S&P Global Securities Finance Academic Research Library

Summaries and web links

March 2023

Contents

Introduction:

S&P Global Securities Finance collects global securities financing data tracking short selling and institutional fund activity. The dataset covers more than $30trn of global securities in the lending programmes of over 20,000 institutional funds. It includes more than 3m intraday transactions dating back 17+ years. We source our data directly from leading industry practitioners, including prime brokers, custodians, asset managers and hedge funds. The data is widely used in academia.

The papers in this document are research done by Academic Institutions, **using the S&P Global Securities Finance dataset** subscribed to for academic research purposes only.

The papers are either working papers or published papers. This document will be updated regularly.

The information on the research papers are from **SSRN's eLibrary**. Users can create a SSNS account and download the full PDF of the papers.

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Informed Trading Intensity

87 Pages Posted: 15 Jun 2021 Last revised: 19 Dec 2022

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Vyacheslav Fos

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Michigan State University - Department of Finance; Canadian Derivatives Institute

Date Written: December 13, 2022

Abstract

We train a machine learning method on a class of informed trades to develop a new measure of informed trading, the Informed Trading Intensity (``ITI''). ITI increases before earnings, M&A, and news announcements, and has implications for return reversal and asset pricing. ITI is effective because it captures nonlinearities and interactions between informed trading, volume, and volatility. This data-driven approach can shed light on the economics of informed trading, including impatient informed trading, commonality in informed trading, and models of informed trading. Overall, learning from informed trading data can generate an effective informed trading measure.

Keywords: Informed trading, machine learning, adverse selection, stock returns, intraday data

Web Link

How Constrained Are the Shorts? A First Look at Mutual Fund Position-Level Securities Lending

47 Pages Posted: 9 Dec 2022

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Qifei Zhu

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Date Written: December 2, 2022

Abstract

Using newly available data on mutual funds' equity lending at the position level, we find a striking pattern that equity lending is persistent: for the same stock, a past lender fund is ten times more likely to have it on loan than a fund that did not lend. We argue that such persistence is driven by heterogeneity in funds' willingness to supply lendable shares and that conventional lending supply measures understate short-sale constraints. Consequently, when existing lenders sell their shares, equity lending supply drops and lending fees spike, even if lenders' selling is motivated by non-informational considerations. After lender exits, stock prices become less efficient and more likely to be overpriced.

Keywords: Limits to Arbitrage, Equity Lending, Short Selling, Mutual Funds

Web Link

Short Interest and Aggregate Stock Returns: International Evidence

Accepted, Review of Asset Pricing Studies
88 Pages Posted: 16 Sep 2021 Last revised: 17 Mar 2023

Arseny Gorbenko
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Date Written: December 8, 2019

Abstract

I find that short interest significantly and negatively predicts aggregate stock returns in 24 out of 32 countries examined. This predictability survives out-of-sample tests, persists outside recessions, and is not subsumed by other well-known return predictors. The results indicate that short interest contains valuable information for forecasting international market returns that is distinct and more powerful than that of other globally available predictors. However, the predictive power of short interest varies over time and across regions. It is higher around economic downturns when margin requirements tighten and in regions where local short sale regulations or equity lending market frictions limit short-selling activities. These results suggest that these constraints affect predominantly uninformed short sellers, thus making the remainder shorts more informed.

Keywords: short selling, return predictability, short sale regulations, short sale constraints

Web Link

The Market for Corporate Control as a Limit to Short Arbitrage

52 Pages Posted: 14 Jun 2018 Last revised: 8 Jan 2022

Costanza Meneghetti

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Ryan Williams

University of Arizona - Department of Finance

Steven Chong Xiao

University of Texas at Dallas - Naveen Jindal School of Management

Date Written: May 30, 2018

Abstract

We hypothesize that corporate takeover markets create significant constraints for short sellers. Both short sellers and corporate bidders often target firms with declining economic prospects. Yet, a target firm's stock price generally increases upon a takeover announcement, resulting in losses for short sellers. Therefore, short sellers should require higher rates of return when takeover likelihood is higher. Consistent with this prediction, the return predictability of monthly short interest increases with industry-level takeover probability and decreases as takeover defenses are implemented. Our results suggest that efficient takeover markets create trading frictions for short sellers and can therefore inhibit overall market efficiency.

Keywords: Market for Corporate Control, Short Selling, Limit to Arbitrage

Web Link

Phantom of the Opera: ETF Shorting and Shareholder Voting

European Corporate Governance Institute – Finance Working Paper No. 763/2021
72 Pages Posted: 26 Mar 2019 Last revised: 22 Dec 2022

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Rabih Moussawi
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Michael Young
University of Missouri at Columbia - Department of Finance

Date Written: December 21, 2022

Abstract

The short-selling of exchange-traded funds (ETFs) creates "phantom" ETF shares, trading at market prices, with cash flows rights but no associated voting rights. Unlike regular ETF shares backed by underlying securities that are voted as directed by the ETF sponsor, phantom ETF shares hedged by the underlying basket as part of market-making activities result in a significant number of sidelined votes of the underlying securities. We find increases in phantom shares for the corresponding underlying securities are associated with decreases in the number of proxy votes cast (for and against), and increases in broker non-votes, voting premiums, and value-reducing acquisitions.

Keywords: Exchange-Traded Funds, Proxy Voting, Broker Non-Vote, Voting Premium, Short Interest, Operational Shorting, Authorized Participants, ETF Market Making, Voting of Hedged Positions, Empty Voting

Web Link

Option Volume and Mispriced Stocks

59 Pages Posted: 28 Sep 2018 Last revised: 9 Dec 2021

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Byounghyun Jeon

Marquette University

Date Written: December 8, 2021

Abstract

We investigate the relation between mispriced stocks based on prominent stock characteristics and trading volume (i.e. directional and disagreement trades) in the options market. We uncover strong amplification of stock mispricing when there is high option volume arising from disagreement trades. We show that stocks are more overpriced when the option trades indicate high investor disagreement, including trading around earnings announcements. The significant low future returns predicted for stocks with high disagreement volume and are overpriced based on stock characteristics concentrate in stocks that are difficult to short. While high directional trades in options also predict future stock returns, the predicted returns are not related to anomaly variables, consistent with directional trades reflecting investors' private information.

Keywords: option trading volume, investor disagreement, mispricing, and cross-section of stock returns

Web Link

Beyond Basis Basics: Liquidity Demand and Deviations from the Law of One Price

Journal of Finance, Forthcoming
66 Pages Posted: 24 Sep 2020 Last revised: 29 Oct 2021

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Date Written: October 28, 2021

Abstract

We argue that deviations from the law of one price between futures and spot prices, known as futures-cash bases, capture important information about liquidity demand for equity market exposure in global markets. We show that bases (1) co-move with dealer and investor futures positions, (2) are contemporaneously positively correlated with spot and futures returns with the same sign, and (3) negatively predict futures and spot market returns with the same sign. These findings are consistent with a model where the futures-cash basis reflects liquidity demand that is common to futures and cash equity markets. We show persistent supply-demand imbalances for equity index exposure reflected in bases, where compensation for meeting that liquidity demand is large (5-6% annual premium).

Web Link

Short Selling Equity Exchange Traded Funds and its Effect on Stock Market Liquidity

The Journal of Financial and Quantitative Analysis
60 Pages Posted: 22 Jan 2017 Last revised: 20 Oct 2020

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Date Written: October 14, 2020

Abstract

We examine short selling of equity exchange traded funds (ETFs) using the 2008 short-sale ban. Contrasting the previously documented contractions in bearish strategies during the ban, we find a significant increase in short sales of the largest, most liquid ETF, the S&P 500 Spider. We offer evidence suggesting this upsurge was driven primarily by investors circumventing the ban. We show that the ban's detrimental effect on stock liquidity was around 30% less severe for the Spider's constituents. Our results suggest that ETF shorts can substitute for short sales of individual stocks, thereby alleviating short-sale constraints' adverse effect on liquidity.

Keywords: Exchange traded funds, ETFs, financial crisis, liquidity, regulation, SEC, short-sale ban.

Web Link

Short Interest, Crowding and Liquidity Shocks

39 Pages Posted: 7 Oct 2020 Last revised: 13 Nov 2020

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Date Written: July 20, 2020

Abstract

We use the Short Interest strategy – buying low short interest stocks and shorting high short interest stocks – as a "barometer" for liquidity shocks impacting sophisticated equity investors: we explain why the strategy should exhibit V-shaped draw-downs when short-sellers are affected by liquidity shocks. We show that this was the case during both the 2007 Quant Crisis and the COVID-19 induced 2020 Quant Deleverage, that we document in this paper. We then use daily short interest data to infer near real-time crowding indicators for various quantitative equity long-short strategies. We find that sophisticated investors have continued to crowd in some of the well-known equity factors. We show that crowding is associated with an exposure to broader liquidity shocks on short sellers: when such liquidity shocks occur, crowded strategies tend to under-perform.

Keywords: crowding, equity factors, short interest, liquidity crises

[Web Link](#)

A Survey of the Microstructure of Fixed-Income Markets

Forthcoming, Journal of Financial and Quantitative Analysis
67 Pages Posted: 8 Jan 2019 Last revised: 11 Feb 2019

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Date Written: February 8, 2019

Abstract

This paper surveys the literature that studies fixed-income trading rules and outcomes, including Treasury securities, corporate and municipal bonds, and structured credit products. We compare and contrast the microstructure and regulation of fixed-income markets with equity markets. We highlight the nature of over-the-counter trading in the face of search costs and the associated slow evolution of electronically-facilitated intermediation. We discuss the databases available for the study of fixed-income microstructure, as well as measures of trading costs and the determinants thereof, and the important roles of dealer networks and limited transparency. We also highlight unresolved issues.

Keywords: bond market; dealer networks; trading costs; market making; transparency

Web Link

Is Information Risk Priced? Evidence from Abnormal Idiosyncratic Volatility

Journal of Financial Economics (JFE), Forthcoming
86 Pages Posted: 12 Nov 2018

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Date Written: November 12, 2018

Abstract

We propose a new, price-based measure of information risk called abnormal idiosyncratic volatility (AIV) that captures information asymmetry faced by uninformed investors. AIV is the idiosyncratic volatility prior to information events in excess of normal levels. Using earnings announcements as information events, we show that AIV is positively associated with informed return run-ups, abnormal insider trading, short selling, and institutional trading during pre-earnings-announcement periods. We find that stocks with high AIV earn economically and statistically larger future returns than stocks with low AIV. Taken together, our findings support the notion that information risk is priced.

Keywords: Information Risk, Idiosyncratic Volatility, Earnings Announcement, Expected Returns

Web Link

Information Acquisition and Expected Returns: Evidence from EDGAR Search Traffic

Asian Finance Association (AsianFA) 2018 Conference

Journal of Economic Dynamics and Control, Forthcoming

56 Pages Posted: 11 Sep 2017 Last revised: 11 Apr 2022

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Date Written: August 8, 2018

Abstract

Using a novel dataset containing investors' access of company filings through the SEC's EDGAR system, we show that the abnormal number of IPs searching for firms' financial statements strongly predicts future stock returns and firm fundamentals. A long-short portfolio based on our measure of information acquisition activity generates a monthly abnormal return of 80 basis points that is not reversed in the long run. Consistent with theories of endogenous information acquisition, the return predictability is more pronounced for firms with larger and lengthier financial filings that are more costly to process, and for IPs searching current and historical filings simultaneously. Our findings suggest investors' costly information acquisition activities reveal their private expectation of firm value.

Keywords: Endogenous Information Acquisition, EDGAR Search, SEC Filings

Web Link

Short Covering Trades

Journal of Financial and Quantitative Analysis (JFQA), 53 (2), 723-748, 2018
45 Pages Posted: 7 Feb 2015 Last revised: 28 Feb 2019

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Date Written: Novemeber 14, 2016

Abstract

Short sellers are known to have private information about security prices. Empirical evidence of short selling, however, is based on only half of short sellers' trading activity; specifically, the opening of the position. Using disclosed large short position data from the Japanese stock market, we provide the first detailed evidence of covering trades and find a positive reaction to short covering that only partially reverses. While these results are consistent with substantial transaction costs for closing large short positions, they also reveal that some short sellers are privately informed about positive future events and have timing ability in covering positions.

Keywords: Short Selling; Short Covering; Informed Trading

Web Link

The Role of Institutional Investors in Voting: Evidence from the Securities Lending Market

Journal of Finance, Forthcoming
53 Pages Posted: 6 Dec 2019

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University of Cambridge - Judge Business School

Jason Sturgess
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Date Written: November 2014

Abstract

This paper investigates the voting preferences of institutional investors using the unique setting of the securities lending market. Institutional investors restrict lendable supply and/or call back loaned shares prior to the proxy record date to exercise voting rights. Recall is higher for investors with greater incentives to monitor and exert governance, for firms with poor performance and weak governance, and for proposals where the returns to governance are likely to be higher such as those relating to corporate control. Loan demand and the borrowing fee also increase around the record date. In the subsequent vote outcome we find higher share recall to be associated with less support for management and more support for shareholder proposals. Our results indicate that institutions value their vote and use the proxy process as an important channel for affecting corporate governance.

Keywords: Proxy Voting, Securities Lending, Institutional Investors

Web link

Operational Shorting and ETF Liquidity Provision

Darden Business School Working Paper No. 2961954

2019 Academic Research Colloquium for Financial Planning and Related Disciplines

89 Pages Posted: 3 May 2017 Last revised: 4 Aug 2022

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Date Written: June 30, 2022

Abstract

Due to a regulatory exemption, ETF market makers can satisfy excess demand in secondary markets by selling ETF shares that have not yet been created. While this ability to "operationally short" is not unique to ETFs, it plays a more prominent role in ETF liquidity provision, and results in elevated ETF failures-to-deliver. We propose a novel measure for "operational shorting" and show it is associated with improved liquidity and greater price efficiency in the ETF underlying securities. Higher retail trading activity and short-term return reversals are also consistent with liquidity-supplying motives rather than informed trading. Consequently, delayed ETF creation to cover operational shorts is found to be a valuable option in the presence of retail trading and liquidity mismatches between the ETF and its underlying securities.

Keywords: Exchange-Traded Funds, Authorized Participants, Short-Selling, Failure to Deliver, Liquidity, Retail Trading, Market Making

Web Link

Valuation Uncertainty and Short-Sales Constraints: Evidence from the IPO Aftermarket

27th Annual Conference on Financial Economics and Accounting Paper
62 Pages Posted: 5 Jun 2016 Last revised: 6 Aug 2022

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Date Written: February 10, 2020

Abstract

We use the IPO setting to provide evidence that accounting measures of valuation uncertainty combine with short-sales constraints to generate significant equity market mispricing. The IPOs that we predict to be most susceptible to overpricing in the immediate aftermarket have first-day returns of +47% and lockup expiration returns of -9%. Our detailed analysis of securities lending market data confirms that these IPOs experience severe short-sales constraints that peak around the lockup expiration. Our paper both explains the anomalous pricing of IPOs and highlights the importance of valuation uncertainty and short-sales constraints in explaining equity mispricing.

Keywords: Short-Sales Constraints, Valuation Uncertainty, IPO Pricing, Equity Mispricing

Web Link

Flying Under the Radar: The Effects of Short-Sale Disclosure Rules on Investor Behavior and Stock Prices

Journal of Financial Economics (JFE), Forthcoming
71 Pages Posted: 10 Jul 2016 Last revised: 1 Nov 2019

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Date Written: October 30, 2019

Abstract

We study how disclosure requirements for large short positions affect investor behavior and security prices. Short positions accumulate just below the applicable disclosure threshold as certain investors never disclose any of their positions. Further tests suggest that this secrecy is part of investors' general policy of avoiding disclosure to protect their unique, profitable investment strategies against reverse engineering by competitors. No evidence supports the notion that short sellers avoid disclosure because of potential adverse effects on securities' lending fees, risk of recall, or short squeezes.
Finally, the evasive behavior by short sellers in response to transparency regulations hampers price discovery.

Keywords: short selling, transparency, investor behavior, stock market efficiency

Web Link

The Causal Effect of Limits to Arbitrage on Asset Pricing Anomalies

Journal of Finance, Forthcoming
62 Pages Posted: 1 Dec 2015 Last revised: 2 Dec 2019

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Date Written: November 25, 2019

Abstract

We examine the causal effect of limits to arbitrage on 11 well-known asset pricing anomalies using the pilot program of Regulation SHO, which relaxed short-sale constraints for a quasi-random set of pilot stocks, as a natural experiment. We find that the anomalies became weaker on portfolios constructed with pilot stocks during the pilot period. The pilot program reduced the combined anomaly long-short portfolio returns by 72 basis points per month, a difference that survives risk adjustment with standard factor models. The effect comes only from the short legs of the anomaly portfolios.

Keywords: Limits to Arbitrage, Anomalies, Short Sale Constraints, Regulation SHO

Web Link

Short Selling ETFs

Finance Down Under 2019 Building on the Best from the Cellars of Finance

Review of Asset Pricing Studies, Forthcoming

60 Pages Posted: 10 Sep 2016 Last revised: 8 Dec 2021

Frank Weikai Li

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Date Written: May 1, 2018

Abstract

We provide novel evidence that arbitrageurs use exchange-traded funds (ETFs) as an avenue to circumvent short-sale constraints at the stock level. Using a large sample of U.S. equity ETF holdings, we document that shorting activity on ETFs rises with the difficulty of shorting underlying stocks. Stocks that are heavily shorted via their holding ETFs underperform those lightly shorted. The return predictability of ETF shorting is distinct from stock-level shorting measures and is concentrated among stocks that face severe arbitrage constraints. These findings suggest that ETFs allow arbitrageurs to target overpriced stocks that are otherwise difficult to short.

Keywords: ETFs, Short Selling, Equity Lending, Limits to Arbitrage

Web Link

Do Option Prices Forecast Aggregate Stock Returns?

71 Pages Posted: 27 Jul 2017 Last revised: 22 Aug 2018

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Date Written: July 31, 2018

Abstract

We show that the average difference between the implied volatilities of call and put options on individual equities, which we term the implied volatility spread (IVS), has strong predictive power for stock market returns at horizons between one and six months, with monthly in-sample and out-of-sample R-squares around 5%. Controlling for other common predictive variables increases the significance of IVS and lengthens the horizons at which it is significant. We further show that IVS forecasts future surprises in aggregate earnings and growth rates in GDP and aggregate dividends. We conclude that this predictability is likely driven by expectations of stock lending fees embedded in IVS and is inconsistent with explanations based on informed option trading, time-varying risk premia, or illiquidity.

Keywords: Return Predictability, Options, Implied Volatility

Web Link

Let The Bear Beware: What Drives Stock Recalls

47 Pages Posted: 30 Aug 2016 Last revised: 29 Jan 2018

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Date Written: July 28, 2017

Abstract

We exploit joint dynamics of lendable and lent shares in the equity lending market to measure recall activity by lenders. We find that high recall activity predicts poor stock performance and precedes the lowest returns by two months. This suggests that short sellers are forced out of otherwise profitable positions prematurely. Short sellers lose more of their potential profits if lenders have access to non-public information signals, if high inventory concentration and correlated signals among lenders limit loan diversification, and if negative information diffuses slowly in the market. Overall, we establish that informational sophistication of lenders is the primary driver of informative stock recalls, which are most damaging to profitable short positions.

Keywords: Short Selling, Recall Risk, Securities Lending

Web Link

Ownership Structure , Limits to Arbitrage and Stock Returns: Evidence from Equity Lending Markets

49 Pages Posted: 17 Mar 2011 Last revised: 6 Dec 2019

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Date Written: July 10, 2016

Abstract

We examine how institutional ownership structure gives rise to limits to arbitrage through its impact on short-sale constraints. Stocks with lower, more concentrated, short-term, and less passive ownership exhibit lower lending supply, higher costs of shorting, and higher arbitrage risk. These constraints limit the ability of arbitrageurs to take short positions and delay the correction of mispricing. Stocks with more concentrated ownership exhibit smaller announcement day reactions, larger post-earnings announcement drift, and an additional negative abnormal return of -0.47% in the week following a positive shorting demand shock.

Keywords: Limits to Arbitrage, Equity Lending Markets, Short Selling, Ownership Structure, Arbitrage Risk

[Web Link](#)

Is There a Risk Premium in the Stock Lending Market? Evidence from Equity Options

49 Pages Posted: 23 Jun 2016 Last revised: 22 Oct 2019

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Date Written: April 29, 2016

Abstract

Recent research argues that uncertainty about future stock borrowing fees is an impediment to short-selling and it explains the risk-adjusted performance of short strategies. One possible mechanism is that borrowing fee risk carries a risk premium. Since the present value of the uncertain borrowing fee is reflected in options prices, the difference between option-implied and realized fees estimates the risk premium. Overall the risk premium is small, but it is material during the financial crisis and for stocks affected by the short sale ban. Option-implied borrowing fees predict stock returns in panel regressions and drive out other shorting proxies.

Keywords: Short sales, stock borrowing fee, risk premium, equity options

Web Link

Does Short-selling Threat Discipline Managers in Mergers and Acquisitions Decisions?

Journal of Accounting & Economics (JAE), Vol. 67, No. 1, 2019

Finance Down Under 2015 Building on the Best from the Cellars of Finance Paper

42 Pages Posted: 4 Nov 2013 Last revised: 8 Dec 2018

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Date Written: December 7, 2018

Abstract

We explore the governance effect of short-selling threat on mergers and acquisitions (M&A). We use equity lending supply (LS) to proxy for the threat, as short sellers' incentives to scrutinize a firm depend on the availability of borrowing shares. Our results show that acquirers with higher LS have higher announcement returns. The effect is stronger when acquirers are more likely to be targets of subsequent hostile takeovers and when their managers' wealth is more linked to stock prices. We conduct four sets of tests to mitigate endogeneity concerns. Finally, the governance effect exists only for deals prone to agency problems.

Keywords: mergers and acquisitions, short-selling threat, external corporate governance, lending supply, announcement returns

Web link

Why Does Options Market Information Predict Stock Returns?

59 Pages Posted: 13 Oct 2016 Last revised: 26 May 2022

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Date Written: April 20, 2018

Abstract

Several influential studies show that options volatilities and trading volume predict stock returns. This predictability is puzzling because market participants can readily observe options market
data. We find that this predictability is consistent with option prices reflecting stock borrow fees
that are known to predict stock returns. We derive a formula relating the option-implied volatility
spread to the borrow fee. Motivated by this relation, we show that abnormal stock return predictability from option signals decreases by about two-thirds after returns are adjusted for
borrow fees. The predictability of unadjusted returns decreases by a similar amount if high-fee
stocks are excluded.

Keywords: equity options, put-call parity, implied volatility spread, implied volatility skew, stock borrowing fee, stock lending fee

Web Link

Short-Selling Risk

Journal of Finance, Forthcoming

UNC Kenan-Flagler Research Paper No. 2312625

47 Pages Posted: 20 Aug 2013 Last revised: 10 Nov 2017

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Date Written: January 21, 2017

Abstract

Short sellers face unique risks, such as the risk that stock loans become expensive and the risk that stock loans are recalled. We show that short-selling risk affects prices among the cross-section of stocks. Stocks with more short-selling risk have lower returns, less price efficiency, and less short selling.

Keywords: short selling-risk, equity lending, market efficiency, limits to arbitrage, short sale

Web Link

ETF Activity and Informational Efficiency of Underlying Securities

Columbia Business School Research Paper No. 16-71
60 Pages Posted: 2 Oct 2016 Last revised: 4 Sep 2019

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Yuan Zou
Harvard University - Business School (HBS)

Date Written: December 1, 2016

Abstract

This paper investigates the effect of exchange-traded funds' (ETF) activity on the short-run informational efficiency of their underlying securities. We find that ETF activity increases short-run informational efficiency for stocks with weak information environments. The increase in informational efficiency results from the timely incorporation of systematic earnings information. In contrast, we find no such effect for stocks with stronger information environments. ETF activity increases return co-movement, and this increase is partly attributable to the timely incorporation of systematic earnings information. Further, ETF activity is associated with an attenuation of post-earnings-announcement drift and an increase in active share lending.

Keywords: ETF, Information Efficiency

Web Link

Can Short Restrictions Result in More Informed Short Selling? Evidence from the 2008 Regulations

Financial Management 42 (Spring, 2013), 155-181.
43 Pages Posted: 19 Mar 2009 Last revised: 2 Aug 2017

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Adam V. Reed
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Jacob R. Thornock
Brigham Young University

Date Written: September 1, 2010

Abstract

We use the 2008 short selling regulations to conduct the first test of Diamond and Verrecchia's (1987) counterintuitive prediction that short sale constraints can actually increase the information content of short sales. The emergency order made it difficult and costly for short sellers without strong broker relationships to borrow shares; borrowing fees increased by over 500%. Similarly, the short selling ban prohibited short selling in the spot market, but sophisticated traders could still short synthetically via the options market. As such, there is good reason to expect that both regulations increased the proportion of informed short sellers. Consistent with this notion, we find that the price reaction to announcements of unexpectedly high levels of short interest became more negative when the regulations were in effect. We also find that the price impact of short sales increased during the ban for affected stocks. Our results confirm the counterintuitive and previously untested prediction that short selling restrictions may actually increase the information content of short selling.

Keywords: Financial crisis, short sales, regulation

Web Link

Short Selling Before Initial Public Offerings

WBS Finance Group Research Paper Series
38 Pages Posted: 27 Jun 2015 Last revised: 21 Mar 2017

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Date Written: September 12, 2016

Abstract

This paper shows that the presence of security lending supply before an initial public offering (IPO) reduces the initial stock return following IPO and improves subsequent long-run performance. We use a sample of British firms that go public via a two-stage IPO procedure where a firm becomes publicly traded on the London Stock Exchange in the first stage, and offers new shares to the public in the second stage. Stocks are lendable before the new equity issuance which relaxes the short-sale constraints that investors typically face in a conventional IPO. We find that two-stage offerings with higher security lending supply before offering are associated with lower IPO underpricing and better long-run performance. Our results are consistent with the conjecture that short selling improves the pricing efficiency of the IPO market.

Keywords: IPO underpricing; two-stage offering; short selling; IPO long-run performance

Web link

Insider Selling on Public Information: Evidence from Competition with Short Sellers

64 Pages Posted: 18 Mar 2017

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University of Warwick - Warwick Business School

Date Written: March 15, 2017

Abstract

This paper shows that insiders trade on public information just after earnings announcements. Using a sample of US stocks, we analyze insider trading in the context of short-selling activity and show that insiders sell significantly more often and more shares when short sellers are also highly active. Moreover, the speed of information dissemination is significantly higher when both insiders and short sellers sell intensively. Together, these findings imply that insiders' and short-sellers' signals are highly correlated. Previous literature has shown that short sellers possess superior information-processing skills that allow them to trade profitably after public-information releases. Our evidence suggests that insiders, just as short sellers, interpret publicly-available earnings news and sell when their stock is overpriced. Insiders tend to stop selling and even start buying when the stock is underpriced. Competition between the two types of informed traders increases the speed of information dissemination, which improves stock-market efficiency.

Keywords: Insider trading, Short selling, Informed trading, Earnings announcements

[Web link](#)

The Big Short: Short Selling Activity and Predictability in House Prices

46th Annual AREUEA Conference Paper
50 Pages Posted: 1 Dec 2010 Last revised: 29 Sep 2016

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Date Written: September 28, 2016

Abstract

We study how investors use financial securities to speculate on the decrease of house prices. Unlike most asset types, houses are subject to high trading frictions and cannot be sold short. Using U.S. data from 2006 to 2013, we find evidence that an increase in the short selling activity of real estate investment trusts (REITs) forecasts a decrease in house prices in the subsequent month. The magnitude and significance of this effect vary with the geographical location of the REITs' underlying properties and with the state of the business cycle.

Keywords: Housing prices, short sales, financial crisis, equity lending, REITs

Web link

Is Price Support for Overvalued Equity a Motive for Increasing Share Repurchases?

Journal of Corporate Finance, June 2016, Vol. 38: 77-91
45 Pages Posted: 24 Jun 2013 Last revised: 7 Sep 2016

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Date Written: March 18, 2016

Abstract

Prior research shows that companies repurchase stock during quarters with low returns, presumably because the stock is undervalued. We focus on repurchase increases and investigate another motive: Are repurchases increased to provide price support for a stock that, despite recent low returns, remains overvalued? Using an increase in short selling to indicate overvaluation, we regress quarterly changes in share repurchases on quarterly changes in short interest. Consistent with price support, the association is positive and statistically significant each year from 2003 to 2014. We find the price support quarter is followed by a sharp multi-quarter decline in ROA (return on assets), but the corresponding decline in EPS (earnings per share) is modest due to the reduction in outstanding shares. Abnormal returns after the price support quarter are positive, indicating that price support is effective. We also examine trading by insiders. While insiders generally sell when shorts sell, they hold onto shares during the price support quarter. This indicates insiders are confident they can maintain the current stock price.

Keywords: short selling, arbitrage, stock repurchases, stock buybacks

Web Link

Deleveraging Risk

Journal of Financial and Quantitative Analysis (JFQA), Forthcoming
48 Pages Posted: 27 Nov 2012 Last revised: 26 Aug 2016

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Date Written: August 26, 2016

Abstract

Deleveraging risk is the risk attributable to investing in a security held by levered investors. When there is an aggregate negative shock to the availability of funding capital, securities with a greater presence of levered investors experience extreme return realizations as these investors unwind their positions. Using data on equity loans as a proxy for the degree of levered positions in a given stock, we find robust evidence of deleveraging risk. Stocks with a high degree of short selling experience large positive returns and a decrease in short selling around periods of funding capital scarcity.

Keywords: Deleveraging, equity lending, short selling, arbitrage capital, funding capital

Web Link

The Shorting Premium and Asset Pricing Anomalies

61 Pages Posted: 30 Jan 2014 Last revised: 7 May 2016

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Date Written: May 4, 2016

Abstract

Short rebate fees are a strong predictor of the cross-section of stock returns, both gross and net of fees. We document a large "shorting premium": the cheap-minus-expensive-to-short (CME) portfolio of stocks has a monthly average gross return of 1.31%, a net-of-fees return of 0.78%, and a 1.44% four-factor alpha. We show that short fees interact strongly with the returns to eight of the largest and most well-known cross-sectional anomalies. The anomalies effectively disappear within the 80% of stocks that have low fees, but are especially large among the high-fee stocks, even net of fees. We propose an explanation for these findings: the shorting premium is arbitrageurs' compensation for the concentrated risk they bear in shorting overpriced stocks. Because this risk is on the short side, a larger premium means a more overpriced stock. We proxy for shorting risk using stocks' covariance with the CME portfolio, and demonstrate that a Fama-French CME factor model largely captures the anomalies' returns within both high- and low-fee stocks.

Keywords: shorting, lending fees, shorting premium, anomalies, cross-section, asset pricing, concentrated risk, differences of opinion, segmentation, stock returns, value, momentum, idiosyncratic volatility, net share issuance

[Web Link](#)

Rumor Has It: Sensationalism in Financial Media

Review of Financial Studies, 2015, vol. 28(7): 2050-2093

140 Pages Posted: 14 May 2013 Last revised: 30 Mar 2016

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Date Written: December 12, 2014

Abstract

The media has an incentive to publish sensational news. We study how this incentive affects the accuracy of media coverage in the context of merger rumors. Using a novel dataset, we find that accuracy is predicted by a journalist's experience, specialized education, and industry expertise. Conversely, less accurate stories use ambiguous language and feature well-known firms with broad readership appeal. Investors do not fully account for the predictive power of these characteristics, leading to an initial target price overreaction and a subsequent reversal, consistent with limited attention. Overall, we provide novel evidence on the determinants of media accuracy and its effect on asset prices.

Keywords: Sensationalism, rumors, media, journalists, mergers, acquisitions

Web Link

In Short Supply: Short Sellers and Stock Returns

Rock Center for Corporate Governance at Stanford University Working Paper No. 165
55 Pages Posted: 4 Dec 2013 Last revised: 19 Apr 2015

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Date Written: February 27, 2015

Abstract

We examine the economic determinants of short-sale supply, and its consequences for future stock returns. Lendable supply increases with expected borrowing costs and decreases with financial statement constructs that indicate overvaluation. Although rising loan fees help ease supply, we find shares are still least available when they are most attractive to short sellers. Using a number of firm characteristics, we derive useful instruments for real-time loan supply and demand conditions in the lending market. Further, we show that (1) when lendable supply is binding (non-binding), short-sale supply (demand) is the main predictor of future stock returns, (2) abnormal returns to the short-side of nine well-known market anomalies are attributable solely to "special" stocks, and (3) loan fees significantly reduce the profitability of the short side and several of these anomalies cease to be profitable. Overall our evidence highlights the central role played by the supply of lendable shares in equity price formation and returns prediction.

Keywords: Short Selling, Overvaluation, Market Efficiency

Web Link

Revealing Shorts: An Examination of Large Short Position Disclosures

AFA 2013 San Diego Meetings Paper
63 Pages Posted: 16 Aug 2011 Last revised: 4 Mar 2015

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Date Written: March 2, 2015

Abstract

By 2012, all European Union countries began requiring the disclosure of large short positions. This regime change reduced short interest, bid-ask spreads, and the informativeness of prices. After specific disclosures, short-run abnormal returns are insignificantly negative, but 90-day cumulative abnormal returns are –5.23%. We find disclosures are likely to be followed by other disclosures, especially when the initial discloser is large or centrally located, but there is no subsequent increase in short interest, and prices do not subsequently reverse. These results indicate that large short sellers are well-informed, and that disclosures are not being used to coordinate manipulative attacks.

Keywords: short sales, short interest, securities lending, secondary equity offering

Web Link

Short-Selling Constraints and ‘Quantitative’ Investment Strategies

The European Journal of Finance, Vol.19, Issue: 1-2, pp.19-35
Posted: 5 Nov 2014

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Date Written: January 31, 2013

Abstract

This study uses stock lending data from Data Explorers to assess the impact of short-selling constraints on the profitability of eight investment strategies. Returns from unconstrained long-short portfolios are compared with those from ‘feasible’ portfolios, constrained to short-selling only those shares that can be borrowed. We find that only a small percentage of the firms identified by Datastream for short-selling are available for lending, but our results suggest that differences in profitability between unconstrained and feasible strategies are statistically insignificant. We also find that the stock borrowing fee for the majority of the strategies is normally less than 1% per annum, showing that prior UK studies, which assumed that the short-selling fee is flat at 1.50% per annum, have overestimated such cost. Overall, these results indicate that stock loan unavailability and stock borrowing fees do not explain the persistence of returns from anomaly-exploiting quantitative investment strategies in the UK stock market.

Keywords: stock market anomalies; stock-lending fee; short-selling constraints; Data Explorers

Web Link

Why Do Options Prices Predict Stock Returns?

Netspar Discussion Paper No. 07/2013-079
49 Pages Posted: 25 Feb 2014

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Date Written: July 1, 2013

Abstract

We use a new approach to assess the information transmission between options and stock markets. We study whether the predictive power of option-implied volatilities (IVs) on stock returns lies in analyst-related and/or earnings-related news. We find that two proxies for options trading (IV skew and IV spread) predict analyst recommendation changes, analyst forecast revisions, and earnings surprises. Next, we show that the IV skew and IV spread predict stock returns, and that the degree of predictability more than doubles around analyst-related and earnings-related events. Additionally, we find that informed traders choose to use the options market particularly because of short-sale constraints on the underlying stock. We also find that the informed options trading increases with the options market liquidity.

Keywords: Informed traders, corporate events, implied volatility spread, implied volatility skew, short-sale constraint

Web Link

UK Short Selling Activity and Firm Performance

Journal of Business Finance & Accounting, Vol. 39, Issue 9-10, pp. 1403-1417, 2012
15 Pages Posted: 12 Jan 2013

Panagiotis Andrikopoulos
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Date Written: November/December 2012

Abstract

We use short selling data from Data Explorers from 2004 to 2012 to investigate the extent to which UK short sellers are informed investors, in accordance with Diamond and Verrecchia's (1987) hypothesis. Our results suggest that heavily-shorted stocks fail to consistently underperform their lightly-shorted counterparts. Short sellers' ability to predict firm performance is limited to firms that struggle for survival, such as firms about to enter bankruptcy or financial firms during the financial crisis. These results provide new evidence regarding the source of short-sellers' information and should be of interest to academics, financial regulators and market participants.

Keywords: short sellers, informed trading, financial crisis, bankrupt firms

Web Link

How are Shorts Informed? Short Sellers, News, and Information Processing

Journal of Financial Economics, Forthcoming
53 Pages Posted: 13 Jan 2010 Last revised: 9 Oct 2012

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Date Written: August 1, 2012

Abstract

We find that a substantial portion of short sellers' trading advantage comes from their ability to analyze publicly available information. Using a database of short sales combined with a database of news releases, we show that the well-documented negative relation between short sales and future returns is twice as large on news days and four times as large on days with negative news. Further, we find that the most informed short sales are not from market makers but rather from clients, and we find only weak evidence that short sellers anticipate news events. Overall, the evidence suggests that public news provides valuable trading opportunities for short sellers who are skilled information processors.

Keywords: asymmetric information, manipulation, news media, short sales

Web Link

Price Efficiency and Short Selling

AFA 2008 New Orleans Meetings Paper
IESE Business School Working Paper No. 748
Review of Finance Studies, Vol. 24, No. 3, pp. 821-852, 2011
41 Pages Posted: 4 Dec 2006 Last revised: 7 Mar 2011

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Date Written: August 30, 2010

Abstract

This article studies how stock price efficiency and the distribution of returns are affected by short-sale constraints. The study is based on a global data set that includes more than 12,600 stocks from 26 countries between 2005 and 2008. Our main findings are as follows. First, lending supply has a significant impact on efficiency. Stocks with higher short-sale constraints, measured by low lending supply, have lower price efficiency. Second, relaxing short-sales constraints is not associated with an increase in either price instability or occurrence of extreme negative returns.

Keywords: Short sales constraints, market efficiency, equity lending markets, extreme returns

Web Link

Earnings Announcements: Good News for Institutional Investors and Short Sellers

Finance and Corporate Governance Conference 2010 Paper
62 Pages Posted: 11 Jan 2010

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Michael D. McKenzie
The University of Sydney - Discipline of Finance; University of Cambridge - Cambridge Endowment for Research in Finance (CERF); Financial Research Network (FIRN)

Date Written: January 11, 2010

Abstract

Both institutional owners and short sellers decrease their positions prior to earnings announcements, and increase their positions in the post-announcement period. Pre-announcement changes in institutional holdings and short interest have significant explanatory power with respect to abnormal earnings announcement returns, where most of the power comes from institutions and short sellers closing positions in order to avoid losses. Analysis of post-announcement returns indicates that aggressive trading by short sellers in reaction to earnings releases enhances immediate price discovery, which reduces their ability to profit from post-earnings announcement drift. The more muted reaction of institutional traders to earnings releases has no significant impact on earnings response coefficients, and allows institutions to successfully target stocks that underreact to earnings news.

Keywords: Informed Traders, Institutional Ownership, Short Selling, Earnings Announcements, Post Earnings Announcement Drift, PEAD

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