2.61)	(1.35)	(1.68)	(1.67)	(3.53)	(3.45)	(3.56)	(3.67)
CF	(-2.23)	(-3.76)	(-3.38)	(-3.67)	(2.67)	(1.41)	(1.73)	(1.71)	(3.59)	(3.52)	(3.62)	(3.72)
D	(-1.82)	(-3.06)	(-3.10)	(-3.32)	(2.79)	(1.57)	(1.62)	(1.56)	(3.17)	(3.11)	(3.29)	(3.31)
NXF	(-0.17)	(-1.22)	(-0.82)	(-1.24)	(0.45)	(-0.72)	(-0.27)	(-0.05)	(0.47)	(0.43)	(0.48)	(0.93)
Disp	(0.39)	(-0.53)	(-0.31)	(-0.57)	(1.12)	(-0.20)	(0.28)	(0.10)	(0.41)	(0.31)	(0.39)	(0.51)
CFV	(0.09)	(-0.69)	(-0.56)	(-0.97)	(1.55)	(0.29)	(0.44)	(0.22)	(0.88)	(0.66)	(0.65)	(0.84)
52-Wk	(-1.86)	(-2.77)	(-2.65)	(-3.00)	(2.93)	(1.83)	(1.99)	(1.41)	(3.47)	(3.36)	(3.43)	(3.45)
Beta	(-1.01)	(-1.01)	(-0.97)	(-0.94)	(2.68)	(2.68)	(2.88)	(2.98)	(2.49)	(2.49)	(2.64)	(2.62)
Size	(-4.40)	(-6.94)	(-6.89)	(-7.23)	(13.53)	(12.09)	(11.68)	(11.61)	(13.91)	(14.20)	(14.26)	(13.28)
Illiq	(-3.80)	(-6.59)	(-8.04)	(-8.07)	(11.87)	(10.44)	(10.48)	(10.14)	(11.83)	(12.07)	(12.43)	(11.47)
Bid-Ask	(-5.61)	(-8.91)	(-9.01)	(-8.68)	(10.29)	(8.96)	(8.75)	(8.51)	(12.14)	(12.54)	(12.69)	(11.76)

Table 6: Friday Minus Monday: Daily Factor Components

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. Alphas are calculated using factors that are decomposed into daily components. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in February of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Portfolio Returns

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	0.916	0.753	0.389	0.341	-0.639	-0.518	-0.180	-0.211	-1.555	-1.271	-0.569	-0.553
Max	0.726	0.523	0.217	0.171	-0.425	-0.265	-0.025	-0.053	-1.151	-0.788	-0.242	-0.224
Price	0.734	0.734	0.416	0.388	-0.946	-0.966	-0.476	-0.490	-1.680	-1.700	-0.892	-0.878
Age	0.542	0.518	0.228	0.209	-0.411	-0.371	-0.121	-0.134	-0.953	-0.889	-0.349	-0.343
FP	0.983	0.916	0.726	0.462	-0.609	-0.513	-0.110	-0.221	-1.591	-1.430	-0.836	-0.683
O-score	0.595	0.585	0.350	0.323	-0.676	-0.668	-0.328	-0.342	-1.271	-1.252	-0.678	-0.665
ROA	0.701	0.679	0.415	0.355	-0.449	-0.424	-0.118	-0.153	-1.149	-1.104	-0.533	-0.509
OP	0.651	0.629	0.452	0.421	-0.590	-0.580	-0.255	-0.271	-1.240	-1.209	-0.707	-0.692
E	0.472	0.389	0.189	0.176	-0.598	-0.531	-0.255	-0.259	-1.070	-0.920	-0.444	-0.435
CF	0.462	0.386	0.180	0.169	-0.601	-0.535	-0.242	-0.247	-1.063	-0.921	-0.422	-0.416
D	0.520	0.448	0.164	0.171	-0.387	-0.320	-0.142	-0.148	-0.908	-0.769	-0.306	-0.318
NXF	0.581	0.544	0.361	0.339	-0.330	-0.296	-0.065	-0.071	-0.911	-0.839	-0.426	-0.410
Disp	0.709	0.643	0.404	0.324	-0.359	-0.301	0.041	0.008	-1.067	-0.944	-0.363	-0.316
CFV	0.519	0.498	0.215	0.191	-0.285	-0.257	-0.055	-0.064	-0.805	-0.755	-0.269	-0.255
52-Wk	0.556	0.416	0.267	0.040	-0.378	-0.253	0.034	-0.110	-0.934	-0.669	-0.233	-0.150
Beta	0.650	0.650	0.268	0.238	-0.427	-0.427	-0.288	-0.324	-1.077	-1.077	-0.556	-0.563
Size	-0.331	-0.414	-0.429	-0.434	0.882	0.969	0.931	0.928	1.213	1.383	1.360	1.362
Illiq	-0.223	-0.315	-0.061	-0.040	0.704	0.789	0.380	0.389	0.928	1.104	0.441	0.428
Bid-Ask	-0.767	-0.712	-0.414	-0.301	0.971	0.924	0.449	0.513	1.738	1.636	0.863	0.814

Table 6 (continued)

Panel B: *T*-Statistics

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(7.61)	(6.75)	(4.71)	(4.21)	(-6.08)	(-5.12)	(-2.22)	(-2.54)	(9.71)	(-8.43)	(-4.92)	(-4.77)
Max	(6.18)	(5.23)	(2.31)	(1.85)	(-4.14)	(-2.76)	(-0.32)	(-0.69)	(-7.38)	(-5.69)	(-1.98)	(-1.87)
Price	(7.01)	(6.53)	(7.03)	(6.62)	(-9.60)	(-9.08)	(-7.74)	(-7.76)	(-11.66)	(-10.97)	(-10.44)	(-10.18)
Age	(5.57)	(5.43)	(4.36)	(4.49)	(-5.70)	(-5.39)	(-2.27)	(-2.48)	(-7.87)	(-7.55)	(-4.68)	(-4.81)
FP	(5.07)	(6.13)	(4.79)	(4.93)	(-4.64)	(-4.18)	(-1.03)	(-2.52)	(-6.83)	(-7.43)	(-4.52)	(-5.31)
O-score	(6.37)	(6.00)	(5.25)	(4.53)	(-7.97)	(-7.89)	(-5.98)	(-6.22)	(-10.04)	(-9.67)	(-7.85)	(-7.38)
ROA	(6.96)	(6.84)	(5.32)	(4.49)	(-5.97)	(-5.69)	(-1.93)	(-2.36)	(-9.13)	(-8.87)	(-5.40)	(-5.00)
OP	(8.10)	(7.73)	(7.20)	(6.94)	(-8.65)	(-8.50)	(-4.67)	(-5.01)	(-11.77)	(-11.38)	(-8.50)	(-8.53)
E	(5.63)	(5.31)	(2.85)	(2.65)	(-6.76)	(-6.68)	(-4.18)	(-4.42)	(-8.78)	(-8.52)	(-4.92)	(-4.91)
CF	(6.19)	(5.80)	(3.09)	(2.93)	(-6.62)	(-6.57)	(-3.91)	(-4.08)	(-9.01)	(-8.75)	(-4.96)	(-4.98)
D	(6.70)	(6.28)	(4.51)	(4.39)	(-5.10)	(-4.48)	(-2.76)	(-3.01)	(-8.35)	(-7.60)	(-4.86)	(-5.09)
NXF	(6.55)	(6.35)	(5.23)	(4.77)	(-3.77)	(-3.42)	(-0.94)	(-1.06)	(-7.32)	(-6.90)	(-4.37)	(-4.20)
Disp	(5.14)	(5.99)	(3.47)	(3.24)	(-3.61)	(-3.26)	(0.60)	(0.11)	(-6.28)	(-6.67)	(-2.69)	(-2.56)
CFV	(4.84)	(4.80)	(2.78)	(2.41)	(-2.73)	(-2.59)	(-0.66)	(-0.79)	(-5.38)	(-5.26)	(-2.34)	(-2.21)
52-Wk	(3.96)	(3.40)	(2.07)	(0.48)	(-3.92)	(-2.86)	(0.39)	(-1.38)	(-5.48)	(-4.43)	(-1.49)	(-1.30)
Beta	(4.91)	(4.91)	(1.69)	(1.65)	(-3.55)	(-3.55)	(-2.64)	(-2.79)	(-6.02)	(-6.02)	(-2.88)	(-3.04)
Size	(-4.10)	(-4.77)	(-5.07)	(-5.27)	(10.00)	(11.12)	(10.91)	(11.50)	(10.12)	(11.23)	(11.30)	(11.78)
Illiq	(-2.94)	(-4.01)	(-1.83)	(-1.31)	(9.09)	(10.76)	(9.95)	(10.42)	(8.54)	(10.25)	(8.71)	(8.91)
Bid-Ask	(-6.42)	(-5.90)	(-5.56)	(-4.68)	(10.02)	(9.08)	(6.26)	(7.17)	(11.28)	(10.35)	(8.35)	(8.48)

Table 7: Subsample Analysis (Four-Factor Alpha)

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. Portfolio returns are displayed separately for July of 1963 to December of 1974, January of 1975 to December of 1994, and January of 1995 to December of 2013. Because data for NXF and ROA begins in July of 1972, the 1963-1974 time period is excluded for these two anomalies. For Disp the sample starts in February of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Portfolio Four-Factor Alpha

	1963-1974			1975-1994			1995-2013		
Anomaly	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon
Ivol	0.912	-0.439	-1.350	1.407	-0.708	-2.115	0.832	-0.453	-1.285
Max	0.905	-0.340	-1.245	1.117	-0.484	-1.601	0.629	-0.144	-0.773
Price	0.464	-0.903	-1.368	1.326	-1.174	-2.501	0.693	-0.560	-1.252
Age	0.170	-0.161	-0.331	0.772	-0.483	-1.255	0.683	-0.442	-1.125
FP	-	-	-	0.964	-0.746	-1.710	1.229	-0.342	-1.571
O-score	0.106	-0.229	-0.335	1.193	-0.867	-2.061	0.538	-0.548	-1.085
ROA	-	-	-	0.852	-0.370	-1.222	0.792	-0.359	-1.151
OP	0.531	-0.440	-0.971	1.043	-0.623	-1.666	0.678	-0.425	-1.103
E	0.735	-0.769	-1.504	0.716	-0.538	-1.254	0.495	-0.306	-0.801
CF	0.667	-0.751	-1.417	0.707	-0.581	-1.288	0.473	-0.270	-0.744
D	0.709	-0.409	-1.117	0.702	-0.520	-1.222	0.468	-0.180	-0.648
NXF	-	-	-	0.709	-0.221	-0.930	0.651	-0.322	-0.974
Disp	-	-	-	0.853	-0.280	-1.133	0.853	-0.379	-1.232
CFV	-	-	-	0.674	-0.359	-1.033	0.492	-0.292	-0.785
52-Wk	0.063	-0.481	-0.544	0.374	-0.735	-1.109	0.946	-0.133	-1.078
Beta	1.096	-0.542	-1.638	0.763	-0.511	-1.274	0.404	-0.315	-0.719
Size	-0.119	0.701	0.820	-0.676	0.932	1.608	-0.363	0.797	1.160
Illiq	0.205	0.608	0.403	-0.537	0.743	1.280	-0.340	0.600	0.940
Bid-Ask	-0.397	0.947	1.345	-1.202	1.218	2.420	-0.842	0.567	1.409

Table 7 (continued)

Panel B: *T*-Statistics

	1963-1974			1975-1994			1995-2013		
Anomaly	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon
Ivol	(7.17)	(-3.98)	(-8.09)	(9.35)	(-7.99)	(-12.34)	(4.05)	(-1.81)	(-3.96)
Max	(5.60)	(-3.10)	(-6.37)	(8.35)	(-6.05)	(-10.44)	(3.19)	(-0.67)	(-2.65)
Price	(4.64)	(-8.64)	(-9.56)	(11.20)	(-9.27)	(-14.43)	(4.36)	(-3.38)	(-5.47)
Age	(2.88)	(-1.81)	(-3.07)	(8.78)	(-4.90)	(-9.40)	(3.63)	(-3.29)	(-4.87)
FP	-	-	-	(8.44)	(-6.10)	(-10.22)	(3.98)	(-1.31)	(-3.88)
O-score	(0.86)	(-1.59)	(-1.82)	(11.60)	(-7.49)	(-13.30)	(4.17)	(-4.59)	(-6.19)
ROA	-	-	-	(11.37)	(-4.03)	(-10.30)	(5.44)	(-3.80)	(-6.62)
OP	(5.99)	(-3.09)	(-5.83)	(11.87)	(-6.23)	(-12.54)	(5.08)	(-3.38)	(-6.02)
E	(4.22)	(-5.58)	(-6.82)	(5.48)	(-4.21)	(-6.97)	(4.45)	(-3.04)	(-5.34)
CF	(5.02)	(-4.89)	(-7.02)	(6.42)	(-4.45)	(-7.69)	(4.12)	(-2.60)	(-4.80)
D	(6.93)	(-4.52)	(-8.18)	(8.43)	(-5.61)	(-9.95)	(3.06)	(-1.60)	(-3.41)
NXF	-	-	-	(8.39)	(-2.07)	(-6.88)	(3.99)	(-2.93)	(-4.94)
Disp	-	-	-	(7.41)	(-2.91)	(-7.56)	(4.07)	(-2.13)	(-4.48)
CFV	-	-	-	(6.39)	(-2.44)	(-5.84)	(3.28)	(-1.79)	(-3.54)
52-Wk	(0.33)	(-3.99)	(-2.39)	(2.74)	(-7.86)	(-6.68)	(3.74)	(-0.51)	(-2.98)
Beta	(1.10)	(-3.82)	(-7.86)	(4.27)	(-4.06)	(-5.88)	(1.51)	(-1.29)	(-1.99)
Size	(-1.34)	(7.02)	(6.15)	(-4.91)	(7.92)	(8.89)	(-3.19)	(5.45)	(6.28)
Illiq	(2.12)	(5.29)	(2.67)	(-3.54)	(6.20)	(6.64)	(-3.97)	(5.83)	(7.04)
Bid-Ask	(-3.42)	(8.50)	(8.54)	(-10.95)	(9.06)	(13.94)	(-4.26)	(3.29)	(5.38)

Table 8: Excluding Macro Announcements

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. Returns are excluded for macroeconomic announcements dates. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in January of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Portfolio Returns

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	0.889	0.982	0.972	1.024	-0.415	-0.387	-0.378	-0.396	-1.304	-1.370	-1.350	-1.420
Max	0.706	0.816	0.777	0.849	-0.274	-0.237	-0.232	-0.251	-0.979	-1.053	-1.009	-1.100
Price	0.712	0.758	0.846	0.831	-0.703	-0.697	-0.645	-0.668	-1.415	-1.455	-1.492	-1.498
Age	0.538	0.585	0.557	0.570	-0.306	-0.293	-0.308	-0.318	-0.844	-0.878	-0.865	-0.888
FP	0.977	1.070	1.100	1.069	-0.461	-0.430	-0.362	-0.413	-1.438	-1.500	-1.462	-1.483
O-score	0.590	0.625	0.654	0.645	-0.492	-0.490	-0.447	-0.456	-1.083	-1.115	-1.101	-1.101
ROA	0.696	0.722	0.755	0.729	-0.360	-0.354	-0.308	-0.334	-1.056	-1.076	-1.063	-1.064
OP	0.635	0.673	0.739	0.732	-0.467	-0.467	-0.426	-0.419	-1.102	-1.139	-1.165	-1.150
E	0.454	0.510	0.552	0.577	-0.453	-0.434	-0.406	-0.408	-0.906	-0.943	-0.958	-0.985
CF	0.445	0.505	0.536	0.550	-0.474	-0.453	-0.419	-0.430	-0.919	-0.958	-0.955	-0.980
D	0.508	0.576	0.562	0.588	-0.270	-0.249	-0.260	-0.270	-0.777	-0.825	-0.822	-0.857
NXF	0.576	0.631	0.626	0.637	-0.275	-0.269	-0.253	-0.245	-0.851	-0.900	-0.878	-0.882
Disp	0.694	0.767	0.764	0.816	-0.302	-0.304	-0.276	-0.297	-0.996	-1.071	-1.040	-1.113
CFV	0.509	0.575	0.544	0.544	-0.226	-0.237	-0.258	-0.306	-0.735	-0.811	-0.802	-0.850
52-Wk	0.541	0.623	0.611	0.518	-0.230	-0.199	-0.165	-0.252	-0.772	-0.822	-0.776	-0.770
Beta	0.631	0.631	0.635	0.684	-0.276	-0.276	-0.275	-0.313	-0.908	-0.908	-0.911	-0.997
Size	-0.327	-0.343	-0.354	-0.329	0.651	0.651	0.649	0.657	0.978	0.995	1.004	0.986
Illiq	-0.222	-0.226	-0.311	-0.270	0.544	0.550	0.512	0.524	0.767	0.776	0.823	0.794
Bid-Ask	-0.748	-0.814	-0.883	-0.821	0.720	0.699	0.639	0.689	1.468	1.514	1.522	1.510

Table 8 (continued)

Panel B: *T*-Statistics

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(7.48)	(9.00)	(8.96)	(8.52)	(-5.65)	(-4.91)	(-5.02)	(-5.07)	(-9.32)	(-10.17)	(-10.21)	(-9.90)
Max	(6.00)	(7.93)	(7.69)	(7.61)	(-3.84)	(-3.18)	(-3.26)	(-3.30)	(-7.12)	(-8.29)	(-8.16)	(-8.14)
Price	(6.64)	(7.28)	(9.20)	(8.58)	(-9.54)	(-9.21)	(-9.08)	(-9.16)	(-10.85)	(-11.29)	(-12.83)	(-12.36)
Age	(5.54)	(5.92)	(6.62)	(6.38)	(-6.37)	(-5.70)	(-6.48)	(-6.35)	(-7.79)	(-7.88)	(-8.95)	(-8.67)
FP	(5.01)	(5.69)	(6.82)	(5.84)	(-5.41)	(-4.62)	(-3.65)	(-3.87)	(-6.79)	(-7.16)	(-7.72)	(-6.99)
O-score	(6.32)	(6.86)	(7.17)	(6.79)	(-7.33)	(-6.90)	(-6.81)	(-6.89)	(-9.39)	(-9.63)	(-9.78)	(-9.49)
ROA	(6.80)	(7.14)	(8.48)	(7.20)	(-5.98)	(-5.71)	(-5.13)	(-5.47)	(-8.89)	(-9.07)	(-9.90)	(-8.98)
OP	(7.81)	(8.73)	(9.65)	(9.39)	(-8.29)	(-7.64)	(-7.29)	(-6.83)	(-11.14)	(-11.59)	(-12.09)	(-11.61)
E	(5.41)	(6.56)	(7.10)	(7.06)	(-5.89)	(-5.63)	(-5.80)	(-5.96)	(-7.97)	(-8.63)	(-9.16)	(-9.24)
CF	(5.80)	(7.40)	(7.77)	(7.36)	(-5.85)	(-5.59)	(-5.71)	(-5.82)	(-8.25)	(-9.05)	(-9.50)	(-9.34)
D	(6.59)	(7.58)	(8.47)	(8.01)	(-5.08)	(-4.64)	(-5.55)	(-5.51)	(-8.30)	(-8.87)	(-10.12)	(-9.72)
NXF	(6.49)	(6.94)	(7.26)	(7.45)	(-4.06)	(-3.83)	(-4.12)	(-4.21)	(-7.63)	(-7.84)	(-8.31)	(-8.53)
Disp	(4.99)	(5.86)	(6.50)	(6.34)	(-3.72)	(-3.43)	(-3.21)	(-3.43)	(-6.19)	(-6.78)	(-7.15)	(-7.17)
CFV	(4.68)	(5.32)	(5.94)	(5.14)	(-3.30)	(-3.36)	(-3.63)	(-3.98)	(-5.73)	(-6.29)	(-6.91)	(-6.49)
52-Wk	(3.82)	(4.69)	(5.06)	(3.84)	(-3.88)	(-3.05)	(-2.38)	(-3.30)	(-5.02)	(-5.55)	(-5.58)	(-4.97)
Beta	(4.77)	(4.77)	(5.11)	(4.89)	(-3.33)	(-3.33)	(-3.65)	(-3.85)	(-5.82)	(-5.82)	(-6.26)	(-6.16)
Size	(-4.02)	(-4.15)	(-4.26)	(-3.77)	(11.31)	(10.98)	(11.01)	(11.78)	(9.80)	(9.76)	(9.83)	(9.51)
Illiq	(-2.91)	(-2.87)	(-4.15)	(-3.42)	(10.07)	(9.85)	(10.67)	(10.60)	(8.18)	(8.03)	(9.24)	(8.53)
Bid-Ask	(-6.16)	(-7.20)	(-8.32)	(-7.55)	(9.88)	(9.27)	(9.15)	(9.15)	(10.35)	(11.13)	(11.97)	(11.41)

Table 9: Excluding Earnings Announcements

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. Returns are excluded for the five day window (t-2, t+2) around an earnings announcements dates. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in January of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Portfolio Returns

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	0.809	0.910	0.887	0.912	-0.585	-0.534	-0.523	-0.540	-1.393	-1.444	-1.409	-1.451
Max	0.563	0.672	0.634	0.650	-0.362	-0.288	-0.288	-0.287	-0.926	-0.960	-0.923	-0.937
Price	0.762	0.834	0.901	0.883	-0.962	-0.936	-0.858	-0.895	-1.724	-1.770	-1.759	-1.779
Age	0.548	0.599	0.557	0.565	-0.351	-0.320	-0.330	-0.333	-0.899	-0.919	-0.887	-0.898
FP	0.795	0.907	0.959	0.890	-0.612	-0.557	-0.510	-0.578	-1.406	-1.464	-1.469	-1.468
O-score	0.618	0.664	0.688	0.694	-0.732	-0.710	-0.644	-0.658	-1.349	-1.374	-1.332	-1.352
ROA	0.605	0.633	0.666	0.639	-0.380	-0.366	-0.309	-0.319	-0.986	-0.999	-0.975	-0.958
OP	0.614	0.662	0.713	0.716	-0.569	-0.562	-0.495	-0.498	-1.182	-1.224	-1.209	-1.214
E	0.357	0.413	0.440	0.462	-0.491	-0.449	-0.393	-0.398	-0.848	-0.862	-0.833	-0.860
CF	0.357	0.419	0.441	0.455	-0.512	-0.468	-0.415	-0.428	-0.869	-0.887	-0.856	-0.883
D	0.436	0.517	0.487	0.507	-0.315	-0.269	-0.274	-0.279	-0.751	-0.786	-0.761	-0.786
NXF	0.461	0.517	0.510	0.520	-0.314	-0.295	-0.267	-0.264	-0.775	-0.812	-0.777	-0.784
Disp	0.583	0.671	0.678	0.714	-0.348	-0.321	-0.282	-0.326	-0.931	-0.992	-0.961	-1.041
CFV	0.402	0.476	0.450	0.461	-0.273	-0.264	-0.276	-0.291	-0.675	-0.740	-0.726	-0.751
52-Wk	0.515	0.607	0.608	0.509	-0.445	-0.393	-0.373	-0.490	-0.960	-1.000	-0.981	-0.998
Beta	0.625	0.625	0.630	0.672	-0.412	-0.412	-0.395	-0.436	-1.037	-1.037	-1.025	-1.108
Size	-0.388	-0.420	-0.430	-0.416	0.847	0.844	0.818	0.838	1.235	1.264	1.248	1.254
Illiq	-0.342	-0.361	-0.424	-0.404	0.662	0.667	0.595	0.614	1.004	1.028	1.020	1.018
Bid-Ask	-0.723	-0.803	-0.861	-0.813	0.974	0.930	0.851	0.919	1.697	1.732	1.712	1.731

Table 9 (continued)

Panel B: *T*-Statistics

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(6.52)	(8.28)	(8.26)	(7.53)	(-5.39)	(-4.57)	(-4.87)	(-4.58)	(-8.47)	(-9.00)	(-9.29)	(-8.59)
Max	(4.90)	(6.70)	(6.53)	(6.05)	(-3.57)	(-2.85)	(-3.16)	(-3.08)	(-6.04)	(-6.74)	(-6.93)	(-6.59)
Price	(7.49)	(8.72)	(10.69)	(9.89)	(-9.05)	(-8.49)	(-8.92)	(-9.15)	(-11.70)	(-12.11)	(-13.72)	(-13.40)
Age	(5.93)	(6.49)	(7.16)	(6.64)	(-5.06)	(-4.46)	(-5.24)	(-5.22)	(-7.77)	(-7.86)	(-8.84)	(-8.43)
FP	(4.52)	(5.35)	(6.59)	(5.65)	(-5.00)	(-4.14)	(-3.88)	(-4.06)	(-6.59)	(-6.77)	(-7.50)	(-6.91)
O-score	(7.56)	(8.80)	(9.20)	(9.17)	(-9.41)	(-8.76)	(-9.51)	(-9.85)	(-11.95)	(-12.40)	(-13.18)	(-13.37)
ROA	(6.99)	(7.38)	(8.90)	(7.40)	(-5.66)	(-5.30)	(-4.96)	(-4.91)	(-8.99)	(-9.08)	(-10.01)	(-8.87)
OP	(7.98)	(9.36)	(9.82)	(9.99)	(-9.02)	(-8.46)	(-7.87)	(-6.76)	(-11.90)	(-12.63)	(-12.58)	(-11.82)
E	(4.71)	(6.02)	(6.37)	(6.48)	(-5.73)	(-5.52)	(-5.51)	(-5.39)	(-7.41)	(-8.10)	(-8.39)	(-8.38)
CF	(4.77)	(6.46)	(6.42)	(6.21)	(-5.88)	(-5.68)	(-5.68)	(-5.53)	(-7.57)	(-8.46)	(-8.53)	(-8.28)
D	(5.39)	(6.69)	(7.09)	(6.64)	(-4.15)	(-3.58)	(-4.41)	(-4.18)	(-6.78)	(-7.30)	(-8.22)	(-7.75)
NXF	(5.95)	(6.65)	(6.63)	(6.75)	(-4.26)	(-3.97)	(-4.24)	(-4.41)	(-7.26)	(-7.55)	(-7.82)	(-8.04)
Disp	(5.00)	(6.35)	(7.36)	(6.94)	(-3.93)	(-3.56)	(-3.29)	(-3.72)	(-6.36)	(-7.15)	(-7.63)	(-7.70)
CFV	(3.94)	(4.69)	(5.16)	(4.77)	(-2.84)	(-2.75)	(-2.95)	(-3.13)	(-4.82)	(-5.30)	(-5.67)	(-5.60)
52-Wk	(4.13)	(5.33)	(6.11)	(4.69)	(-5.33)	(-4.49)	(-4.31)	(-4.88)	(-6.39)	(-6.96)	(-7.43)	(-6.75)
Beta	(5.25)	(5.25)	(5.74)	(5.53)	(-3.87)	(-3.87)	(-4.27)	(-4.05)	(-6.49)	(-6.49)	(-7.14)	(-6.82)
Size	(-5.02)	(-5.51)	(-5.59)	(-5.33)	(9.77)	(9.36)	(9.04)	(9.07)	(10.62)	(10.69)	(10.50)	(10.36)
Illiq	(-5.17)	(-5.62)	(-7.01)	(-6.77)	(8.76)	(8.68)	(9.65)	(9.46)	(10.00)	(10.27)	(11.79)	(11.54)
Bid-Ask	(-6.82)	(-8.49)	(-9.52)	(-8.99)	(11.42)	(10.35)	(10.66)	(10.69)	(12.45)	(13.27)	(14.18)	(13.87)

Table 10: Intraday vs Overnight Returns (Four-Factor Alpha)

This table reports monthly portfolio four-factor alphas to a long minus short strategy that invests in the anomaly on only the specified days. Returns are decomposed into an intraday and overnight component. The sample period is from July of 1992 to December of 2013. Four-factor alpha is from the Fama-French model with the UMD momentum factor. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Four-Factor Alpha

	Intraday			Overnight		
Anomaly	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon
Ivol	1.399	-0.118	-1.516	-0.664	-0.356	0.308
Max	0.940	-0.111	-1.051	-0.386	-0.087	0.299
Price	1.030	-0.607	-1.638	-0.281	-0.040	0.241
Age	0.893	-0.261	-1.154	-0.225	-0.182	0.043
FP	1.555	-0.257	-1.811	-0.528	-0.101	0.427
O-score	0.986	-0.353	-1.339	-0.423	-0.219	0.203
ROA	0.960	-0.241	-1.201	-0.181	-0.134	0.047
OP	1.089	-0.188	-1.277	-0.383	-0.282	0.101
E	0.755	-0.060	-0.815	-0.358	-0.230	0.128
CF	0.799	0.005	-0.794	-0.426	-0.272	0.154
D	0.559	-0.104	-0.663	-0.102	-0.094	0.007
NXF	0.967	-0.118	-1.085	-0.316	-0.208	0.108
Disp	1.023	-0.178	-1.202	-0.314	-0.195	0.119
CFV	0.596	-0.160	-0.755	-0.119	-0.161	-0.043
52-Wk	1.545	0.066	-1.479	-0.760	-0.293	0.468
Beta	0.754	-0.046	-0.800	-0.428	-0.283	0.145
Size	-0.432	0.869	1.301	-0.011	-0.022	-0.010
Illiq	-0.270	0.760	1.031	-0.151	-0.148	0.003
Bid-Ask	-1.451	0.475	1.925	0.624	0.155	-0.469

Table 10 (continued)

Panel B: *T*-Statistics

	Intraday			Overnight		
Anomaly	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon
Ivol	(6.33)	(-0.60)	(-5.16)	(-3.40)	(-2.52)	(1.28)
Max	(4.97)	(-0.68)	(-4.21)	(-2.70)	(-0.57)	(1.44)
Price	(6.24)	(-3.22)	(-6.55)	(-1.80)	(-0.41)	(1.31)
Age	(4.65)	(-2.67)	(-5.36)	(-3.06)	(-2.21)	(0.39)
FP	(4.36)	(-1.17)	(-4.33)	(-2.65)	(-0.82)	(1.82)
O-score	(7.67)	(-4.15)	(-8.71)	(-3.58)	(-2.72)	(1.42)
ROA	(6.41)	(-2.91)	(-7.02)	(-2.57)	(-1.94)	(0.48)
OP	(7.57)	(-1.70)	(-7.04)	(-3.33)	(-3.40)	(0.72)
E	(5.70)	(-0.97)	(-5.58)	(-4.83)	(-3.16)	(1.24)
CF	(5.63)	(0.08)	(-5.09)	(-4.68)	(-3.31)	(1.26)
D	(4.40)	(-1.34)	(-4.45)	(-1.74)	(-1.48)	(0.08)
NXF	(6.18)	(-1.14)	(-5.77)	(-4.47)	(-3.36)	(1.15)
Disp	(6.08)	(-1.35)	(-5.62)	(-2.69)	(-2.26)	(0.82)
CFV	(4.64)	(-1.71)	(-4.76)	(-1.48)	(-1.68)	(-0.34)
52-Wk	(4.87)	(0.34)	(-3.98)	(-2.85)	(-2.10)	(1.55)
Beta	(3.68)	(-0.27)	(-3.03)	(-2.93)	(-2.07)	(0.72)
Size	(-3.42)	(5.28)	(6.28)	(-0.11)	(-0.21)	(-0.07)
Illiq	(-3.12)	(6.91)	(7.38)	(-2.17)	(-1.91)	(0.03)
Bid-Ask	(-5.75)	(3.05)	(6.52)	(2.49)	(1.46)	(-1.72)

Table 11: Institutional Ownership (Four-Factor Alpha)

This table reports monthly portfolio four-factor alphas to a long minus short strategy that invests in the anomaly on only the specified days. Returns are reported separately for high and low institutional ownership firms. The sample period is from January of 1980 to December of 2013. Four-factor alpha is from the Fama-French model with the UMD momentum factor. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Four-Factor Alpha

	Low IO			High IO		
Anomaly	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon
Ivol	1.218	-0.622	-1.840	1.075	-0.448	-1.523
Max	1.050	-0.520	-1.570	0.824	-0.177	-1.002
Price	0.764	-0.817	-1.581	0.916	-0.826	-1.742
Age	1.010	-0.850	-1.860	0.671	-0.394	-1.065
FP	1.294	-0.449	-1.743	0.954	-0.469	-1.422
O-score	0.558	-0.694	-1.252	0.789	-0.563	-1.351
ROA	0.765	-0.319	-1.084	0.715	-0.335	-1.050
OP	0.677	-0.523	-1.200	0.703	-0.386	-1.090
E	0.758	-0.745	-1.503	0.423	-0.212	-0.635
CF	0.746	-0.690	-1.437	0.404	-0.238	-0.642
D	0.726	-0.571	-1.297	0.527	-0.200	-0.727
NXF	0.801	-0.038	-0.839	0.683	-0.221	-0.904
Disp	1.090	-0.173	-1.263	0.796	-0.305	-1.101
CFV	0.803	-0.533	-1.337	0.565	-0.191	-0.756
52-Wk	1.127	-0.285	-1.412	0.569	-0.403	-0.972
Beta	0.844	-0.594	-1.439	0.538	-0.337	-0.875
Size	-0.399	1.084	1.482	-0.326	0.768	1.094
Illiq	0.019	1.008	0.989	-0.261	0.595	0.855
Bid-Ask	-0.920	0.841	1.761	-0.855	0.852	1.707

Table 11 (continued)

Panel B: *T*-Statistics

	Low IO			High IO		
Anomaly	Monday	Friday	Fri - Mon	Monday	Friday	Fri - Mon
Ivol	(6.38)	(-4.65)	(-7.94)	(6.72)	(-2.52)	(-6.37)
Max	(5.86)	(-4.09)	(-7.18)	(5.68)	(-1.25)	(-4.94)
Price	(5.06)	(-5.24)	(-7.31)	(6.71)	(-6.31)	(-9.27)
Age	(4.10)	(-3.35)	(-5.26)	(5.49)	(-4.54)	(-7.12)
FP	(5.20)	(-3.53)	(-6.27)	(4.66)	(-2.63)	(-5.26)
O-score	(4.10)	(-5.36)	(-6.69)	(7.12)	(-6.58)	(-9.75)
ROA	(5.60)	(-2.48)	(-5.78)	(6.81)	(-4.20)	(-7.96)
OP	(4.78)	(-3.63)	(-5.95)	(7.37)	(-4.16)	(-8.16)
E	(6.65)	(-7.02)	(-9.76)	(4.78)	(-2.69)	(-5.36)
CF	(6.67)	(-6.51)	(-9.39)	(4.65)	(-2.91)	(-5.38)
D	(6.77)	(-4.66)	(-7.98)	(5.44)	(-2.64)	(-5.92)
NXF	(5.55)	(-0.27)	(-4.14)	(6.96)	(-3.00)	(-7.40)
Disp	(6.06)	(-1.43)	(-5.83)	(5.70)	(-2.57)	(-6.01)
CFV	(5.39)	(-3.64)	(-6.40)	(5.37)	(-1.97)	(-5.29)
52-Wk	(5.94)	(-1.93)	(-5.88)	(3.13)	(-2.24)	(-3.82)
Beta	(4.47)	(-4.92)	(-6.45)	(3.02)	(-2.11)	(-3.66)
Size	(-2.37)	(6.88)	(6.43)	(-2.74)	(6.38)	(6.45)
Illiq	(0.07)	(4.02)	(2.58)	(-2.45)	(6.94)	(6.25)
Bid-Ask	(-6.18)	(6.11)	(8.71)	(-5.67)	(5.76)	(8.11)

Table 12: Monday and Friday Returns when there is Saturday Trading (1927-1952)

This table reports monthly portfolio four-factor alphas to a long minus short strategy that invests in the anomaly on only the specified days. The analysis is carried out for Mondays and Fridays during months in which there is Saturday trading. The sample period is from January of 1927 to May of 1952. The market closed Saturdays during July and August of 1945, and during June through September of 1946 through 1952. Four-factor alpha is from the Fama-French model with the UMD momentum factor. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Four-Factor Alpha

Anomaly	Monday	Friday	Fri - Mon
Ivol	1.360	-2.788	-4.148
Max	1.516	-2.173	-3.689
Price	0.875	-0.546	-1.422
D	0.930	-0.030	-0.960
52-Wk	0.530	-0.439	-0.969
Beta	1.688	-0.258	-1.946
Size	0.244	1.076	0.833
Illiq	0.234	0.679	0.445
Bid-Ask	-0.839	0.934	1.773

Panel B: *T*-Statistics

	Monday	Friday	Fri - Mon
Ivol	(3.63)	(-1.96)	(-2.82)
Max	(4.92)	(-1.60)	(-2.65)
Price	(2.82)	(-2.55)	(-3.77)
D	(6.59)	(-0.20)	(-4.73)
52-Wk	(3.95)	(-3.74)	(-5.44)
Beta	(9.34)	(-1.46)	(-7.71)
Size	(0.84)	(4.79)	(2.26)
Illiq	(0.74)	(2.55)	(1.08)
Bid-Ask	(-7.87)	(9.55)	(12.25)

Table 13: VIX and Treasury Daily Returns

This table examines the difference in VIX and Treasury daily returns between Monday and Friday. Panel A reports summary statistics for average daily returns. Panels B and C report coefficient estimates from regressions of VIX or Treasury returns on a dummy variables for day of week and a number of controls. Regressions in Panel B include only observations from Monday and Friday. Regressions in Panel C include observations from all days of the week. Macro is a dummy variable equal to one on days of macroeconomic announcements (CPI, PPI, employment, and FOMC announcements). The sample period for Treasury returns is June 1961 - December 2013. The sample period for VIX is January 1990 - December 2013. *T*-statistics are in parentheses.

Panel A: VIX and Treasury Average Returns

	Daily Returns (%)					Daily Returns (*t*-stats)				
	VIX	Treasury: 1 Month	Treasury: 6 Month	Treasury: 1 Year	Treasury: 5 Year	VIX	Treasury: 1 Month	Treasury: 6 Month	Treasury: 1 Year	Treasury: 5 Year
Monday	2.163	0.040	0.043	0.049	0.040	(11.04)	(72.36)	(34.44)	(27.62)	(5.75)
Tuesday	-0.151	0.018	0.023	0.021	0.034	(-0.84)	(41.65)	(28.63)	(15.72)	(6.26)
Wednesday	-0.268	0.016	0.017	0.017	0.021	(-1.67)	(50.68)	(18.40)	(15.16)	(4.34)
Thursday	-0.013	0.016	0.017	0.017	0.022	(-0.07)	(51.61)	(16.45)	(14.35)	(4.05)
Friday	-0.676	0.012	0.015	0.013	0.022	(-3.66)	(33.61)	(14.25)	(8.43)	(3.27)

Panel B: VIX and Treasury Regressions: Monday and Friday

	VIX		Treasury: 1 Month		Treasury: 6 Month		Treasury: 1 Year		Treasury: 5 Year	
Monday	2.440	2.404	0.031	0.027	0.030	0.028	0.038	0.037	0.020	0.021
	(8.11)	(7.71)	(46.33)	(51.47)	(16.96)	(16.83)	(14.89)	(14.62)	(1.97)	(2.07)
Macro	-1.011	-0.986	0.000	-0.002	0.003	0.000	0.007	0.002	0.027	0.026
	(-2.58)	(-2.41)	(0.66)	(-3.49)	(1.46)	(-0.12)	(2.12)	(0.66)	(2.04)	(1.92)
VIX_{t-1}	-0.087	-0.118								
	(-3.60)	(-4.54)								
VIX^2_{t-1}	-0.001	-0.002								
	(-0.47)	(-1.61)								
$Treasury_{t-1}$			0.552	-0.035	0.152	0.030	0.147	0.000	0.061	-0.024
			(26.40)	(-1.78)	(9.78)	(1.88)	(8.89)	(0.01)	(4.09)	(-1.27)
$Treasury^2_{t-1}$			0.488	-0.613	-0.119	-0.097	-0.003	-0.075	0.148	0.159
			(1.90)	(-2.69)	(-5.86)	(-4.62)	(-0.07)	(-1.84)	(23.64)	(23.82)
YearMo FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
N	2,348	2,348	5,089	5,089	5,089	5,089	5,089	5,089	5,089	5,089

Table 13 (continued)

Panel C: VIX and Treasury Regressions: All Days

	VIX		Treasury: 1 Month		Treasury: 6 Month		Treasury: 1 Year		Treasury: 5 Year	
Monday	2.307	2.306	0.024	0.024	0.026	0.026	0.032	0.032	0.021	0.021
	(9.31)	(9.18)	(47.37)	(49.64)	(16.88)	(17.34)	(15.13)	(15.52)	(2.43)	(2.47)
Tuesday	0.164	0.181	0.001	0.002	0.005	0.005	0.004	0.005	0.013	0.014
	(0.67)	(0.73)	(2.11)	(4.07)	(4.06)	(4.39)	(2.41)	(2.80)	(1.82)	(1.87)
Thursday	0.222	0.209	-0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.003
	(0.99)	(0.92)	(-1.67)	(-1.58)	(0.13)	(0.03)	(0.30)	(0.22)	(0.35)	(0.44)
Friday	-0.145	-0.169	-0.004	-0.004	-0.003	-0.003	-0.004	-0.004	0.000	-0.001
	(-0.60)	(-0.69)	(-8.78)	(-9.38)	(-2.14)	(-2.27)	(-2.12)	(-2.26)	(-0.05)	(-0.13)
Macro	-1.180	-1.149	-0.001	-0.002	0.001	0.001	0.002	0.002	0.012	0.015
	(-4.92)	(-4.75)	(-3.73)	(-5.03)	(0.93)	(0.64)	(0.93)	(1.10)	(1.65)	(2.02)
$\text{VIX}_{t-1,t-5}$	-0.292	-0.453								
	(-7.06)	(-10.48)								
$\text{VIX}^2_{t-1,t-5}$	-0.020	-0.037								
	(-2.42)	(-3.34)								
$\text{Treasury}_{t-1,t-5}$			1.021	-0.334	0.172	-0.371	0.257	-0.147	0.001	-0.347
			(26.97)	(-4.17)	(0.94)	(-1.54)	(5.04)	(-2.23)	(0.01)	(-3.36)
$\text{Treasury}^2_{t-1,t-5}$			-4.006	1.071	1.065	1.297	0.510	0.018	0.471	0.591
			(-4.58)	(0.73)	(0.82)	(0.81)	(1.32)	(0.04)	(1.46)	(1.45)
YearMo FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
N	6,040	6,040	13,113	13,113	13,113	13,113	13,113	13,113	13,113	13,113

Table 14: Monday through Friday Daily Returns (Excess Returns)

This table reports average daily excess returns for the high minus low decile of each anomaly by day of the week. For each anomaly, the high minus low decile return is calculated for each day and then averaged across each day of the week for each month. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

	Long Minus Short (Excess Returns)					Long Minus Short (*t*-stats)				
Anomaly	Mon	Tues	Weds	Thurs	Fri	Mon	Tues	Weds	Thurs	Fri
Ivol	0.225	0.096	-0.054	-0.065	-0.146	(7.29)	(3.64)	(-2.22)	(-2.52)	(-5.72)
Max	0.176	0.075	-0.059	-0.053	-0.099	(5.77)	(3.06)	(-2.55)	(-2.21)	(-3.98)
Price	0.180	0.113	-0.048	-0.116	-0.221	(6.65)	(5.20)	(-2.76)	(-5.77)	(-9.51)
Age	0.136	0.072	-0.023	-0.069	-0.095	(5.56)	(4.21)	(-1.38)	(-4.86)	(-5.50)
FP	0.238	0.101	0.004	-0.083	-0.139	(4.77)	(2.99)	(0.14)	(-2.40)	(-4.29)
O-score	0.146	0.083	-0.007	-0.073	-0.158	(6.16)	(4.58)	(-0.41)	(-3.70)	(-8.10)
ROA	0.157	0.073	0.028	-0.039	-0.093	(5.75)	(3.62)	(1.44)	(-2.44)	(-5.34)
OP	0.156	0.079	-0.013	-0.038	-0.140	(7.90)	(4.38)	(-0.70)	(-1.92)	(-8.68)
E	0.118	0.047	-0.045	-0.042	-0.134	(5.50)	(2.67)	(-2.44)	(-2.85)	(-6.43)
CF	0.114	0.045	-0.038	-0.035	-0.131	(5.58)	(2.14)	(-2.00)	(-2.04)	(-6.09)
D	0.132	0.061	-0.056	-0.054	-0.088	(6.68)	(3.82)	(-3.52)	(-3.37)	(-4.78)
NXF	0.143	0.055	-0.035	-0.009	-0.076	(6.15)	(3.19)	(-2.03)	(-0.50)	(-3.77)
Disp	0.167	0.065	-0.020	-0.064	-0.082	(4.73)	(2.83)	(-0.76)	(-2.89)	(-3.38)
CFV	0.127	0.089	-0.020	-0.074	-0.062	(4.67)	(3.91)	(-0.83)	(-3.54)	(-2.43)
52-Wk	0.133	0.061	-0.041	-0.067	-0.083	(3.71)	(2.09)	(-1.60)	(-2.65)	(-3.54)
Beta	0.156	0.050	-0.106	-0.064	-0.098	(4.56)	(1.98)	(-3.67)	(-2.07)	(-3.34)
Size	-0.083	-0.068	0.040	0.105	0.207	(-4.08)	(-2.98)	(2.52)	(5.98)	(9.90)
Illiq	-0.054	-0.054	0.017	0.088	0.166	(-2.82)	(-2.49)	(1.13)	(5.72)	(9.05)
Bid-Ask	-0.186	-0.087	0.066	0.118	0.224	(-5.97)	(-3.48)	(3.48)	(5.57)	(9.75)

Table 15: Holiday Daily Returns (Excess Returns)

This table reports average daily excess returns for the high minus low decile of each anomaly by day of the week. For each anomaly, the high minus low decile return is calculated for each day and then averaged across each day of the week for each month. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

	Long Minus Short (Excess Returns)			Long Minus Short (*t*-stats)		
Anomaly	Post-Holiday Tuesday	Pre-Thanksgiving Wednesday	Pre-Holiday Thursday	Post-Holiday Tuesday	Pre-Thanksgiving Wednesday	Pre-Holiday Thursday
Ivol	0.382	-0.478	-0.327	(3.22)	(-4.58)	(-4.51)
Max	0.362	-0.395	-0.341	(2.61)	(-4.19)	(-2.22)
Price	0.160	-0.243	-0.402	(1.52)	(-2.69)	(-7.89)
Age	0.191	-0.144	-0.198	(2.03)	(-1.28)	(-4.04)
FP	0.526	-0.209	-0.764	(2.76)	(-1.26)	(-2.65)
O-score	0.090	-0.160	-0.247	(1.15)	(-2.08)	(-4.00)
ROA	0.188	-0.129	-0.132	(1.87)	(-1.72)	(-2.76)
OP	0.154	-0.209	-0.284	(2.21)	(-2.24)	(-4.35)
E	0.078	-0.337	-0.224	(1.06)	(-3.59)	(-4.10)
CF	0.071	-0.256	-0.186	(0.97)	(-2.73)	(-3.82)
D	0.140	-0.264	-0.145	(1.87)	(-3.76)	(-2.96)
NXF	0.148	-0.285	-0.155	(2.14)	(-4.24)	(-4.25)
Disp	0.246	-0.397	-0.285	(2.20)	(-4.45)	(-1.76)
CFV	0.186	-0.071	-0.152	(1.75)	(-1.03)	(-1.78)
52-Wk	0.265	-0.167	-0.338	(1.84)	(-1.09)	(-2.11)
Beta	0.253	-0.525	-0.203	(1.72)	(-2.76)	(-2.52)
Size	0.017	0.126	0.237	(0.16)	(1.39)	(3.77)
Illiq	-0.008	0.042	0.189	(-0.09)	(0.43)	(3.24)
Bid-Ask	-0.223	0.350	0.494	(-2.27)	(2.51)	(5.60)

Online Appendix for "Day of the Week and the Cross-Section of Returns"

This document provides additional results that are referenced, but not reported in the paper.

Figure A1: Daily Change in Happiness

Table A1: Macroeconomic News Announcements excluding Mondays following a Friday Announcement

Table A2: Daily Average VIX Returns by Calendar Month

Table A3: Daily Average VIX Returns by Year

Table A4: Monday through Friday Daily Returns (CAPM)

Table A5: Monday through Friday Daily Returns (3-Factor)

Table A6: Monday through Friday Daily Returns (4-Factor)

Figure A1: Daily change in Happiness (Dodds et al., 2011)

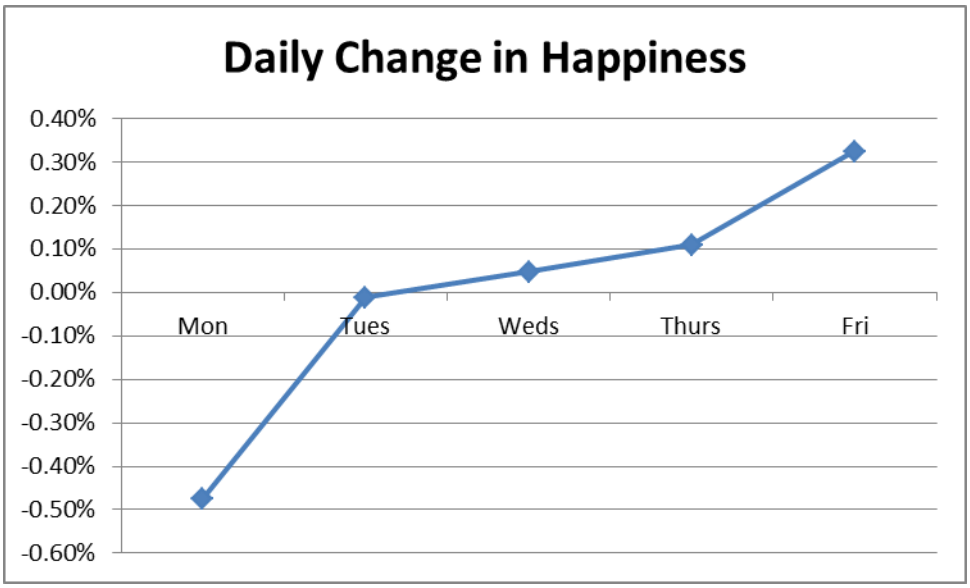

Table A1: Excluding Macro Announcements and Mondays after Friday Announcements

This table reports monthly portfolio returns to a long minus short strategy that invests in the anomaly on only the specified days. Returns are excluded for macroeconomic announcements dates and for Mondays following Friday macroeconomic announcements. The sample period is from July of 1963 to December of 2013. For NXF and ROA the sample period begins in July of 1972. For Disp the sample period begins in January of 1976. For CFV and FP the sample period begins in July of 1976. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

Panel A: Portfolio Returns

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	0.613	0.669	0.644	0.695	-0.413	-0.385	-0.376	-0.392	-1.026	-1.054	-1.021	-1.087
MDR	0.499	0.562	0.523	0.583	-0.274	-0.237	-0.232	-0.251	-0.773	-0.799	-0.755	-0.835
Price	0.421	0.449	0.493	0.483	-0.703	-0.696	-0.645	-0.667	-1.123	-1.146	-1.138	-1.151
Age	0.311	0.343	0.316	0.330	-0.306	-0.293	-0.308	-0.318	-0.617	-0.636	-0.624	-0.648
FP	0.588	0.618	0.614	0.622	-0.463	-0.432	-0.364	-0.415	-1.050	-1.050	-0.978	-1.037
O-score	0.311	0.328	0.339	0.337	-0.491	-0.489	-0.446	-0.455	-0.803	-0.817	-0.784	-0.791
ROA	0.410	0.421	0.429	0.414	-0.361	-0.355	-0.308	-0.335	-0.771	-0.775	-0.738	-0.748
Ball OP	0.364	0.387	0.422	0.421	-0.467	-0.467	-0.426	-0.419	-0.831	-0.853	-0.848	-0.840
E	0.304	0.340	0.356	0.383	-0.453	-0.434	-0.406	-0.408	-0.757	-0.774	-0.761	-0.791
CF	0.299	0.337	0.344	0.365	-0.474	-0.452	-0.418	-0.430	-0.773	-0.789	-0.762	-0.794
D	0.331	0.378	0.366	0.392	-0.270	-0.249	-0.259	-0.269	-0.601	-0.627	-0.625	-0.662
NXF	0.362	0.386	0.373	0.389	-0.275	-0.270	-0.253	-0.246	-0.637	-0.656	-0.627	-0.635
Disp	0.388	0.415	0.391	0.426	-0.302	-0.304	-0.276	-0.297	-0.690	-0.719	-0.667	-0.723
CFV	0.330	0.371	0.344	0.363	-0.226	-0.237	-0.258	-0.306	-0.556	-0.608	-0.603	-0.668
52-Wk	0.335	0.367	0.338	0.297	-0.230	-0.200	-0.165	-0.252	-0.566	-0.567	-0.503	-0.549
Beta	0.419	0.419	0.410	0.453	-0.276	-0.276	-0.275	-0.313	-0.696	-0.696	-0.686	-0.766
Size	-0.161	-0.178	-0.180	-0.157	0.651	0.651	0.650	0.658	0.812	0.829	0.830	0.815
Illiq	-0.084	-0.090	-0.138	-0.100	0.545	0.550	0.512	0.524	0.629	0.640	0.650	0.625
Bid-Ask	-0.416	-0.447	-0.480	-0.450	0.720	0.699	0.639	0.688	1.136	1.146	1.119	1.138

Table A1 (continued)

Panel B: (*T*-Statistics)

	Monday Long Minus Short				Friday Long Minus Short				Friday Minus Monday			
Anomaly	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor	Excess	CAPM	3-Factor	4-Factor
Ivol	(7.08)	(7.81)	(7.28)	(7.00)	(-5.67)	(-4.95)	(-5.08)	(-5.11)	(-9.06)	(-9.10)	(-8.84)	(-8.66)
MDR	(5.99)	(6.98)	(6.43)	(6.43)	(-3.85)	(-3.19)	(-3.26)	(-3.30)	(-7.05)	(-7.29)	(-6.99)	(-7.04)
Price	(5.98)	(6.63)	(8.00)	(8.00)	(-9.53)	(-9.21)	(-9.07)	(-9.15)	(-11.01)	(-11.27)	(-12.09)	(-12.15)
Age	(4.54)	(4.90)	(5.15)	(5.22)	(-6.37)	(-5.70)	(-6.47)	(-6.35)	(-7.37)	(-7.33)	(-8.03)	(-8.04)
FP	(4.64)	(5.24)	(5.98)	(5.16)	(-5.42)	(-4.63)	(-3.66)	(-3.88)	(-6.89)	(-6.99)	(-6.84)	(-6.43)
O-score	(4.99)	(5.32)	(5.16)	(5.09)	(-7.30)	(-6.86)	(-6.77)	(-6.86)	(-8.73)	(-8.66)	(-8.43)	(-8.44)
ROA	(5.63)	(5.73)	(6.47)	(5.64)	(-5.96)	(-5.68)	(-5.11)	(-5.45)	(-8.14)	(-8.05)	(-8.23)	(-7.83)
Ball OP	(5.93)	(6.67)	(7.06)	(6.87)	(-8.30)	(-7.64)	(-7.28)	(-6.83)	(-10.00)	(-10.15)	(-10.16)	(-9.70)
E	(4.82)	(5.54)	(5.56)	(5.83)	(-5.89)	(-5.63)	(-5.79)	(-5.95)	(-7.61)	(-7.85)	(-8.02)	(-8.32)
CF	(5.19)	(6.14)	(6.09)	(6.10)	(-5.84)	(-5.58)	(-5.70)	(-5.81)	(-7.78)	(-8.07)	(-8.23)	(-8.36)
D	(5.63)	(6.30)	(6.65)	(6.44)	(-5.08)	(-4.64)	(-5.54)	(-5.50)	(-7.58)	(-7.79)	(-8.65)	(-8.46)
NXF	(5.55)	(5.74)	(5.62)	(5.95)	(-4.07)	(-3.84)	(-4.13)	(-4.22)	(-6.78)	(-6.74)	(-6.94)	(-7.26)
Disp	(4.34)	(4.74)	(4.65)	(4.84)	(-3.72)	(-3.43)	(-3.21)	(-3.43)	(-5.72)	(-5.78)	(-5.56)	(-5.86)
CFV	(3.56)	(3.79)	(4.29)	(4.13)	(-3.30)	(-3.36)	(-3.63)	(-3.98)	(-4.84)	(-5.04)	(-5.62)	(-5.73)
52-Wk	(3.40)	(4.03)	(3.79)	(3.08)	(-3.88)	(-3.05)	(-2.38)	(-3.30)	(-4.92)	(-5.05)	(-4.45)	(-4.47)
Beta	(4.26)	(4.26)	(4.45)	(4.40)	(-3.33)	(-3.33)	(-3.65)	(-3.85)	(-5.40)	(-5.40)	(-5.75)	(-5.84)
Size	(-2.96)	(-3.34)	(-3.33)	(-2.91)	(11.30)	(10.97)	(11.00)	(11.76)	(10.22)	(10.38)	(10.34)	(10.47)
Illiq	(-1.59)	(-1.73)	(-2.71)	(-2.09)	(10.07)	(9.85)	(10.67)	(10.59)	(8.28)	(8.38)	(9.29)	(9.05)
Bid-Ask	(-5.40)	(-6.12)	(-5.99)	(-5.74)	(9.88)	(9.27)	(9.15)	(9.15)	(10.70)	(10.92)	(10.53)	(10.48)

Table A2: Monday and Friday VIX Returns by Calendar Month

This table reports average daily VIX returns (%) by calendar month. The sample period is January 1990 – December 2013.

	VIX Returns (%)	
Month	Monday	Friday
January	1.798	-0.637
February	2.029	-0.138
March	2.228	-0.842
April	2.734	0.107
May	1.105	-0.605
June	2.309	-0.294
July	3.443	-1.564
August	2.320	-0.419
September	2.573	-0.526
October	2.195	-1.427
November	1.307	-0.461
December	1.733	-1.221

Table A3: Monday and Friday VIX Returns by Year

This table reports average daily VIX returns (%) by year.
The sample period is January 1990 – December 2013.

	VIX Returns (%)	
Year	Monday	Friday
1990	2.666	1.193
1991	2.592	0.338
1992	1.596	-0.770
1993	1.638	-0.815
1994	2.490	-0.030
1995	3.312	-1.834
1996	3.026	-1.944
1997	1.993	-1.242
1998	2.982	-1.172
1999	3.313	-2.765
2000	2.225	-1.275
2001	3.099	-0.623
2002	3.257	-1.695
2003	2.399	-0.716
2004	1.532	-0.722
2005	0.940	-0.965
2006	1.668	0.617
2007	1.759	0.293
2008	1.857	0.870
2009	1.639	-0.027
2010	-1.190	0.502
2011	2.298	-0.577
2012	1.373	-0.508
2013	3.388	-2.454

Table A4: Monday through Friday Daily Returns (CAPM)

This table reports average daily CAPM alphas for the high minus low decile of each anomaly by day of the week. For each anomaly, the high minus low decile return is calculated for each day and then averaged across each day of the week for each month. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

	Long Minus Short (Excess Returns)					Long Minus Short (*t*-stats)				
Anomaly	Mon	Tues	Weds	Thurs	Fri	Mon	Tues	Weds	Thurs	Fri
Ivol	0.256	0.117	-0.043	-0.044	-0.137	(9.09)	(4.56)	(-1.69)	(-1.73)	(-4.70)
Max	0.206	0.091	-0.041	-0.031	-0.082	(7.59)	(3.62)	(-1.68)	(-1.26)	(-3.23)
Price	0.192	0.128	-0.038	-0.103	-0.218	(7.39)	(5.64)	(-2.20)	(-5.33)	(-9.07)
Age	0.148	0.087	-0.010	-0.056	-0.089	(5.90)	(5.21)	(-0.58)	(-4.27)	(-5.02)
FP	0.264	0.126	0.035	-0.045	-0.123	(5.47)	(3.28)	(1.13)	(-1.23)	(-3.56)
O-score	0.155	0.098	0.003	-0.060	-0.154	(6.67)	(5.17)	(0.16)	(-3.12)	(-7.67)
ROA	0.174	0.090	0.035	-0.020	-0.099	(6.82)	(4.34)	(1.71)	(-1.31)	(-5.27)
OP	0.166	0.093	-0.004	-0.023	-0.138	(8.80)	(5.06)	(-0.19)	(-1.17)	(-8.01)
E	0.133	0.068	-0.034	-0.029	-0.128	(6.76)	(3.96)	(-1.74)	(-1.91)	(-6.09)
CF	0.129	0.074	-0.023	-0.032	-0.130	(7.30)	(3.74)	(-1.14)	(-2.11)	(-6.04)
D	0.149	0.074	-0.045	-0.041	-0.080	(7.66)	(4.70)	(-2.72)	(-2.54)	(-4.27)
NXF	0.156	0.066	-0.021	0.005	-0.072	(6.60)	(3.98)	(-1.30)	(0.26)	(-3.50)
Disp	0.186	0.083	0.004	-0.041	-0.076	(5.60)	(3.37)	(0.13)	(-2.00)	(-3.04)
CFV	0.143	0.107	-0.008	-0.062	-0.061	(5.29)	(4.61)	(-0.30)	(-2.84)	(-2.36)
52-Wk	0.154	0.082	-0.015	-0.042	-0.071	(4.60)	(2.65)	(-0.60)	(-1.73)	(-2.86)
Beta	0.156	0.050	-0.106	-0.064	-0.098	(4.56)	(1.98)	(-3.67)	(-2.07)	(-3.34)
Size	-0.087	-0.081	0.036	0.100	0.208	(-4.21)	(-3.26)	(2.18)	(5.78)	(9.66)
Illiq	-0.055	-0.065	0.014	0.085	0.169	(-2.77)	(-2.73)	(0.87)	(5.59)	(9.09)
Bid-Ask	-0.203	-0.106	0.050	0.095	0.216	(-7.02)	(-4.23)	(2.67)	(4.84)	(9.00)

Table A5: Monday through Friday Daily Returns (Three-Factor Alpha)

This table reports average daily Fama-French three-factor alphas for the high minus low decile of each anomaly by day of the week. For each anomaly, the high minus low decile return is calculated for each day and then averaged across each day of the week for each month. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

	Long Minus Short (Excess Returns)					Long Minus Short (*t*-stats)				
Anomaly	Mon	Tues	Weds	Thurs	Fri	Mon	Tues	Weds	Thurs	Fri
Ivol	0.250	0.121	-0.048	-0.035	-0.132	(9.17)	(5.05)	(-2.14)	(-1.21)	(-5.01)
Max	0.194	0.088	-0.051	-0.021	-0.081	(7.30)	(3.70)	(-2.26)	(-0.80)	(-3.76)
Price	0.205	0.147	-0.033	-0.101	-0.208	(8.49)	(6.14)	(-1.85)	(-4.94)	(-9.62)
Age	0.139	0.085	-0.020	-0.059	-0.090	(6.72)	(5.54)	(-1.46)	(-4.14)	(-5.71)
FP	0.268	0.153	0.041	-0.011	-0.104	(6.70)	(4.31)	(1.39)	(-0.24)	(-3.19)
O-score	0.161	0.110	0.015	-0.050	-0.135	(6.88)	(5.85)	(0.87)	(-2.79)	(-7.41)
ROA	0.181	0.103	0.039	-0.014	-0.081	(8.26)	(5.00)	(2.03)	(-0.99)	(-4.69)
OP	0.183	0.107	0.012	-0.007	-0.121	(9.59)	(5.99)	(0.64)	(-0.37)	(-7.79)
E	0.142	0.080	-0.026	-0.016	-0.117	(6.99)	(4.50)	(-1.44)	(-1.03)	(-6.27)
CF	0.136	0.084	-0.015	-0.019	-0.117	(7.36)	(4.39)	(-0.81)	(-1.19)	(-6.21)
D	0.145	0.073	-0.056	-0.042	-0.083	(8.52)	(4.63)	(-4.12)	(-2.67)	(-5.43)
NXF	0.152	0.069	-0.015	0.014	-0.063	(6.74)	(4.35)	(-0.87)	(0.74)	(-3.51)
Disp	0.183	0.101	0.010	-0.024	-0.062	(6.08)	(4.04)	(0.36)	(-1.13)	(-2.60)
CFV	0.134	0.106	-0.022	-0.061	-0.066	(5.97)	(4.65)	(-0.96)	(-2.64)	(-2.65)
52-Wk	0.148	0.097	-0.013	-0.020	-0.065	(4.83)	(3.62)	(-0.56)	(-0.72)	(-2.66)
Beta	0.156	0.057	-0.107	-0.044	-0.096	(4.87)	(2.40)	(-4.36)	(-1.41)	(-3.77)
Size	-0.089	-0.085	0.031	0.102	0.201	(-4.31)	(-3.34)	(1.82)	(5.79)	(9.53)
Illiq	-0.074	-0.085	-0.003	0.072	0.147	(-4.01)	(-3.81)	(-0.25)	(4.90)	(9.80)
Bid-Ask	-0.217	-0.129	0.035	0.077	0.195	(-7.97)	(-5.64)	(2.16)	(3.82)	(9.15)

Table A6: Monday through Friday Daily Returns (Four-Factor Alpha)

This table reports average daily four-factor alphas for the high minus low decile of each anomaly by day of the week. For each anomaly, the high minus low decile return is calculated for each day and then averaged across each day of the week for each month. Portfolios are value weighted and formed using NYSE breakpoints. *T*-statistics adjusted for heteroscedasticity and autocorrelation are reported.

	Long Minus Short (Excess Returns)					Long Minus Short (*t*-stats)				
Anomaly	Mon	Tues	Weds	Thurs	Fri	Mon	Tues	Weds	Thurs	Fri
Ivol	0.258	0.108	-0.091	-0.055	-0.141	(8.51)	(4.24)	(-3.74)	(-1.74)	(-4.91)
Max	0.205	0.084	-0.089	-0.039	-0.086	(7.07)	(3.45)	(-3.54)	(-1.39)	(-3.76)
Price	0.205	0.147	-0.033	-0.101	-0.208	(8.49)	(6.14)	(-1.85)	(-4.94)	(-9.62)
Age	0.140	0.082	-0.045	-0.068	-0.094	(6.41)	(5.11)	(-2.66)	(-4.08)	(-5.75)
FP	0.256	0.133	-0.034	-0.062	-0.128	(5.84)	(3.79)	(-1.11)	(-1.20)	(-3.56)
O-score	0.156	0.106	-0.006	-0.064	-0.139	(6.42)	(4.93)	(-0.39)	(-3.62)	(-7.50)
ROA	0.172	0.087	0.007	-0.034	-0.088	(6.97)	(4.25)	(0.41)	(-2.32)	(-5.10)
OP	0.178	0.104	-0.013	-0.018	-0.122	(9.26)	(5.40)	(-0.79)	(-0.98)	(-6.97)
E	0.145	0.070	-0.051	-0.026	-0.118	(6.84)	(3.89)	(-3.05)	(-1.66)	(-6.25)
CF	0.136	0.074	-0.040	-0.028	-0.120	(6.88)	(3.91)	(-2.21)	(-1.68)	(-6.12)
D	0.149	0.073	-0.070	-0.051	-0.087	(8.16)	(4.37)	(-4.37)	(-2.88)	(-5.33)
NXF	0.153	0.066	-0.034	0.001	-0.064	(6.89)	(4.00)	(-1.97)	(0.05)	(-3.65)
Disp	0.193	0.090	-0.028	-0.052	-0.077	(5.90)	(3.69)	(-1.14)	(-2.36)	(-2.91)
CFV	0.133	0.106	-0.042	-0.074	-0.073	(5.09)	(4.94)	(-1.99)	(-3.01)	(-2.92)
52-Wk	0.120	0.061	-0.095	-0.080	-0.100	(3.67)	(2.13)	(-4.06)	(-2.50)	(-3.60)
Beta	0.163	0.047	-0.145	-0.070	-0.108	(4.58)	(1.87)	(-5.44)	(-2.03)	(-3.68)
Size	-0.082	-0.081	0.032	0.103	0.208	(-3.72)	(-2.92)	(1.88)	(5.96)	(9.73)
Illiq	-0.063	-0.082	0.001	0.075	0.155	(-3.23)	(-3.24)	(0.04)	(5.70)	(9.86)
Bid-Ask	-0.198	-0.105	0.085	0.114	0.217	(-7.23)	(-4.33)	(4.78)	(4.59)	(9.32)