Publication Bias and Multiple Testing in Reused Natural Experiments*

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ABSTRACT

A growing literature recommends applying multiple-testing corrections when empirical settings are reused. However, standard multiple-testing procedures assume all statistical tests are observed, an assumption violated by selective reporting of statistically significant results. We study how publication bias interacts with multiple-testing corrections when natural experiments are reused. We fit a structural model to the observed distribution of t-statistics to infer the underlying distribution of all tests. Calibrating the analysis to empirical environments typical in corporate finance, we show that in the presence of publication bias, t-statistic thresholds should be raised and we derive new significance thresholds when natural experiments are reused.

JEL: G1, G10

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Natural experiments play a central role in empirical economics because they allow researchers to identify causal relationships in the absence of controlled laboratory experiments. Because natural or policy-driven events that approximate random assignment are scarce, these settings are often reused to study different outcome variables. Heath, Ringgenberg, Samadi, and Werner (2023) document that just two extensively studied settings, business combination laws and the Regulation SHO pilot, have collectively been used to examine more than 500 distinct outcome variables. Similarly, at least 176 different outcomes have been studied using rainfall as an instrumental variable (Mellon (2021)); more than 80 studies exploit the Russell index reconstitution; and at least 60 examine the U.S. Tick Size Pilot. When researchers evaluate statistical significance using conventional thresholds in settings that have been reused many times, the number and frequency of false positives will tend to increase, potentially leading to incorrect inferences.

At the same time, a growing literature documents that published results often exhibit publication bias, as statistically insignificant findings are less likely to appear in leading journals (Harvey (2017); Brodeur, Cook, and Heyes (2018); Andrews and Kasy (2019); Askarov, Doucouliagos, Doucouliagos, and Stanley (2024)). As a consequence, insignificant results are also less likely to be written up or reported by researchers in the first place (Rosenthal (1979); Nature (2025)).[1] Because standard multiple-testing procedures assume that all statistical tests conducted are observed, the presence of publication bias may distort these procedures and lead to incorrect inference. Several recent papers attempt to quantify publication bias in cross-sectional asset pricing by inferring the distribution of unreported findings from observed test statistics (Harvey, Liu, and Zhu (2016); Harvey and Liu (2021); Chen (2024)). These studies reach differing conclusions regarding the degree of shrinkage

[1] An exception is the recent *Journal of Corporate Finance* special issue devoted to non-significant results (Ringgenberg (2025)).

required to address multiple testing and whether the conventional asymptotic t-statistic threshold of 1.96 should be raised to control the frequency of false discoveries.[2]

In this paper, we extend the work of Heath et al. (2023) by examining how publication bias interacts with multiple-testing concerns when natural experiments are reused. To quantify multiple-testing effects under publication bias, we fit a structural model of biased publication (Chen (2024)) to the distribution of reported t-statistics observed for business combination laws and the Regulation SHO pilot. While Heath et al. (2023) apply family-wise error rate (FWER) and the Benjamini and Yekutieli (2001) (BHY) false discovery rate (FDR) corrections to all reported t-statistics in these settings, these procedures are designed for environments in which all tests are observable. Moreover, FWER procedures may be viewed as excessively conservative because they control the probability of even a single false positive as the number of tests increases. Among FDR procedures, Chen (2022) provide simulation evidence suggesting that the BHY correction used by Harvey et al. (2016), Chordia et al. (2020), and Heath et al. (2023) may also be overly restrictive. For these reasons, we explicitly account for publication bias by extrapolating the distribution of t-statistics using empirical data from the well-observed region of reported tests. This approach allows us to estimate the statistical thresholds required to control false discoveries when reporting is selective. We also examine multiple-testing measures that directly target reported findings, including empirical Bayes shrinkage and the local false discovery rate (see Efron (2012)).

Across a range of assumptions about the underlying distribution of true effects and the publication process, our baseline results provide further evidence that conventional statistical thresholds should be raised to better control false discoveries in extensively reused natural

[2]Other approaches address publication bias by algorithmically generating test statistics to provide upper bounds on multiple-testing concerns (Yan and Zheng (2017); Chordia, Goyal, and Saretto (2020); and an earlier draft of Heath et al. (2023)).

experiments. The FDR-based t-statistic thresholds we estimate are comparable to, or larger than, those obtained by applying FDR corrections to all reported tests without accounting for publication bias (as in Heath et al. (2023)). We estimate false discovery rates of up to 51% and 53% for tests using business combination laws and the Regulation SHO pilot, respectively. In addition, empirical Bayes estimates imply that reported t-statistics should be shrunk by as much as 53% in the business combination laws setting and 67% in the Regulation SHO pilot setting, depending on the assumed distribution and publication process. These shrinkage estimates substantially exceed the upper bounds suggested by McLean and Pontiff (2016) (26%) and Chen (2024) (29%), as well as the estimates reported by Jensen, Kelly, and Pedersen (2023) for cross-sectional asset pricing factors.

To account for concerns about estimation uncertainty raised in the literature (Chen (2024)), we also bootstrap estimates using two distinct approaches. The first approach is a simple, non-parametric bootstrap that draws from the observed distributions of t-statistics with replacement. The second bootstrap is a semi-parametric bootstrap developed by Chen (2024), which we adapt to account for correlations in commonly-used corporate finance data while also ensuring that the samples reflect the distribution of observed t-statistics. Using a similar approach, Chen (2024) builds upon earlier work by Harvey et al. (2016) and Harvey and Liu (2021), finding that a wide range of t-statistic hurdles are consistent with observed t-statistics of cross-sectional asset pricing factors. Notably, this uncertainty is characterized by a large mode of bootstrapped estimates calling for lower t-statistic hurdles rather than larger ones. While we find evidence of some estimation uncertainty for the Regulation SHO pilot and business combination laws settings, the vast majority of our bootstrapped estimates reinforce previous suggestions to raise t-statistic hurdles to control false discoveries. Furthermore, bootstrapped local FDR and shrinkage estimates are generally larger than pre-

viously documented in cross-sectional asset pricing across a variety of assumed distributions and publication functions.

The remainder of the paper proceeds as follows: Section I describes the collection procedure for reported t-statistics in the business combination laws and Regulation SHO pilot settings and the data used for the semi-parametric bootstrap procedure. Section II details the estimation of the model of biased publication and the two bootstrap procedures used to account for estimation uncertainty. Section III reports point estimates, then bootstrapped results for the estimation. Section IV provides concluding remarks.

I. Data

In this section, we discuss our sample of manually collected t-statistics reported in papers using the business combination laws and Regulation SHO pilot settings. We also describe our approach to generate outcome variables from CRSP and Compustat meant to capture dependence structures in corporate finance outcomes for our semi-parametric bootstrap.

A. Reported t-statistics

Our empirical data consist of manually-collected t-statistics associated with the various outcome variables examined in studies using the staggered implementation of business combination laws and the Regulation SHO pilot program as sources of exogenous variation. U.S. states have enacted business combination laws at different points in time. The enactment of business combination laws has been used as a source of exogenous variation in the threat of a corporate takeover. The Regulation SHO pilot program assigned firms into treated and control groups and suspended a specific short sale restriction, Rule 10a-1, "the uptick rule,"

for firms in the treatment group.[3] To construct the database, a list of papers that use business combination laws or the Regulation SHO pilot as a source of exogenous variation was compiled as of March 31, 2021. Unique outcome variables using methodologies that could be represented as difference-in-differences regressions of the form:

$$y_{i,t} = \alpha + \beta_1 \cdot Treatment_{i,t} + \beta_2 \cdot Post + \beta_3 \cdot Treatment_{i,t} \times Post + \epsilon_{i,t}, \tag{1}$$

where $y_{i,t}$ is an outcome variable for firm i in year t, $Treatment_{i,t}$ is either the staggered introduction of state-specific business combination laws or an indicator variable indicating the Regulation SHO pilot stocks, and $Post$ is an indicator variable indicating the period after the beginning of the treatment. Papers using various combinations of fixed effects and/or control variables are included, as long as they examine the β_3 coefficient in a model of the form shown above.

t-statistics are selected based on the following conditions: If there are multiple models examining the same dependent variable, we keep the β_3 coefficient from the model with the most controls and/or fixed effects; models that include additional terms interacted with the main treatment effect, and models used in sub-sample analysis are excluded. Following Harvey et al. (2016), we take reported t-statistics as given, assuming results are free of data errors, coding errors, misalignment, heteroskedasticity, autocorrelation, clustering, outliers, etc. For discussions of other potential empirical issues in these settings, see Karpoff and Wittry (2018), Hu and Spamann (2019), Boehmer, Jones, and Zhang (2019), and Black, Desai, Litvak, Yoo, and Yu (2024). We exclude two reported t-statistics associated with the Regulation SHO pilot that were greater than 40 in magnitude. These two statistics are implausible and the distributions we assume cannot fit them. We also exclude results for two

[3]Heath et al. (2023) provide further description of each empirical setting.

papers that only report the level of statistical significance. The full list of outcome variables examined using business combination laws and the Regulation SHO pilot are reported in Appendix Table A.I.

The respective distributions of all reported t-statistics for business combination laws (Panel A) and the Regulation SHO pilot (Panel B) are reported in Figure 1. These distributions exhibit features that are inconsistent with unbiased reporting. Both panels exhibit pronounced discontinuities at $|t| = 1.96$, the asymptotic threshold for statistical significance at the conventional 5% level. The distributions exhibit sharp peaks slightly above the 1.96 threshold, with frequency counts substantially higher than would be expected from a smooth underlying distribution. Furthermore, both distributions exhibit notably sparse regions immediately below $|t| = 1.96$. In Panel A, the frequency drops sharply for t-statistics in the range of 1.5 to 1.96. Brodeur, Lé, Sangnier, and Zylberberg (2016) attribute these discontinuities in part to t-statistic "inflation" by researchers. Menkveld et al. (2024) also document significant variation in methodological choices across researchers when testing the same hypothesis. These additional issues would only further reinforce the need to account for multiple testing when making inferences. These patterns are somewhat more pronounced for business combination laws, potentially as early studies of the Regulation SHO pilot sought to empirically rule out hypothesized costs of removing the uptick rule permanently.

[INSERT FIGURE 1 ABOUT HERE]

Because the approaches of Harvey et al. (2016), Harvey and Liu (2021), and Chen (2024) rely on the well-observed region of tests conducted by researchers in the presence of publication bias, we remove outcomes with reported t-statistics smaller than 1.96 in magnitude. Harvey et al. (2016) argues that in addition to non-reporting of insignificant cross-sectional factors, significant factors may also not be reported because of incentives in the

asset-management industry. Such non-reporting of significant results is less likely in our setting. Removing t-statistics smaller than 1.96 in magnitude results in a sample of 73 and 180 outcome variables for business combination laws and the Regulation SHO pilot, respectively.

B. CRSP/Compustat Variables

Samples of CRSP and Compustat outcome variables are constructed to capture dependence structures in the original business combination laws and Regulation SHO pilot samples for the semi-parametric bootstrap detailed in Section II.A. For business combination laws, we follow the sample construction procedure of Karpoff and Wittry (2018).[4] This sample consists of annual Compustat data for fiscal years ending from 1976 through 1995, excluding financial firms, utilities, and observations with missing/negative sales or total assets. As in Karpoff and Wittry (2018), our final sample consists of 10,213 firms and 88,648 firm-year observations.

For Regulation SHO, we examine the sample of treatment and control firms in Diether, Lee, and Werner (2009). This sample excludes stocks that were added to the Russell 3000 index over the period June 2004 through June 2005. Stocks are also excluded if they underwent corporate events such as mergers, bankruptcies, etc., were added or eliminated in the June 2005 index reconstitution, underwent ticker changes, were listed on Nasdaq's small-cap market, changed their listing venue, or were acquired, merged, or privatized. Stocks with an average price above \$100 or average quoted spread exceeding \$1.00 are also excluded. We further require the availability of annual Compustat data for fiscal years ending during 2002 through 2009, excluding observations with missing/negative sales or total assets. The final sample consists of 1,708 (576 pilot, 1,132 control) firms and 12,284 firm-year observations.

[4]We thank Michael Wittry for sharing the data set.

Following Heath et al. (2023), we collect variables from Compustat and CRSP, and include commonly used transformations of each variable to use as outcomes for the semi-parametric bootstrap detailed in II.A. To arrive at a set of Compustat variables, we collect raw variables from financial statements that are not missing for at least 70% of observations in a sample between January 1970 and June 2019. For Compustat outcomes, we use the raw variable, raw variable scaled by total assets, and the percentage change in the raw variable scaled by total assets. This approach results in 96 raw Compustat variables, generating 288 Compustat outcomes in total. We also use monthly CRSP stock data to calculate firm-year average trading volume, average share turnover, cumulative returns, average dollar bid-ask spread, and average percentage bid-ask spread using firms' fiscal years for temporal aggregation. The resulting sample consists of 293 variables. Appendix Table A.II lists the raw CRSP/Compustat outcomes used for the semi-parametric bootstrap. All variables are winsorized at the 2.5% and 97.5% levels.

II. Estimation

We apply the Chen (2024) structural model of biased publication to the business combination laws and Regulation SHO pilot settings using quasi-maximum likelihood. In the model, a literature is generated in two steps. In the first step, researchers generate an "unbiased" set of results characterized by μ_i, a t-statistic that corrects for sampling error. For true results, μ_i follows an arbitrary probability distribution with positive mean λ_μ and standard deviation λ_σ. For false results, μ_i equals 0. Result i is false with probability π_F. In the second step of the model, result i is reported based on its statistical significance, where the probability of reporting is weakly increasing in the magnitude of the t-statistic up to a certain point from which the probability of reporting is fixed at an arbitrary upper bound.

In our estimation, we allow for a variety of assumptions about the underlying probability distribution and publication function for observed t-statistics previously employed in the literature. We assume that true results are log-normal as in the baseline specification of Chen (2024). We also assume that true results are exponentially distributed (Harvey et al. (2016)). Finally, we assume that true results follow a scaled t-distribution (Andrews and Kasy (2019)).

For the publication function, we adopt an assumption used by Harvey et al. (2016) and Chen (2024), assuming the following staircase function:

$$\Pr(\text{pub}_i||t_i|) = \begin{cases} \eta\bar{s} & \text{if } |t_i| \in (1.96, 2.58] \\ \bar{s} & \text{if } |t_i| > 2.58. \end{cases} \tag{2}$$

This functional form captures both the standard t-statistic thresholds in economics, and the fact that a higher t-statistic implies a higher probability of reporting. As in Chen (2024), we allow η to fall within an interval $\eta \in [\frac{1}{3}, \frac{2}{3}]$, allowing for some proportion of marginally-significant to go unreported. While maintaining the assumption that true results are log-normally distributed, we also restrict η to equal 0.5 as in Harvey et al. (2016).

We estimate the parameters ($\pi_F, \lambda_\mu, \lambda_\sigma$, and depending on the assumed publication function implied by η) with quasi-maximum likelihood (QML), choosing parameters that maximize the mean log marginal likelihood of $|t_i|$ conditional on i being reported. Chen (2024) finds that QML is consistent under pairwise correlations as high as 0.90 and that QML is essentially unbiased in relatively small samples for π_F. For the numerical integration used to compute log-likelihoods and multiple testing statistics, we also assume $\pi_F \in [0.01, 0.99]$ for technical reasons. To account for estimation uncertainty, we additionally bootstrap estimates using two approaches discussed in the following section.

A. Bootstraps

We account for estimation uncertainty in our baseline results using two bootstraps. The first bootstrap is a simple non-parametric bootstrap where we draw reported t-statistics with replacement. Since these t-statistics are drawn from the empirical data, they will also reflect biased publication. We also use a semi-parametric bootstrap that explicitly accounts for correlations in the business combination laws and Regulation SHO pilot samples with commonly used corporate finance data. Specifically, we use the 293 CRSP/Compustat outcome variables discussed in Section I.B and reported in Appendix Table A.II. This bootstrap adapts the semi-parametric bootstrap developed by Chen (2024) to our respective empirical settings and is designed to mimic the correlation structure in each setting while also ensuring that the samples reflect the distribution of observed t-stats.

For the semi-parametric bootstrap, we first estimate panel regressions following Karpoff and Wittry (2018) and Heath et al. (2023) of the form:

$$y_{i,j,l,s,t} = \alpha_i + \alpha_{l,t} + \alpha_{j,t} + \beta \cdot BC_{s,t} + \theta' \mathbf{x_{i,t}} + \delta' \mathbf{L_{i,s,t}} + \epsilon_{i,j,l,s,t}, \tag{3}$$

where $y_{i,j,l,s,t}$ is the outcome variable of interest for firm i in year t in industry j, located in state l, and incorporated in state s, BC is an indicator variable equal to one if business combination laws had been adopted in state s by year t and zero otherwise. $\mathbf{x_{i,t}}$ includes size, size squared, age, and age squared, and $\mathbf{L_{i,s,t}}$ includes the full set of Karpoff and Wittry (2018) controls for institutional and legal context. Standard errors are clustered at the firm level.

For the Regulation SHO pilot, we follow Heath et al. (2023) and estimate panel regressions

of the form

$$y_{i,t} = \alpha_i + \alpha_t + \beta \cdot Treatment_{i,t} + \theta' \mathbf{x_{i,t}} + \epsilon_{i,t}, \tag{4}$$

where $y_{i,t}$ is the outcome variable of interest for firm i in year t, $Treatment_{i,t}$ is an indicator variable equal to one if the firm is in the pilot group and the fiscal year ends on July 31, 2005 or later, or if the firm is in the control group and the firm's fiscal year ends on July 31, 2008 or later, and equal to zero otherwise. This ensures that pilot firms' entire fiscal year is after the pilot announcement date on July 28, 2004 and that control firms' entire fiscal year is after the repeal of the Regulation SHO price tests for all firms on July 6, 2007. The vector $\mathbf{x_{i,t}}$ contains control variables including the natural log of book value of assets (size), size squared, firm age, and firm age squared. We include firm and year fixed effects and standard errors are clustered at the firm level.

For the purposes of generating residuals for the semi-parametric bootstrap, we center the actual data before resampling it by subtracting the fitted values from each observation. We then bootstrap centered data using an approach similar to Heath et al. (2023). We bootstrap 1,000 samples by randomly sampling firms with replacement from each sample. To preserve the time series properties of the raw data, we draw all dates for each drawn firm. For business combination laws, we stratify the draws by state of incorporation to reflect the original structure of the data. For the Regulation SHO pilot, we similarly stratify draws by treatment status. After drawing firms, we generate a new firm index to preserve the correct degrees of freedom when absorbing fixed effects.

For each of the 1,000 replicates, we construct residuals by sampling five of the 293 outcomes with replacement and estimate treatment effects with the centered data, resulting in 5,000 residuals ε_i in total. Following Chen (2024), we add this sampling noise to simulated t-statistics using the point estimate in our estimations. Specifically, we simulate 5,000 μ_i us-

ing the point estimate, calculate $t_i = \mu_i + \varepsilon_i$, and then apply Equation (32) of Chen (2024) to obtain reported t-statistics once again using the point estimate. Importantly, this bootstrap captures correlations in the empirical data, while also maintaining publication bias.

III. Results

QML provides parameter estimates for the share of false results, π_F, the mean and standard deviation parameters that govern the distribution of true results (λ_μ and λ_σ), and depending on the assumed functional form of the publication function, the parameter corresponding to the publication probability of marginally significant results, η. With estimates of π_f, λ_μ, and λ_σ, we obtain the following multiple testing statistics.

A. Multiple Testing Statistics

The first statistic is the minimum hurdle required to control the FDR at the 5% level, which depends more on the false results parameter π_f. The 5% level for the FDR is used in several papers on multiple testing (see, Harvey et al. (2016); Chordia et al. (2020); Heath et al. (2023); Chen (2024); among others).

$$h(5\%) \equiv \min_{h \in \mathbb{R}_+} \{h : \text{FDR}(h) \leq 5\%\} \tag{5}$$

We also compute empirical Bayes shrinkage (Efron (2012)). Empirical Bayes shrinkage reflects how much researchers should shrink observed t-statistics $|\bar{t}|$ toward zero in order to obtain unbiased t-statistics. This multiple testing statistic depends more on the estimated mean and standard deviation parameters which govern true results, λ_μ, and λ_σ. Empirical Bayes shrinkage is examined in Chinco, Neuhierl, and Weber (2021), Jensen et al. (2023),

and Chen (2024), among others.

$$\text{shrinkage}(\bar{t}) \equiv \frac{|\bar{t}| - \mathbb{E}(\mu_i \,|\, |t_i| = \bar{t})}{|\bar{t}|} \tag{6}$$

Finally, we compute local FDRs (Efron (2012)). $\text{FDR}(\bar{t})$ represents the probability that a result with a t-statistic of $|\bar{t}|$ is false. The local FDR also depends more on the parameters that govern true results, as for empirical Bayes shrinkage, and has been implemented in Chen (2024).

$$\text{FDR}(\bar{t}) \equiv \Pr(F_i \,|\, |t_i| = \bar{t}) \tag{7}$$

$\text{FDR}(\bar{t})$ can be integrated from the minimum hurdle to control the FDR at the 5% level, h, to infinity to obtain a Bayesian formulation of the FDR.

B. Results

We report results for selected point estimates and multiple testing statistics for business combination laws in Table I. Across the distributional and functional form assumptions, estimates for the share of false results π_f are significantly larger than documented in previous work in cross-sectional asset pricing. For business combination laws, parameter estimates for π_f range from 0.82 to 0.96. These estimates are close to the assumption of $\pi_f = 1$ of Benjamini and Hochberg (1995) (BH), which implicitly assumes that t-statistics should be raised without trying to estimate π_f. These estimates for the business combination laws setting are also significantly larger than the baseline estimates of 0.44 from Harvey et al. (2016) and 0.01 from Chen (2024) in cross-sectional asset pricing.

[INSERT TABLE I ABOUT HERE]

As our point estimates for π_f are large, so too are the minimum t-statistic hurdles to control the FDR at the 5% level in our empirical data. FDR t-statistic hurdles range from 3.0 to 3.2 for business combination laws. For comparison, the t-hurdle obtained by applying the BH correction to all reported t-statistics in the business combination laws setting without accounting for publication bias is 2.2. Furthermore, the corresponding BHY t-hurdle reported by Heath et al. (2023) is 3.

Empirical Bayes shrinkage estimates for business combination laws range from 39.90% to 52.74%. These estimates imply that a reported t-statistic of 5 should be shrunk to an unbiased t-statistic of 3 for the estimate of 39.90% and a t-statistic of 2.36 for the estimate of 52.74%. These shrinkage estimates are also significantly larger than comparable estimates in cross-sectional asset pricing: 12% from Chen and Zimmermann (2020), 19% from Harvey and Liu (2021). Similarly, our local FDR estimates range from 29% to 51% for business combination laws. These statistics also indicate the need to raise t-statistic hurdles to control FDRs at levels suggested in the literature.

Results for the Regulation SHO pilot are reported in Table II. Results are qualitatively similar across the distributional and functional form assumptions: parameter estimates for π_f range from 0.77 to 0.89. The minimum t-statistic hurdles to control the FDR at the 5% level in our empirical data range from 3.4 to 3.6 for the Regulation SHO pilot. For comparison, the t-hurdle obtained by applying the BH correction to all reported t-statistics in the Regulation SHO pilot setting is 2.4, a hurdle significantly lower than that obtained after accounting for publication bias. The corresponding BHY t-hurdle for all reported tests using the Regulation SHO pilot reported by Heath et al. (2023) of 3.5 is comparable to our results.

[INSERT TABLE II ABOUT HERE]

Empirical Bayes shrinkage estimates range from 48.25% to 66.63% for the Regulation SHO pilot setting. These estimates imply that a reported t-statistic of 5 should be shrunk to an unbiased t-statistic of 2.59 for the estimate of 48.25% and a t-statistic of 1.67 for the estimate of 66.63%. Estimates for business combination laws range from 39.90% to 52.74%. These shrinkage estimates are also significantly larger than comparable estimates from Chen and Zimmermann (2020), and from Harvey and Liu (2021). Similarly, our local FDR estimates range from 37% to 53% for Regulation SHO. These statistics also indicate a need to raise t-statistic hurdles to control FDRs at levels suggested in the literature.

Overall, these results highlight the importance of biased publication when considering multiple testing issues. Furthermore, the point estimates from our QML estimations collectively provide reinforcing evidence of Heath et al. (2023) calls to raise t-statistic thresholds in these settings, even in the presence of biased reporting.

C. Bootstrapped Results

While our point estimates of the share of false results and multiple testing statistics are markedly different than corresponding results in cross-sectional asset pricing (Harvey et al. (2016) and Chen (2024)), these results may be subject to significant estimation uncertainty. Using data on reported cross-sectional asset pricing factor t-statistics, Chen (2024) indicates that multiple testing statistics, particularly those that depend more on the poorly observed region of the t-statistic distribution under biased reporting, are subject to significant estimation uncertainty.

Consequently, we also bootstrap our results using two approaches detailed in Section II.A. For each assumed distribution and publication function reported in Tables I and II, we bootstrap 1,000 replicates of t-statistics. The two bootstraps we use are a simple boot-

strap and a semi-parametric bootstrap. Both of these bootstraps are designed to reflect the reporting bias in the original data while the semi-parametric bootstrap also accounts for correlations using actual CRSP and Compustat data in these settings.

Bootstrapped results are reported for business combination laws in Table III. Results for the simple bootstrap are reported in Panel A, while results for the semi-parametric bootstrap are reported in Panel B. We report bootstrapped estimates for the share of false results parameter π_f estimated using QML, and for the various multiple testing statistics including: the minimum t-statistic hurdle required to control the FDR at the 5% level, empirical Bayes shrinkage, and the local FDR. We report the 5th, 25th, 50th, 75th, and 95th percentiles of the bootstrapped estimates and multiple testing statistics to span the percentiles reported by Chen (2024) in cross-sectional asset pricing.

[INSERT TABLE III ABOUT HERE]

While we do observe significant variation in estimates for the parameter reflecting the share of false results, even the left tail of bootstrapped estimates are large compared to previous estimates in cross-sectional asset pricing. Across both the simple and semi-parametric bootstrap, the 5th percentile for estimates for π_f range from 0.50 to 0.85. Furthermore, many of the reported percentiles of π_f are close to the assumed $\pi_f = 1$ of the BH correction. These results are in stark contrast to the bootstrapped estimates of Chen (2024) for cross-sectional asset pricing factors. In his baseline specification, Chen (2024) finds 5th and 25th percentiles of bootstrapped estimates of pi_f of 0.01. The pi_f parameter primarily governs t-statistic hurdles, which we discuss next.

The bootstrapped estimates for π_f also imply that the minimum t-statistic hurdle to control the FDR at the 5% level is larger than the conventional hurdle. Minimum t-statistic

hurdles to control the FDR at the 5% level range from 2.6 to 3.5 across reported percentiles for both the simple bootstrap and semi-parametric bootstraps. While these statistics vary across bootstrap replicates, they collectively provide further evidence that t-statistic hurdles should be raised for this empirical setting in order to control the FDR at the desired level. The full distribution of bootstrapped hurdles assuming that t-statistics are log-normally distributed and that the publication function follows the staircase function of Equation 2 with $\eta \in [\frac{1}{3}, \frac{2}{3}]$ is reported in Panel A of Figure 2. Hurdle statistics are shaded corresponding to estimates for the share of false results parameter, π_f in a given estimation.

[INSERT FIGURE 2 ABOUT HERE]

The vast majority of bootstrapped t-statistic hurdles are larger than the conventional asymptotic hurdle of 1.96. These bootstrapped hurdles are in stark contrast to analyses in cross-sectional asset pricing. Chen (2024) finds a large mode of bootstrapped estimates of π_f close to zero, which implies a corresponding mode of bootstrapped t-hurdles also close to zero, arguing that the distribution of t-statistics for cross-sectional factors is consistent with most reported results being true. For business combinations laws, we instead observe a large mode of bootstrapped t-statistic hurdles between 3 and 3.5, even larger than the t-hurdle obtained by simply applying the BH FDR correction to all reported t-statistics without accounting for biased reporting as in Heath et al. (2023).

Results for multiple testing statistics that rely more on the estimated mean and variance parameters of true result t-statistics are similar. We also find variation across bootstrapped statistics for empirical Bayes shrinkage, with results suggesting that reported t-statistics in the business combinations laws setting should be shrunk by up to 67% to obtain their unbiased counterparts. Results are similar for the semi-parametric estimate, with shrinkage estimates ranging between 27% and 66% for reported percentiles. Despite the wide range of

bootstrapped shrinkage estimates, they remain larger than previous shrinkage estimates from the literature on cross-sectional asset pricing. The full distribution of bootstrapped shrinkage statistics for the simple bootstrap assuming that t-statistics are log-normally distributed and that the publication function follows the staircase function of Equation 2 with $\eta \in [\frac{1}{3}, \frac{2}{3}]$ is reported in Panel A of Figure 3. The vast majority of shrinkage estimates are between 35% and 60%.

[INSERT FIGURE 3 ABOUT HERE]

We find slightly more variation across bootstrapped statistics for the local FDR. For our reported percentiles, bootstrapped local FDR statistics range between 11 and 67%. However, as indicated in Panel A of Figure 4, there is a concentration of bootstrapped local FDRs between 35% and 60%. As for our other results, these multiple testing statistics are generally larger than documented for cross-sectional asset pricing factors.

Bootstrapped results are qualitatively similar for the Regulation SHO pilot as reported in Table IV. Estimates for the share of false results range from 0.22 to 0.93 for the simple bootstrap, implying significant estimation uncertainty for this parameter. However, even taking the significant variation in π_f estimates into account, bootstrapped t-statistic hurdles suggest that standard t-statistic hurdles should be raised to control the FDR at the 5% level. t-hurdles range from 2.5 to 3.8 for the reported percentiles.

After accounting for correlations using the semi-parametric bootstrap, results in Panel B of Table IV further indicate that t-statistic hurdles should be raised in the Regulation SHO pilot setting. Estimates for π_f range from 0.67 to 0.99, while implied t-hurdles range from 3.2 to 3.8 across reported percentiles and assumed distributions and publication functions. As indicated in Panel B of Figure 2, bootstrapped t-hurdles are somewhat larger for the

Regulation SHO pilot compared to business combination laws in Panel A, more tests have been reported in the Regulation SHO pilot setting, and our estimates of the share of false results are relatively large compared to the business combination laws setting.

While we find some small estimates of local FDRs for the Regulation SHO pilot in the left tail of bootstrapped statistics using the simple bootstrap (8% for the 5th percentile), after accounting for correlations using the semi-parametric bootstrap, local FDRs range from 24% to 79% for reported percentiles. Results are qualitatively similar for empirical Bayes shrinkage, which ranges from 41% for the 5th percentile to 79% for the 95th percentile, suggesting that reported t-statistics for the Regulation SHO pilot should be shrunk by up to 80%.

[INSERT TABLE IV ABOUT HERE]

To summarize our results: when extrapolating the well-observed region of t-statistics for business combination laws and Regulation SHO pilot settings, our QML estimates suggest that a large portion of results are potentially false, further suggesting a need to raise t-statistic hurdles from the conventional level to control the FDR at the 5% level. Furthermore, multiple testing statistics that rely more on the well-observed region of t-statistics under biased reporting of tests also suggest that reported t-statistics should be shrunk significantly in order to obtain their unbiased counterparts.

IV. Conclusion

Following the advent of the credibility revolution, researchers increasingly use natural experiments in an attempt to causally identify parameters of interest. Yet, it is difficult to find new natural experiments, so after a credible natural experiment is first used, it is often

re-used in a large number of subsequent studies. As a result, researchers have begun to critique the manner in which natural experiments are reused (e.g., Mellon (2021); Heath et al. (2023)).

At the same time, researchers are also becoming increasingly aware of the implications of publication bias. A number of papers have found that peer-reviewed journals are more likely to publish results that are statistically significant (Brodeur et al., 2018). Moreover, Rosenthal (1979) notes that if journals are less likely to publish non-significant results, academics may be less likely to write-up such results in the first place, leading to a file-drawer problem whereby not all results are publicly released. Chen (2024) argues that these publication biases may interact with multiple testing biases to further complicate inference.

In this paper, we provide some of the first empirical evidence analyzing how publication bias interacts with common multiple-testing procedures when natural experiments are reused. Using novel simulation evidence, we extrapolate unreported tests from observed tests and find evidence that reinforces previous recommendations to raise conventional t-statistic hurdles. Specifically, in empirical environments typical in corporate finance, we find that even in the presence of publication bias, conventional statistical hurdles are too low, leading to a large number of false positives.

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Table I
Estimates, Business Combination Laws

This table reports multiple testing statistics calculated from quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II for the business combination laws setting. We report results separately for various assumed distributions and publication functions. Results are reported for the share of false results parameter, π_f, the minimum t-statistic hurdle required to control the false discovery rate (FDR) at 5% level, empirical Bayes shrinkage, and the local FDR.

Assumptions		Estimates			
Distribution	Publication Function	Probability False π_F	t-hurdle, FDR=5%	Shrinkage	FDR
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.82	3.0	39.90	29.28
Log-normal	$\eta = 0.5$	0.96	3.3	52.74	51.15
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.85	3.1	43.61	34.67
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.91	3.2	42.19	40.78

Table II
Estimates, Regulation SHO

This table reports multiple testing statistics calculated from quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II for the Regulation SHO pilot setting. We report results separately for various assumed distributions and publication functions. Results are reported for the share of false results parameter, π_f, the minimum t-statistic hurdle required to control the false discovery rate (FDR) at 5% level, empirical Bayes shrinkage, and the local FDR.

Assumptions		Estimates			
Distribution	Publication Function	Probability False π_F	t-hurdle, FDR=5%	Shrinkage	FDR
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.77	3.4	58.05	36.81
Log-normal	$\eta = 0.5$	0.89	3.6	66.63	52.69
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.86	3.5	62.62	50.08
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.83	3.4	48.25	38.99

Table III
Bootstrapped Multiple Testing Statistics, Business Combination Laws

This table reports multiple testing statistics for business combination laws calculated from bootstrapped quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II. Results are reported for a non-parametric bootstrap (Panel A), and a semi-parametric bootstrap (Panel B) described in Section II.A. We report results for various assumed distributions and publication functions. Results are reported for the share of false results parameter, π_f, the minimum t-statistic hurdle required to control the false discovery rate (FDR) at 5% level, empirical Bayes shrinkage, and the local FDR.

Panel A: Business Combination Laws, Simple Bootstrap

Assumptions		Probability False π_F					t-hurdle, FDR=5%				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.54	0.85	0.94	0.96	0.98	2.6	3.0	3.2	3.3	3.4
Log-normal	$\eta = 0.5$	0.80	0.95	0.96	0.97	0.98	3.0	3.2	3.3	3.4	3.5
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.57	0.77	0.84	0.89	0.93	2.6	3.0	3.1	3.2	3.3
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.75	0.89	0.93	0.96	0.98	2.9	3.1	3.2	3.3	3.5

		Shrinkage					FDR				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	27.38	38.72	46.78	54.43	64.57	11.84	29.29	43.83	53.34	64.60
Log-normal	$\eta = 0.5$	36.38	45.83	51.78	57.81	66.57	25.83	42.74	49.61	57.10	66.54
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	27.06	37.03	43.03	49.57	57.36	12.57	26.39	33.70	42.11	51.77
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	24.83	35.26	42.82	49.92	59.85	21.91	36.33	44.83	53.07	63.92

Panel B: Business Combination Laws, Semi-Parametric Bootstrap

Assumptions		Probability False π_F					t-hurdle, FDR=5%				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.50	0.77	0.88	0.94	0.98	2.6	2.9	3.1	3.3	3.4
Log-normal	$\eta = 0.5$	0.85	0.94	0.96	0.98	0.98	3.1	3.2	3.3	3.4	3.5
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.70	0.82	0.86	0.90	0.95	2.8	3.0	3.1	3.2	3.4
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.81	0.91	0.94	0.96	0.99	2.9	3.2	3.3	3.4	3.5

Assumptions		Shrinkage					FDR				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	27.82	35.21	42.27	49.57	59.87	10.88	23.49	34.00	45.70	59.31
Log-normal	$\eta = 0.5$	38.51	46.48	52.99	59.71	66.00	31.21	43.33	50.69	58.37	66.57
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	26.60	38.36	45.29	50.90	59.10	19.56	29.80	36.19	43.90	52.58
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	28.26	38.25	44.92	50.02	61.61	24.69	38.63	47.35	54.34	65.17

Table IV
Bootstrapped Multiple Testing Statistics, Regulation SHO

This table reports multiple testing statistics for the Regulation SHO pilot calculated from bootstrapped quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II. Results are reported for a non-parametric bootstrap (Panel A), and a semi-parametric bootstrap (Panel B) described in Section II.A. We report results for various assumed distributions and publication functions. Results are reported for the share of false results parameter, π_f, the minimum t-statistic hurdle required to control the false discovery rate (FDR) at 5% level, empirical Bayes shrinkage, and the local FDR.

Panel A: Regulation SHO, Simple Bootstrap

Assumptions		Probability False π_F					t-hurdle, FDR=5%				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.44	0.70	0.77	0.85	0.90	2.8	3.2	3.4	3.5	3.6
Log-normal	$\eta = 0.5$	0.80	0.87	0.90	0.93	0.97	3.4	3.5	3.6	3.7	3.8
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.22	0.73	0.87	0.93	0.98	2.5	3.3	3.5	3.6	3.8
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.58	0.82	0.90	0.94	0.98	3.0	3.4	3.5	3.6	3.8

		Shrinkage					FDR				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	46.84	53.98	58.50	64.04	70.95	13.24	28.66	36.81	47.35	58.09
Log-normal	$\eta = 0.5$	56.71	63.09	67.11	70.53	75.99	36.55	47.78	54.72	60.84	70.06
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	49.49	57.56	63.77	70.45	82.64	7.60	35.91	50.98	62.07	79.34
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	41.37	47.09	51.68	58.15	70.95	18.84	37.66	48.74	59.20	74.44

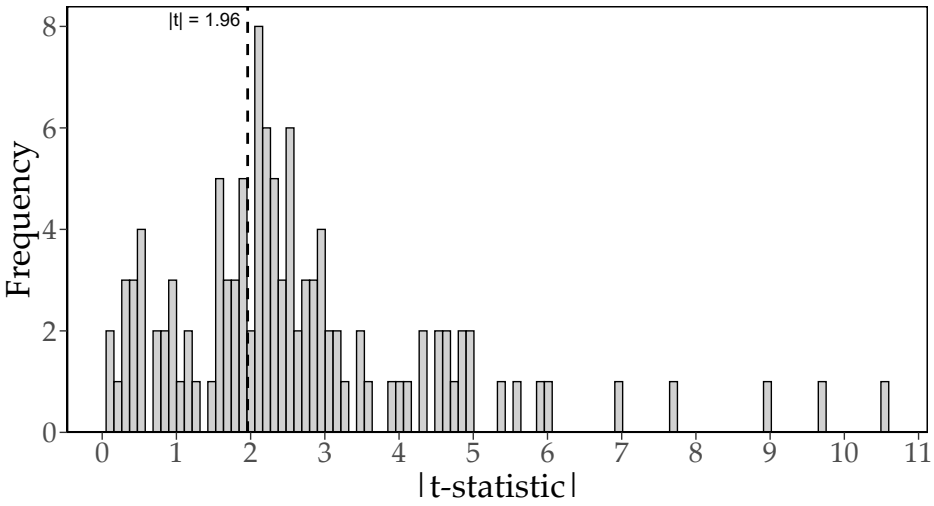
Panel B: Regulation SHO, Semi-Parametric Bootstrap

Assumptions		Probability False π_F					t-hurdle, FDR=5%				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.71	0.81	0.88	0.95	0.99	3.2	3.4	3.5	3.6	3.8
Log-normal	$\eta = 0.5$	0.79	0.87	0.91	0.96	0.99	3.4	3.5	3.6	3.7	3.8
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.71	0.83	0.88	0.91	0.95	3.3	3.4	3.5	3.6	3.7
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	0.67	0.88	0.93	0.97	0.99	3.2	3.5	3.6	3.7	3.8

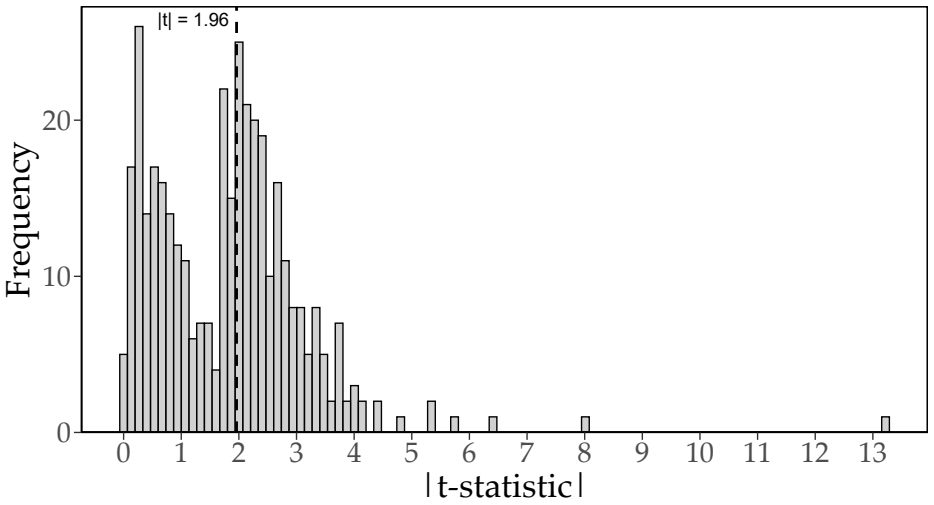
Assumptions		Shrinkage					FDR				
Distribution	Publication Function	P05	P25	P50	P75	P95	P05	P25	P50	P75	P95
Log-normal	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	51.50	57.39	62.37	68.45	78.26	28.28	37.96	48.16	59.88	76.84
Log-normal	$\eta = 0.5$	55.22	62.07	66.98	70.95	79.44	35.22	47.87	55.57	63.91	78.69
Exponential	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	54.80	60.21	64.86	68.33	74.99	32.06	44.09	52.05	58.51	68.98
Scaled t	$\eta \in [\frac{1}{3}, \frac{2}{3}]$	41.40	49.10	55.62	63.83	74.64	24.81	43.89	56.55	67.54	78.63

Figure 1 Distribution of Reported *t*-Statistics

Panel A: Business Combination Laws Sample



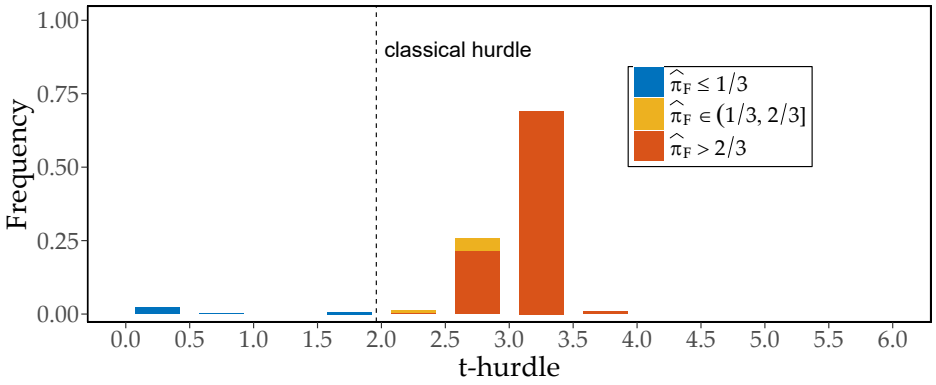
Panel B: Regulation SHO Pilot Sample



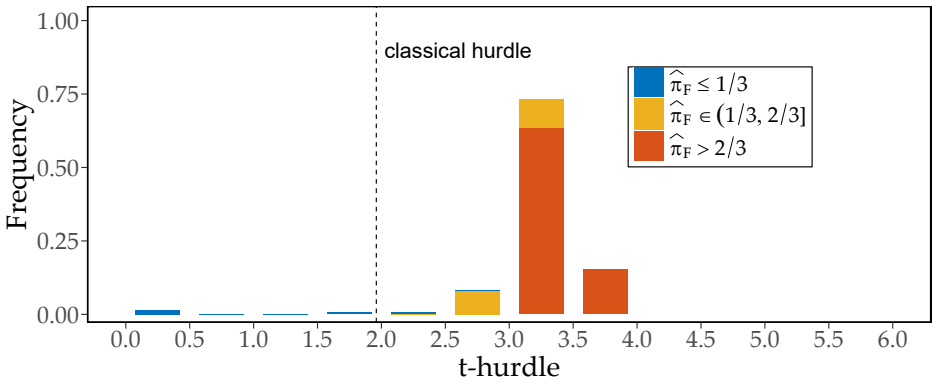
Note: This figure reports the distribution of reported *t*-statistics for business combination laws (Panel A) and for the Regulation SHO pilot (Panel B). *t*-statistics are manually collected and associated with the various outcome variables examined in these empirical settings using the appraoch detailed in Section I.A. The vertical dashed line in the figure represents the conventional asymptotic *t*-statistic hurdle of 1.96. The list of outcome variables for which *t*-statistics are collected is reported in Table A.I.

Figure 2 Bootstrapped t-Hurdles

Panel A: Business Combination Laws Sample



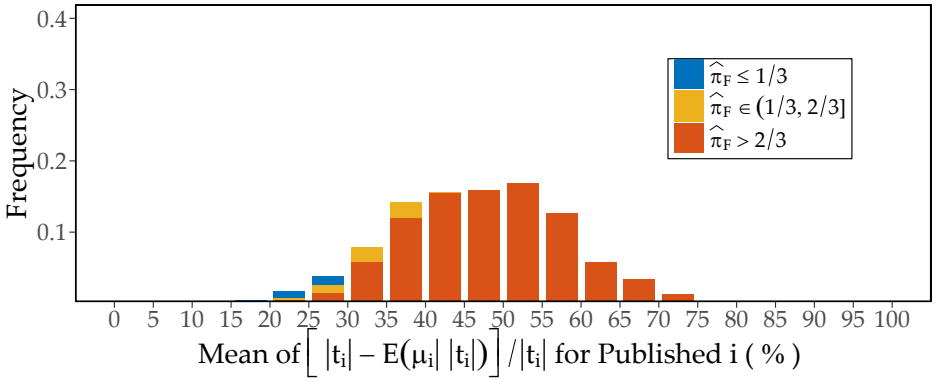
Panel B: Regulation SHO Pilot Sample



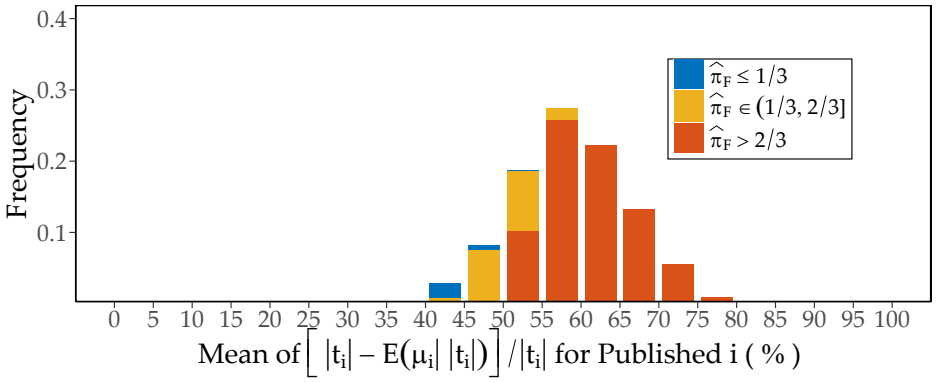
Note: This figure reports statistics on the minimum t-statistic hurdle required to control the false discovery rate (FDR) at 5% level. Statistics calculated from bootstrapped quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II. Results in this figure are reported for the non-parametric bootstrap described in Section II.A, assuming that t-statistics are log-normally distributed and that the publication function follows the staircase function of Equation 2 with $\eta \in [\frac{1}{3}, \frac{2}{3}]$. Hurdle statistics are shaded corresponding to estimates for the share of false results parameter, π_f in a given estimation. Results are reported for business combination laws in Panel A and for the Regulation SHO pilot in Panel B.

Figure 3 Bootstrapped Shrinkage Estimates

Panel A: Business Combination Laws Sample



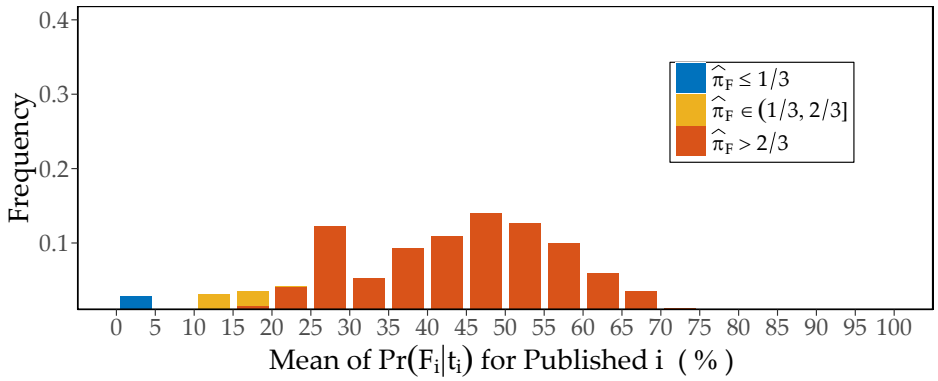
Panel B: Regulation SHO Pilot Sample



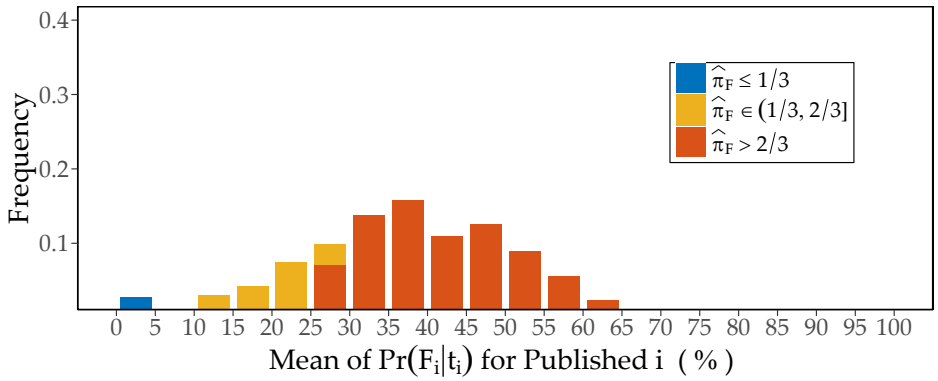
Note: This figure reports empirical Bayes shrinkage statistics calculated from bootstrapped quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II. Results in this figure are reported for the non-parametric bootstrap described in Section II.A, assuming that t-statistics are log-normally distributed and that the publication function follows the staircase function of Equation 2 with $\eta \in [\frac{1}{3}, \frac{2}{3}]$. Shrinkage statistics are shaded corresponding to estimates for the share of false results parameter, π_f in a given estimation. Results are reported for business combination laws in Panel A and for the Regulation SHO pilot in Panel B.

Figure 4 Bootstrapped FDRs

Panel A: Business Combination Laws Sample



Panel B: Regulation SHO Pilot Sample



Note: This figure reports local false discovery rate (FDR) statistics calculated from bootstrapped quasi-maximum likelihood (QML) estimates using the estimation approach detailed in Section II. Results in this figure are reported for the non-parametric bootstrap described in Section II.A, assuming that t-statistics are log-normally distributed and that the publication function follows the staircase function of Equation 2 with $\eta \in [\frac{1}{3}, \frac{2}{3}]$. FDR statistics are shaded corresponding to estimates for the share of false results parameter, π_f in a given estimation. Results are reported for business combination laws in Panel A and for the Regulation SHO pilot in Panel B.

Appendix

1. Table A.I lists the outcome variables for which we collect reported t-statistics.

2. Table A.II provides data definitions for the 293 variables obtained from Compustat and CRSP.

Table A.I
Reported Outcome Variables

This table lists the outcomes for which we collect t-statistics. Reported outcomes are collected using the approach detailed in Section I.A. Panel A lists outcomes examined in relation to business combination laws. Panel B lists outcomes examined in relation to Regulation SHO.

Panel A: Business Combination Laws

First Draft	Draft used	Paper	Outcome	Location
10/1/1999	10/1/1999	Bertrand and Mullainathan (1999a)	Log Deflated Wage	Tab 3, Col 2
11/29/1999	11/29/1999	Bertrand and Mullainathan (1999)	Log of Total CEO Compensation	Tab 3, Col 1
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of Production Worker Wages	Tab 3, Col 4
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of White Collar Worker Wages	Tab 4, Col 2
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of White Collar Worker Employment	Tab 4, Col 4
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Plant Death Dummy	Tab 5, Col 4
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Plant Birth Dummy	Tab 6, Col 3
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of Plant-Level Investment	Tab 7, Col 3
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of the number of plants	Tab 8, Col 1
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of Capital Stock	Tab 8, Col 2
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of Employment	Tab 8, Col 3
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Log of Total Value of Shipment	Tab 8, Col 4
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	TFP Percentile	Tab 9, Col 4
10/1/2003	10/1/2003	Bertrand and Mullainathan (2003)	Return on Capital	Tab 9, Col 9
3/26/2004	3/26/2004	Cheng, Nagar, and Rajan (2005)	ln[1+director/officer stock holdings] (%)	Pg 658 Dicussion of Robustness
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(1+\text{Pat})_{t+4}$	Tab 3, Col 2
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(1+\text{Cit/Pat})_{t+4}$	Tab 3, Col 5
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(1+\text{Pat})_{t+3}$	Tab 3, Col 1
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(1+\text{Cit/Pat})_{t+3}$	Tab 3, Col 4
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(\text{Q})_{t+1}$	Tab 8, Col 1
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(\text{Q})_{t+2}$	Tab 8, Col 2
3/2/2007	1/30/2013	Atanassov (2013)	$\text{Ln}(\text{Q})_{t+3}$	Tab 8, Col 3
8/9/2007	10/31/2009	Giroud and Mueller (2010)	ROA	Tab 3, Col 1
8/9/2007	10/31/2009	Giroud and Mueller (2010)	Likelihood of being acquired	Tab 6, Col 1
7/16/2008	5/29/2009	Qiu and Yu (2009)	Credit Spread	Tab 4, Col 2
11/24/2008	11/24/2008	Juks (2008)	ln(1+S+W+R)	Tab 4, Col 4
11/24/2008	11/24/2008	Juks (2008)	ln(1+SP+WP+RP)	Tab 5, Col 4
11/24/2008	11/24/2008	Juks (2008)	Accidents	Tab 6, Col 4
11/24/2008	11/24/2008	Juks (2008)	ln(1+S)	Tab 7, Col 4
11/24/2008	11/24/2008	Juks (2008)	ln(1+W)	Tab 8, Col 4
11/24/2008	11/24/2008	Juks (2008)	ln(1+R)	Tab 9, Col 4
3/3/2009	3/3/2009	Zhao and Chen (2009)	Magnitude of Abnormal Accruals	Tab 5A, Col 2
3/22/2009	3/22/2009	Huang and Zhao (2009)	Turnover	Tab 3, Col 4
12/31/2009	3/21/2011	Francis et al. (2011)	Dividend Payout Ratio	Tab 4, Col 8
12/31/2009	3/21/2011	Francis et al. (2011)	Dividend Dummy	Tab 5, Col 9
12/31/2009	3/21/2011	Francis et al. (2011)	Total Payout Ratio	Tab 7, Col 2
12/31/2009	3/21/2011	Francis et al. (2011)	Cash Holding	Tab 9, Col 2
12/31/2009	3/21/2011	Francis et al. (2011)	Dividend Payout Ratio II	Tab 12, Col 2
12/31/2009	3/21/2011	Francis et al. (2011)	Dividend Payout Ratio III	Tab 12, Col 4
1/24/2010	12/7/2015	Cen, Dasgupta, and Sen (2016)	Firm-level num PC	Tab 6, Col 1
1/24/2010	12/7/2015	Cen, Dasgupta, and Sen (2016)	Firm-level PC percentage	Tab 6, Col 2
1/24/2010	12/7/2015	Cen, Dasgupta, and Sen (2016)	Relationship-level PC percentage	Tab 6, Col 3
6/27/2010	3/20/2014	Callen, Guan, and Qiu (2014)	CSCORE	Tab 5, Col 2
6/27/2010	3/20/2014	Callen, Guan, and Qiu (2014)	Special Items scaled by total assets	Tab 9, Col 3
8/30/2010	7/5/2012	Huang and Peyer (2012)	Percentage of outside director	Tab 4, Col 1
8/30/2010	7/5/2012	Huang and Peyer (2012)	Director retainer fee	Tab 4, Col 2
8/30/2010	7/5/2012	Huang and Peyer (2012)	Director incentive pay	Tab 4, Col 3
8/30/2010	7/5/2012	Huang and Peyer (2012)	Classified Board	Tab 4, Col 4
8/30/2010	7/5/2012	Huang and Peyer (2012)	Largest block	Tab 4, Col 5
8/30/2010	7/5/2012	Huang and Peyer (2012)	Block at 5%	Tab 4, Col 6
8/30/2010	7/5/2012	Huang and Peyer (2012)	Debt/Value	Tab 4, Col 7
8/30/2010	7/5/2012	Huang and Peyer (2012)	CEO Salary and Bonus	Tab 4, Col 8
8/30/2010	7/5/2012	Huang and Peyer (2012)	CEO Stock ownership	Tab 4, Col 9
8/30/2010	7/5/2012	Huang and Peyer (2012)	CEO long term incentive pay	Tab 4, Col 10
4/27/2011	6/27/2013	Kim and Purnanandam (2013)	SEO CAR	Tab 2, Col 2
2/13/2013	11/17/2015	Amore and Bennedsen (2016)	ln(1+green patent cites)	Tab 3, Col 1
2/13/2013	11/17/2015	Amore and Bennedsen (2016)	At least one green patent	Tab 3, Col 2
2/13/2013	11/17/2015	Amore and Bennedsen (2016)	Green Patents to total patents	Tab 3, Col 4
2/13/2013	11/17/2015	Amore and Bennedsen (2016)	Green cites to total cites	Tab 3, Col 5
2/13/2013	11/17/2015	Amore and Bennedsen (2016)	Complex Patents	Tab 8, Col 1
2/13/2013	11/17/2015	Amore and Bennedsen (2016)	Non-complex patents	Tab 8, Col 2

3/14/2013	3/14/2013	Santos (2013)	R&D Expenditures	Tab 4, Col 4
10/1/2013	10/1/2013	Sauvagnat (2013)	Equity Issues	Tab 10, Col 1
10/1/2013	10/1/2013	Sauvagnat (2013)	Net Change in Equity	Tab 10, Col 3
10/1/2013	10/1/2013	Sauvagnat (2013)	Debt Issues	Tab 10, Col 5
10/1/2013	10/1/2013	Sauvagnat (2013)	Net Change in Debt	Tab 10, Col 7
10/1/2013	10/1/2013	Sauvagnat (2013)	Sales Growth	Tab 11, Col 1
10/1/2013	10/1/2013	Sauvagnat (2013)	Asset Growth (last three years)	Tab 11, Col 3
2/7/2014	4/1/2015	Cardella, Fairhurst, and Klasa (2015)	STI	Tab 11, Pan A, Col 8
3/21/2014	3/21/2014	Zeng (2014)	Ln(1+Adj_Patent)	Tab 3, Col 1
3/21/2014	3/21/2014	Zeng (2014)	Ln(1+Adj_Citation)	Tab 3, Col 3
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Stock Volatility	Tab 2, Col 1
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Performance-related exit	Tab 2, Col 2
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Operating asset volatility	Tab 2, Col 3
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Cash flow volatility	Tab 2, Col 4
7/14/2014	8/23/2016	Gormley and Matsa (2016)	ln(Cash) (Firm, CH)	Tab 2, Col 5
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Number of acquisitions	Tab 3, Col 1
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Any Acquisition Indicator	Tab 3, Col 2
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Deal value/Acquirer assets in t-1	Tab 3, Col 3
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Number of Diversifying acquisitions	Tab 3, Col 4
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Correlation of Stock Returns	Tab 4, Col 1
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Altman Z-score	Tab 4, Col 2
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Correlation of operating asset returns	Tab 4, Col 3
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Correlation of cash flow to assets	Tab 4, Col 4
7/14/2014	8/23/2016	Gormley and Matsa (2016)	ln(Cash) (Target, CH)	Tab 4, Col 5
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Three-year asset CAGR	Tab 4, Col 6
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Cash flow/Assets	Tab 4, Col 7
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Payout/Assets	Tab 4, Col 8
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Percent Equity	Tab 5, Col 1
7/14/2014	8/23/2016	Gormley and Matsa (2016)	Acquirer announcement CAR [-1, 1]	Tab 5, Col 2
9/11/2014	12/15/2017	Karpoff and Wittry (2017)	Capex	Tab 4, Col 2
9/11/2014	12/15/2017	Karpoff and Wittry (2017)	PPE Growth	Tab 4, Col 3
9/11/2014	12/15/2017	Karpoff and Wittry (2017)	Asset Growth	Tab 4, Col 4
9/11/2014	12/15/2017	Karpoff and Wittry (2017)	SGA Expense	Tab 4, Col 6
9/11/2014	12/15/2017	Karpoff and Wittry (2017)	Leverage	Tab 4, Col 7
11/2/2014	4/12/2017	Cain, Mckeon, and Solomon (2017)	Acquired	Tab 4, Col 2
11/2/2014	4/12/2017	Cain, Mckeon, and Solomon (2017)	Hostile Hazard	Tab 4, Col 4
11/2/2014	4/12/2017	Cain, Mckeon, and Solomon (2017)	Hostile Single-Period	Tab 4, Col 6
9/6/2015	7/9/2019	Pasquariello (2019)	ILLIQ	Tab 5, Col 4
11/15/2015	8/25/2016	Bhargava, Faircloth, and Zeng (2017)	$\text{Count}_{(t+1)}$	Tab 2, Col 1
11/15/2015	8/25/2016	Bhargava, Faircloth, and Zeng (2017)	$\text{NCSKEW}_{(t+1)}$	Tab 2, Col 2
11/15/2015	8/25/2016	Bhargava, Faircloth, and Zeng (2017)	$\text{DUVOL}_{(t+1)}$	Tab 2, Col 3
12/2/2015	8/21/2016	Castellaneta and Conti (2017)	IRR	Tab 4, Col 1
3/16/2016	3/16/2018	Fich, Harford, and Yore (2019)	ln(Cash) (CHE)	Tab 6, Col 2
5/20/2016	6/4/2019	Bharath and Hertzel (2019)	Loan Issue	Tab 3, Pan A, Col 7
5/20/2016	6/4/2019	Bharath and Hertzel (2019)	Loan Covenant strictness	Tab 5, Col 3
10/1/2016	1/1/2018	Chen, Cheng, Lo, and Wang (2016)	CEO Contractual Protection	Tab B-1
12/3/2016	8/27/2020	Gao, Li, and Ma (2020)	Loan Spread	Tab 4, Col 2
11/20/2017	11/11/2019	Phillips and Zhdanov (2019)	Scaled VC deals	Tab A12, Pan A, Col 5
11/20/2017	11/11/2019	Phillips and Zhdanov (2019)	Scaled unique VC deals	Tab A12, Pan A, Col 6
1/1/2020	1/1/2020	Gao, Jia, and Kim (2020)	CashETR(t)	Tab 5, Pan E, Col 1
1/1/2020	1/1/2020	Gao, Jia, and Kim (2020)	CashETR3(t)	Tab 5, Pan E, Col 3
6/29/2020	6/29/2020	Borgschulte, Guenzel, Liu, and Malmendier (2020)	CEO Pay	Tab 5, Pan B, Col 3
6/29/2020	6/29/2020	Borgschulte, Guenzel, Liu, and Malmendier (2020)	Death	Tab 3, Col 6

Panel B: Regulation SHO

First Draft	Draft used	Paper	Outcome	Location
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Volume	Tab 2, Pan A, Col 7, Row 1
3/15/2006	6/16/2007	Alexander and Peterson (2008)	No. Trades	Tab 2, Pan A, Col 7, Row 2
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Short/Long	Tab 2, Pan A, Col 7, Row 4
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Trade Size (Short Sale)	Tab 2, Pan A, Col 7, Row 3
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Quoted Spread	Tab 3, Pan A, Col 7, Row 1
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Effective Spread (trade weighted)	Tab 3, Pan A, Col 7, Row 2
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Bid Size	Tab 3, Pan A, Col 7, Row 3
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Ask Size	Tab 3, Pan A, Col 7, Row 4
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Bsize/Asize	Tab 3, Pan A, Col 7, Row 5
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Effective Spread of short sales	Tab 4, Pan A, Col 7, Row 1
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Trades < Midpoint	Tab 4, Pan A, Col 7, Row 2
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Price Location	Tab 4, Pan A, Col 7, Row 5
3/15/2006	6/16/2007	Alexander and Peterson (2008)	ES(P<MP)	Tab 4, Pan A, Col 7, Row 3
3/15/2006	6/16/2007	Alexander and Peterson (2008)	ES(P>MP)	Tab 4, Pan A, Col 7, Row 4
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Pr(P<MP)	Tab 4, Pan A, Col 7, Row 6
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Pr(P>MP)	Tab 4, Pan A, Col 7, Row 7
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Price Impact	Tab 5, Pan A, Col 7, Row 1
3/15/2006	6/16/2007	Alexander and Peterson (2008)	PI (P<MP)	Tab 5, Pan A, Col 7, Row 2
3/15/2006	6/16/2007	Alexander and Peterson (2008)	PI (P>MP)	Tab 5, Pan A, Col 7, Row 3
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Autocorr (5 min)	Tab 6, Pan A, Col 7, Row 1
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Autocorr (30 min)	Tab 6, Pan A, Col 7, Row 2
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Autocorr (60 min)	Tab 6, Pan A, Col 7, Row 3
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Up-Down R^2	Tab 6, Pan A, Col 7, Row 4
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Realized Variance	Tab 7, Pan A, Col 7, Row 1
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Semi-Variance	Tab 7, Pan A, Col 7, Row 2
3/15/2006	6/16/2007	Alexander and Peterson (2008)	MAD	Tab 7, Pan A, Col 7, Row 3
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Price Range	Tab 7, Pan A, Col 7, Row 4
3/15/2006	6/16/2007	Alexander and Peterson (2008)	Implied Volatility	Tab 7, Pan A, Col 7, Row 5
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Price (NYSE)	Tab 2, Pan A, Col 7, Row 1
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Number of Trades (NYSE)	Tab 2, Pan A, Col 7, Row 2
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Trade size (NYSE)	Tab 2, Pan A, Col 7, Row 3
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Volume (NYSE)	Tab 2, Pan A, Col 7, Row 4
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Short interest (NYSE)	Tab 3, Pan A, Col 7, Row 5
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Daily quote range	Tab 5, Pan A, Col 7, Row 1
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Volatility (close-close, TAQ, NYSE)	Tab 5, Pan A, Col 7, Row 2
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Volatility (open-close, TAQ, NYSE)	Tab 5, Pan A, Col 7, Row 3

7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Daily traded price range (NYSE)	Tab 5, Pan A, Col 7, Row 4
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Volatility (close-close, CRSP, NYSE)	Tab 5, Pan A, Col 7, Row 5
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Semivariance (Positive)	Tab 5, Pan A, Col 7, Row 6
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Semivariance (Negative)	Tab 5, Pan A, Col 7, Row 7
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Relative bid depth (NYSE)	Tab 6, Pan A, Col 7, Row 3
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Buy imbalance (NYSE)	Tab 6, Pan A, Col 7, Row 4
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Buy imbalance/volume (NYSE)	Tab 6, Pan A, Col 7, Row 5
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Quoted spread (NYSE, cents)	Tab 6, Pan B, Col 7, Row 1
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Quoted spread (NYSE, bps)	Tab 6, Pan B, Col 7, Row 2
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Effective Spread (NYSE, cents)	Tab 6, Pan B, Col 7, Row 3
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Effective Spread (NYSE, bps)	Tab 6, Pan B, Col 7, Row 4
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Realized Spread (NYSE, cents)	Tab 6, Pan B, Col 7, Row 5
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Realized Spread (NYSE, bps)	Tab 6, Pan B, Col 7, Row 6
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Trade-based Volatility (NYSE)	Tab 8, Pan A, Col 7, Row 1
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Trade-based Semivariance (Positive, NYSE)	Tab 8, Pan A, Col 7, Row 2
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Trade-based Semivariance (Negative, NYSE)	Tab 8, Pan A, Col 7, Row 3
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Midquote-Based Volatility (5-min, NYSE)	Tab 8, Pan A, Col 7, Row 4
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Midquote-Based Volatility (15-min, NYSE)	Tab 8, Pan A, Col 7, Row 5
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Midquote-Based Volatility (30-min, NYSE)	Tab 8, Pan A, Col 7, Row 6
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Variance Ratio (NYSE, Five minutes vs 15 minutes)	Tab 10, Pan A, Col 7, Row 1
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Variance Ratio (NYSE, Five minutes vs 30 minutes)	Tab 10, Pan A, Col 7, Row 2
7/22/2006	1/23/2009	Deither, Lee, and Werner (2009)	Variance Ratio (NYSE, Thirty minutes vs open-close)	Tab 10, Pan A, Col 7, Row 3
11/16/2011	12/2/2015	Grullon, Michenaud, and Weston (2015)	CAPX	Tab 6, Pan A, Col 1
11/16/2011	12/2/2015	Grullon, Michenaud, and Weston (2015)	Change in Total Assets	Tab 6, Pan A, Col 3
11/16/2011	12/2/2015	Grullon, Michenaud, and Weston (2015)	CAPX R&D	Tab 6, Pan A, Col 5
11/16/2011	12/2/2015	Grullon, Michenaud, and Weston (2015)	Equity Issues	Tab 6, Pan B, Col 1
11/16/2011	12/2/2015	Grullon, Michenaud, and Weston (2015)	Debt Issues	Tab 6, Pan B, Col 3
8/6/2012	12/23/2014	Massa, Zhang, and Zhang (2015)	AccrualMJones	Tab 4, Col 1
6/29/2013	10/13/2015	Fang, Huang, and Karpoff (2016)	Discretionary Accruals	Tab 3, Col 3
6/29/2013	10/13/2015	Fang, Huang, and Karpoff (2016)	BEAT_ALY	Tab 4, Col 2
6/29/2013	10/13/2015	Fang, Huang, and Karpoff (2016)	BEAT_EPS	Tab 4, Col 4
6/29/2013	10/13/2015	Fang, Huang, and Karpoff (2016)	HF1	Tab 5, Col 2
6/29/2013	10/13/2015	Fang, Huang, and Karpoff (2016)	HF2	Tab 5, Col 4
6/29/2013	10/13/2015	Fang, Huang, and Karpoff (2016)	HF3	Tab 5, Col 6
11/4/2013	12/13/2018	Chang, Lin and Ma (2020)	AcqCAR(âĹŠ2, 2)	Tab 6, Col 1
1/18/2014	9/16/2016	He and Tian (2016)	$\text{Cite}_{(t+1)}$	Tab 3, Pan A, Col 2
1/18/2014	9/16/2016	He and Tian (2016)	$\text{Value}_{(t+1)}$	Tab 3, Pan A, Col 4
1/18/2014	9/16/2016	He and Tian (2016)	$\text{Originality}_{(t+1)}$	Tab 3, Pan A, Col 6
1/18/2014	9/16/2016	He and Tian (2016)	$\text{Generality}_{(t+1)}$	Tab 3, Pan A, Col 8
1/18/2014	9/16/2016	He and Tian (2016)	$\text{Patent}_{(t+1)}$	Tab 3, Pan C, Col 2
1/18/2014	9/16/2016	He and Tian (2016)	$\text{LitigationRisk_SS}_{(t+1)}$	Tab 5, Col 2
1/18/2014	9/16/2016	He and Tian (2016)	$\text{LitigationRisk_ALL}_{(t+1)}$	Tab 5, Col 4
1/18/2014	9/16/2016	He and Tian (2016)	$\text{FracPress}_{(t+1)}$	Tab 8, Col 2
1/18/2014	9/16/2016	He and Tian (2016)	$\text{FracNews}_{(t+1)}$	Tab 8, Col 4
1/18/2014	9/16/2016	He and Tian (2016)	$\text{PressNews}_{(t+1)}$	Tab 8, Col 6
3/19/2014	3/6/2018	Wang (2018)	Cash Ratio	Tab 4, Col 1

5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	MF_N, good news forecasts	Tab 3, Col 1
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	MF_N, bad news forecasts	Tab 3, Col 2
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	MF_D, good news forecasts	Old Draft, Tab 4, Col 4
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	MF_D, bad news forecasts	Old Draft, Tab 4, Col 8
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	Inconsistent	Old Draft, Tab 6, Col 2
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	Consistent	Old Draft, Tab 6, Col 4
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	Bias	Tab 7, Col 1
5/1/2014	8/3/2019	Cheng, Chen, Luo, and Yue (2020)	Optimism	Old Draft, Tab 7, Col 4
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	Put Options Volume	Tab 3, Pan A, Col 1
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	Call Options Volume	Tab 3, Pan A, Col 2
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	Put Open Interest	Tab 3, Pan B, Col 1
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	Call Open Interest	Tab 3, Pan B, Col 2
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	IV Spread	Tab 6, Pan C, Col 2
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	IV Skew	Tab 6, Pan C, Col 4
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	VIOLATION	Tab 7, Col 2
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	Share Options/Stock Volume Ratio	Tab 8, Pan A, Col 1
8/15/2014	9/8/2019	Chen, Chen, and Chou (2015)	Dollar Options/Stock Volume Ratio	Tab 8, Pan B, Col 1
11/12/2014	11/12/2014	Li and Zhang (2015)	Probability Issuing Forecasts	Tab 3, Col 1
11/12/2014	11/12/2014	Li and Zhang (2015)	Forecast Precision, Traditional News Measure, Probability of Issuing Good News Forecasts	Tab 4, Col 1
11/12/2014	11/12/2014	Li and Zhang (2015)	Forecast Precision, Traditional News Measure, Probability of Issuing Bad News Forecasts	Tab 4, Col 2
11/12/2014	11/12/2014	Li and Zhang (2015)	Forecast Precision, Rogers and Van Buskirk News Measure, Probability of Issuing Good News Forecasts	Tab 4, Col 3
11/12/2014	11/12/2014	Li and Zhang (2015)	Forecast Precision, Rogers and Van Buskirk News Measure, Probability of Issuing Bad News Forecasts	Tab 4, Col 4
11/12/2014	11/12/2014	Li and Zhang (2015)	lnFOG, Bad news Report	Tab 5, Col 1
11/12/2014	11/12/2014	Li and Zhang (2015)	lnFOG, Good news Report	Tab 5, Col 2
11/12/2014	11/12/2014	Li and Zhang (2015)	lnFILESIZE, Bad news Report	Tab 5, Col 3
11/12/2014	11/12/2014	Li and Zhang (2015)	lnFILESIZE, Good news Report	Tab 5, Col 4
11/12/2014	11/12/2014	Li and Zhang (2015)	MFSURP, Traditional News Measure	Tab 6, Col 1
11/12/2014	11/12/2014	Li and Zhang (2015)	MFSURP, Rogers and Van Buskirk News Measure	Tab 6, Col 2
11/12/2014	11/12/2014	Li and Zhang (2015)	MFBIAS	Tab 6, Col 3
11/12/2014	11/12/2014	Li and Zhang (2015)	ABSMFE	Tab 6, Col 4
12/10/2014	8/20/2015	Massa, Qian, Xu, and Zhang (2015)	Insider Sell dummy	Tab 4, Col 1
12/10/2014	8/20/2015	Massa, Qian, Xu, and Zhang (2015)	InsiderSale_FracStake (%)	Tab 4, Col 2
12/10/2014	8/20/2015	Massa, Qian, Xu, and Zhang (2015)	Insider Sale_TimeSpan (# days)	Tab 4, Col 3
12/10/2014	8/20/2015	Massa, Qian, Xu, and Zhang (2015)	Turnover (scaled by shares outstanding)	Tab 4, Col 4
12/14/2014	3/23/2020	Ke, Lo, Sheng, Zhang (2018)	FBIAS	Tab 2, Col 1
12/14/2014	3/23/2020	Ke, Lo, Sheng, Zhang (2018)	Inaccuracy	Tab 2, Col 2
2/20/2015	8/29/2018	Chen, Da and Huang (2019)	MISP Portfolio Returns, Traded Stocks	Tab 5, Pan C, Row 3, Left side
2/20/2015	8/29/2018	Chen, Da and Huang (2019)	MISP Portfolio Returns, Non-pilot Stocks	Tab 5, Pan C, Row 3, Right side
3/14/2015	3/14/2015	Chu (2015)	FIC Share$_{(t+1)}$	Tab 4, Col 2
3/14/2015	3/14/2015	Chu (2015)	FIC Share$_{(t+2)}$	Tab 4, Col 4
3/14/2015	3/14/2015	Chu (2015)	FIC Share$_{(t+3)}$	Tab 4, Col 6
3/14/2015	3/14/2015	Chu (2015)	ASCI Index$_{(t+1)}$	Tab 10, Col 2
3/14/2015	3/14/2015	Chu (2015)	ASCI Index$_{(t+2)}$	Tab 10, Col 4
3/14/2015	3/14/2015	Chu (2015)	ASCI Index$_{(t+3)}$	Tab 10, Col 6
9/24/2015	7/2/2019	Lin, Lin, and Ho (2019)	ln(Loan Spread)	Tab 4, Col 4
9/24/2015	7/2/2019	Lin, Lin, and Ho (2019)	Collateral	Tab 8, Col 1
9/24/2015	7/2/2019	Lin, Lin, and Ho (2019)	Loan size	Tab 8, Col 2
9/24/2015	7/2/2019	Lin, Lin, and Ho (2019)	Maturity	Tab 8, Col 3
9/24/2015	7/2/2019	Lin, Lin, and Ho (2019)	TotalCov	Tab 8, Col 4
11/11/2015	11/11/2015	Li, Zhao and Zhong (2016)	Short sale volume	Tab 4, Pan B, Col 2
11/11/2015	11/11/2015	Li, Zhao and Zhong (2016)	Call option volume	Tab 8, Col 2
11/11/2015	11/11/2015	Li, Zhao and Zhong (2016)	Put option volume	Tab 8, Col 4
11/11/2015	11/11/2015	Li, Zhao and Zhong (2016)	Call option spreads	Tab 10, Col 2
11/11/2015	11/11/2015	Li, Zhao and Zhong (2016)	Put option spreads	Tab 10, Col 4

12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Momentum Long Short Portfolio Return	Tab 4, Pan A, Row 1
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Gross Profitability Long Short Portfolio Return	Tab 4, Pan A, Row 2
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Asset growth Long Short Portfolio Return	Tab 4, Pan A, Row 3
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Investment to Assets Long Short Portfolio Return	Tab 4, Pan A, Row 4
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Return on Assets Long Short Portfolio Return	Tab 4, Pan A, Row 5
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Net Operating Assets Long Short Portfolio Return	Tab 4, Pan A, Row 6
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Accruals Long Short Portfolio Return	Tab 4, Pan A, Row 7
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Net Stock Issues Long Short Portfolio Return	Tab 4, Pan A, Row 8
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Composite Equity Issues Long Short Portfolio Return	Tab 4, Pan A, Row 9
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Failure Probability Long Short Portfolio Return	Tab 4, Pan A, Row 10
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	O-Score Long Short Portfolio Return	Tab 4, Pan A, Row 11
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Combination Long Short Portfolio Return	Tab 4, Pan A, Row 12
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Momentum Long Leg Portfolio Return	Tab 4, Pan B, Row 1
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Gross Profitability Long Leg Portfolio Return	Tab 4, Pan B, Row 2
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Asset growth Long Leg Portfolio Return	Tab 4, Pan B, Row 3
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Investment to Assets Long Leg Portfolio Return	Tab 4, Pan B, Row 4
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Return on Assets Long Leg Portfolio Return	Tab 4, Pan B, Row 5
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Net Operating Assets Long Leg Portfolio Return	Tab 4, Pan B, Row 6
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Accruals Long Leg Portfolio Return	Tab 4, Pan B, Row 7
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Net Stock Issues Long Leg Portfolio Return	Tab 4, Pan B, Row 8
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Composite Equity Issues Long Leg Portfolio Return	Tab 4, Pan B, Row 9
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Failure Probability Long Leg Portfolio Return	Tab 4, Pan B, Row 10
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	O-Score Long Leg Portfolio Return	Tab 4, Pan B, Row 11
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Combination Long Leg Portfolio Return	Tab 4, Pan B, Row 12
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Momentum Short Leg Portfolio Return	Tab 4, Pan C, Row 1
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Gross Profitability Short Leg Portfolio Return	Tab 4, Pan C, Row 2
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Asset growth Short Leg Portfolio Return	Tab 4, Pan C, Row 3
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Investment to Assets Short Leg Portfolio Return	Tab 4, Pan C, Row 4
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Return on Assets Short Leg Portfolio Return	Tab 4, Pan C, Row 5
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Net Operating Assets Short Leg Portfolio Return	Tab 4, Pan C, Row 6
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Accruals Short Leg Portfolio Return	Tab 4, Pan C, Row 7
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Net Stock Issues Short Leg Portfolio Return	Tab 4, Pan C, Row 8
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Composite Equity Issues Short Leg Portfolio Return	Tab 4, Pan C, Row 9
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Failure Probability Short Leg Portfolio Return	Tab 4, Pan C, Row 10
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	O-Score Short Leg Portfolio Return	Tab 4, Pan C, Row 11
12/1/2015	5/21/2020	Chu, Hirshleifer, and Ma (2020)	Combination Short Leg Portfolio Return	Tab 4, Pan C, Row 12
1/1/2016	5/1/2018	Clinch, Li, and Zhang (2019)	BADNEWS	Tab 3, Col 1
1/1/2016	5/1/2018	Clinch, Li, and Zhang (2019)	MF_HORIZON_BAD	Tab 4, Col 1
1/1/2016	5/1/2018	Clinch, Li, and Zhang (2019)	Er_ann_delay	Tab 5, Col 1

1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR	Tab 2, Col 2
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_ADJ	Tab 2, Col 4
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_STR (industry adjusted)	Tab 3, Col 2
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_STR_ADJ	Tab 3, Col 4
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_CON (Industry Adjusted)	Tab 3, Col 6
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_CON_ADJ	Tab 3, Col 8
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_STK	Tab 4, Col 2
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_STK_ADJ	Tab 4, Col 4
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_THIRD	Tab 4, Col 6
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	CSR_THIRD_ADJ	Tab 4, Col 8
1/1/2016	1/1/2016	Lu, Yu, and Zhang (2018)	DISCLOSURE	Tab 7
1/7/2016	1/7/2016	Blau and Griffith (2016)	Pvolt	Tab 6, Col 2
1/7/2016	1/7/2016	Blau and Griffith (2016)	Cluster%	Tab 6, Col 3
1/7/2016	1/7/2016	Blau and Griffith (2016)	AB_Rvolt	Tab 6, Col 4
1/7/2016	1/7/2016	Blau and Griffith (2016)	AB_Pvolt	Tab 6, Col 5
1/7/2016	1/7/2016	Blau and Griffith (2016)	AB_Cluster%	Tab 6, Col 6
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	LnAF	Tab 5, Col 2
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	ANNRestate	Tab 8, Col 1
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	QTRRestate	Tab 8, Col 2
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	GCO	Tab 8, Col 3
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	DA	Tab 8, Col 4
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	ERC	Tab 8, Col 5
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	LnARGLag	Tab 8, Col 6
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	Dismissal	Tab 8, Col 7
1/13/2016	10/12/2016	Hope, Hu, and Zhao (2017)	Resignation	Tab 8, Col 8
1/31/2016	3/1/2019	Bhattacharya, Christensen, Liao, and Ouyang (2019)	POS Total	Tab 4, Col 1
1/31/2016	3/1/2019	Bhattacharya, Christensen, Liao, and Ouyang (2019)	POS NONRECUR	Tab 4, Col 2
1/31/2016	3/1/2019	Bhattacharya, Christensen, Liao, and Ouyang (2019)	POS RECUR	Tab 4, Col 3
2/1/2016	7/30/2019	Wang, Wang, Wei, Zhang, Zhou (2019)	Oppprtn	Tab 3, Col 2
2/1/2016	7/30/2019	Wang, Wang, Wei, Zhang, Zhou (2019)	Oppprtn, KHP Method	Tab 8, Col 1
2/1/2016	7/30/2019	Wang, Wang, Wei, Zhang, Zhou (2019)	Oppprtn, CMP Method, TradeSize	Tab 8, Col 2
2/1/2016	7/30/2019	Wang, Wang, Wei, Zhang, Zhou (2019)	Oppprtn, CMP Method, SharesFrac	Tab 8, Col 3
2/17/2016	3/1/2020	Billett, Liu, and Tian (2020)	Log(Facility amount/Assets)	Tab 9, Col 5
2/17/2016	3/1/2020	Billett, Liu, and Tian (2020)	Debt/EBITDA Covenant Cushion	Tab 9, Col 9
2/17/2016	3/1/2020	Billett, Liu, and Tian (2020)	Abnormal Short Interest	Tab 11, Pan B, Col 1
5/10/2016	5/10/2016	Chu and Ma (2016)	Discount	Tab 2, Col 4
5/13/2016	8/20/2019	Deng, Gao, and Kim (2020)	DUVOL	Tab 3, Col 2
5/13/2016	8/20/2019	Deng, Gao, and Kim (2020)	NCSKEW	Tab 3, Col 4
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,40), Executive Director Purchases	Tab 6, Pan A, Col 1
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,60), Executive Director Purchases	Tab 6, Pan A, Col 2
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,80), Executive Director Purchases	Tab 6, Pan A, Col 3
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,100), Executive Director Purchases	Tab 6, Pan A, Col 4
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,120), Executive Director Purchases	Tab 6, Pan A, Col 5
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,40), Executive Director Sales	Tab 6, Pan B, Col 1
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,60), Executive Director Sales	Tab 6, Pan B, Col 2
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,80), Executive Director Sales	Tab 6, Pan B, Col 3
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,100), Executive Director Sales	Tab 6, Pan B, Col 4
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,120), Executive Director Sales	Tab 6, Pan B, Col 5
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,40), Non-executive Director Purchases	Tab 7, Pan A, Col 1
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,60), Non-executive Director Purchases	Tab 7, Pan A, Col 2
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,80), Non-executive Director Purchases	Tab 7, Pan A, Col 3
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,100), Non-executive Director Purchases	Tab 7, Pan A, Col 4
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,120), Non-executive Director Purchases	Tab 7, Pan A, Col 5
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,40), Non-executive Director Sales	Tab 7, Pan B, Col 1
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,60), Non-executive Director Sales	Tab 7, Pan B, Col 2
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,80), Non-executive Director Sales	Tab 7, Pan B, Col 3

6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,100), Non-executive Director Sales	Tab 7, Pan B, Col 4
6/29/2016	5/9/2017	To, Treepongkaruna, and Wu (2018)	CAR (0,120), Non-executive Director Sales	Tab 7, Pan B, Col 5
8/8/2016	10/12/2017	Kan and Gong (2018)	Stock Return Synchronicity	Tab 2, Col 6
8/8/2016	10/12/2017	Kan and Gong (2018)	SYNCH2	Tab 3, Col 4
8/8/2016	10/12/2017	Kan and Gong (2018)	DELAY	Tab 3, Col 5
8/8/2016	10/12/2017	Kan and Gong (2018)	PIN	Tab 3, Col 6
8/29/2016	12/28/2018	Gao, He, and Wu (2018)	HumScore	Tab 8, Col 1
8/29/2016	12/28/2018	Gao, He, and Wu (2018)	DivScore	Tab 8, Col 2
8/29/2016	12/28/2018	Gao, He, and Wu (2018)	ComScore	Tab 8, Col 4
8/29/2016	12/28/2018	Gao, He, and Wu (2018)	EnvScore	Tab 8, Col 5
8/29/2016	12/28/2018	Gao, He, and Wu (2018)	ProScore	Tab 8, Col 6
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Employee Treatment Index	Tab 4, Col 3
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Employee Treatment Concern Index	Tab 4, Col 6
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Employee Treatment Strength Index	Tab 4, Col 9
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Union Relation Concern Index	Tab 5, Col 1
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Health and Safety Concern Index	Tab 5, Col 2
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Workforce Reduction Concern Index	Tab 5, Col 3
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Retirement Benefit Concern Index	Tab 5, Col 4
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	Other Concern Index	Tab 5, Col 5
9/1/2016	6/11/2020	Brockman, Luo, and Xu (2020)	SG&A Expense Over Sales	Tab 10, Col 2
10/28/2016	12/4/2017	Chen, Zhu, and Chang (2017)	Div	Tab 4, Col 5
10/28/2016	12/4/2017	Chen, Zhu, and Chang (2017)	Repo	Tab 5, Col 5
10/28/2016	12/4/2017	Chen, Zhu, and Chang (2017)	Cash Holding	Tab 6, Pan A, Row 4
10/28/2016	12/4/2017	Chen, Zhu, and Chang (2017)	Total Payout	Tab 7, Col 5
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogDelta (Habib and Ljungqvist Expected Volatility)	Tab 2, Pan A1, Col 2
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogVega (Habib and Ljungqvist Expected Volatility)	Tab 2, Pan A1, Col 4
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	Vega/Delta (Habib and Ljungqvist Expected Volatility)	Tab 2, Pan A1, Col 6
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogDelta (36 months volatility in 2003)	Tab 2, Pan B1, Col 2
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogVega (36 months volatility in 2003)	Tab 2, Pan B1, Col 4
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	Vega/Delta (36 months volatility in 2003)	Tab 2, Pan B1, Col 6
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	OPT/EQ ($)	Tab 3, Col 3
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	OPT/EQ (#)	Tab 3, Col 4
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogTDC	Tab 4, Col 2
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogEQ	Tab 4, Col 4
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogOption ($)	Tab 5, Pan A, Col 2
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogStock ($)	Tab 5, Pan A, Col 4
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogOption (#)	Tab 5, Pan A, Col 6
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogStock (#)	Tab 5, Pan A, Col 8
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogBonus ($)	Tab 5, Pan A, Col 10
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	LogSalary ($)	Tab 5, Pan A, Col 12
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	Eindex	Tab 6, Col 2
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	1-R2	Tab 7, Col 1
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	PIN	Tab 7, Col 2
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	delay	Tab 7, Col 3
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	sigma1	Tab 7, Col 4
2/6/2017	2/6/2017	De Angelis, Grullon, and Michenaud (2017)	ar30	Tab 7, Col 5
2/27/2017	4/1/2019	Albertus, Bird, Karolyi, and Ruchti (2019)	SD(Change in Investment) (capital expenditures)	Tab 4, Col 1
2/27/2017	4/1/2019	Albertus, Bird, Karolyi, and Ruchti (2019)	SD(Change in Investment) (employee count)	Tab 4, Col 2
2/27/2017	4/1/2019	Albertus, Bird, Karolyi, and Ruchti (2019)	Investment	Tab 3, Col 1
2/27/2017	4/1/2019	Albertus, Bird, Karolyi, and Ruchti (2019)	Employment	Tab 3, Col 2
6/2/2017	10/21/2017	Choi (2018)	Rounding	Tab 2, Col 4
6/2/2017	10/21/2017	Choi (2018)	Cumulative Abnormal Returns	Tab 3, Col 3
6/19/2017	9/17/2020	Wu and Xu (2020)	Ownership Breadth Long Portfolio, Raw Returns	Tab 6, Pan A, Col 1
6/19/2017	9/17/2020	Wu and Xu (2020)	Ownership Breadth Short Portfolio, Raw Returns	Tab 6, Pan A, Col 2
6/19/2017	9/17/2020	Wu and Xu (2020)	Ownership Breadth Long-Short Portfolio, Raw Returns	Tab 6, Pan A, Col 3
6/19/2017	9/17/2020	Wu and Xu (2020)	Ownership Breadth Long-Short Portfolio, FF Risk-adjusted Return	Tab 6, Pan A, Col 4

6/19/2017	9/17/2020	Wu and Xu (2020)	Ownership Breadth Long-Short Portfolio, FF Risk-adjusted Return	Tab 6, Pan A, Col 5
6/19/2017	9/17/2020	Wu and Xu (2020)	Ownership Breadth Long-Short Portfolio, FF Risk-adjusted Return	Tab 6, Pan A, Col 6
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	DISPERSION	Tab 3, Row 2
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	TURNOVER (scaled by previous 12 month average)	Tab 3, Row 3
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	SHORT RATIO	Tab 3, Row 1
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	CEO Compensation Duration	Tab 4, Col 3
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	Overinvest	Tab 10, Pan A, Col 2
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	RD	Tab 10, Pan A, Col 4
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	HOR	Tab A4, Pan A, Col 2
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	Log(CPD Stock)	Tab A2, Col 2
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	Log(CPD Option)	Tab A2, Col 4
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	ARP	Tab A4, Pan A, Col 4
7/14/2017	8/2/2020	Chang, Huang, Su, and Tseng (2018)	EM	Tab A4, Pan A, Col 6
8/8/2017	6/7/2018	Sun and Xu (2018)	Log(File Size)	Tab 3, Col 3
8/8/2017	6/7/2018	Sun and Xu (2018)	Uncertain	Tab 8, Col 3
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	P(Dividend)	Tab 2, Pan A, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	P(Initiate)	Tab 2,Pan B, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	P(Increase)	Tab 2,Pan C, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	P(Repurchases)	Tab 3,Pan A, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	P(TotalPayout)	Tab 3,Pan B, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	Dividends/Lag(Assets)	Tab 4,Pan A, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	Repurchases/Lag(Assets)	Tab 4,Pan B, Col 4
9/19/2017	9/19/2017	Francis, Samuel, Wu (2017)	TotalPayout/Lag(Assets)	Tab 4,Pan C, Col 4
10/30/2017	2/27/2018	Maffett and Owens (2018)	CDS_Spread	Tab 2, Pan A, Col 1
10/30/2017	2/27/2018	Maffett and Owens (2018)	CDS_Flatness	Tab 2, Pan B, Col 1
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Long Equal Weighted Portfolio Returns	Tab 9, Pan B, Col 1
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Short Equal Weighted Portfolio Returns	Tab 9, Pan B, Col 2
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Long-Short Equal Weighted Portfolio Returns	Tab 9, Pan B, Col 3
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Long Equal Weighted Portfolio C-4 Adjusted Returns	Tab 9, Pan B, Col 4
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Short Equal Weighted Portfolio C-4 Adjusted Returns	Tab 9, Pan B, Col 5
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Long-Short Equal Weighted C-4 Adjusted Returns	Tab 9, Pan B, Col 6
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Long Equal Weighted Portfolio FF-5 Adjusted Returns	Tab 9, Pan B, Col 7
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Short Equal Weighted Portfolio FF-5 Adjusted Returns	Tab 9, Pan B, Col 8
3/4/2018	3/28/2020	Leung, Evans, and Mazouz (2020)	R&D Anomaly Long-Short Equal Weighted FF-5 Adjusted Returns	Tab 9, Pan B, Col 9
3/9/2018	5/14/2018	Bennett and Wang (2018)	Forced	Tab 3, Col 3
3/28/2018	3/28/2018	Brogaard, Ngo and Xia (2018)	(-1)× Price Delay	Tab 9, Pan A, Col 1
3/28/2018	3/28/2018	Brogaard, Ngo and Xia (2018)	Price Nonsynchronicity	Tab 9, Pan A, Col 2
3/28/2018	3/28/2018	Brogaard, Ngo and Xia (2018)	$(-1)\times\lvert VarianceRatio - 1\rvert$	Tab 9, Pan A, Col 3
3/28/2018	3/28/2018	Brogaard, Ngo and Xia (2018)	Lead Ownership	Tab 9, Pan B, Col 1
3/28/2018	3/28/2018	Brogaard, Ngo and Xia (2018)	Ln(Num of Lender)	Tab 9, Pan B, Col 2
3/28/2018	3/28/2018	Brogaard, Ngo and Xia (2018)	Herfindhal	Tab 9, Pan B, Col 3
4/20/2018	12/19/2018	Babenko, Choi, and Sen (2018)	All Management Proposals	Tab 3, Col 3
4/20/2018	12/19/2018	Babenko, Choi, and Sen (2018)	Compensation Proposals	Tab 3, Col 5
4/20/2018	12/19/2018	Babenko, Choi, and Sen (2018)	Governance Proposals	Tab 3, Col 7
4/20/2018	12/19/2018	Babenko, Choi, and Sen (2018)	Share Issuance Proposals	Tab 3, Col 9

5/16/2018	5/16/2018	Ben-David, Li, and Wang (2018)	Selling, Gen & Admin / Total Assets	Tab 4, Col 1
5/16/2018	5/16/2018	Ben-David, Li, and Wang (2018)	Net Equity Financing / Total Assets	Tab 5, Col 1
5/16/2018	5/16/2018	Ben-David, Li, and Wang (2018)	Net Debt Financing / Total Assets	Tab 5, Col 3
5/16/2018	5/16/2018	Ben-David, Li, and Wang (2018)	% Sales / Total Industry Sales	Tab 7, Col 1
5/16/2018	5/16/2018	Ben-David, Li, and Wang (2018)	% Profits / Total Industry Sales	Tab 7, Col 3
5/16/2018	5/16/2018	Ben-David, Li, and Wang (2018)	ROA (Earnings /Total Assets)	Tab 8, Col 1
6/1/2018	6/1/2018	Wei and Zhang (2018)	UNDER	Tab 3, Col 4
6/1/2018	6/1/2018	Wei and Zhang (2018)	DCA	Tab 5, Pan A, Col 1
6/1/2018	6/1/2018	Wei and Zhang (2018)	CAPEX	Tab 5, Pan A, Col 2
6/1/2018	6/1/2018	Wei and Zhang (2018)	BOOKLEV	Tab 5, Pan A, Col 3
6/1/2018	6/1/2018	Wei and Zhang (2018)	P(D)frailty	Tab 5, Pan B, Col 1
6/1/2018	6/1/2018	Wei and Zhang (2018)	P(D)outofsample	Tab 5, Pan B, Col 2
6/1/2018	6/1/2018	Wei and Zhang (2018)	P(D)shumway	Tab 5, Pan B, Col 3
6/1/2018	6/1/2018	Wei and Zhang (2018)	Dummy(Issuance)	Tab 6, Pan A, Col 4
6/1/2018	6/1/2018	Wei and Zhang (2018)	Offersize	Tab 6, Pan B, Col 4
6/11/2018	2/13/2020	Bai, Lee, and Zhang (2020)	Next year's total case rate (TCR)	Tab 2, Col 4
6/29/2018	9/1/2019	Cai, Guo, and Sen (2019)	RM1	Tab 2, Col 1
6/29/2018	9/1/2019	Cai, Guo, and Sen (2019)	RM2	Tab 2, Col 2
6/29/2018	9/1/2019	Cai, Guo, and Sen (2019)	RM_PROD	Tab 2, Col 3
6/29/2018	9/1/2019	Cai, Guo, and Sen (2019)	RM_CFO	Tab 2, Col 4
6/29/2018	9/1/2019	Cai, Guo, and Sen (2019)	RM_DISX	Tab 2, Col 5
10/30/2018	3/16/2019	Lin, Liu, and Sun (2019)	WPS	Tab 1, Col 2
10/30/2018	3/16/2019	Lin, Liu, and Sun (2019)	tvol	Tab 4, Col 2
10/30/2018	3/16/2019	Lin, Liu, and Sun (2019)	ivol	Tab 4, Col 4
11/14/2018	2/23/2019	Hvidkjaer, Massa, and Rzeznik (2019)	Change in Fund's Co-Illiquidity	Tab 6, Pan D, Col 8, Row 1
11/14/2018	2/23/2019	Hvidkjaer, Massa, and Rzeznik (2019)	R^2 LIQ	Tab 8, Col 4
1/1/2019	1/1/2019	Chen and Zhang (2019)	DAYAHEAD	Tab 6, Pan B, Col 2
1/1/2019	1/1/2019	Chen and Zhang (2019)	WRATE	Tab 6, Pan B, Col 4
1/1/2019	1/1/2019	Chen and Zhang (2019)	Volatility of credit rating levels	Tab 8, Col 2
1/1/2019	1/1/2019	Chen and Zhang (2019)	PP_Rating	Tab 9, Pan B, Col 2
1/1/2019	1/1/2019	Gul, Li, and Muhammad (2019)	(r(coe) - rf)	Tab 5, Col 2
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Price Informativeness (Positive news)	Tab 3, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Price Informativeness (Negative news)	Tab 3, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Trading Speed, Buy Trades, Positive News	Tab 5, Pan A, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Trading Speed, Buy Trades, Negative News	Tab 5, Pan A, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Trading Speed, Sell Trades, Positive News	Tab 5, Pan B, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Trading Speed, Sell Trades, Negative News	Tab 5, Pan B, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Trading Speed, Buy Trades, Positive News, Hedge Funds	Tab 11, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Trading Speed, Sell Trades, Negative News, Hedge Funds	Tab 11, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	High Number of Brokers, Positive News	Tab 7, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	High Number of Brokers, Negative News	Tab 7, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	High Number of Brokers, Positive News, Sell Trades	Tab 14, Col 3
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	High Number of Brokers, Negative News, Sell Trades	Tab 14, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	High Number of Brokers, Positive News, After the earnings announcement	Tab 12, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	High Number of Brokers, Negative News, after the earnings announcement	Tab 12, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker centrality, Positive News	Tab 8, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker centrality, Negative News	Tab 8, Col 8

4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker centrality, Positive News, Sell Trades	Tab 14, Col 5
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker centrality, Negative News, Sell Trades	Tab 14, Col 6
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker familiarity, Positive News	Tab 9, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker familiarity, Negative News	Tab 9, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker familiarity, Positive News, Sell Trades	Tab 14, Col 7
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Broker familiarity, Negative News, Sell Trades	Tab 14, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Log-dollar volume, Positive News	Tab 10, Col 4
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Log-dollar volume, Negative News	Tab 10, Col 8
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Log-dollar volume, Positive News, Sell trades	Tab 14, Col 1
4/5/2019	6/1/2020	Di Maggio, Franzoni, Massa and Tubaldi (2020)	Log-dollar volume, Negative News, Sell trades	Tab 14, Col 2
5/1/2019	5/1/2019	Jang and Lee (2018)	CEO Confidence	Tab 2, Col 5
6/4/2019	6/4/2019	Khurana, Pereira, Pukhuanthong, and Zhao (2019)	Audit Fees	Tab 3, Col 1
6/4/2019	6/4/2019	Khurana, Pereira, Pukhuanthong, and Zhao (2019)	Audit Report Delay	Tab 5, Col 1
6/13/2019	6/13/2019	Kum, Klassen, and Xing (2019)	REP	Tab 4, Col 2
6/13/2019	6/13/2019	Kum, Klassen, and Xing (2019)	REP%	Tab 5, Col 3
6/13/2019	6/13/2019	Kum, Klassen, and Xing (2019)	REP%_Alt	Tab 5, Col 4
10/10/2019	6/5/2020	Gong (2020)	leverage_book	Tab 2, Col 4
10/10/2019	6/5/2020	Gong (2020)	Loan Spread	Tab 4, Col 1
10/10/2019	6/5/2020	Gong (2020)	Leverage_market	Tab 7, Col 2
10/10/2019	6/5/2020	Gong (2020)	Net_Leverage_Book	Tab 7, Col 4
10/10/2019	6/5/2020	Gong (2020)	Net_Leverage_Market	Tab 7, Col 6
10/10/2019	6/5/2020	Gong (2020)	Log_debt	Tab 8, Col 1
10/10/2019	6/5/2020	Gong (2020)	Log_equity	Tab 8, Col 2
10/10/2019	6/5/2020	Gong (2020)	Debt_Issue	Tab 8, Col 3
10/10/2019	6/5/2020	Gong (2020)	Equity_Issue	Tab 8, Col 4
10/10/2019	6/5/2020	Gong (2020)	RE	Tab 8, Col 5
11/7/2019	11/7/2019	Jia, Gao, and Julian (2019)	CSR_Str	Tab 2, Pan B, Col 3
11/7/2019	11/7/2019	Jia, Gao, and Julian (2019)	CSR_Con	Tab 2, Pan B, Col 4
11/7/2019	11/7/2019	Jia, Gao, and Julian (2019)	Direct_CSR	Tab 2, Pan B, Col 5
11/7/2019	11/7/2019	Jia, Gao, and Julian (2019)	Broad_CSR	Tab 2, Pan B, Col 6
11/27/2019	11/27/2019	Kubick, Omer, and Song (2019)	FOG	Tab 4, Col 2
11/27/2019	11/27/2019	Kubick, Omer, and Song (2019)	FKGL	Tab 4, Col 4
11/27/2019	11/27/2019	Kubick, Omer, and Song (2019)	LENGTH	Tab 4, Col 6
4/7/2020	10/29/2020	Kim, Lu, and Peng (2020)	BTD	Tab 4, Col 3
4/7/2020	10/29/2020	Kim, Lu, and Peng (2020)	NETR3	Tab 4, Col 4
4/7/2020	10/29/2020	Kim, Lu, and Peng (2020)	Taxaggres	Tab 5, Col 1
4/7/2020	10/29/2020	Kim, Lu, and Peng (2020)	Detect_Taxaggres	Tab 5, Col 2
4/7/2020	10/29/2020	Kim, Lu, and Peng (2020)	Conform TA	Tab 8, Col 2
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Shelter	Tab 3, Col 2
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	DTAX	Tab 3, Col 4
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	PERMDIFF	Tab 3, Col 6
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Adjusted Shelter	Tab 13, Pan A, Col 1
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Adjusted DTAX	Tab 13, Pan A, Col 2
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Adjusted PERMDIFF	Tab 13, Pan A, Col 3
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Predicted UTB	Tab 13, Pan B, Col 1
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Havendum	Tab 13, Pan B, Col 2
11/1/2020	11/1/2020	Maharjan, Omer, and Zhao (2020)	Rate_thctry	Tab 13, Pan B, Col 3
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	SV	Tab 3, Col 1
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	10-K	Tab 3, Col 2
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	10-Q	Tab 3, Col 3
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	8-K	Tab 3, Col 4
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	Insider Search Volume	Tab 3, Col 5
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	Other types	Tab 3, Col 6
1/15/2021	3/31/2021	Su, Wong, Xue, and Zhao (2021)	CQA	Tab 3, Col 7
1/15/2021	4/1/2021	Su, Wong, Xue, and Zhao (2021)	CQAN	Tab 3, Col 8

Table A.II
Definitions of Outcome Variables for Semi-Parametric Bootstrap

This table lists CRSP/Compustat variables used to capture correlations in the semi-parametric bootstrap. We examine the raw version of each variable, as well as two possible transformations of each variable, resulting in 293 different outcome variables. *Outcome* is the name of the outcome variable. *Description* provides the description, or details the construction of the outcome variable. *Source* provides the source of the outcome variable. All outcomes are transformed into annual frequency using firms' fiscal years. In order for a Compustat variable to be included, we require that financial statement variables be non-missing for at least 70% of observations in a sample from January 1970 through June 2019. Variables for which a treatment effect could not be estimated are removed. For Compustat outcomes, we use the raw variable, raw variable scaled by total assets, and the percentage change of the raw variable scaled by total assets. Financial firms, utilities and observations with missing/negative sales or total assets are excluded. To mitigate the impact of data errors, all variables are winsorized at the 2.5% and 97.5% levels.

Outcome	Description	Source
ACO	Current Assets - Other - Total	Compustat Annual Fundamentals
ACOX	Current Assets - Other - Sundry	Compustat Annual Fundamentals
AO	Assets - Other	Compustat Annual Fundamentals
AOX	Assets - Other- Sundry	Compustat Annual Fundamentals
AP	Accounts Payable - Trade	Compustat Annual Fundamentals
AQC	Acquisitions	Compustat Annual Fundamentals
BKVLPS	Book Value Per Share	Compustat Annual Fundamentals
CAPS	Capital Surplus/Share Premium Reserve	Compustat Annual Fundamentals
CAPX	Capital Expenditures	Compustat Annual Fundamentals
CAPXV	Capital Expend Property, Plant, and Equipment Schd V	Compustat Annual Fundamentals
CEQ	Common/Ordinary Equity - Total	Compustat Annual Fundamentals
CEQL	Common Equity - Liquidation Value	Compustat Annual Fundamentals
CEQT	Common Equity - Tangible	Compustat Annual Fundamentals
CH	Cash	Compustat Annual Fundamentals
CHE	Cash and Short-Term Investments	Compustat Annual Fundamentals
COGS	Cost of Goods Sold	Compustat Annual Fundamentals
CSHO	Common Shares Outstanding	Compustat Annual Fundamentals
CSHPRI	Common Shares Used to Calculate Earnings Per Share - Basic	Compustat Annual Fundamentals
CSTK	Common/Ordinary Stock (Capital)	Compustat Annual Fundamentals
DCLO	Debt - Capitalized Lease Obligations	Compustat Annual Fundamentals
DCPSTK	Convertible Debt and Preferred Stock	Compustat Annual Fundamentals
DCVT	Debt - Convertible	Compustat Annual Fundamentals
DD1	Long-Term Debt Due in One Year	Compustat Annual Fundamentals
DLC	Debt in Current Liabilities - Total	Compustat Annual Fundamentals
DLTIS	Long-Term Debt - Issuance	Compustat Annual Fundamentals
DLTO	Other Long-term Debt	Compustat Annual Fundamentals
DLTR	Long-Term Debt - Reduction	Compustat Annual Fundamentals
DLTT	Long-Term Debt - Total	Compustat Annual Fundamentals
DP	Depreciation and Amortization	Compustat Annual Fundamentals
DPACT	Depreciation, Depletion, and Amortization (Accumulated)	Compustat Annual Fundamentals
DPC	Depreciation and Amortization (Cash Flow)	Compustat Annual Fundamentals
DV	Cash Dividends (Cash Flow)	Compustat Annual Fundamentals
DVC	Dividends Common/Ordinary	Compustat Annual Fundamentals
DVP	Dividends - Preferred/Preference	Compustat Annual Fundamentals
DVPSP_C	Dividends per Share - Pay Date - Calendar	Compustat Annual Fundamentals
DVPSP_F	Dividends per Share - Pay Date - Fiscal	Compustat Annual Fundamentals
DVPSX_C	Dividends per Share - Ex-Date - Calendar	Compustat Annual Fundamentals
DVPSX_F	Dividends per Share - Ex-Date - Fiscal	Compustat Annual Fundamentals
DVT	Dividends - Total	Compustat Annual Fundamentals
EBIT	Earnings Before Interest and Taxes	Compustat Annual Fundamentals
EBITDA	Earnings Before Interest	Compustat Annual Fundamentals
EMP	Employees	Compustat Annual Fundamentals
EPSFI	Earnings Per Share (Diluted) - Including Extraordinary Items	Compustat Annual Fundamentals
EPSFX	Earnings Per Share (Diluted) - Excluding Extraordinary Items	Compustat Annual Fundamentals
EPSPI	Earnings Per Share (Basic) - Including Extraordinary Items	Compustat Annual Fundamentals
EPSPX	Earnings Per Share (Basic) - Excluding Extraordinary Items	Compustat Annual Fundamentals
FOPO	Funds from Operations - Other	Compustat Annual Fundamentals

GP	Gross Profit (Loss)	Compustat Annual Fundamentals
IB	Income Before Extraordinary Items	Compustat Annual Fundamentals
IBADJ	Income Before Extraordinary Items - Adjusted for Common Stock Equivalents	Compustat Annual Fundamentals
IBC	Income Before Extraordinary Items (Cash Flow)	Compustat Annual Fundamentals
IBCOM	Income Before Extraordinary Items - Available for Common	Compustat Annual Fundamentals
ICAPT	Invested Capital - Total	Compustat Annual Fundamentals
INTAN	Intangible Assets - Total	Compustat Annual Fundamentals
INVT	Inventories - Total	Compustat Annual Fundamentals
IVAEQ	Investment and Advances - Equity	Compustat Annual Fundamentals
IVAO	Investment and Advances - Other	Compustat Annual Fundamentals
IVST	Short-Term Investments - Total	Compustat Annual Fundamentals
LCO	Current Liabilities - Other - Total	Compustat Annual Fundamentals
LCOX	Current Liabilities - Other - Sundry	Compustat Annual Fundamentals
LO	Liabilities - Other - Total	Compustat Annual Fundamentals
LT	Liabilities - Total	Compustat Annual Fundamentals
NI	Net Income (Loss)	Compustat Annual Fundamentals
NIADJ	Net Income Adjusted for Common/Ordinary Stock (Capital) Equivalents	Compustat Annual Fundamentals
NOPI	Nonoperating Income (Expense)	Compustat Annual Fundamentals
NOPIO	Nonoperating Income (Expense) - Other	Compustat Annual Fundamentals
NP	Notes Payable - Short-Term Borrowings	Compustat Annual Fundamentals
OIADP	Operating Income After Depreciation	Compustat Annual Fundamentals
OIBDP	Operating Income Before Depreciation	Compustat Annual Fundamentals
PI	Pretax Income	Compustat Annual Fundamentals
PPEGT	Property, Plant, and Equipment - Buildings (Net)	Compustat Annual Fundamentals
PPENT	Property, Plant, and Equipment - Total (Net)	Compustat Annual Fundamentals
PRSTKC	Purchase of Common and Preferred Stock	Compustat Annual Fundamentals
PSTK	Preferred/Preference Stock (Capital) - Total	Compustat Annual Fundamentals
PSTKL	Preferred Stock - Liquidating Value	Compustat Annual Fundamentals
PSTKN	Preferred/Preference Stock - Nonredeemable	Compustat Annual Fundamentals
PSTKRV	Preferred Stock - Redemption Value	Compustat Annual Fundamentals
RE	Retained Earnings	Compustat Annual Fundamentals
RECCO	Receivables - Current - Other	Compustat Annual Fundamentals
RECT	Receivables - Total	Compustat Annual Fundamentals
RETURN	Annual Cumulative Return	CRSP Monthly Stock File
REVT	Revenue - Total	Compustat Annual Fundamentals
SALE	Sales/Turnover (Net)	Compustat Annual Fundamentals
SEQ	Stockholders Equity - Parent	Compustat Annual Fundamentals
SPI	Special Items	Compustat Annual Fundamentals
SPREAD	Firm-Year Average Spread Between Bid and Ask	CRSP Monthly Stock File
SPREAD_PERC	Firm-Year Average Percentage Spread Between Bid and Ask	CRSP Monthly Stock File
SSTK	Sale of Common and Preferred Stock	Compustat Annual Fundamentals
TSTK	Treasury Stock - Total (All Capital)	Compustat Annual Fundamentals
TSTKC	Treasury Stock - Common	Compustat Annual Fundamentals
TURNOVER	Firm-Year Average Volume / Shares Outstanding	CRSP Monthly Stock File
TXDB	Deferred Taxes (Balance Sheet)	Compustat Annual Fundamentals
TXDC	Deferred Taxes (Cash Flow)	Compustat Annual Fundamentals
TXDITC	Deferred Taxes and Investment Tax Credit	Compustat Annual Fundamentals
TXP	Income Taxes Payable	Compustat Annual Fundamentals
TXT	Income Taxes - Total	Compustat Annual Fundamentals
VOL	Firm-Year Average Trading Volume	CRSP Monthly Stock File
XIDO	Extraordinary Items and Discontinued Operations	Compustat Annual Fundamentals
XIDOC	Extraordinary Items and Discontinued Operations (Cash Flow)	Compustat Annual Fundamentals
XINT	Interest and Related Expense - Total	Compustat Annual Fundamentals
XOPR	Operating Expenses - Total	Compustat Annual Fundamentals