



MSF vs Public Short Interest Comparison Study

Research Findings - US Equities

February 2021

Introduction to Securities Finance

Proprietary, independent securities finance database

Tracks global, daily securities finance supply, short demand, fee and market share data on Corporate and Government Bonds

Key Benefits

- Investment Insight**
 Ability to analyze long and short fund flow activity at instrument, sector and market level; identify potential turning points and contrarian ideas
- Trading Transparency**
 Track borrow demand, rates and availability across the capital structure and identify shifts in sentiment for single issues, issuers, sectors and regions
- Comprehensive Dataset**
 Includes shares borrowed, inventory of available shares on loan, level of utilization, loan concentration, stock borrowing cost factors, stability metrics, short squeeze factors and Publicly disclosed global short interest data

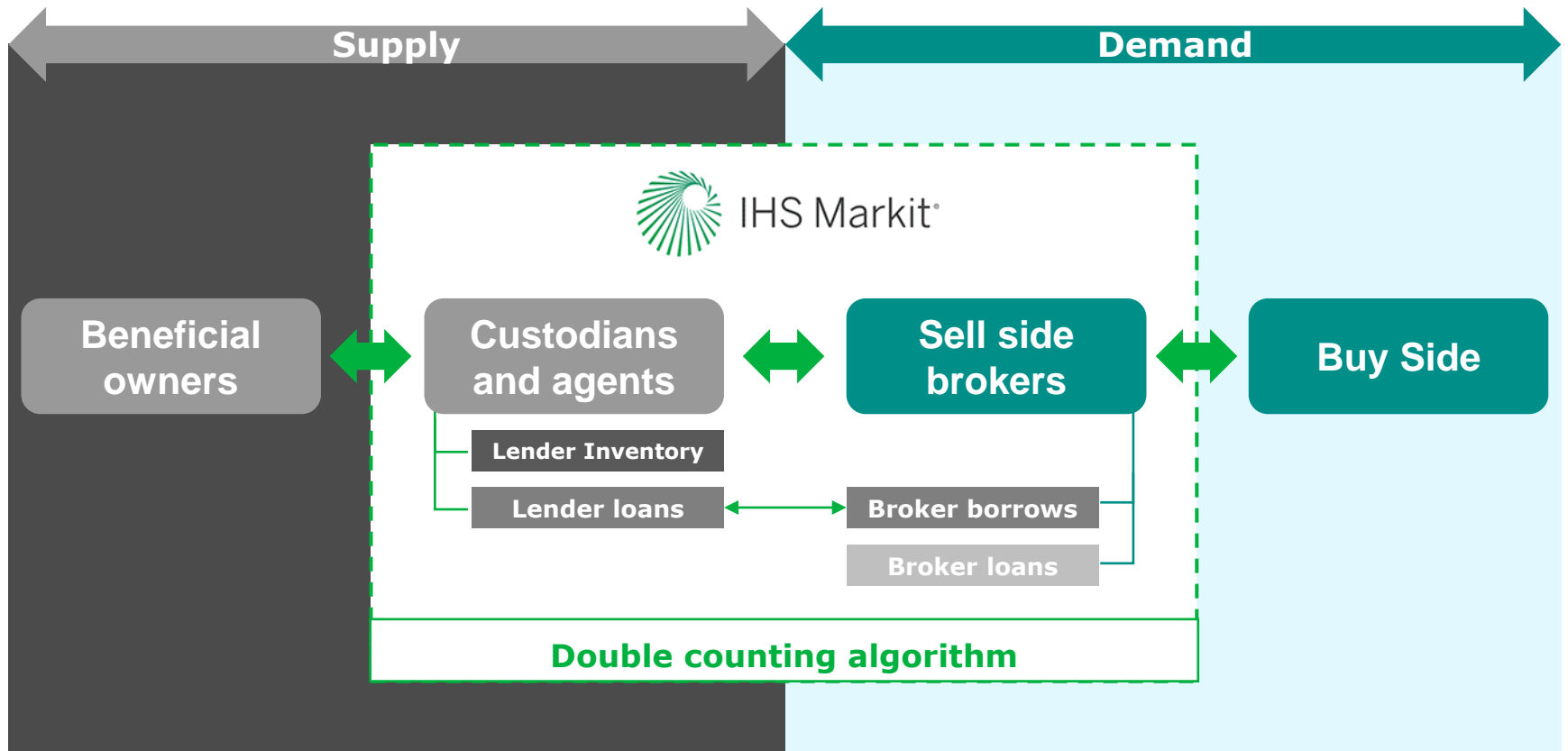


- Sourced from 300+ Leading Industry Participants**
 Prime brokers, custodians, asset managers and hedge funds
- Integrated Workflow**
 Delivery via web applications, Excel add-in, data feeds, API and third-party vendors

- \$30tn**
Lendable inventory
- \$2.7tn**
Value on loan
- 3mn**
Daily transactions
- 20,000+**
Equity instruments
- 200,000+**
Fixed Income instruments
- 15**
Years of daily history

Securities Finance Data

Sourced daily from industry participants



Executive Summary

- MSF Forecast Short Interest and Borrow data available daily has several advantages over the Public Short Interest available twice a month with a reporting lag of 8 business days from settlement date
 - > Tracking daily movements in short interest which may not be captured by public data
 - > Identifying movements 7 business days in advance of the public data publish with 90% accuracy

It is worth highlighting that MSF Forecast Short Interest is not biased as it is not adjusted historically after the Public Data for a particular settlement date is published. Trades related to financing and yield enhancement are removed from MSF Short Interest using our proprietary algorithm

- Our research on short sentiment highlights relationship with forward returns is much stronger for Demand/Supply based factors like Active Utilization, Demand Supply Ratio and Lending Supply in comparison to pure Demand based factors like Public Short Interest and MSF Short Interest in both US Large Cap and Small Cap equities
 - A strategy that buys stocks with low Demand Supply Ratio or low Active Utilization or high Lending Supply and sells stocks with high Demand Supply Ratio or high Active Utilization or low Lending Supply is found to be more profitable in comparison to a strategy that buys stocks with low MSF Short Interest or Public Short Interest and sells stocks with high MSF or Public Short Interest during the 13-year period Jan 2008 – Nov 2020
- We also observe a reversal in strategy for all the short sentiment factors during market rallies like the one observed in Mar – Apr 2009 and from April 2020 onwards where stocks with high negative sentiment outperformed stocks with low negative sentiment which is against intuition. During such periods, using MSF Lending supply can be beneficial as the reversal in signal is less extreme for this factor in comparison to other factors

Executive Summary

- Historical performance of pure Demand based factors like MSF Short Interest, MSF Forecast Short Interest and Public Short Interest is found to be similar in terms of their relationship with forward returns as measured by Information Coefficients
- We highlight the importance of considering the publication lag of the Public Short Interest data as the strategy signal for Public Short Interest can appear to be artificially better when the reporting lag is not incorporated
- In rest of the paper:
 - > We spotlight a few recent case studies that highlight the importance of daily MSF data
 - > Review the accuracy of the MSF Forecast Short Interest in predicting the next Public Short Interest
 - > Back-test results over the last 4 and a half years to compare the performance of MSF Forecast Short Interest (available from 2016 onwards) and MSF short sentiment factors with Public Short Interest.
 - > Back-test long duration with different rebalance frequencies for a 13-year period between Jan 2008 – Nov 2020 to identify the best performing short sentiment factors

Factor Definitions

- **Active Utilization:** Percentage of actively lendable securities in lending programs which are currently out on loan, calculated as the Lender Value on Loan divided by Active Lendable Value. Active Lendable value strips out inactive lendable inventory as per MSF's proprietary algorithm
- **Demand Supply Ratio:** The value of security on loan relative to the lendable inventory held in the security. Trades related to financing and yield enhancement are removed from total loans using MSF's proprietary algorithm
- **Lending Supply:** Percentage of shares outstanding that are held in lending programs reported to IHS Markit Securities Finance
- **Short Interest:** Percentage of shares outstanding on loan reported to IHS Markit Securities Finance. Trades related to financing and yield enhancement are removed from total loans using MSF's proprietary algorithm
- **Public Short Interest:** Total number of shares sold short in a security reported by the exchange as a percentage of shares outstanding. Public Short Interest information for US securities is available twice a month with a reporting lag of 8 business days from the settlement date
- **Public Short Interest (no lag):** Total number of shares sold short in a security reported by the exchange as a percentage of shares outstanding assuming no reporting lag
- **Forecast Short Interest:** Percentage of shares outstanding on loan forecasted using MSF's proprietary algorithm which creates a weighted-average forecast for each security, considering additional inputs such as correlations to securities lending balances, dividends and volume traded. A key benefit of including borrow demand to forecast exchange short interest is that it can be calculated daily and reported on the next day. Forecast Short Interest was made available from Feb 2016 onwards

What is the difference between the US Exchange Short Interest and MSF?

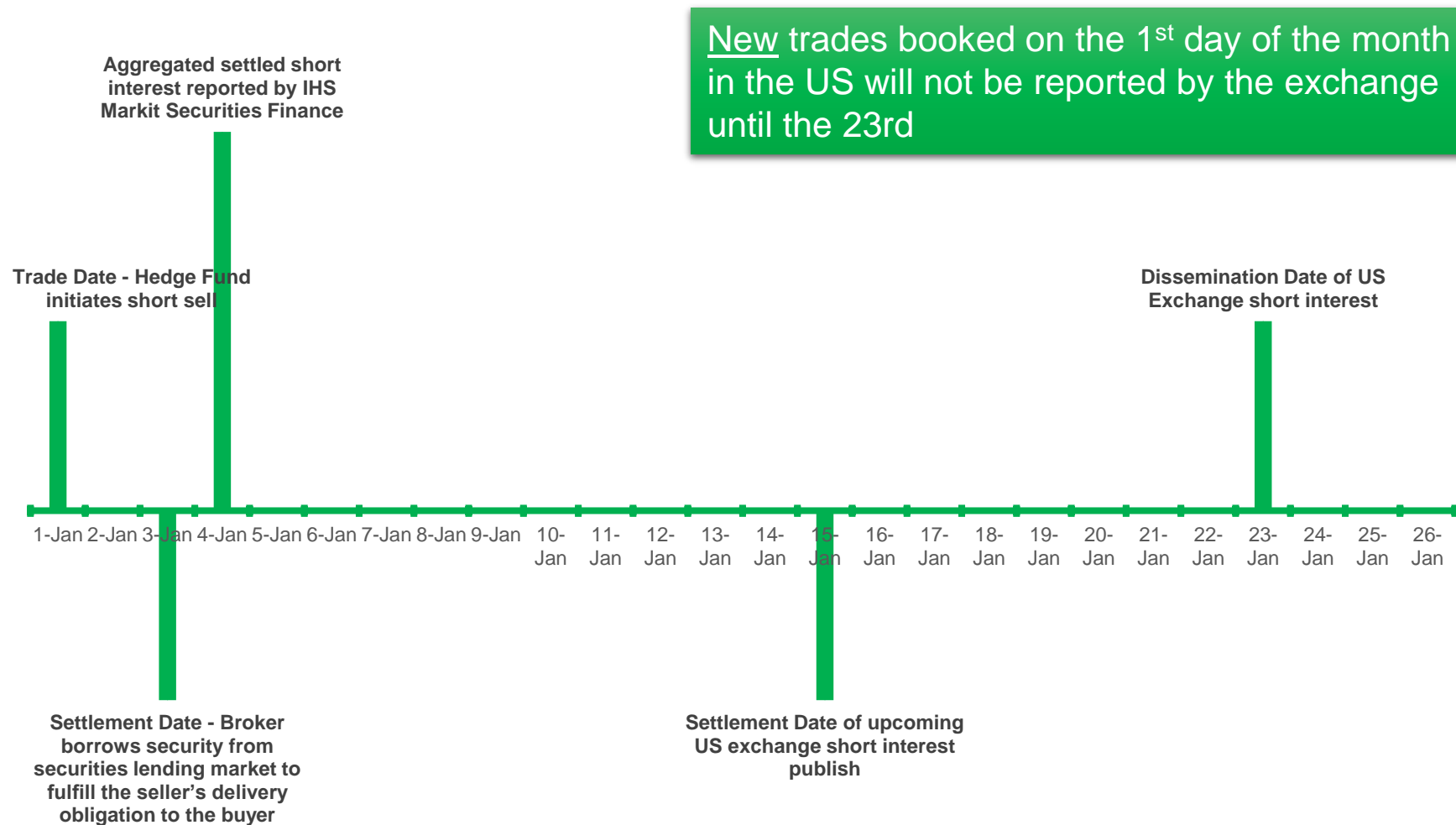
- **US Exchange Short Interest:**

- > Total number of shares sold short in a security
- > Reported by exchange members and aggregated as per FINRA regulation 4560
- > Settled gross short positions (i.e., inclusive of hedging activity)
- > Published on a 2-week schedule with 8- business day delay from settlement

- **IHS Markit Securities Finance:**

- > Total number of shares borrowed/lent in a security in the securities lending market
- > Proxy for short interest as most short sales require a stock loan to facilitate settlement. Trades related to yield enhancement and financing are removed from total borrows to calculate MSF Short Interest
- > Reported by global client base (Prime Brokers and Custodian Banks) who may or may not be members of the exchanges, and includes offshore transactions
- > Reported multiple times daily, on a settlement +1 basis

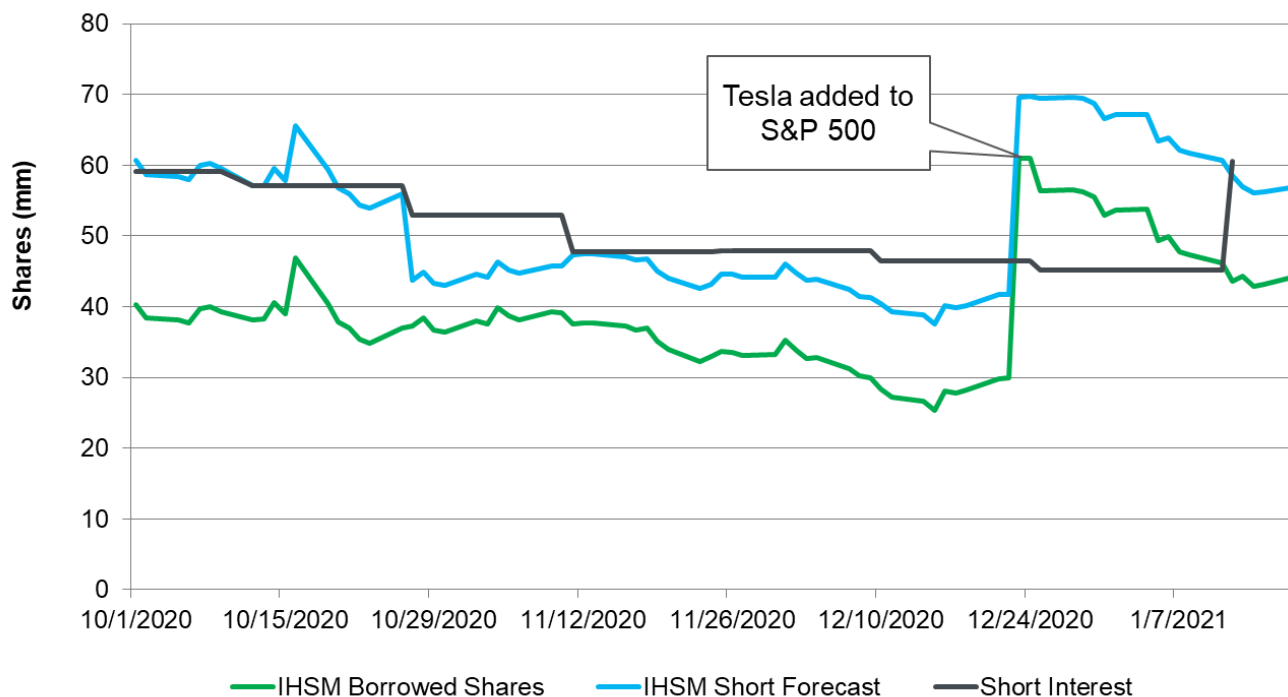
Short Selling Timeline – New trades booked at the beginning of month



New trades booked on the 1st day of the month in the US will not be reported by the exchange until the 23rd

S&P 500 inclusion boosted Tesla short positioning, which drove an increase in share borrowing

Tesla Inc borrowed shares & NASDAQ short interest

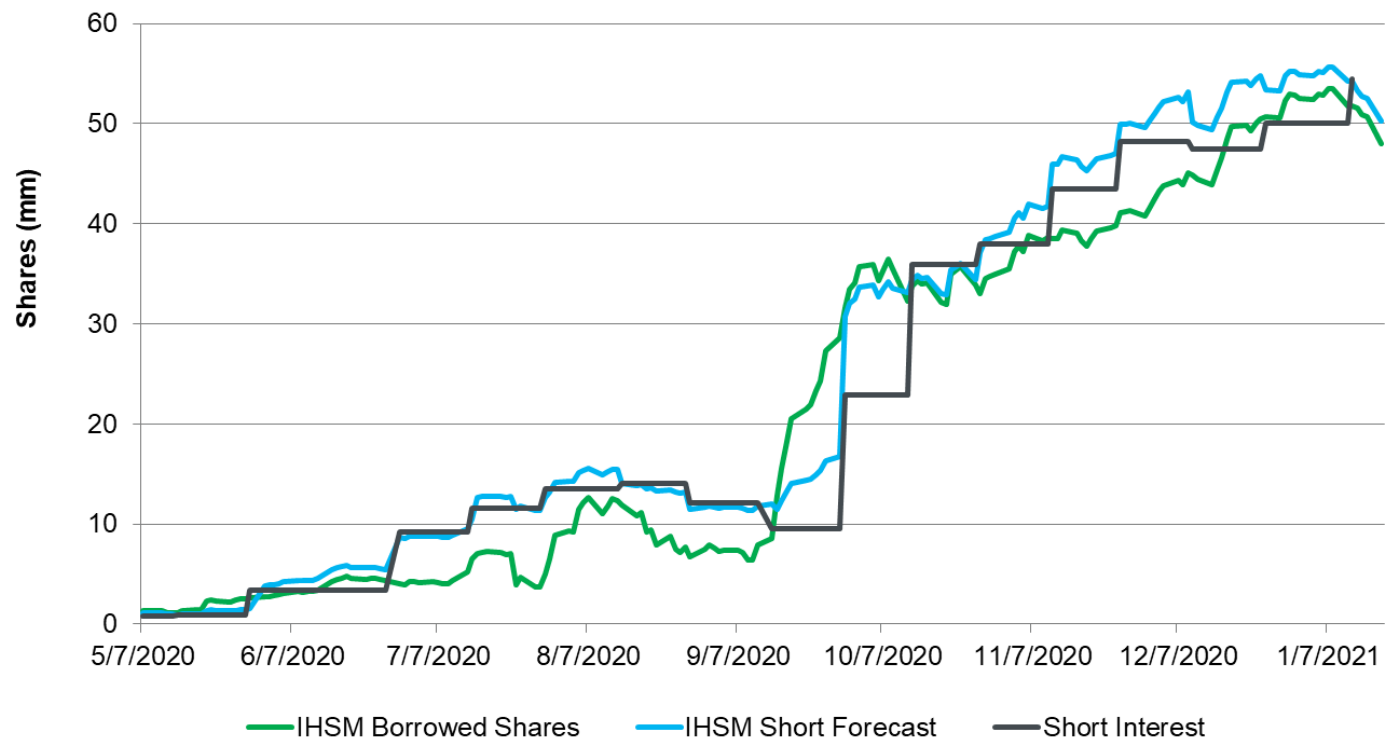


Note: All fields displayed on the date they were made available to public
 Source: IHS Markit Securities Finance & NASDAQ

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Short positioning in Nikola Corp increased dramatically following the publish of negative research in September, which was reported in borrow data weeks ahead of being captured in short interest data

Nikola Corporation borrowed shares & NASDAQ short interest

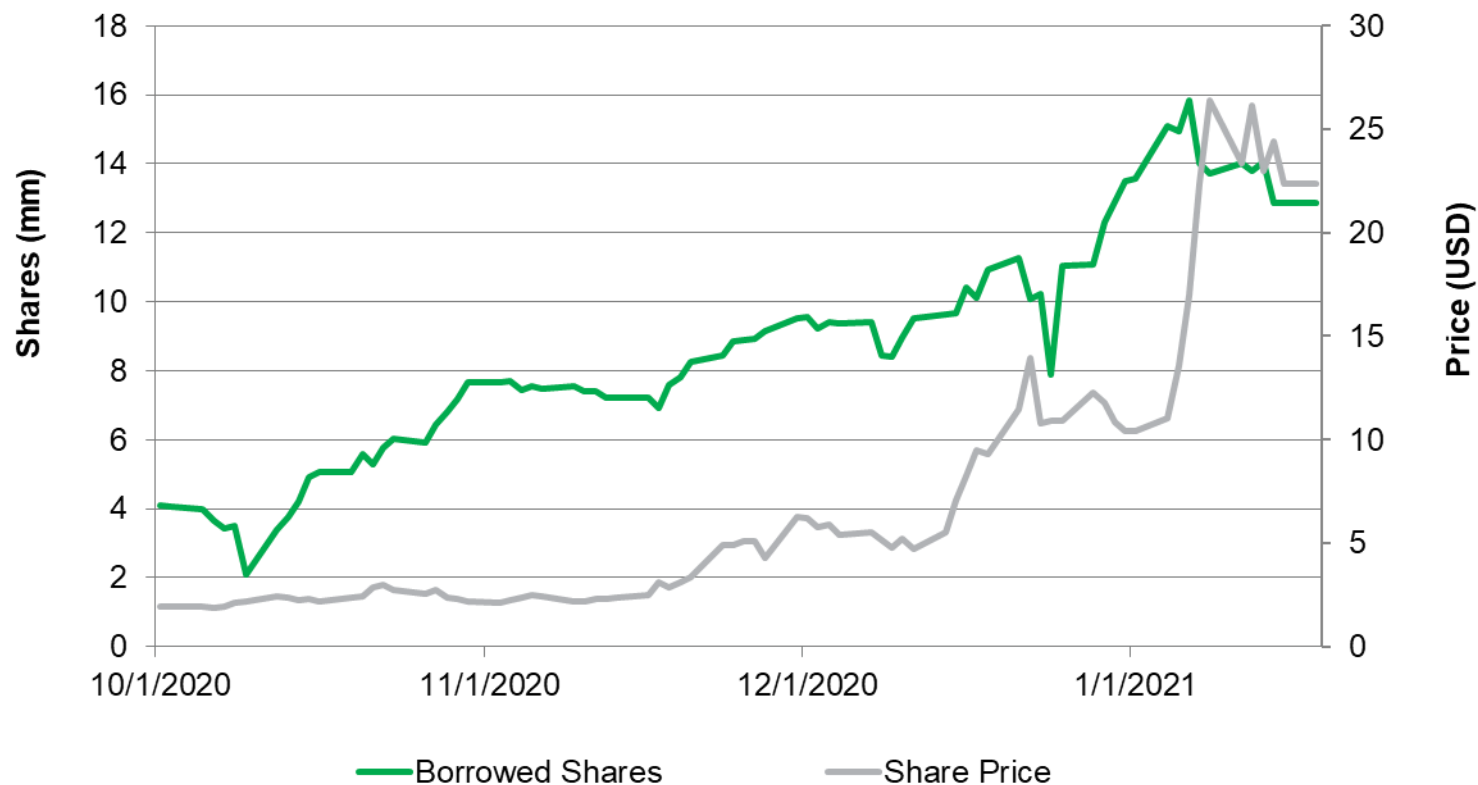


Note: All fields displayed on the date they were made available to public
 Source: IHS Markit Securities Finance & NASDAQ

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Daily frequency provides greater clarity on short term changes in positioning for Marathon Patent Group in reaction to price increases

Marathon Patent Group Inc borrowed shares & share price



Source: IHS Markit Securities Finance

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Research Findings (Mar 2016 – Nov 2020)

- Forecast Short Interest provided by MSF was found to be around 90% accurate on average in forecasting the Public Short Interest number for both US Large Cap and Small Cap securities based on monthly time stamps during Mar 2016 to Nov 2020. We note that the public number is released at least 7 business days after the MSF forecast is available for a given settlement date

During the back-test period Mar 16 – Nov 20, MSF Demand Supply Ratio (DSR) was found to have the strongest relationship with 1-month forward returns with an average IC of 0.016 for Large Cap securities and an average IC of 0.038 for Small Caps highlighting that stocks with high DSR tend to underperform in comparison to stocks with low DSR.

- MSF Lending Supply was also found to be a strong factor in Small Caps with an average IC of 0.032 highlighting that stocks with high Lending Supply tend to outperform stocks with low Lending Supply
- In US Large Caps, benefits from buying stocks with low negative sentiment and selling stocks with high negative sentiment eroded completely as the strategy signal reversed from Apr 2020 onwards
- In US Small Caps, similar drawdowns were observed from Apr 2020 onwards across the factors. However, using DSR and Lending Supply were still found to be beneficial in portfolio construction returning 9.6% and 2.9% per annum with an Information Ratio of 0.5 and 0.25 respectively
- Performance metrics from using MSF Short Interest, MSF Forecast Short Interest and Public Short Interest were found to be similar with MSF Short Interest having a slight edge in Small Caps and Public Short Interest having an edge in Large Caps for portfolio construction
- We also found that it is important to consider the lag in the Public Short Interest as the back-test performance becomes artificially better for Public Short Interest data if the lags are not considered

Research Findings (Jan 2008 – Nov 2020)

- We also compared MSF Short Interest and Lending Supply factors with Public Short Interest over a wider time horizon between 2008 to 2020 for daily, weekly and monthly rebalance frequencies and found interesting results that highlight the importance of the unique Lendable Inventory and the Demand/Supply factors available from MSF
- For both US Large Cap and Small Cap securities, we found average IC to be statistically significant for MSF Active Utilization, Demand Supply Ratio and Lending Supply across the daily, weekly and monthly rebalancing periods highlighting a strong relationship with forward returns
- The average IC for MSF Short Interest and Public Short Interest were found to be significant in US Small Caps but not in Large Caps
- For a long-short strategy, Active Utilization, Demand Supply Ratio and Lending Supply performed positively across different rebalance frequencies in both universes with Active Utilization and Demand Supply Ratio yielding $IR > 1$ during the 13-year period for US Small Caps
- We again note the similarity in the performance of MSF Short Interest and Public Short Interest with MSF Short Interest having a slight edge in Small Caps and Public Short Interest having an edge in Large Caps for portfolio construction
- Comparing long-short spreads in 2020 for the short interest factors from MSF and Public data, we found Lending Supply to be the least impacted factor in terms of signal reversal for both the universes in comparison to other short interest factors highlighting the importance of using Lending Supply in portfolio construction

MSF Short Interest Factors & Forecast Short Interest vs. Public Short Interest

March 2016 – November 2020

MSF Forecast Short Interest Accuracy in Forecasting Public Short Interest

We used MAPE (Mean Absolute Percentage Error) to find the accuracy of our forecasts (based on MSF proprietary Model) in predicting the publicly available short interest data which is disseminated by the exchanges

MAPE is expressed as a percentage defined by the formula :

$$MAPE = \frac{1}{n} \sum_{i=1}^n \left| \frac{A_i - F_i}{A_i} \right|$$

Where A_i is the Public SI disseminated by the exchange for a given settlement date and F_i is the forecasted SI using the MSF proprietary algorithm for that settlement date. Please note, MSF forecast SI is available 1 business day from the settlement date and the Public SI is usually disseminated after 8 business days from that settlement date

Forecast Accuracy is defined as : $1 - MAPE$

For e.g., an Accuracy of 90% implies that, on average the forecast is 10% away from the Public Exchange SI reported.

Forecast Accuracy Criteria and Results

- Forecast SI for a given settlement date was compared to the subsequently released Public SI for the same settlement date
- Time Period – Monthly snapshot of the mid-month settlement dates available from Public SI data between Mar 2016 – Nov 2020 (57-time stamps)
- Accuracy outputs were cleaned of outliers beyond the 99.75% percentile and below the 0.25% percentile for every time stamp in the study. This was essential to get rid of some extremely large/small errors caused by a few outliers
- After adjusting for outliers, we note that:
 - **Overall, our forecast accuracy was 90% for US Small Caps and 91% for US Large Caps on average during the time period in our study**
 - For US Large Cap stocks accuracy was on average 92% for stocks reporting a high Public SI figure as compared to an accuracy of 89% for stocks reporting a low Public SI figure
 - For US Small Cap stocks accuracy was on average 93% for stocks reporting a high Public SI figure as compared to an accuracy of 87% for stocks reporting a low Public SI figure
- Looking at the frequency distribution of the errors, we note that 80% of the forecasting errors were between the range -10% to +10% for both US Large Caps and US Small Caps and 20% of the forecasting errors were beyond this range

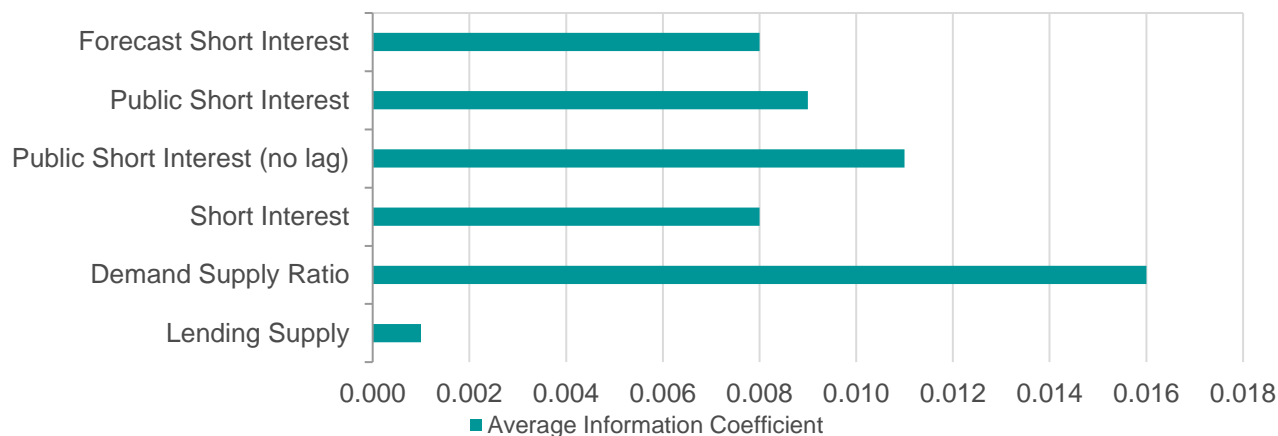
Universe, Factors and Back-Test Criteria

- Universe: US Large Caps and US Small Caps, Source: IHS Markit Research Signals
- Factors used: Demand Supply Ratio, Lending Supply, Short Interest, Public Short Interest, Forecast Short Interest, Public Short Interest (no lag)
- 1-month forward total returns in USD from FactSet were used to judge factor performance
- Returns were equally weighted and extreme return outliers were removed from the sample to avoid few stocks from impacting the overall performance
- Factor rebalance period: – End of every month for the time period 29th February 2016 - 28th October 2020. 1-month forward return calculation period: month ending 31st March 2016 to 30th November 2020
- All the factors were ranked in ascending order except Lending Supply which was ranked in descending order as stocks with high short interest in general are associated with negative sentiment and stocks with high lending supply are associated with positive sentiment
- Stocks ranked in the top 10% of a particular factor formed the long portfolio and stocks ranked in the bottom 10% formed the short portfolio
- We incorporated appropriate reporting lags in the MSF & Public factors by using the data available at the end of month to avoid the look ahead bias in our back test results

Average IC – US Large Caps

Demand Supply Ratio had the strongest relationship with 1-month forward returns with an average IC of 0.016. Ignoring the reporting lag in Public Short Interest artificially increases the information content of the public data (Average IC of 0.011 vs. 0.009)

US Large Caps Average Information Coefficient - Monthly Rebalance



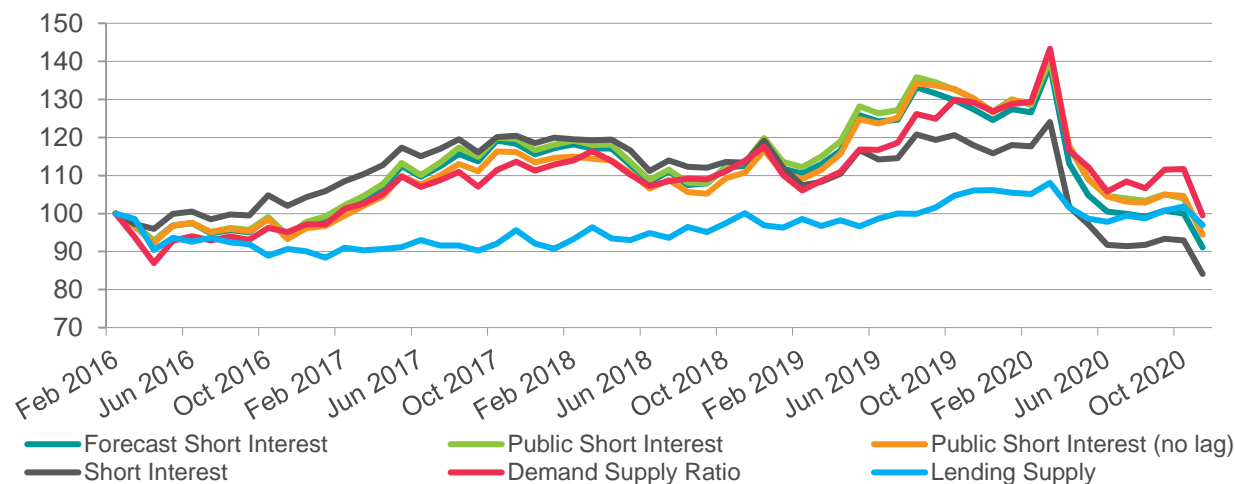
	IC Mean	IC Std Dev	IC Mean / IC Std Dev	T - Stat	Significance
Forecast Short Interest	0.008	0.110	0.077	0.580	-
Public Short Interest	0.009	0.110	0.085	0.639	-
Public Short Interest (no lag)	0.011	0.111	0.099	0.749	-
Short Interest	0.008	0.088	0.090	0.677	-
Demand Supply Ratio	0.016	0.099	0.160	1.209	-
Lending Supply	0.001	0.071	0.011	0.087	-

- Factor Rebalance Period: End of month Feb 2016 – Oct 2020. 1-month forward return calculation period Mar 2016 – Nov 2020
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order. 1-month forward return is ranked in descending order as well
- ‘***’ in the Significance column denotes IC mean is significant at 99% confidence level and ‘**’ denotes significance at 95% confidence level

Long-Short Portfolio Comparison – US Large Caps

Demand Supply Ratio offered the least negative spread during the time-period of our analysis as all the short interest factors observed signal reversal after the market rally that started from April 2020 onwards. Public Short Interest had a slight edge over MSF Short Interest during the time period of our study

US Large Caps Cumulative Returns: Mar 2016 – Nov 2020



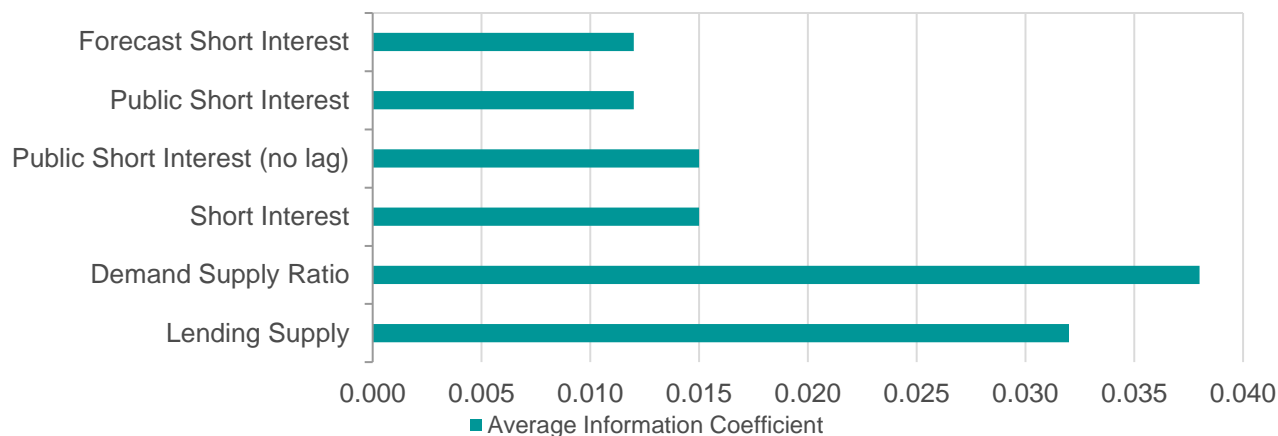
	Annualized Returns	Annualized Volatility	Information Ratio	Average Monthly Returns
Forecast Short Interest	-1.95%	15.27%	-0.13	-0.06%
Public Short Interest	-1.17%	14.63%	-0.08	-0.01%
Public Short Interest (no lag)	-1.20%	15.12%	-0.08	0.00%
Short Interest	-3.57%	13.42%	-0.27	-0.22%
Demand Supply Ratio	-0.11%	15.53%	-0.01	0.09%
Lending Supply	-0.64%	8.65%	-0.07	-0.02%

- Factor Rebalance Period: End of month Feb 2016 – Oct 2020. 1-month forward return calculation period Mar 2016 – Nov 2020
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order
- Stocks ranked in the top 10% of the factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance

Average IC – US Small Caps

Demand Supply Ratio had the strongest relationship with 1-month forward returns with an average IC of 0.038 followed closely by Lending Supply with an average IC of 0.032 (both significant at 99% significance level). Ignoring the reporting lag in Public Short Interest artificially increases the information coefficient of the public data (Average IC of 0.015 vs. 0.012)

US Small Caps Average Information Coefficient - Monthly Rebalance



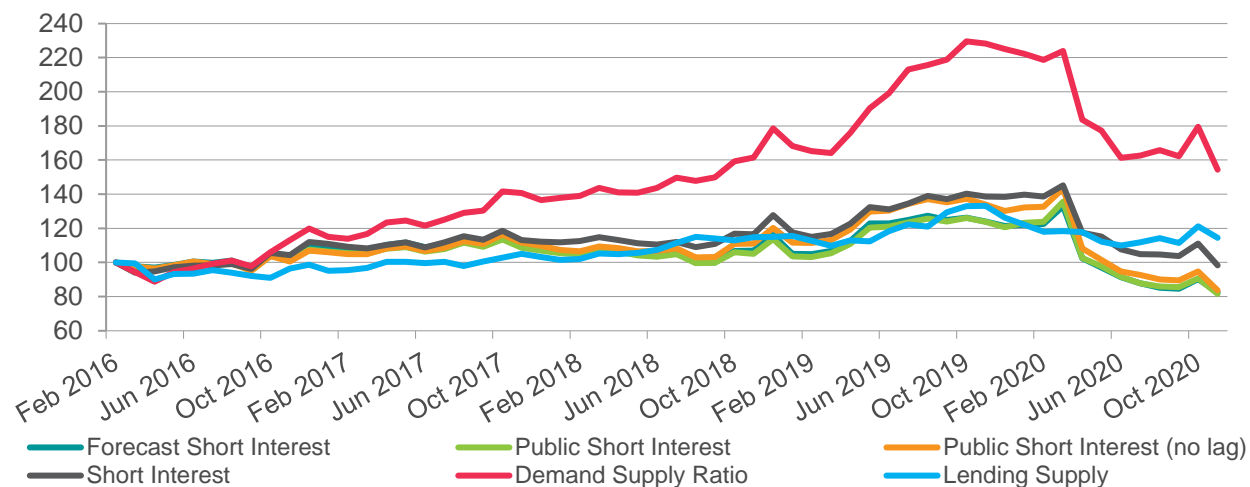
	IC Mean	IC Std Dev	IC Mean / IC Std Dev	T - Stat	Significance
Forecast Short Interest	0.012	0.099	0.122	0.920	-
Public Short Interest	0.012	0.098	0.121	0.917	-
Public Short Interest (no lag)	0.015	0.099	0.152	1.147	-
Short Interest	0.015	0.088	0.176	1.331	-
Demand Supply Ratio	0.038	0.096	0.389	2.938	**
Lending Supply	0.032	0.065	0.488	3.685	**

- Factor Rebalance Period: End of month Feb 2016 – Oct 2020. 1-month forward return calculation period Mar 2016 – Nov 2020
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order. 1-month forward return is ranked in descending order as well
- “***” in the Significance column denotes IC mean is significant at 99% confidence level and “**” denotes significance at 95% confidence level

Long-Short Portfolio Comparison – US Small Caps

In terms of Long-Short Spread, Demand Supply Ratio was found to be the top performing factor with an annualized return of around 9.57% and an IR of 0.52 followed next by Lending Supply with an IR of 0.26. MSF Short Interest had a slight edge in comparison to Public Short Interest

US Small Caps Cumulative Returns: Mar 2016 – Nov 2020



	Annualized Returns	Annualized Volatility	Information Ratio	Average Monthly Returns
Forecast Short Interest	-3.94%	17.41%	-0.23	-0.20%
Public Short Interest	-4.20%	17.80%	-0.24	-0.22%
Public Short Interest (no lag)	-3.71%	18.19%	-0.20	-0.17%
Short Interest	-0.36%	16.37%	-0.02	0.08%
Demand Supply Ratio	9.57%	18.54%	0.52	0.91%
Lending Supply	2.89%	11.03%	0.26	0.29%

- Factor Rebalance Period: End of month Feb 2016 – Oct 2020. 1-month forward return calculation period Mar 2016 – Nov 2020
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order
- Stocks ranked in the top 10% of the factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance

MSF Short Interest Factors vs Public Short Interest

Dec 2008 – Nov 2020 for Daily and Weekly Rebalance

Jan 2008 – Nov 2020 for Monthly Rebalance

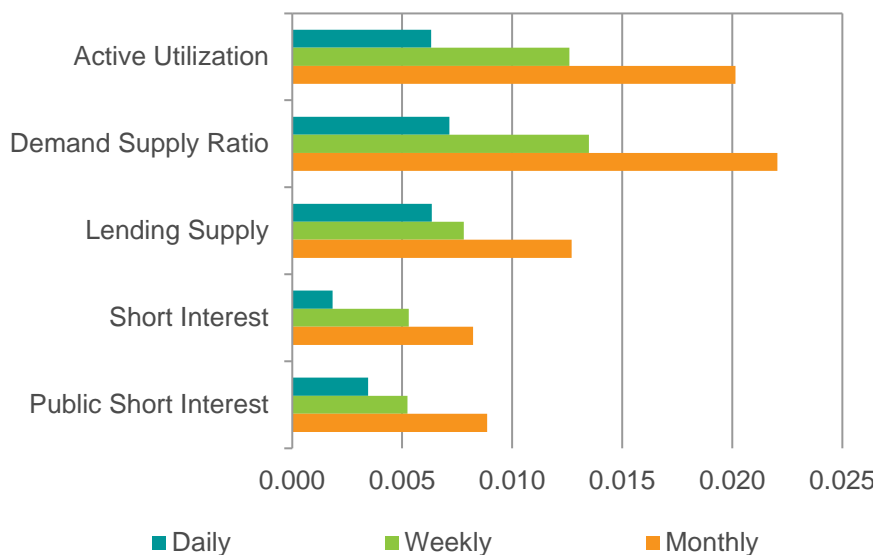
Universe, Factors and Back-Test Criteria

- Universe: USA Large Caps and USA Small Caps, Source: IHS Markit Research Signals
- Factors used: Active Utilization, Demand Supply Ratio, Lending Supply, Short Interest, Public Short Interest
- Historical data on total returns and factor ranks were sourced from IHS Markit Research Signals and returns were equally weighted
- We used Daily, Weekly and Monthly rebalance frequency to check the performance of the factors for different portfolio rebalance
- Daily factor rebalance period: – end of day for the time period 27th November 2008 to 27th November 2020. 1-day forward return calculation period: end of day 28th November 2008 to 30th November 2020
- Weekly factor rebalance period: – end of week for the time period 1st December 2008 to 23rd November 2020. 1-week forward return calculation period: week ending 8^h December 2008 to 30th November 2020
- Monthly factor rebalance period: – end of month for the time period 31st December 2007 to 30th October 2020 . 1-month forward return calculation period: month ending 31st January 2008 to 30th November 2020
- All the factors were ranked in ascending order except Lending Supply which was ranked in descending order as stocks with high short interest in general are associated with negative sentiment and stocks with high lending supply are associated with positive sentiment
- Stocks ranked in the top 10% of a particular factor formed the long portfolio and stocks ranked in the bottom 10% formed the short portfolio
- We incorporated appropriate reporting lags in the MSF & Public factors by using the data available on the rebalance date to avoid the look ahead bias in our back test results

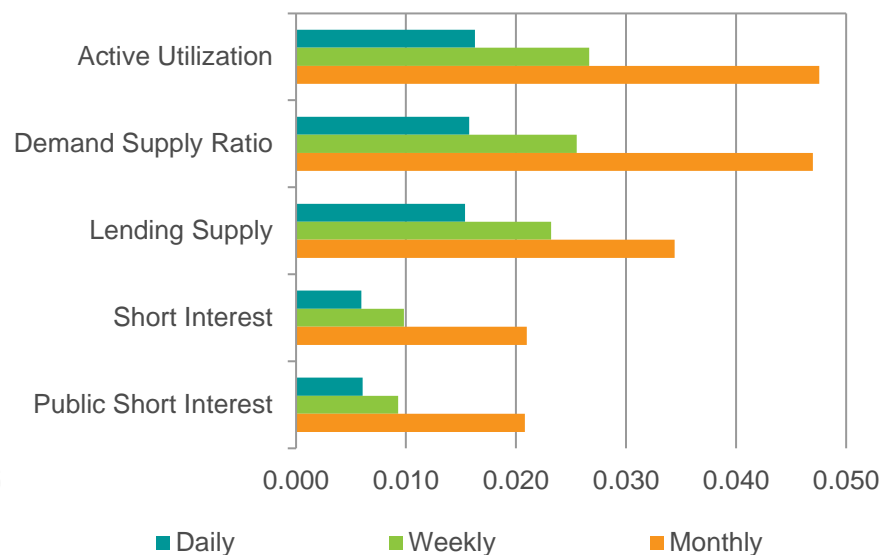
Average IC – Different Rebalancing Periods

Demand Supply Ratio and Active Utilization were found to be the strongest factors in terms of relationship with forward returns across rebalancing periods followed closely by Lending Supply. This highlights the importance of Lendable Inventory data contributed to and reported by MSF. MSF Short Interest and Public Short Interest were found to be similar in terms of their average IC across different rebalance periods

US Large Caps Average IC



US Small Caps Average IC

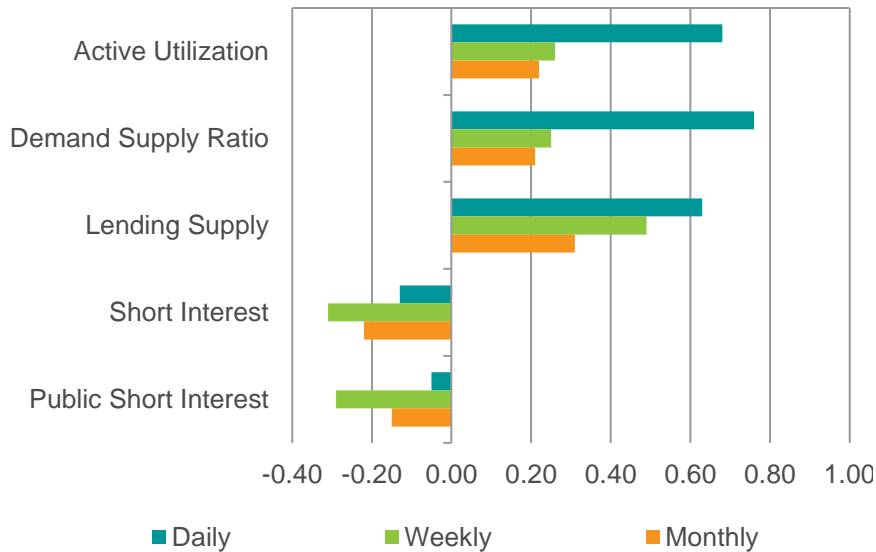


- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order. Forward total returns are also ranked in descending order
- For US Large Caps: The average IC for Demand Supply Ratio and Active Utilization was found to be statistically significant at 99% significance level for all the rebalancing periods. The average IC for Lending Supply was found to be significant at 99% for daily rebalance and at 95% level for weekly and monthly rebalance. Average IC for MSF Short Interest and Public Short Interest was not found to be significant
- For US Small Caps: Demand Supply Ratio and Active Utilization were found to be the strongest factors followed by Lending Supply and then MSF and Public Short Interest. The average IC for all the factors and rebalance periods was significant at 99% except for Public Short Interest which was significant at 95% for weekly rebalance frequency

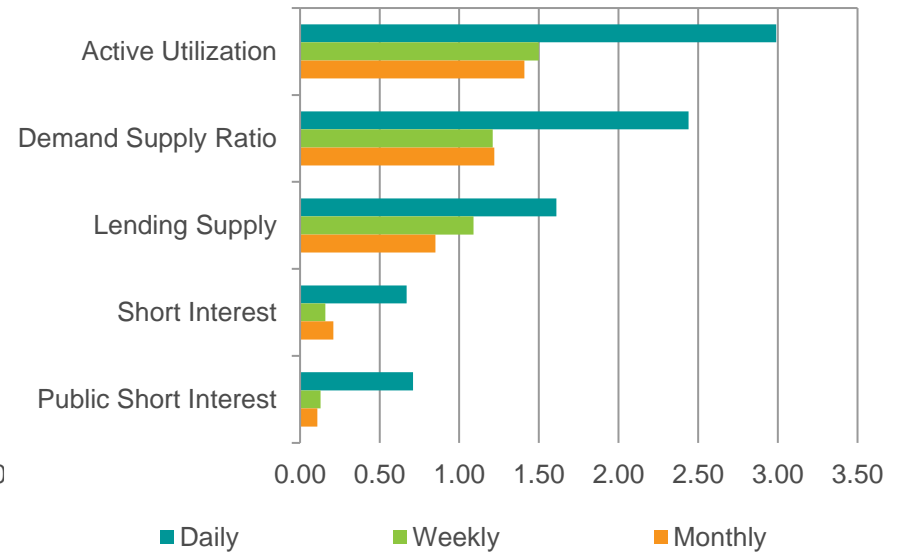
Long Short Performance Comparison

For US Large Caps, Lending Supply was found to be the strongest factor for weekly and monthly portfolio rebalance whereas Demand Supply Ratio and Active Utilization had a better risk adjusted return for daily rebalance. For US Small Caps, Active Utilization factor observed strongest performance across different rebalancing periods followed by Demand Supply Ratio and Lending Supply. We observed similar performance for MSF Short Interest and Public Short Interest in terms of the risk adjusted return for both Large Cap and Small Cap universes

US Large Caps Information Ratio



US Small Caps Information Ratio

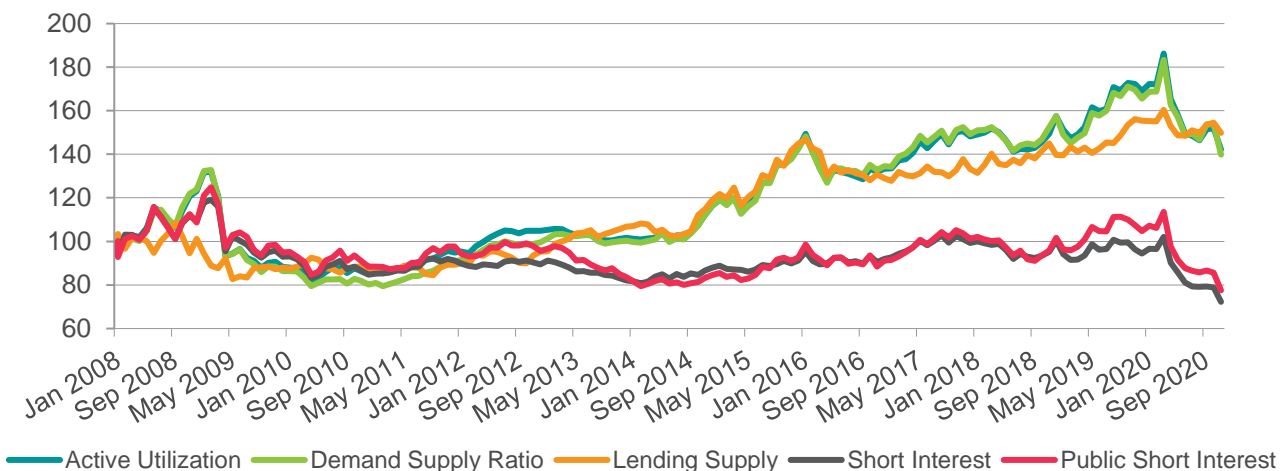


- Stocks ranked in the top 10% of a particular factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order

Long Short Cumulative Returns - Monthly Rebalance - US Large Caps

Lending Supply was found to be the top performing factor in terms of the observed risk-adjusted return with an IR of 0.31. It is also worth noting that Lending Supply did not underperform as much as other short interest factors during the market rally that started from April 2020 onwards

US Large Caps Cumulative Returns: Jan 2008 – Nov 2020



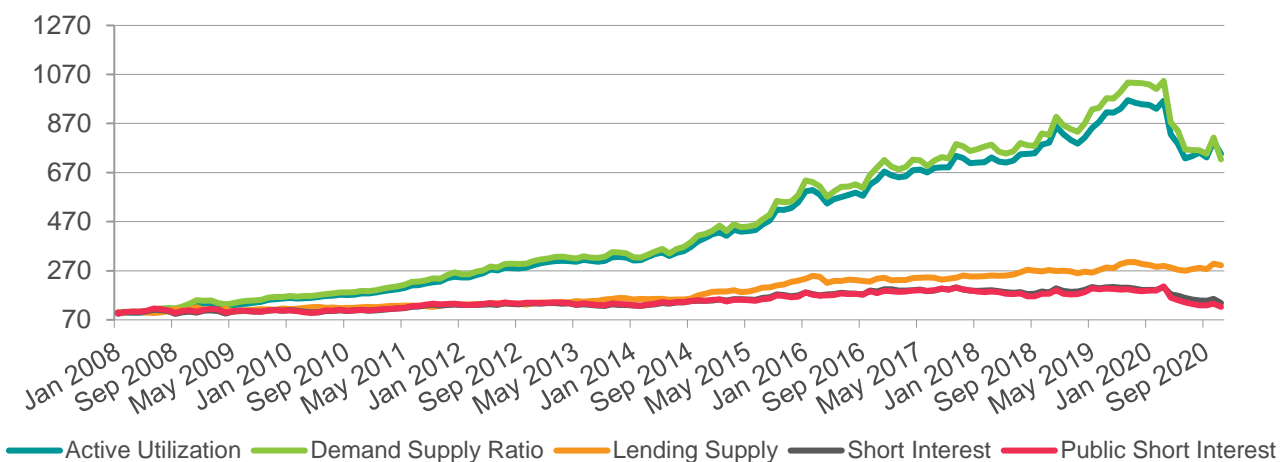
	Annualized Returns	Annualized Volatility	Information Ratio	Average Monthly Returns
Active Utilization	2.76%	12.34%	0.22	0.29%
Demand Supply Ratio	2.63%	12.69%	0.21	0.29%
Lending Supply	3.18%	10.31%	0.31	0.31%
Short Interest	-2.48%	11.43%	-0.22	-0.15%
Public Short Interest	-1.95%	13.14%	-0.15	-0.09%

- Time Period: Jan 2008 – Nov 2020, monthly rebalance
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order
- Stocks ranked in the top 10% of a particular factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance

Long Short Cumulative Returns - Monthly Rebalance - US Small Caps

Active Utilization and Demand Supply Ratio were the strongest factors in US Small Caps with an IR of 1.41 and 1.22 respectively followed by Lending Supply with an IR of 0.85. MSF Short Interest had a slight edge over Public Short Interest during the 13-year period. Lending Supply did not underperform as much as other short interest factors during the market rally that started from April 2020 onwards

US Small Caps Cumulative Returns: Jan 2008 – Nov 2020



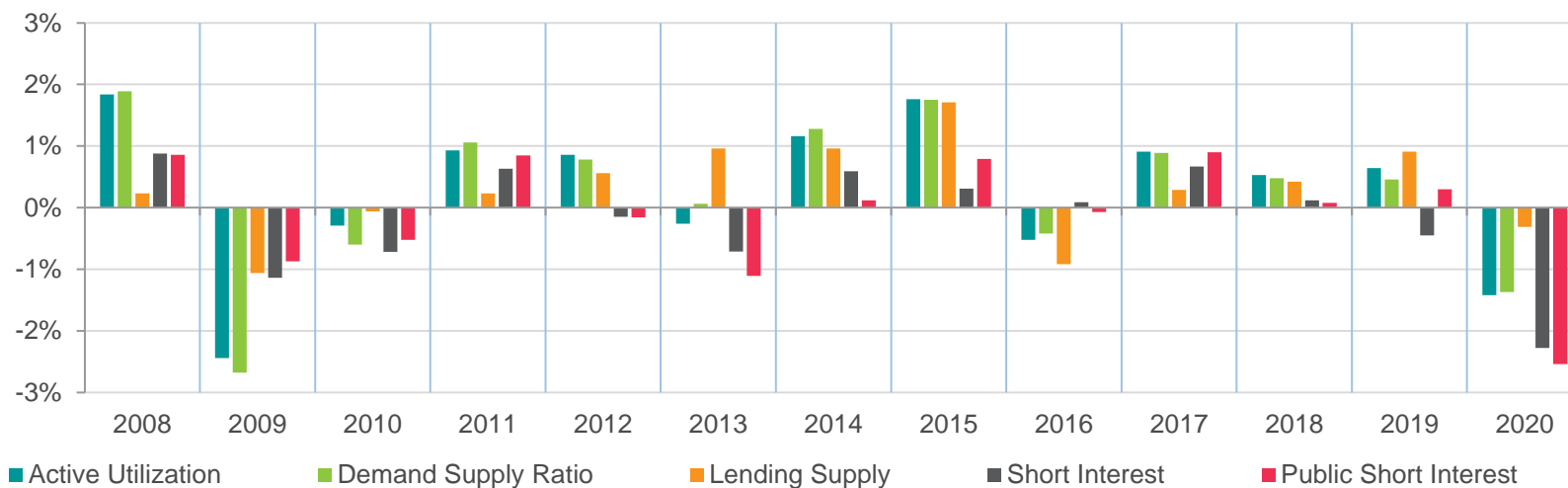
	Annualized Returns	Annualized Volatility	Information Ratio	Average Monthly Returns
Active Utilization	16.83%	11.91%	1.41	1.36%
Demand Supply Ratio	16.57%	13.53%	1.22	1.36%
Lending Supply	8.65%	10.20%	0.85	0.74%
Short Interest	2.59%	12.55%	0.21	0.28%
Public Short Interest	1.62%	14.59%	0.11	0.22%

- Time Period: Jan 2008 – Nov 2020, monthly rebalance
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order
- Stocks ranked in the top 10% of a particular factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance

Long Short Performance - Yearly Breakdown – US Large Caps

Active Utilization and Demand Supply Ratio have performed consistently over the years but saw big drawdowns in 2009 and 2020 owing to the markets rally observed in these years. Lending Supply performed better than the other factors in 2013, 2019 and 2020 highlighting the importance of using it when other short interest factors are not performing well

US Large Caps Average Monthly Returns by Year

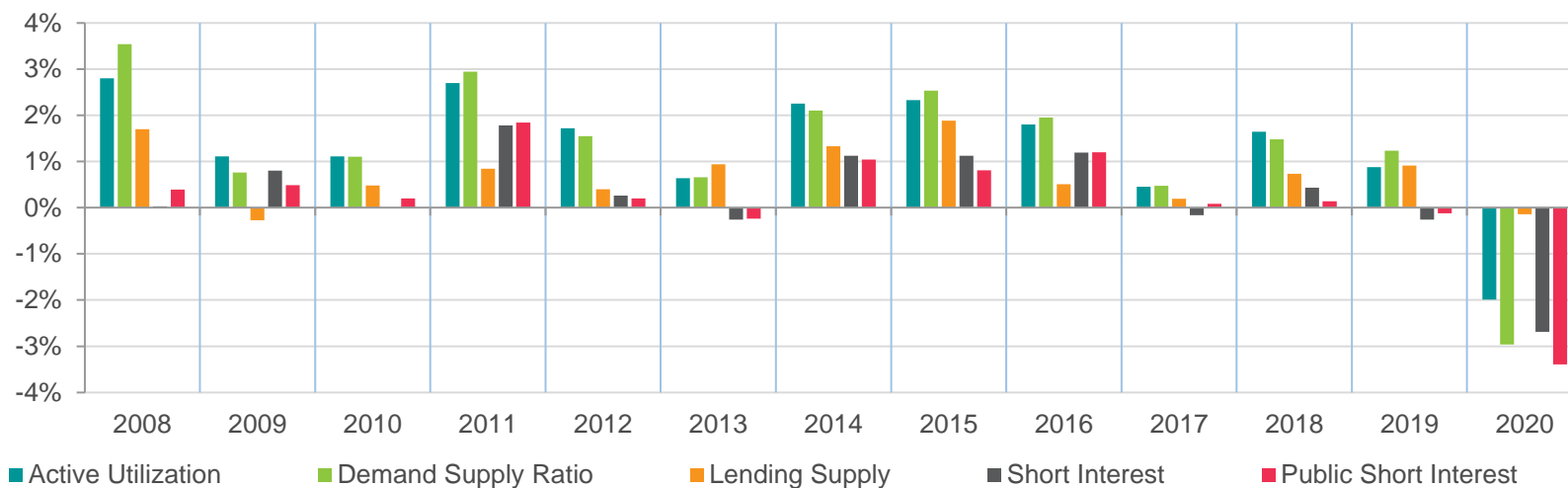


- Time Period: Jan 2008 – Nov 2020, monthly rebalance
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order
- Stocks ranked in the top 10% of a particular factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance

Long Short Performance - Yearly Breakdown – US Small Caps

Demand Supply Ratio and Active Utilization were the most consistent performing factors over the years except for 2020 where they both observed an average monthly return of -2% to -3% highlighting a flip in the factors signal. Lending Supply did not underperform as much as other short interest factors during the market rally that started from April 2020 onwards

US Small Caps Average Monthly Returns by Year



- Time Period: Jan 2008 – Nov 2020, monthly rebalance
- All the factors are ranked in ascending order whereas Lending Supply is ranked in descending order
- Stocks ranked in the top 10% of a particular factor form the long portfolio and stocks ranked in the bottom 10% form the short portfolio
- Equally weighted return spread is used between the long portfolio and the short portfolio to judge the factor performance

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