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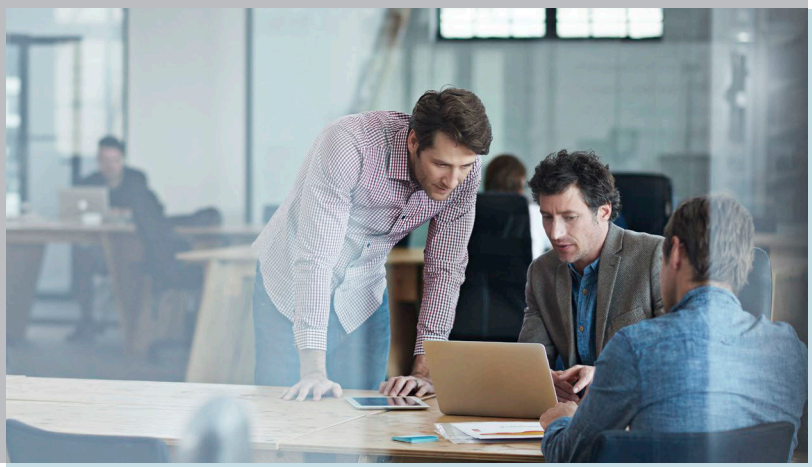

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When companies use their wiggle room, which investors care?

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Abstract

This paper investigates whether certain investors either prefer or dislike holding firms that exploit more of the available regulatory wiggle room and if such a strategy pays off. Exploited wiggle room (WR) is captured by relatively aggressive tax planning, financial reporting, and earnings management practices. I find that long-term, low-turnover investors hold firms with 3% higher exploited WR than those held by short-term, high-turnover investors. After experiencing misconduct that breaches their trust, investors significantly reduce the exploited WR of their holdings. Overall, investors seem to have heterogeneous preferences for WR exploitation and a liking for cautious firms that cannot be explained by a profit maximization motive alone.

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1 Introduction

A substantial part of the economy is controlled by institutional investors, such as mutual funds, insurance companies, pension funds, banks, and hedge funds. The academic literature has extensively discussed the impact that institutional ownership has on firms covering topics from R&D investment (Bushee, 1998) and monitoring (Chen et al., 2007) to transparency (Boone and White, 2015) and CSR policy (Dyck et al., 2018).

Much less attention has been directed towards understanding the *revealed preferences of the institutional investors themselves*: What can be learned from the observed portfolio allocations? Do investors also care about other aspects besides their performance? Specifically, does it matter to them *how the firms they hold achieve their results?* This paper is the first to investigate differences in investor preferences for firms that aggressively exploit regulatory *"wiggle room"* (WR). I posit that all firms have to some degree a freedom of choice, a leeway, or wiggle room that they can exploit within acceptable corporate practices, before entering illegal territory. WR exploitation is identified on the firm level by relatively aggressive tax planning, financial reporting, and earnings management practices. To obtain the implied preferences of institutional investors, I adapt the methodology of Gibson and Krueger (2018): I download the quarterly portfolio holdings from the Thomson 13F database, and then compute for every quarter the weighted average of exploited WR in each investor's holdings, the *"portfolio wiggle room"* (PWR).

It could be the case that some institutional investors prefer *"aggressive firms"* that exploit WR to a great extent, whereas others are more keen to hold *"cautious"* firms that do not exhaust WR. As it is not ex ante clear that this should be the case, the first question this paper asks is whether institutional investors differ significantly with respect to their preferences for WR. The second question then asks whether such preferences affect portfolio performance. Answering these questions is crucial for at least two reasons: First, the growing interest in the "purpose" of institutional investors (Fink, 2018) discounts the

implications of heterogeneity in the degree to which firms abide by regulation. Some institutional investors could actively facilitate the exploitation of regulatory loopholes, thereby creating an "unfair" comparative advantage for their portfolio firms. Second, via portfolio allocation choices, investors could "nudge" firms into a more or less exploiting behavior, which can have important externalities, e.g., on market transparency.

In summary, I find that long-term and low-turnover investors hold firms that exploit 3% more WR than those held by short-term and high-turnover investors. This suggests that both investors with short horizons and those that frequently rebalance their holdings value the additional transparency implied by small WR. Furthermore, institutional investors significantly reduce their PWR after they fire one of their financial advisers due to a misconduct disclosure. This suggests that a shock to the perceived value of trust produces a shift in the preferences of institutional investors for WR exploitation. Finally, I find that investors with smaller PWR achieve somewhat higher alphas but are more exposed to idiosyncratic risk. Taken together, it seems that institutional investors have heterogeneous preferences for regulatory wiggle room exploitation, which cannot be fully rationalized by a profit maximization motive alone: Investors who hold cautious firms seem to also care *how* the performance is achieved, especially so when they deem trust to be especially valuable.

To better understand the mechanisms that could explain the findings, this paper seeks to answer two broad questions: First, *why* should institutional investors have different preferences for WR? Second, do these differences have *performance implications*? Intuitively, different strategies could drive heterogeneity: Investors that have short horizons and rebalance their portfolios often will prefer firms that are more transparent, as this will enable better informed trading. Market conditions could also play a role regardless of investment strategy: Baker and Wurgler (2007) argue that when sentiment is high, investors tend to prefer more "speculative" and therefore opaque securities. I expect

that short-term and high-turnover investors will hold firms with lower WR. I also expect that when market sentiment is high, all investors will tend to hold firms with higher WR (*Hypothesis 1 - Transparency*).

Second, heterogeneity in preferences can also be a consequence of structural differences amongst investors: Those that are subject to public scrutiny (e.g.: banks, insurance companies, or pension funds) should prefer holdings with small WR (*Hypothesis 2 - Scrutiny*). This is because firms that are overly aggressive in exploiting the regulatory environment, could be managed by "suspect CEOs", and therefore also be more likely to get involved in scandals and illegal behavior (Biggerstaff et al., 2015; Cline et al., 2018).

Finally, investors that are "dedicated" - i.e., that have a long-term horizon, are undiversified, and not susceptible to current earning news (Bushee, 1998) - could prefer firms that do not fully exhaust WR (*Hypothesis 3 - Trust*). Honesty is fundamental for trust to develop among people (O'Neill, 2002), and trust in management improves employee satisfaction (Dirks and Ferrin, 2002), which in turn has a positive long-term impact on overall firm performance (Edmans, 2011). A CEO that does not exploit WR could be perceived as more honest and trustworthy (Gibson et al., 2017). Since this channel is likely to be most effective in the long-run, it should be most relevant for dedicated investors as they take a holistic view on their holdings. One way to test this is to exploit a plausibly exogenous shock to the perceived importance of trust. Gennaioli et al. (2015) show theoretically and Gurun et al. (2017) confirm empirically that the relationship between an investor and her advisor crucially relies on trust. In this spirit, a financial adviser that discloses a case of misconduct (Egan et al., 2018a) could breach the trust of the investor that employs him. This can be seen as a shock to the investor's perceived importance of trust that would induce a change in her preference for wiggle room exploitation. I expect investors who experience misconduct to shift their portfolios towards more cautious firms. On related lines, Lins et al. (2017) and Amiraslani et al. (2017)

show that being trustworthy will be deemed as more valuable during turbulent periods of high uncertainty. Thus I expect that when market uncertainty becomes extreme all investors will tend to prefer firms with lower WR.

The second question this paper addresses is whether differences in WR preferences have investment performance implications. Exploiting regulatory leeway can cause financial gains, e.g., by decreasing the effective tax rate (Bird and Karolyi, 2017) or by (barely) beating analysts' earnings forecasts (Bhojraj et al., 2009). Therefore, I expect that the portfolios of investors who tend to hold aggressive firms will generate higher returns (*Hypothesis 4 - Performance*). Lastly, high WR firms have, to some extent, more alleys available to conceal poor results. This would allow them to smooth performance more, something valued by both management (Fudenberg and Tirole, 1995) and investors (Rountree et al., 2008). Therefore, having higher PWR should be correlated with less stock price volatility (*Hypothesis 5 - Risk*).

The sample used to test these hypotheses is retrieved from the Thomson 13F database (CDA/Spectrum) and spans 1995 to 2017, totaling more than 100,000 quarterly observations of 8,000 investors. These represent all US firms and advisers with assets under management exceeding USD 100mm.

In order to assess WR exploitation at the individual holdings level, I use several proxies: (1) earnings management (Jones, 1991; Dechow et al., 1995; Kothari et al., 2005), (2) disaggregation quality of financial statements (Chen et al., 2015), (3) long-term effective cash tax rate (Dyreng et al., 2008), (4) discretionary permanent tax differences (Frank et al., 2009), (5) subsidiaries in tax haven countries (Dyreng and Lindsey, 2009), and (6) beating the median consensus earnings forecast by no more than one USD cent (Bhojraj et al., 2009). To identify aggressive firms, I construct percentile rankings of (1) - (4) for every industry-year combination. For (5) I resort to a within industry-year indicator that captures above average tax shelter usage; (6) is directly computed as an

indicator. Finally, the basic proxy for exploited WR is the average of (1) to (6).

Institutional investors are classified on the basis of: (1) investment horizon in short- and long-term (Cremers and Pareek, 2015); (2) rebalancing activity in low- and high-turnover (Carhart, 1997); (3) investment strategy in quasi-indexers, transient, and dedicated investors (Bushee, 1998); (4) fiduciary duties in banks, pension funds, insurers, investment firms, and advisers (Bushee, 2001). Finally, to assess portfolio performance I compute quarterly excess returns, portfolio alphas (Fama and French, 1996), and exposure to idiosyncratic volatility (Ang et al., 2006). I extract the revealed preferences of investors through a value weighted average of the exploited WR of their portfolio holdings, i.e., *"portfolio wiggle room"* (PWR).

In support of *Hypothesis 1 - Transparency* I find that long-term horizon is associated with 3.7% larger PWR compared to a short-term horizon. Moreover, infrequent traders hold portfolios with 3.3% higher PWR than high-turnover investors. This suggests that investors who hold stocks for shorter periods, and trade more, value the increased transparency of cautious firms. Market conditions also play a role: A one standard deviation (0.6) increase in market sentiment is associated with an increase in average PWR of 0.5 percentage points (pp). When sentiment is high, institutional investors tend to prefer firms that are more aggressive and thus opaque, as these may also appear as more speculative.

My findings contradict *Hypothesis 2 - Scrutiny*, since the average exploited PWR of banks is 2.3% *higher* than for miscellaneous investors. This suggests that exposure to public scrutiny is not enough to make investors prefer holding cautious firms.

I can confirm *Hypothesis 3 - Trust*: Dedicated investors have a PWR 7.0% smaller than investors closely following an index. The trust channel seems to be most important for holistic and specialized investors, with particularly long-term horizon. However, when market conditions become particularly volatile, all investors tend to hold more cautious

firms. This suggests that being cautious is particularly valuable during periods when the overall level of trust in financial markets is low. Moreover, an institutional investor will lower its PWR by over 4pp after she fires a financial adviser who discloses a case of misconduct. This change is economically significant and does not revert in the three years after the disclosure. When the perceived value of being honest and trustworthy increases, investors will prefer firms that are more cautious and that do not overly take advantage of the regulatory environment.

Finally, my findings contradict *Hypothesis 4 - Performance*: PWR is unrelated to excess returns, but negatively related to portfolio alphas: A one standard deviation increase in PWR is associated with a decrease in portfolio alpha of 0.1pp. Additionally, there is a positive relationship between PWR and portfolio risk: A one standard deviation increase in PWR implies a smaller exposure to idiosyncratic risk of 15.3% of a standard deviation, which supports *Hypothesis 5 - Risk*.

Overall, there seem to be systematic differences in investors' preferences for regulatory WR, which cannot be fully explained by different risk-return profiles: Some investors appear to not only care about the performance per se, but also about the way this performance is achieved; particularly so when their trust has been recently broken.

This paper complements the literature that analyzes the interplay between personal values and investment behavior. Among the first, Hong and Kacperczyk (2009) uncover the existence of "sin" stocks in the market, and Hong and Kostovetsky (2012) find that political orientation influences investment choices. Gibson and Krueger (2018) examine the relationship between investors' horizon and CSR preferences. This study adds to this literature by showing that there are also more subtle dimensions of investor tastes: Independent of industry, the degree to which firms exploit regulation also influences portfolio allocation. Not only what results are achieved, but also *how* these are achieved seems to matter to institutional investors.

2 Sample construction and methodology

First, I show how the proxy for wiggle room (WR) exploitation is constructed and how it is used to obtain the revealed preferences of institutional investors. Then I present the methodology for classifying institutional investors and computing their performance measures. Finally, I briefly describe the control variables. Table 1 contains an overview of all the variables that are presented in this section. Summary statistics on a firm and institutional investor level are presented in Tables 2 and 3. The sample used covers the entire Compustat and I/B/E/S universe for the periods between 1995 and 2017, totalling over 130,000 firm-year pairs.

- Table 1 -

2.1 Proxying for regulatory wiggle room exploitation

I posit that there are different dimensions along which a firm can exploit regulatory WR before committing illegalities, amongst which are financial reporting, earnings management, and tax planning. Below I discuss the individual proxies and how they capture "aggressive" and "cautious" firm behavior, i.e., how I identify firms that exploit WR to a great extent and those that do so only to a small extent.

The extent of detail with which a firm presents its financial results is measured by the disaggregation quality (DQ) of financial statements proposed by Chen et al. (2015). If a firm wants to hide poor performance or worrisome positions, it will tend to aggregate several balance sheet items or income statement lines which reduces DQ. Having a lower disaggregation quality will capture more aggressive financial reporting practices.

Earnings management (EM) is measured via discretionary accruals, which are the main mechanism through which firms can artificially improve performance and smooth earnings. Discretionary accruals are defined as the difference between total (actual) and

expected accruals. Whilst there are also further ways to manage earning, e.g., changes in accounting methods, big bath accounting (Burgstahler and Dichev, 1997) etc., I resort to discretionary accruals, as they are comparatively easy for an outsider to measure. As there is no consensus regarding the best model of expected accruals, I follow Eugster and Wagner (2018) and compute an average of the proxies proposed by Dechow et al. (1995), Jones (1991), and Kothari et al. (2005). Having larger discretionary accruals will capture more aggressive earnings management.[1]

An additional signal of a firm exploiting regulatory WR is when the reported quarterly earnings barely beat the forecast of analysts. This is captured as Bhojraj et al. (2009) propose, namely via an indicator for firms that beat the median consensus forecast by no more than 1 USD cent. The consensus forecast is computed on the basis of the I/B/E/S unadjusted detail file to control for rounding errors (Payne and Thomas, 2003).

I capture aggressive tax planning activities through different proxies. First, the long-term cash effective tax rate (CashETR) proposed by Dyreng et al. (2008) measures the average cash taxes a firm paid over the past five years. A firm that consistently has a relatively low tax rate is deemed aggressive. Frank et al. (2009) propose an alternative measure to capture tax aggressiveness: They first compute the expected permanent differences in total book taxes and then interpret the residual as discretionary permanent difference (DTAX). The larger DTAX of a firm is, the more aggressive its tax planning activities are. I use both measures as the first could be potentially coined as overly simplistic since it does not explicitly identify avoidance activities. The second suffers from a joint hypothesis problem, as there is no consensus structural model which explains differences between book and effective tax rates (Hanlon and Heitzman, 2010, p. 142).

Finally, firms also have the possibility to move revenues to subsidiaries in tax haven countries. I capture this corporate practice by retrieving the number of such subsidiaries

[1]One concern that arises from accrual modelling is the positive correlation between the estimated abnormal accruals and the firm's actual accruals (Dechow et al., 2010, p. 358).

a given firm has from Scott Dyreng's website (Dyreng and Lindsey, 2009) and scale this by the logarithm of total assets. The larger this figure is, the more aggressive a firm is deemed to be.

2.2 Aggregating the individual wiggle room exploitation proxies

It is not ex-ante clear which threshold a firm needs to reach before its behavior can be classified as either aggressive or cautious. It could be that for each industry there is a different such cutoff, as various business models allow for different degrees of exploitation. Additionally, this cutoff is bound to change over time as first, new regulation comes into force and second, changing conditions and market perceptions make some practices become warranted. Such time trends can also have a differential impact on firms operating in different industries. Below I propose a method of aggregating individual proxies that accounts for these issues.

First, I rank firms within a given industry-year according to each proxy of WR exploitation and assign to each firm percentile values. The only exceptions are the indicator for barely beating analysts' forecasts and the number of subsidiaries in tax haven countries. The former practice can be considered to be equally questionable across time and industries. For the latter, I resort to a within-group average as a cutoff, as more than half of the firm-years have zero subsidiaries in tax haven countries. The main measure for WR is then computed as a simple average of these percentile rankings and the two indicators. In this way I obtain a continuous proxy for more or less regulatory exploitation within a given industry-year: Cautious firms will have small WR and aggressive firms large WR.

In untabulated results I replicate all findings with an alternative measure for WR: Instead of using a continuous proxy, one can identify aggressive firms by an indicator

value that uses the 75th percentile as a cutoff.[2]

Summary statistics of both individual proxies and the wiggle room measures are presented in Table 2. The distribution of firm-level WR is slightly left skewed and has almost no excess kurtosis. WR is scaled by construction between 0 and 1. Since data requirements vary between the different proxies, I can only compute a median number of 4 (out of a total of 6) WR proxies for each firm-year pair. Correlations between individual proxies are reported in Appendix Table A1 and are surprisingly low, suggesting that the practices captured are intrinsically different.

- Table 2 -

2.3 The revealed preferences of institutional investors

To extract the revealed preferences of investors, I adapt the methodology developed by Hwang et al. (2017) and Gibson and Krueger (2018). In a first step, I download the holdings of institutional investors from Thomson 13F (CDA/Spectrum) database. This covers quarterly portfolio allocation of all US investors that have assets under management in excess of 100,000 USD. My sample starts in 1995Q1 and ends in 2017Q4, totaling over 150,000 observations.[3]

I merge the firm-level WR exploitation measure (on average available for 90% of the quarterly holdings) to the dataset containing holdings of institutional investors. Then, I compute the weighted average for every quarterly portfolio, which yields the main measure of interest, exploited portfolio wiggle room, PWR. A higher PWR indicates that

[2]I also consider extracting principal components of the indicators. This approach is not attractive: First, using as many as three components would only capture about 50% of the cumulative variation. Second, the eigenvalues of the components are relatively small, with the largest being close to one.

[3]WRDS recognized a major issue in the Thomson data feed starting from 2012 and provides researchers with direct access to the SEC filings of institutional investors. Thus, part of the sample is directly downloaded from the SEC and then aggregated according to the methodology proposed by WRDS to emulate the Thomson data.

an investor is "aggressive", i.e., that she holds firms in her portfolio that are, on average, more exploitative.

2.4 Classifying institutional investors

In the first part of the paper, I want to test whether there is a systematic relationship between investor type and preferences for regulatory wiggle room exploitation. To do so, I classify investors along several dimension. First, I compute investors' portfolio duration (Cremers and Pareek, 2015, p. 1660). This measure captures the weighted average number of quarters an investor holds a stock in her portfolio over the past five years. I classify investor horizon as short-term if the portfolio duration in a given quarter is below the 25th percentile (3.2 quarters), and long-term if it is above the 75th percentile (8.1 quarters).

An alternative, albeit related classification, is obtained by measuring quarterly portfolio turnover, as discussed in Carhart (1997). This measure captures the percentage of assets under management that an investor sells or buys (depending on which is smaller) in a given quarter. It is computed as the absolute value of the minimum of quarterly sales and buys, divided by the average assets under management in the current and previous quarter. I differentiate between low and high turnover, i.e., between investors in the top quartile (below 3.3%) and the last quartile (above 16.5%). Whilst conceptually similar to duration, turnover is a more transient measure centered around trading behavior, whereas duration takes an arguably more long-term perspective. The correlation between the two measures is -55.2% as investors who trade more and have higher turnover also tend to hold their stocks for a shorter period.

Additionally, I download the investor classifications proposed by Bushee (2001) to differentiate along legal types and general investment strategies. First, I can distinguish between banks, corporate and public pension funds, insurance companies, endowments, and miscellaneous investors. The investment strategy is captured via a cluster analy-

sis along the dimensions of horizon, turnover, and specialization. Three strategies are then defined: transient (TRA) investors, with short horizon, high turnover, and high diversification; dedicated (DED) investors, with long horizon, low turnover, and high concentration, and quasi-indexers (QIX) with long horizon, low turnover, and high diversification (Bushee, 2001, p. 214). The main caveat of this approach is that the vast majority of investors are classified as quasi-indexers (55.9%) or transient (39.2%). Also, since the data Bushee provides ends in 2015Q4, I extend the last available classification to the remaining observations, which may introduce noise in the data.

2.5 Portfolio performance of institutional investors

In the second part of the analysis I want to test whether observed differences in portfolio wiggle room (PWR) are correlated with heterogeneity in performance. To be able to do this, I measure portfolio performance and risk respectively via excess quarterly returns and portfolio alphas, and via exposure to idiosyncratic risk.

Since I observe only quarterly snapshots of the asset allocation of institutional investors, I assume that all trades occur at the end of a given quarter. Raw portfolio returns are the weighted average of returns generated by the end-of-quarter holdings. This approach is routinely used in the literature but ignores all trades that occur within a quarter. However, at least for the subset of mutual funds, the resulting return differential is close to zero (Kacperczyk et al., 2008, p. 2380). To obtain excess portfolio returns I subtract the quarterly treasury rate from the raw returns and then winsorize at the 1% level.

I control for both exposure to the quarterly returns of the 3-factor (Fama and French, 1996) and the 5-factor (Fama and French, 2015) Fama-French (FF) portfolios. This is done via an overlapping rolling window regression over the past 12 quarters with factor returns downloaded from the website of Kenneth French. Quarterly alphas are

the intercept of these regressions. I compute idiosyncratic risk exposure as the standard deviation of the residuals of the FF regressions (Ang et al., 2006, p. 283).

2.6 Control variables

To account for possible confounding effects I control for several variables: the logarithm of assets under management, the logarithm of the number of different stocks in the quarterly holdings, an indicator variable for holdings focusing on no more than two different industries, and the number of quarters an investor is in the sample. All regressions also account for time-invariant factors through quarter fixed effects. The observations are likely to exhibit correlation both across time on the individual institutional investor level and in the cross-section since during any given quarter all investors hold stocks from the same universe (Seasholes and Zhu, 2010, p. 1989). Therefore, it is crucial to allow for multi-way clustering of standard errors in the empirical tests which is done following the approach proposed by Cameron et al. (2011).

Moreover, for each quarterly portfolio allocation, I compute the weighted average of the managerial ability (MA) variable downloaded from Peter Demerjian's website. This captures the efficiency, relative to a given industry, with which a firm converts corporate resources into revenues after controlling for several firm characteristics (Demerjian et al., 2012, p. 1237). In unreported analyses, I find that on the firm-level, managerial ability and wiggle room exploitation appear to be positively related. The direction of the relationship could go both ways: Aggressive firms could be more efficient than their peers because they exploit regulatory wiggle room. Alternatively, the managers of efficient firms could be better able and willing to exploit WR more aggressively. The authors show that MA reflects to a large extent characteristics that are attributable to the firm's CEO (Demerjian et al., 2012, p. 1230) which suggests that there may be a common underlying driving both MA and WR exploitation.

2.7 Summary statistics

Summary statistics for all variables at an institutional investor level are presented in Table 3. I observe the average investor for about 55 quarters. Exploited PWR is on average 43% and has a standard deviation of 6%. The distribution exhibits an excess kurtosis of about 5, which implies that there are several investors that shift their holdings respectively towards aggressive and cautious firms.

- Table 3 -

In Figure 1 I explore whether there have been any time trends in the preferences of institutional investors for regulatory wiggle room exploitation. I plot both the average investor-level PWR and the average firm-level WR. It appears that overall, institutional investors tend to hold firms that are more aggressive than the average. This tendency has been disappearing, as the spread between average PWR and firm-level WR started narrowing after 2001. A possible explanation for this reversal is that following the adoption of regulation Fair Disclosure in August 2010, institutional investors lost their preferential access to insider information and had to rely on publicly available information instead (Ke et al., 2008). This, in turn, could have made more cautious and transparent firms more attractive.

- Figure 1 -

3 Heterogeneity of preferences for portfolio wiggle room

In this section, I examine whether institutional investors exhibit heterogeneity in their preferences for regulatory wiggle room exploitation and look at why this could be the case.

Exploiting regulatory wiggle room to a great extent could make a firm less transparent, more likely to get involved in corporate scandals and illegal behavior, and reduce the amount of trust that employees have for its management.

I posit that these potential implications will matter more to some investors than to others. I hypothesize that this effect will be systematically related to investors' characteristics, namely heterogeneity in the need for transparency, in fiduciary duties, and in the value investors place on trustworthiness. To see whether this is the case, I study differences in preferences for wiggle room exploitation along investment horizons and trading behavior, as well as along the legal types of investors and their general investment strategies. Finally, I use the disclosure of financial adviser misconduct as an exogenous shock to investors' preferences. After such events, the importance of trust will become salient and the exposed investors will place a higher value on trustworthiness.

3.1 Investment horizon and portfolio turnover

Previous research has argued that, overall, institutional investors prefer holding firms with higher disclosure quality, because by doing so the liquidity of their holdings improves and information asymmetries decrease which reduces overall transaction costs (Diamond and Verrecchia, 1991). However, this channel will matter less to investors that have a long-term horizon and trade less. These investors will have more opportunities to interact with firms' management and gather private information which will give them a comparative advantage over less informed traders (Edmans and Manso, 2011, p. 2396). Short-term investors and frequent traders will be more concerned about the ease with which information can be obtained and the transaction costs caused by their trades (Boone and White, 2015, p. 509). Since aggressively exploiting wiggle room will make firms less transparent, I expect the PWR of investors to be positively correlated with investment horizon and negatively correlated with turnover (*Hypothesis 1 - Transparency*).

I test this in Table 4 by respectively regressing quarterly PWR on an indicator for short- and long-term investment horizon and on one for high and low portfolio turnover. The models (1) and (4) include only the baseline regressions that control for assets under management, portfolio diversification, number of quarters a given investor is in the sample, and exposure to the FF 3-factor portfolios. The average exploited PWR of the benchmark categories for horizon is 42.6% and for turnover it is 42.8%. The coefficients reveal that investors with a short-term horizon and a high turnover have a PWR about 2% smaller than the benchmark ($\frac{-0.007}{0.426}$ and $\frac{-0.008}{0.428}$). This means that short-term and high turnover investors tend to prefer firms that are more cautious; both these findings support *Hypothesis 1 - Transparency*. The coefficients of the control variables are in line with expectations: Higher exposure to the high-minus-low, market, and small-minus-big portfolios is associated with smaller PWR. This is first because firms that are smaller tend to exploit wiggle room less. Second, the market average of exploited WR is smaller than that of institutional investors' portfolios. Therefore, increasing exposure to the market will correlate to a reduction in PWR. The proxies for investor size and specialization are (mostly) insignificant.

Models (2) and (5) additionally control for the volatility of the individual investors' PWR, as it could be that the average stability of PWR is inherently linked to its level. The results are almost identical to the previous columns. In models (3) and (6) the weighted portfolio average of the holdings' managerial ability (MA) is included. First, MA is positively correlated with PWR: a standard deviation increase in average portfolio MA increases PWR by 1.4% when holding investor horizon and portfolio turnover constant. Moreover, the magnitude of the coefficients on investment horizon and portfolio turnover decreases because there is a positive association between MA and horizon and a negative one between MA and turnover: Investors that hold firms in their portfolio that have on average high managerial ability tend to also have longer horizons and to trade less.

- Table 4 -

In unreported analyses, I test whether the relationship between the preferences for PWR and investment horizon remains significant when portfolio turnover is included in the regression. I find that the coefficient of the long-term dummy remains significant and similar in size while that of the short-term dummy becomes insignificant. This suggests that long-term investors prefer more aggressive firms because they are better able to gather insider information which gives them a comparative advantage. It seems that trading activity is the main reason why short-term investors prefer more cautious firms.

Finally, including the continuous measures for investment horizon and portfolio turnover instead of dummies leaves the results unchanged. When I additionally control for turnover squared, it has a positive coefficient: The same decrease in trading intensity is associated with a much larger increase in PWR when the reference point is a low turnover portfolio than it would be the case for a high turnover portfolio. It seems that decreasing PWR beyond a certain point will not yield additional informational benefits.

3.2 Legal type and strategy

Previous research has found that several of the firm-level proxies that I use to construct the measure of exploited wiggle room are associated with illegal firm practices: Aggressive earnings management and just beating analysts' forecasts are both an indicator for "suspect firms", i.e., firms that are more likely to engage in financial reporting fraud (Biggerstaff et al., 2015, pp.107-110). Moreover, O'Donovan et al. (2018) exploit the 2016 leak of the Panama Papers to show that subsidiaries in tax haven countries are associated with both bribery and tax evasion. I therefore posit that firms that exploit regulatory wiggle room to a large extent could be more likely to get involved in illegal activities or corporate scandals. I hypothesize that one channel that explains investors' preferences towards more or less aggressive firms is their legal type. This is because the standards

of prudence that regulatory authorities require from institutional investors are heterogeneous: Banks have the most stringent ones, followed by pension funds, and lastly mutual funds and other investment advisers who are relatively unconstrained (Del Guercio, 1996, pp. 33-36). I expect investors with more stringent fiduciary duties to be more concerned about the possibility of litigation and therefore to prefer firms that exploit regulatory wiggle room less (*Hypothesis 2 - Scrutiny*).

I test this hypothesis in Table 5, where in columns (1) to (3) PWR is regressed on a dummy for investor's legal type using miscellaneous investors as the benchmark. Model (1) indicates that most legal types do not exhibit significant differences when compared to miscellaneous investors. Only banks tend to hold portfolios of firms that are significantly more aggressive. This contradicts *Hypothesis 2 - Scrutiny*, as it suggests that having stronger fiduciary duties does not correlate with a preference for more cautious firms. It could be that banks have an informational advantage when compared to other institutional investors, and therefore also tend to hold firms that are less transparent. If so, this additionally supports *Hypothesis 1 - Transparency*.

Model (2) additionally controls for the volatility of PWR which has little impact on the magnitude of the coefficients. Model (3) also controls for portfolio MA, which absorbs much of the variation in PWR amongst legal investor types. Moreover, the positive correlation between MA and PWR also persists within a given legal type. The size of the dummy coefficients for banks and public pension funds decreases, which points towards a positive correlation between those types of investors and portfolio MA.

It is likely that the general investment strategy of investors will also influence their preferences for regulatory wiggle room exploitation. Transient investors have a short horizon and are focused on achieving short-term trading profits. For them the considerations of *Hypothesis 1 - Transparency* apply, as they will presumably benefit from the additional transparency that holding cautious firms provides. Quasi-indexers have a long-term per-

spective and follow a diversified and passive investment approach. Since their discretion in selecting stocks is limited, I expect them to have the weakest preferences for wiggle room and thus use them as the benchmark category for the following analyses. Dedicated investors also have a long-term horizon, but their strategy is consistent with a "relationship investing" role, as they provide stable capital to a small number of firms (Bushee, 2001, p.214). The preferences of dedicated investors could either be geared towards more aggressive and thus less transparent firms, consistent with *Hypothesis 1 - Transparency*, or inclined towards the more cautious firms with allegedly more trustworthy management. This could occur because the managers of cautious firms are considered honest by the employees, which is crucial for a relationship based on trust to develop (O'Neill, 2002). Such a relationship is likely to increase employee satisfaction (Dirks and Ferrin, 2002), which in turn generates long-term value (Edmans, 2011). Additionally, trustworthy managers are particularly important when one follows a strategy of relationship investing, as is the case for dedicated investors. Therefore, I expect them to prefer cautious firms (*Hypothesis 3 - Trust*).

I test these hypotheses in models (4) to (6) of Table 5, where exploited PWR is regressed on a dummy for investor strategy using quasi-indexers as benchmark. The average exploited PWR of the benchmark is 43.3%. The coefficients show that transient investors tend to hold firms that exploit 2% less regulatory wiggle room than quasi-indexers ($\frac{-0.009}{0.433}$), confirming *Hypothesis 1 - Transparency*. Also, the findings support *Hypothesis 3 - Trust*, as the exploited PWR of dedicated investors is on average 7% smaller than that of quasi-indexers ($\frac{-0.028}{0.433}$).

To corroborate the claim that only the preferences of transient investors are motivated by differences in trading activity, I control for both portfolio turnover and investment horizon. The coefficient of the transient investors becomes insignificant, which indicates that the driver behind the observed relationship is linked with trading behavior. The coeffi-

cient of the dedicated investors remains unchanged and highly significant. This points towards the importance of the "relationship investing" channel: Instead of preferring the less transparent firms and profit from their long investment horizon to gain an informational advantage, these investors prefer firms that are more cautious and trustworthy.

- Table 5 -

3.3 Financial adviser misconduct and changes in PWR

If an investor who values trust prefers cautious firms because they appear more trustworthy, then a change in the perceived importance of trust should also induce a change in the revealed preferences for regulatory wiggle room exploitation. To test whether this is the case, I use the disclosure of financial adviser misconduct (Egan et al., 2018a,b) as a quasi-exogenous shock to investors' preferences. The relationship between an institutional investor and her financial advisers is based on trust: The latter plays the role of a "money doctor" who is not only employed, but also *trusted* by the investor who seeks advice on how to best make risky investment decisions (Gennaioli et al., 2015, p. 92). When this trust is breached, its importance will become salient and the exposed investor will be more cautious in choosing the right advisers (Gurun et al., 2017). If *Hypothesis 3 - Trust* holds, investors for whom trust is important will also exhibit low PWR. But then a shock to the perceived importance of trust will translate into a change in PWR. I posit that the exposure to financial misconduct can be seen as such a shock and expect it to cause a decrease in PWR, after controlling for a change that occurs at a similar investor who does not experience misconduct. The effect ought to be strongest following disclosures that lead to the firing of the financial adviser, as such reaction suggests that the disclosure did indeed represent a breach of the investor's trust.

The validity of the identification strategy would be threatened if unaffected institutional investors would themselves impose stricter internal controls as a consequence of

seeing competitors punishing misconduct. However, this seems unlikely since the financial consequences for the affected firm are usually mild. The median amount for which the misconduct cases are settled lies at USD 40,000 (Egan et al., 2018a, p. 11), i.e., 0.01% of the assets the median investor manages. Moreover, institutional investors employ on average over 150 different advisers. Even if a competitor becomes informed of the ongoing misconduct investigation, it is likely that it will appear to her as an isolated case that does not warrant a change in her own organization. Another concern is that some institutional investors may find out about the adviser's misconduct before it is disclosed and that they would already have reacted by the time the malpractice was public. However, this should bias against finding a significant effect.

Empirical framework - Estimation of treatment effects

To assess the consequences of misconduct I focus on the sub-sample of institutional investors that employ advisers that are registered with the Financial Industry Regulatory Authority (FINRA). FINRA requires for all registered financial advisers to report their entire employment and disclosure histories, including all customer disputes and disciplinary events. These reports are then made publicly available, and were used by Egan et al. (2018a) to construct a panel of yearly adviser observations that contains both their current employer and their track record of regulatory disclosures.[4] I collapse this panel at the employing firm level to obtain a measure of how many misconduct disclosures a given firm experiences over a year. I then manually match all firms in this data set with Thomson 13F and keep only the matching institutions. This results in over 18,000 yearly observations of 2,500 institutional investors over the period from 2007 to 2015. Appendix Table A2 shows that there are only minor differences between the full and matched samples: Compared to the full sample, the average investor in the matched sample has an

[4]I am very grateful to Mark Egan, Gregor Matvos, and Amit Seru for sharing the data with me. Additional information can be found at `eganmatvosseru.com`.

investment horizon that is 0.5 quarters longer, a turnover that is 2 percentage points smaller, and 7% fewer assets under management. Also, investment advisers make up a larger part of the matched sample (92%) than of the full sample (79%).

I define the treatment group as all institutional investors who employ financial advisers who disclose misconduct cases during a given year. I differentiate between three types of treatment: "All", which covers investors who experience between 1 and 10 disclosures of any kind during a given year, "Criminal", which covers only disclosures of criminal charges, and "Fired", which covers only disclosures that lead to the termination of the employment relation between adviser and investor. This yields respectively a total of 323, 81, and 139 treatment observations. Appendix Figure A1 plots the total number of advisers employed by year together with the fraction that reports misconduct. While there is a steady increase in the total number of advisers employed, the fraction that reports a misconduct event during a given year remains largely constant. To assess the magnitude of the treatment effect, I compute the total change of PWR during a year, ΔPWR_T, and retain only one observation for each investor-year.

Since treatment assignment is unlikely to be random, I construct a control group relying on nearest neighbor propensity score matching (Rosenbaum and Rubin, 1983). This ought to ensure that the treatment and control groups are statistically indistinguishable along observables. To achieve this, I control for investor characteristics observed during the last quarter (or year) before treatment occurs. Specifically I account for the #Advisers that are employed by a given investor, the average qualification exams passed by them, ∅Exam_63, ∅Exam_65, and ∅Exam_66, their average years of experience as advisers, ∅Experience, and whether the firm employs investors that were fired in the past due to a misconduct allegation. I also control for several variables that account for differences in investment strategies and that are potentially correlated with the outcome of interest: Portfolio turnover and duration, exposure to the FF-3 factor portfolios, an

indicator for investors who experienced a loss in the previous quarter, the logarithm of assets under management, and of the number of portfolio firms. Appendix Table A3 shows logit regressions of treatment assignment on investor characteristics. The coefficients have the expected signs, and the most sizable impact on the probability of being treated is attributable to employing advisers that were previously fired as a consequence of misconduct. This is in line with findings in Egan et al. (2018a) and also with Dimmock et al. (2018) who show that financial advisers who engaged in fraudulent behavior will also influence their future co-workers towards malpractice.

Appendix Table A4 reports the means of the covariates in the treatment and control samples, together with a test for differences. While the two groups are not perfectly balanced for the "Any" treatment, they are for the "Fired" treatment, which also represents the main case of interest. Propensity score estimates are constructed following Abadie and Imbens (2006, 2016) and standard errors are adjusted to account for the fact that the scores themselves are estimates and not observed. Finally, to compute the average treatment effects on the variable of interest, ΔPWR_T, I match treated and control investors following the nearest neighbor technique. In unreported analyses, I use an alternative estimation strategy for the propensity score proposed by Imbens and Rubin (2015). This methodology leads to the inclusion of 8 linear covariates and 19 interaction terms. The results remain robust to this specification, and the overlap is not overly improved.

Main findings - Financial adviser misconduct and changes in PWR

Table 6 shows the effect of the different treatment types on exploited portfolio wiggle room. In model (1) I consider all misconduct disclosures. Here the effect on PWR is negative but insignificant. This may be because I do not distinguish between different treatment intensities: A minor misconduct case that is settled for a few thousand dollars is unlikely to generate any serious consequence. The coefficients in models (2) and (3)

are both negative and significant. For example, being exposed to a misconduct allegation which leads to the firing of the culprit is related to a reduction in PWR of over 4 percentage points over the treatment year. This is an economically sizeable effect, representing 0.52 standard deviations of ΔPWR_T. In models (4) to (6), I examine whether this effect is observable before treatment and if it vanishes afterward. First, there is no significant change in PWR in the one year prior. This suggests that investors do not react to malpractices before the allegations are publicly disclosed. The coefficient in the year after treatment is somewhat smaller but still negative and significant. Two years after treatment, the effect is not significant anymore but the coefficient remains negative. This suggests that it is likely that the observed effects are not only a short-lived overreaction to the increased salience of fraud (Bondt and Thaler, 1985), but rather that they represent a persistent shift in investors' preferences.

- Table 6 -

Figure 2 further explores how the effect evolves through time by depicting the estimated average treatment effect from three periods before to three periods after the misconduct allegations are disclosed. Panel 2a confirms that there is no significant change in PWR when one does not differentiate between the seriousness of the misconduct cases. Panel 2b provides additional evidence that when one considers only disclosures that lead to the firing of the adviser, the PWR of the treated institutional investor significantly decreases and that this decrease is persistent. Additionally, the fact that there are no observable effects before treatment points out that institutional investors usually do not anticipate the misconduct disclosures.

- Figure 2 -

Drivers of changes in PWR following financial adviser misconduct

What are the main drivers behind the observed decrease in PWR? In general, the portfolio wiggle room of an institutional investor decreases when she (i) buys firms that are more cautious or (ii) sells firms that are more aggressive than the firms she currently holds, or (iii) when the firms she holds become themselves more cautious. To see whether this is the case I construct portfolios consisting of those shares that an investor buys, sells, and does not trade during a quarter. For each of these portfolios, I then compute the portfolio wiggle room: PWR^{buys}, for the shares, bought, PWR^{init}, for the initiating trades, PWR^{sells}, for the shares sold, and PWR^{exit} for the stocks exited during a quarter. The obtain the outcome variables of interest, I subtract from all these measures the initial PWR of the investor and sum up the available quarters over a year. Finally, I compute the change in the aggressiveness of portfolio firms by keeping the holdings constant but looking at the lagged wiggle room of the firms. $\Delta\text{PWR}^{noTrade}$ is then the % difference between the investor's current PWR and the PWR she would have had the previous quarter if she did not rebalance her holdings.

In Table 7 I estimate the average treatment effect that experiencing financial adviser misconduct has on these measures. I report only the coefficient for the main treatment of interest, namely the one that causes the financial adviser to be fired. The first model presents the total change in PWR for the year of treatment. The coefficient in model (2) is negative and significant: Treated investor tend to buy shares of firms that are more cautious than the ones they currently hold in their portfolios. The insignificant coefficient of the initiating trades portfolio in model (3) suggests that investors do not buy stakes in cautious firms they do not already hold in their portfolios. Instead they seem to allocate more capital to existing cautious holdings. While the coefficient in model (4) is insignificant, model (5) shows that treated investor tend to exit firms that are more aggressive than the ones they currently hold in their portfolios. Finally, the coefficient

of $\Delta \text{PWR}_T^{noTrade}$ is negative and significant. This implies that the trading activity of investors is not the only driver behind the observed changes in PWR. What also matters is the change in firms' behavior with respect to regulatory wiggle room exploitation: The firms that are held by the treated investors become more cautious during the treatment year.

- Table 7 -

Taken together these findings provide further evidence that supports *Hypothesis 3 - Trust* and highlight the important consequences of breaking the investor's trust (Lins et al., 2017). When the perceived value of being honest and trustworthy increases investors will prefer firms that are more cautious and that do not excessively take advantage of the regulatory environment.

4 Performance and risk implications of PWR

As it turns out that institutional investors differ significantly with respect to their preferences for wiggle room exploitation, I now address the second question of this paper, namely whether having such preferences affects portfolio performance and exposure to idiosyncratic risk. Figure 3 depicts the main findings of this section, namely a negative relationship between PWR and portfolio alpha and a positive one between PWR and exposure to idiosyncratic risk.

- Figure 3

4.1 Excess returns and portfolio alphas

As it turns out that institutional investors differ significantly with respect to their preferences for wiggle room exploitation, I now address the second question of this paper,

namely whether having such preferences affects portfolio performance and exposure to idiosyncratic risk. Figure 3 depicts the main findings of this section, namely a negative relationship between PWR and portfolio alpha and a positive one between PWR and exposure to idiosyncratic risk.

I test this hypothesis in Table 8, where in model (1) excess returns are regressed on PWR, the full set of controls from the previous tables, and investors' exposure to the 3 factor Fama-French portfolios. Model (2) also accounts for differences in investment horizon and portfolio turnover, and model (3) includes instead general investment strategy. In columns (4) to (6), I perform the same analyses using portfolio alpha as dependent variable. The coefficients on the first three models are negative but insignificant, which indicates that there is no meaningful relationship between preferences for wiggle room exploitation and excess returns. However, the coefficients of the last three models are all negative and significant contradicting *Hypothesis 4 - Performance*: A one standard deviation increase in PWR implies a decrease in alpha of 0.1% or 0.06 standard deviations. Appendix Table A5 confirms these findings when controlling for exposure to the returns on the FF 5-factor portfolios. There seemingly is a negative relationship between preferences for wiggle room exploitation and portfolio performance: When an investor holds aggressive firms, she tends to generate smaller portfolio alphas.

- Table 8 -

4.2 Exposure to idiosyncratic risk

Firms that fully exploit regulatory wiggle room could have more opportunities available to conceal poor performance and smooth earnings. Aggressive firms could avoid a short-lived negative price impact on the stock price by barely beating analysts' forecasts (Bhojraj et al., 2009). Moreover, the literature has shown that firms manage earnings in order to reduce fluctuations in reported net income (Trueman and Titman, 1988, p. 127).

Therefore, it could be the case that an investor who has a preference for aggressive firms will generate quarterly returns that are less volatile. I expect to see a negative relationship between PWR and measures for portfolio risk (*Hypothesis 5 - Risk*).

I test this in Table 9, where I regress the exposure to idiosyncratic risk of investors' returns on PWR and the set of controls from the previous tables. The results confirm *Hypothesis 5 - Risk*: Model (1) shows that a one standard deviation increase in PWR is associated with a decrease in idiosyncratic risk exposure of 18% of a standard deviation ($\frac{0.05*0.07}{0.02}$). Models (2) and (3) show that this relationship remains significant and retains most of its magnitude after controlling for the volatility of PWR and MA. To see whether this association is caused by differences in investment horizon, portfolio turnover, or general strategy, I sequentially control for these characteristics in models (4) and (5) and find the same association within a specific investor group. Finally, Appendix Table A6 confirms that these relationships continue to hold when risk measures are computed by taking the exposures to the 5-factor FF portfolios into account.

Taken together, the findings point towards a negative correlation between PWR and portfolio risk: Having a preference towards holding firms that exploit regulatory wiggle room does decrease portfolio alphas but reduces exposure to idiosyncratic risk.

- Table 9 -

5 Further analyses

In this section, I perform additional analyses and robustness tests. First, I explore whether the relationship between investors' preferences for regulatory wiggle exploitation and portfolio performance is due to a single proxy or rather due to the common factor captured by the PWR measure. Then I ask if market factors correlate with the preferences of institutional investors in a way that is consistent with my hypotheses.

5.1 Portfolio performance and individual wiggle room proxies

It could be the case that the relationship between exploiting regulatory wiggle room and portfolio performance is driven by a single proxy instead of capturing the effect of their common component. For instance, the positive correlation between PWR and the volatility of portfolio returns could be exclusively attributable to the effects of earnings management (Trueman and Titman, 1988). I test this in Table 10, where I regress the measures of portfolio performance and risk on the complete set of proxies for exploited wiggle room.

Models (1) and (2) indicate that the coefficients of the individual proxies are all insignificant when excess returns are used as the dependent variable. This is in line with the insignificant relationship between excess returns and PWR found in Table 8. Models (3) and (4) depict a more nuanced relationship between the individual WR components and portfolio alpha. A portfolio that consists of firms that exploit tax credits more aggressively, and thus have smaller long-term tax rates, tends to generate higher alphas: A one standard deviation increase in CashETR is associated with an increase in portfolio alpha of 60% of a standard deviation ($\frac{0.16*0.07}{0.02}$). This is consistent with evidence that some institutional investors actively engage with portfolio firms to make them plan taxes more efficiently and exploit the available tax credits (Cheng et al., 2012, p. 1494). The coefficient of DTAX is insignificant but also positive. The number of subsidiaries in tax haven countries that the firm has is associated with lower portfolio alphas: A one standard deviation increase in #tax havens relates to a decrease in portfolio alpha of 7.9 standard deviations ($\frac{-0.03*5.23}{0.02}$). This is consistent with managers effectively using tax havens to derive private benefits to the detriment of noncontrolling shareholders (Bennedsen and Zeume, 2018, p. 1222). All other proxies have negative but insignificant coefficients.

- Table 10 -

In Appendix Table A7 I perform the same analysis but controlling for exposure to the FF-5 portfolios (Fama and French, 2015). Models (1) and (2) confirm the previous results as all coefficients of interest are insignificant. Models (3) and (4) are also mainly in line with the previous findings. In addition to those, the negative coefficient of DQ becomes significant at the 10% level: A one standard deviation increase in the disaggregation quality is associated with a decrease in portfolio alpha of 3.7% of a standard deviation ($\frac{-0.01*0.11}{0.03}$). This is in line with evidence suggesting that managers avoid revealing information of poorly performing business segments via aggregation of financial statements (Berger and Hann, 2007, p. 871). The coefficient of earnings management becomes positive and significant: A one standard deviation increase in EM is associated with an increase in portfolio alpha of 8.8% of a standard deviation ($\frac{0.012*0.22}{0.03}$). This is consistent with the potentially positive effects of earnings management on firm value, for instance by helping firms to maintain a high stock valuation (Shleifer, 2004, p. 416).

In models (5) and (6) I study the relationship between portfolio risk and the individual WR proxies. The coefficients of DQ, just beat, and #tax havens are all negative and highly significant which is in line with the overall effect of portfolio wiggle room. Holding firms that report financial statement parsimoniously, barely beat analysts' forecasts, and have several subsidiaries in tax haven countries tends to decrease the volatility of portfolio returns and the exposure to idiosyncratic risk. A one standard deviation increase in DQ is related to a decrease in idiosyncratic risk of 18.2% of a standard deviation ($\frac{-0.013*0.28}{0.02}$). These figures for barely beating analysts forecasts and #tax havens are 28% and 445% of a standard deviation ($\frac{-0.020*0.28}{0.02}$ and $\frac{-0.017*5.23}{0.02}$).

The coefficients of CashETR and EM are also highly significant but positive: A one standard deviation increase in these proxies respectively relates to an increase in idiosyncratic risk of 12.8% and 53.9% ($\frac{0.016*0.16}{0.02}$ and $\frac{0.049*0.22}{0.02}$). This suggests that holding firms that manage earnings more and pay relatively fewer taxes is correlated with larger

exposure to idiosyncratic risk. This is consistent with the evidence on big bath accounting, i.e., when managers prefer frequent small gains and rare large losses to more frequent, albeit smaller losses (Burgstahler and Dichev, 1997). In models (5) and (6) of Appendix Table A7 I also control for the exposure to the FF-5 factor portfolios. The magnitude of the coefficients remains similar and their signs do not change.

Taken together, these findings highlight the relative importance of the individual proxies for exploiting regulatory wiggle room. Moreover, it seems that the relationship one observes when analyzing the joint effect of portfolio wiggle room cannot be subsumed by only looking at a subset of these proxies.

5.2 Sentiment, market uncertainty, and preferences for PWR

Previous literature argues that changes in market sentiment that occur over time affect stock prices in a heterogeneous manner, as sentiment-based demand shocks vary across firms. Due to both the trading of irrational investors who temporarily emphasize growth over profitability, and to market frictions that impose limits on arbitrageurs, the demand for "more speculative securities" will increase. Such securities are broadly characterized by being difficult to value objectively (Baker and Wurgler, 2007, pp. 131-132). If *Hypothesis 1 - Transparency* holds, firms that exploit more regulatory wiggle room are also less transparent which in turn makes them more speculative. If the institutional investors themselves are subject to the effects of sentiment either directly or indirectly (through limits of arbitrage or the preferences of their customers), I expect to find a positive relationship between market sentiment and PWR. I also expect the strength of this relationship to vary across investor types: For short-term, high turnover, and transient investors market sentiment will play less of a role compared to the respective benchmarks. This could possibly be due to the fact that those types of investors are closer in nature to arbitrageurs that would profit from mispricings rather than modify their holdings.

To test this, I download the monthly orthogonalized market sentiment index from Jeffrey Wurgler's website and compute the average for each quarter (Baker and Wurgler, 2006). I then interact this with dummies for institutional investor type, namely investment horizon, portfolio turnover, and general strategy. I regress exploited PWR on these variables and the full set of controls in Table 11. In all models I find a positive and highly significant relationship between PWR and investor sentiment: Regardless of the benchmark category, a one standard deviation increase in sentiment is associated with an increase in exploited PWR of 11.5% of a standard deviation ($\frac{0.009*0.64}{0.05}$). When sentiment is interacted with horizon, I find a negative additional effect on short-term investor: Having a short average portfolio duration more than halves the impact of sentiment on PWR, which hints that short-term investors tend to be less affected by upsprings in market sentiment. In model (2) I also find a negative, albeit smaller, coefficient on the interaction between sentiment and high turnover, which is in line with the previous point. In model (3) it seems that there is no additional effect of a given general strategy. However, none of these effects is large enough to reverse the overall positive correlation between market sentiment and exploited PWR, which confirms *Hypothesis 1 - Transparency*.

It could be that due to their structural characteristics some institutional investors will react slowly to changes in market sentiment. In Table A8 I explore this by using as explanatory variable the average sentiment of the previous quarter. The results remain mostly unchanged, but the interaction coefficient of low turnover becomes significant at the 10% confidence level. This suggests that these investors are indeed more affected by sentiment, but require more time to rebalance their holdings.

An additional channel through which market factors relate to investors' preferences for wiggle room exploitation could be the degree of market uncertainty: When it surpasses a critical threshold, investors may be forced to liquidate their assets in fire sales (Shleifer and Vishny, 2011) causing a "flight to quality within the stock market" (Baker and

Wurgler, 2007, p.133). If *Hypothesis 3 - Trust* holds, I expect institutional investors to prefer holding firms that are more cautious when market uncertainty is very high. This is because these firms may have accumulated more credibility (Eugster and Wagner, 2018) which could be particularly valuable in times of high uncertainty (Lins et al., 2017).

To test this I download the monthly time-series of the CBOE Volatility Index (VIX) and compute the average over a given quarter. I identify periods of high uncertainty by including VIX squared as an additional explanatory variable. Models (4) to (6) of Table 11 show regressions of PWR on these variables and the complete set of controls. The coefficient on the average VIX level suggests that during normal times there is a positive relationship between preferences for wiggle room exploitation and market uncertainty: A one standard deviation (7.7) increase in VIX is related to an increase in PWR of 34.3% of a standard deviation ($\simeq \frac{7.7}{0.05} * (0.003 - 2 * 7.7 * 4.5 * 10^{-5})$). However, when market volatility surpasses a critical point, this relationship is reversed: When the VIX is larger than 33 ($\simeq \frac{0.003}{2*4.5*10^{-5}}$), any further increase will be related to a smaller PWR.[5] This finding supports *Hypothesis 3 - Trust*, as investors seem to prefer more cautious firms when market conditions are uncertain, suggesting that being trustworthy is particularly valuable during turbulent times.

- Table 11 -

In untabulated analyses, I explore the interaction effect between market uncertainty and the investor type. I find that when an investor has a short-term horizon or a high portfolio turnover the effect of market uncertainty will become smaller. For investors with low turnover, the impact of the VIX will be magnified. This is again consistent with the idea of frequent traders being somewhat less subject to the influences of market conditions.

[5]During the height of the financial crises, the VIX surpassed 80.

6 Conclusion

In the first part of this paper, I analyze the holdings of institutional investors through a novel perspective: The inclination towards holding firms that exploit more or less of the available regulatory wiggle room. I ask whether some investors are concerned about additional aspects other than performance, namely whether it matters to them *how results are achieved* and uncover substantial heterogeneity amongst investor types. Short-term investors, frequent traders, and dedicated institutions hold firms that are more cautious towards exploiting the available regulatory wiggle room. This could be related to the additional transparency and trustworthiness of cautious firms. In support of this I find that when market sentiment increases and investors usually prefer more opaque firms, they also tend to prefer firms that aggressively exploit the regulatory wiggle room.

There seems to be a link between the perceived value of trust and investors' preferences for WR. When an investor fires a financial adviser following the disclosure of misconduct, she will thereafter significantly reduce her portfolio wiggle room compared to a similar investor whose trust was not breached. This reduction is economically significant and is not reversed in the three following years. Moreover, it seems to be driven by both portfolio rebalancing activities and by changes that occur at the level of the portfolio firms. Hence, a plausibly exogenous shock to an investor's preferences leads her to change the aggressiveness with which her portfolio firms exploit the regulatory environment.

In the second part, I ask whether having such preferences impacts investors' performance. It seems that holding firms that fully exploit wiggle room does generate somewhat smaller portfolio alphas after controlling for exposures to the FF-3 or FF-5 factor portfolios. However, holding such firms significantly reduces exposure to idiosyncratic risk. This could be related to aggressive firms using regulatory wiggle room to smoothen their performance. I also examine the relative importance of the individual proxies and cannot attribute the established relationship to any single one of them.

Overall, this paper documents the presence of a heterogeneity in investors' preferences for the exploitation of regulatory wiggle room which cannot be fully explained by differences in risk-return profiles. It then shows how a change in investors' preferences can have a substantial impact on their investment decisions. This finding is of interest as it identifies a further channel through which firms that refrain from exploiting regulation could be rewarded, namely by better access to capital from investors who value trust highly.

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Figure 1: Time series of mean exploited WR on the firm- and investor-level
The figure depicts the time series evolution of the mean exploited WR across all institutional investors (PWR_mean) and the mean exploited WR across all Compustat firms (WR_mean). Both variables are winsorized at the 5% level. All variables are described in in Table 1.

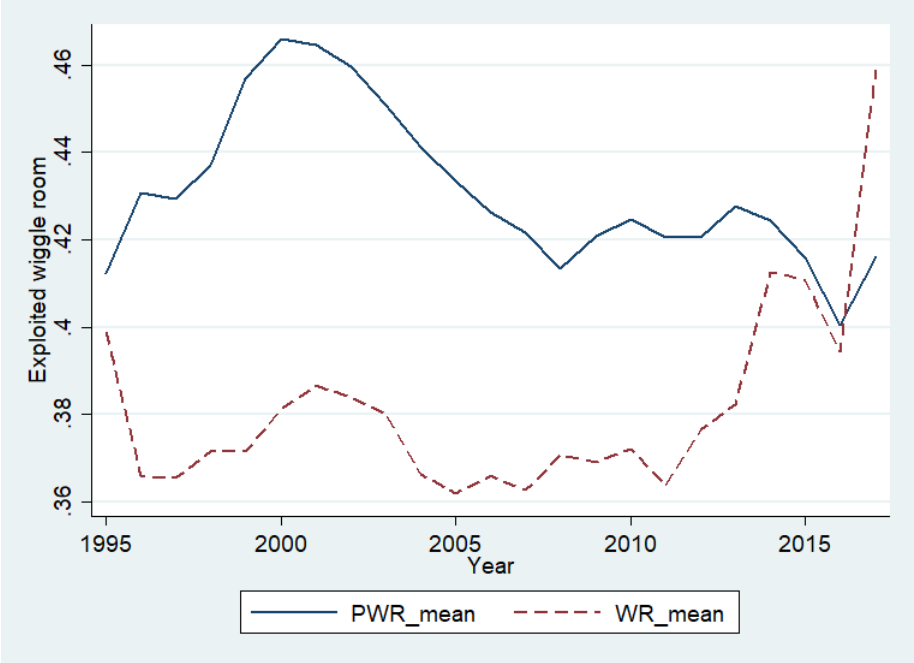
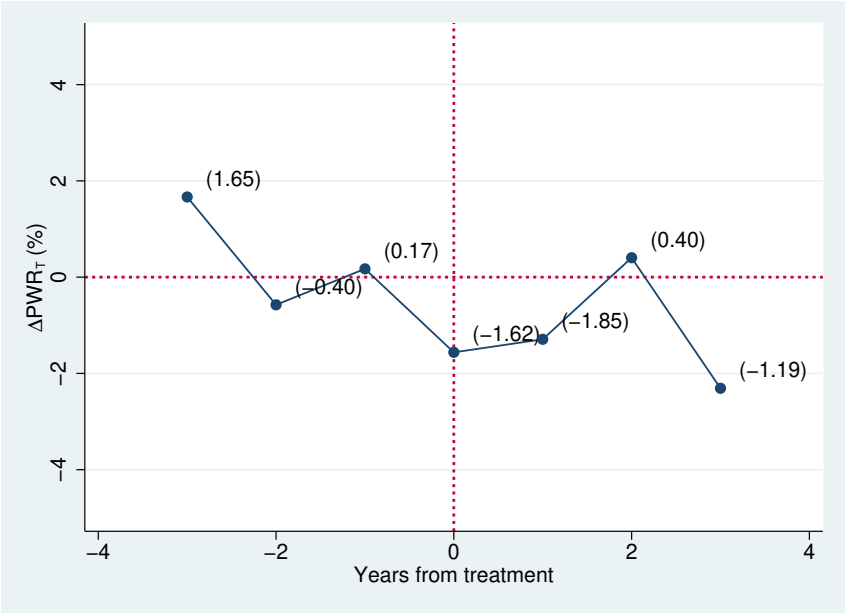
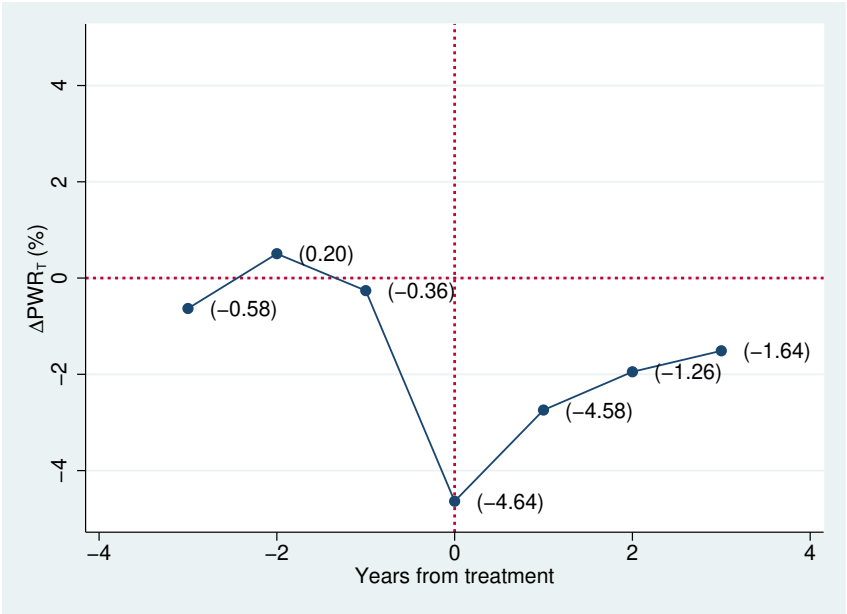


Figure 2: Changes in PWR around financial adviser misconduct
The figure depicts the average treatment effect that employing an adviser who discloses misconduct has on PWR. In the first panel, treatment is any type of disclosed misconduct. In the second panel, treatment are the disclosers that cause the adviser's firing. Coefficients are obtained via nearest neighbor propensity score matching. The control group is estimated using year dummies and several investor characteristics. The sample spans from 2007 to 2015 and covers all institutional investors for which a match with FINRA's BrokerCheck can be established. All variables are described in Table 1. Robust z-statistics are in parentheses (Abadie and Imbens, 2006, 2016).

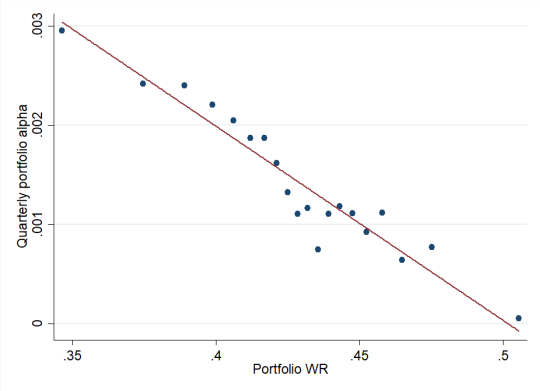


(a) Treatment: Any

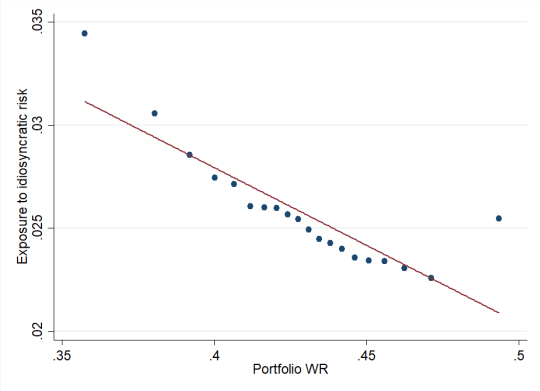


(b) Treatment: Fired

Figure 3: PWR and exposure to idiosyncratic risk
The figure depicts a scatter plot of exploited PWR and measures of portfolio performance, namely quarterly portfolio alphas and exposure to idiosyncratic risk. Both panels control for investor characteristics, time (quarter) fixed effects, and exposure to FF-3 factor portfolios. PWR and the performance measures are winsorized at the 5% level. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.



(a) Portfolio alpha



(b) Exposure to idiosyncratic risk

Table 1: Variable definitions

Panel A: Institutional investor level variables

#Advisers	Total number of financial advisers employed by an institutional investor during a year	Egan et al. (2018a)
DED	Dedicated investors, i.e., those that have a long-term horizon, hold only a limited number of firms in their portfolios, and do not react much to current earning news	Bushee (1998)
Duration	Weighted average of quarters a firm is part of investor's holding for the past 5 years, i.e., average portfolio duration as described in Cremers and Pareek (2015)	13F, CRSP
∅Exam_63	Percentage of employed advisers that have passed the Series 63 Uniform Securities Agent State Law Examination	Egan et al. (2018a)
∅Exam_65	Percentage of employed advisers that have passed the Series 65 Uniform Investment Adviser Law Exam	Egan et al. (2018a)
∅Exam_66	Percentage of employed advisers that have passed the Series 66 Uniform Combined State Law Examination	Egan et al. (2018a)
∅Experience	Average years of experience that the employed financial advisers have	Egan et al. (2018a)
Fired_past	Indicator for an institutional investor who employs one or more financial advisers that were fired by their previous employer following a disclosure of misconduct	Egan et al. (2018a)
Idiosyncratic risk	Exposure to idiosyncratic risk, relative to the Fama-French 3 factor portfolio (Winsorized at 1%), computed as described in Ang et al. (2006)	13F, CRSP
ln(Assets)	Logarithm of the total assets under management of an investor	13F, CRSP
ln(#Stocks)	Logarithm of the number of different stocks an investor holds	13F

(continued)

Table 1: Variable definitions (ctd.)

Loss	Indicator for an institutional investor who experienced a negative return in the previous quarter	13F
low/high TO	indicator for below first quartile / above third quartile of investor quarterly TO	13F
MA	Weighted average of the holdings' managerial ability score, which captures the relative efficiency with which a firm generates revenues, as described in Demerjian et al. (2012)	Demerjian et al. (2012)
PWR	Exploited portfolio WR, computed as the weighted average of the holdings' WR for each quarter	Author
PWR^{buys}	Exploited portfolio WR of the stocks that an investor buys at the end of a quarter	Author
PWR^{exit}	Exploited portfolio WR of the stocks that an investor exits at the end of a quarter	Author
PWR^{init}	Exploited portfolio WR of the stocks that represent the initiating trades of an investor at the end of a quarter	Author
$\Delta PWR^{noTrade}$	% difference between the investor's current PWR and the PWR she would have had the previous quarter if she did not rebalance her holdings	Author
PWR^{sell}	Exploited portfolio WR of the stocks that an investor sells at the end of a quarter	Author
QIX	Quasi-indexers, i.e., investors that exhibit high diversification and low turnover, consistent with a buy-and-hold strategy	(Bushee, 1998)
short-/long-term	Indicator for below first quartile / above third quartile of average holding period, computed as described in Cremers and Pareek (2015)	13F
#qtrs	Number of quarters a given investor is in the dataset	13F
Ret (qtr, %)	Quarterly portfolio returns in %, assuming that all trades occur at the end of a given period (Winsorized at 1%)	13F
Ret vola	Volatility of quarterly returns for a given investor	13F, CRSP

(continued)

Table 1: Variable definitions (ctd.)

Spec	Indicator for investors that are specialized, i.e., hold firms from at most two different industries (2-digit SIC codes)	13F, Compustat
TO	Quarterly portfolio turnover of holdings, as described in Carhart (1997)	13F
TRA	Transient investors, i.e., those that exhibit high diversification, high turnover, and react strongly to current earning news	Bushee (1998)
WRcov	% portfolio holdings for which WR can be computed in the respective quarter	Author
α	Abnormal return, computed as the intercept of a Fama-French 3 factor (FF-3) regression, using rolling exposures to the factor portfolios from the previous 12 quarters (Winsorized at 1%)	Fama and French (1996)
β_{CMA}	Exposure to the FF-5 conservative-minus-aggressive portfolio, computed using a rolling 12 quarters window (Winsorized at 1%)	Fama and French (2015)
β_{HML}	Exposure to the FF-3 high-minus-low portfolio, computed using a rolling 12 quarters window (Winsorized at 1%)	Fama and French (1996)
β_{MKT}	Exposure to the FF-3 market portfolio, computed using a rolling 12 quarters window (Winsorized at 1%)	Fama and French (1996)
β_{RMW}	Exposure to the FF-3 robust-minus-weak portfolio, computed using a rolling 12 quarters window (Winsorized at 1%)	Fama and French (2015)
β_{SMB}	Exposure to the FF-3 small-minus-big portfolio, computed using a rolling 12 quarters window (Winsorized at 1%)	Fama and French (1996)
σ_{PWR}	Time series volatility of quarterly PWR, for the period a given investor is in the dataset	Author

(continued)

Table 1: Variable definitions (ctd.)

Panel B: Firm level variables		
CashETR	Long-term effective cash tax rate, that captures the average cah taxes paid per dollar of pre-tax earnings over five years, as described in Dyreng et al. (2008)	Compustat
DQ	Disaggregation quality of financial statements, which captures the level of detail with which anual reports are presemted, as described in Chen et al. (2015)	Compustat
DTAX	Discretionary permanent tax differences, which capture the residual after estimating the permanent book-tax differences, as described in Frank et al. (2009)	Compustat
EM	Earnings management proxy, computed as the average industry-year ranking of discretionary accruals using the following models for estimated total accruals: Dechow et al. (1995), Jones (1991), and Kothari et al. (2005)	Compustat
highVIX	Indicator for quarters when the mean VIX index lies above the 90th percentile	FRED
just beat	Indicator for beating quarterly median analyst forecasts by no more than 1 USD cent, computed according to Bhojraj et al. (2009)	I/B/E/S
$\text{Sent}^{\perp}$	Quarterly average of orthogonalized market sentiment, as described in Baker and Wurgler (2006)	Baker and Wurgler (2006)
#tax havens	Indicator for above industry-average number of subsidiaries in tax haven countries, scaled by the logarithm of firms' assets	Dyreng and Lindsey (2009)
⌀VIX	Quarterly average of the CBOE Volatility Index (VIX)	FRED

(continued)

Table 1: Variable definitions (ctd.)

WR	Exploited regulatory "*wiggle room*" (WR), computed as the average industry-year percentile rankings of: earnings management (EM), *minus* disaggregation quality of financial statements (DQ), long-term effective cash tax rate (CashETR), and discretionary permanent tax differences (DTAX), together with an indicator for above industry-average number of subsidiaries in tax haven countries (scaled by firm size), and an indicator for beating median analyst forecasts by no more than 1 USD cent (beat)	Author
#WRcomp	Number of proxies that are available for the computation of WR for a given fiscal year	Author

Table 2: Firm-level summary statistics
The table provides descriptive statistics for firm-level WR and for the proxies used for its computation, displayed in absolute terms (instead of percentile rankings). The sample spans from 1995 to 2017 and covers all firms in the Compustat - I/B/E/S universe. All variables are described in Table 1.

	Obs	mean	p25	p50	p75	sd	min	max
CashETR	59183	0.26	0.15	0.26	0.35	0.16	0.00	1.00
DQ	129194	0.70	0.62	0.71	0.78	0.11	0.10	0.97
DTAX	43029	0.14	-0.05	0.01	0.15	3.57	-187.06	251.89
EM	116804	0.47	0.30	0.44	0.63	0.22	0.01	1.00
just beat	93346	0.08	0.00	0.00	0.00	0.28	0.00	1.00
#tax havens	90478	1.57	0.00	0.00	1.07	5.23	-188.47	200.18
WR	130074	0.38	0.27	0.37	0.48	0.16	0.00	1.00
#WRcomp	130555	4.06	3.00	4.00	5.00	1.16	0.00	6.00

Table 3: Investor-level summary statistics
The table provides descriptive statistics for all variables of interest on the institutional investor portfolio level. Performance variables have been winsorized at the 1% level. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

	Obs	mean	p25	p50	p75	sd	min	max
Duration	206242	5.95	3.20	5.47	8.22	3.37	0.07	20.00
Idiosyncratic risk	200239	0.03	0.01	0.02	0.03	0.02	0.00	0.14
ln(Assets)	206676	6.27	5.07	5.96	7.27	1.77	-5.18	15.55
ln(#Stocks)	206678	4.60	3.81	4.55	5.38	1.37	0.69	8.80
MA	201742	0.10	0.04	0.11	0.16	0.09	-0.30	0.63
PWR	206678	0.43	0.40	0.43	0.46	0.05	0.00	0.92
#qtrs in sample	206678	54.59	32.00	55.00	80.00	26.25	8.00	91.00
Ret (qtr, %)	206678	2.05	-2.15	2.87	7.07	9.56	-27.92	28.33
Return volatility	206678	0.10	0.07	0.09	0.11	0.04	0.01	0.93
Spec	206678	0.02	0.00	0.00	0.00	0.15	0.00	1.00
TO	205204	0.13	0.03	0.08	0.17	0.13	0.00	1.18
WRcov (%)	206678	0.90	0.91	0.98	1.00	0.19	0.00	1.00
α	162220	0.00	-0.01	0.00	0.01	0.02	-0.06	0.08
β_{HML}	162220	0.04	-0.15	0.03	0.24	0.46	-1.59	1.61
β_{MKT}	162220	0.99	0.85	0.97	1.11	0.32	0.00	2.26
β_{SMB}	162220	0.17	-0.13	0.06	0.37	0.54	-1.14	2.49
σ_{PWR}	206678	0.15	0.14	0.15	0.16	0.02	0.00	0.58

Table 4: Investor horizon and turnover
The table provides results of regressions of PWR on investor horizon and turnover (TO). Short- and long-term are defined as the first and fourth quartile of the portfolio duration distribution. Low and high TO are defined as the first and last quartile of TO distribution. The base category consists of the respectively remaining investors. All regressions control for investor characteristics, time (quarter) fixed effects, and exposure to FF-3 factor portfolios. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

	Investment horizon			Turnover		
	(1)	(2)	(3)	(4)	(5)	(6)
short-term	-0.007***	-0.007***	-0.003**			
	(-5.71)	(-5.65)	(-3.11)			
long-term	0.008***	0.008***	0.005**			
	(4.72)	(4.50)	(2.98)			
low TO				0.006***	0.006***	0.003*
				(4.04)	(3.90)	(2.51)
high TO				-0.008***	-0.008***	-0.005***
				(-7.11)	(-7.09)	(-4.87)
σ_{PWR}		0.066	0.081		0.056	0.073
		(0.91)	(1.65)		(0.69)	(1.44)
MA			0.153***			0.152***
			(8.93)			(8.93)
β_{HML}	-0.007***	-0.007***	-0.001	-0.007***	-0.007***	-0.001
	(-5.08)	(-4.92)	(-1.00)	(-5.00)	(-4.83)	(-1.02)
β_{MKT}	-0.007***	-0.006**	-0.003	-0.007***	-0.006**	-0.003
	(-3.32)	(-3.21)	(-1.65)	(-3.44)	(-3.25)	(-1.72)
β_{SMB}	-0.019***	-0.019***	-0.012***	-0.020***	-0.020***	-0.013***
	(-11.97)	(-12.99)	(-10.88)	(-12.08)	(-12.49)	(-10.63)
Constant	0.436***	0.425***	0.405***	0.436***	0.427***	0.406***
	(97.45)	(34.47)	(40.81)	(92.21)	(31.67)	(38.88)
Observations	168901	167319	163124	162390	161295	157267
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 5: Investor legal type and strategy

The table provides results of regressions of PWR on investor legal type and strategy, as provided in Bushee (1998). The base categories are miscellaneous investors respectively quasi-indexers. All regressions control for investor characteristics, time (quarter) fixed effects, and exposure to FF-3 factor portfolios. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

	Lagal type			Strategy		
	(1)	(2)	(3)	(4)	(5)	(6)
Bank	0.010***	0.010***	0.004			
	(3.44)	(3.41)	(1.56)			
Corp. pension	0.000	0.004	0.000			
	(0.01)	(0.76)	(0.10)			
Invst. advisor	-0.001	-0.002	-0.001			
	(-0.66)	(-0.75)	(-0.54)			
Insurance	0.004	0.003	0.001			
	(0.90)	(0.78)	(0.38)			
Public pension	0.006	0.005	0.003			
	(1.90)	(1.79)	(1.18)			
Endowments	0.005	0.001	-0.003			
	(0.56)	(0.08)	(-0.47)			
DED				-0.028***	-0.028***	-0.023***
				(-7.14)	(-7.20)	(-5.67)
TRA				-0.009***	-0.009***	-0.005**
				(-5.19)	(-5.12)	(-3.14)
σ_{PWR}		0.080	0.088		0.055	0.073
		(1.12)	(1.85)		(0.72)	(1.38)
MA			0.158***			0.153***
			(9.29)			(8.81)
β_{HML}	-0.007***	-0.007***	-0.002	-0.007***	-0.007***	-0.001
	(-5.17)	(-5.06)	(-1.08)	(-5.02)	(-4.94)	(-1.00)
β_{MKT}	-0.008***	-0.008***	-0.004*	-0.008***	-0.007***	-0.004*
	(-4.14)	(-3.89)	(-2.21)	(-4.00)	(-3.64)	(-2.00)
β_{SMB}	-0.020***	-0.021***	-0.013***	-0.019***	-0.020***	-0.012***
	(-12.22)	(-12.81)	(-10.41)	(-11.42)	(-12.00)	(-10.04)
Constant	0.440***	0.428***	0.406***	0.443***	0.434***	0.410***
	(93.58)	(34.86)	(40.84)	(87.93)	(32.23)	(36.55)
Observations	167377	166145	162390	164728	163756	160258
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 6: Changes in PWR following financial adviser misconduct

The table depicts the average treatment effect that employing an adviser who discloses misconduct has on PWR. The outcome variable in models (1) to (3) is the total change in quarterly PWR for the year of treatment. Outcome variables in models (4) to (6) are the total changes in quarterly PWR occurring respectively the year before, the year after, and two years after treatment. Treatment "Any" considers any type of misconduct disclsoed during a given year; "Criminal" considers only disclosures that contain criminal charges; "Fired" considers only disclosures that lead to the firing of the adviser. Data on financial adviser misconduct is described in Egan et al. (2018a,b). The control group is estimated via nearest neighbor propensity score matching using year dummies and the following investor characteristics, measured on the last available quarter before treatment: #Adivers, β_{HML}, β_{MKT}, β_{SMB}, Duration, ∅Exam_63, ∅Exam_65, ∅Exam_66, ∅Experience, Fired_past, ln(Assets), ln(# Stocks), Loss, and TO. Robust standard errors are computed according to Abadie and Imbens (2006, 2016), and z-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 2007 to 2015 and covers all institutional investors for which a match with FINRA's BrokerCheck can be established. All variables are described in Table 1.

Dependent variable (%):	ΔPWR$_T$			ΔPWR$_{T-1}$	ΔPWR$_{T+1}$	ΔPWR$_{T+2}$
	(1)	(2)	(3)	(4)	(5)	(6)
Type of Financial misconduct:						
Any	-1.562					
	(-1.62)					
Criminal		-1.172***				
		(-8.32)				
Fired			-4.637***	-0.261	-2.742***	-1.947
			(-4.64)	(-0.36)	(-4.58)	(-1.26)
Observations	6035	5067	6057	6047	4844	3728
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Drivers of changes in PWR following financial adviser misconduct

The table depicts the average treatment effect that employing an adviser who discloses misconduct has on the PWR of the investor's trades. The outcome variable in column (1) is the total change in PWR for the year of treatment. For columns (2) to (5) the PWR of the portfolio of traded stocks during each quarter is computed by considering respectively only buys, initiating buys, sells, and exited stocks. The outcome variables are the total yearly differences between the PWR of the stocks traded and the PWR of the stocks held during a quarter. Column (6) reports the total % change in WR for the firms the investor holds at the end of the quarter. Treatment is defined as disclosures that lead to the firing of the adviser. Data on financial adviser misconduct is described in Egan et al. (2018a,b). The control group is estimated via nearest neighbor propensity score matching using year dummies and the following investor characteristics, measured on the last available quarter before treatment: #Adivers, β_{HML}, β_{MKT}, β_{SMB}, Duration, ∅Exam_63, ∅Exam_65, ∅Exam_66, ∅Experience, Fired_past, ln(Assets), ln(# Stocks), Loss, and TO. Robust standard errors are computed according to Abadie and Imbens (2006, 2016), and z-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 2007 to 2015 and covers all institutional investors for which a match with FINRA's BrokerCheck can be established. All variables are described in Table 1.

Drivers of ΔPWR_T (%):	Initial effect	Buys		Sells		ΔWR
	(1) ΔPWR_T	(2) $\Delta\text{PWR}_T^{buys}$	(3) $\Delta\text{PWR}_T^{init}$	(4) $\Delta\text{PWR}_T^{sells}$	(5) $\Delta\text{PWR}_T^{exit}$	(6) $\Delta\text{PWR}_T^{noTrade}$
Type of financial misconduct:						
Fired	-4.637***	-2.758***	0.578	-6.394	0.479***	-4.262**
	(-4.64)	(-4.91)	(0.82)	(-1.49)	(3.56)	(-3.11)
Observations	6057	6055	6055	6055	6055	6055
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: Excess returns and portfolio alphas

The table provides results of regressions of abnormal performance measures on PWR. The first three models are regressions of quarterly excess returns on PWR, controlling for exposure to the FF-3 portfolios. The last three are regressions of portfolio alphas on PWR. All regressions control for investor characteristics, and time (quarter) fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

Dependent variable:	Excess returns			α		
	(1)	(2)	(3)	(4)	(5)	(6)
PWR	-0.026	-0.026	-0.027	-0.020***	-0.021***	-0.021***
	(-0.40)	(-0.38)	(-0.39)	(-3.83)	(-3.57)	(-3.66)
β_{HML}	-0.003	-0.002	-0.002			
	(-0.37)	(-0.32)	(-0.33)			
β_{MKT}	-0.002	-0.003	-0.003			
	(-0.23)	(-0.28)	(-0.28)			
β_{SMB}	0.003	0.002	0.002			
	(0.56)	(0.44)	(0.55)			
Constant	0.027	0.027	0.028	0.009	0.008	0.009
	(0.48)	(0.45)	(0.44)	(1.72)	(1.39)	(1.64)
Observations	158047	156981	157015	163446	156981	162390
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Horizon and TO	No	Yes	No	No	Yes	No
Strategy	No	No	Yes	No	No	Yes

Table 9: Exposure to idiosyncratic risk

The table provides results of regressions of exposure to idiosyncratic risk on PWR after controlling for exposure to the FF-3 portfolios. All regressions control for investor characteristics, and time (quarter) fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

Dependent variable:	Idiosyncratic risk				
	(1)	(2)	(3)	(4)	(5)
PWR	-0.071***	-0.080***	-0.058***	-0.055***	-0.049***
	(-8.75)	(-9.29)	(-6.90)	(-6.41)	(-6.20)
σ_{PWR}		-0.022	-0.027*	-0.024	-0.022
		(-1.87)	(-2.23)	(-1.92)	(-1.94)
MA			-0.049***	-0.043***	-0.040***
			(-15.32)	(-13.66)	(-12.47)
Constant	0.092***	0.099***	0.094***	0.084***	0.084***
	(15.35)	(14.43)	(13.87)	(11.59)	(13.67)
Observations	214324	211703	207022	194200	183913
Controls	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes
Horizon and TO	No	No	No	Yes	No
Strategy	No	No	No	No	Yes

Table 10: Portfolio performance and risk measures - Individual WR proxies
The table provides results of regressions of abnormal performance measures and exposures to idiosyncratic risk on the individual proxies for regulatory wiggle room exploitation. These are first computed on the firm level, where I assign percentile rankings within a given industry-year. Second, they are brought to a quarterly portfolio level through the weighted average across an investor's holdings. The dependent variables for models (1) and (2) are quarterly excess returns, for (3) and (4) portfolio alphas, and for (5) and (6) exposure to idiosyncratic risk. All regressions control for investor characteristics, and time (quarter) fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

Dependent variable:	Excess returns		α		Idiosyncratic risk	
	(1)	(2)	(3)	(4)	(5)	(6)
CashETR	-0.009	-0.009	0.007*	0.007*	0.016***	0.018***
	(-0.21)	(-0.21)	(2.34)	(2.17)	(4.64)	(5.67)
DQ	-0.005	-0.006	-0.004	-0.003	-0.013***	-0.013***
	(-0.11)	(-0.12)	(-1.26)	(-1.02)	(-3.46)	(-3.71)
DTAX	-0.003	-0.003	0.003	0.003	0.003	0.004
	(-0.07)	(-0.06)	(1.50)	(1.24)	(1.31)	(1.68)
EM	-0.011	-0.009	-0.005	-0.005	0.049***	0.046***
	(-0.16)	(-0.14)	(-1.31)	(-1.13)	(11.69)	(12.18)
just beat	-0.016	-0.016	-0.004	-0.004	-0.020***	-0.018***
	(-0.19)	(-0.20)	(-0.95)	(-1.05)	(-5.47)	(-5.75)
#tax havens	-0.004	-0.005	-0.003*	-0.004*	-0.017***	-0.015***
	(-0.36)	(-0.41)	(-2.28)	(-2.46)	(-5.68)	(-5.85)
Constant	0.034	0.035	0.002	0.004	0.046***	0.048***
	(0.44)	(0.44)	(0.56)	(0.90)	(7.51)	(9.52)
Observations	134980	135369	134980	140575	168731	175786
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Horizon and TO	Yes	No	Yes	No	Yes	No
Strategy	No	Yes	No	Yes	No	Yes

Table 11: Market sentiment and uncertainty
The table provides results of regressions of quarterly PWR on the average orthogonalized market sentiment and VIX during the current quarter. Sentiment is interacted with dummy variables that identify investors by investment horizon through average portfolio duration, trading intensity through quarterly prtfolio turnover (TO), and general investment strategy from Bushee (1998). All regressions control for the volatility of PWR, portfolio MA, exposure to FF-3 factor portfolios, investor characteristics, and seasonality via quarter-of-year fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

	Sentiment$^{\perp}$			VIX		
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Sent}_t^{\perp}$	0.009***	0.009***	0.009**			
	(5.16)	(4.39)	(3.19)			
$\varnothing\text{VIX}_t$				0.003***	0.003***	0.003***
				(4.65)	(4.63)	(4.62)
$\varnothing\text{VIX}_t^2$				-0.000***	-0.000***	-0.000***
				(-4.44)	(-4.42)	(-4.42)
short-term $\times$ $\text{Sent}_t^{\perp}$	-0.005***					
	(-3.88)					
long-term $\times$ $\text{Sent}_t^{\perp}$	0.000					
	(0.35)					
low TO $\times$ $\text{Sent}_t^{\perp}$		0.002				
		(1.67)				
high TO $\times$ $\text{Sent}_t^{\perp}$		-0.003**				
		(-2.83)				
DED $\times$ $\text{Sent}_t^{\perp}$			0.001			
			(0.23)			
TRA $\times$ $\text{Sent}_t^{\perp}$			0.001			
			(0.37)			
Constant	0.373***	0.373***	0.374***	0.322***	0.320***	0.322***
	(55.75)	(55.77)	(54.24)	(32.09)	(31.38)	(30.00)
Observations	133452	133452	138162	163446	156981	160258
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Qtr-of-yr FE	Yes	Yes	Yes	Yes	Yes	Yes
Horizon and TO	Yes	Yes	No	No	Yes	No
Strategy	No	No	Yes	No	No	Yes

Appendix

Figure A1: Number of disclosed misconduct cases by year
The figure depicts the distribution of the various misconduct types over time. #Advis employed depicts the total number of financial advisers that were employed by the institutional investors in the sample during a given year; Any depicts the % of advisers that disclosed misconduct cases during a given year; Criminal depicts the % of advisers that disclosed criminal misconduct cases; Fired depicts the % of advisers that disclosed misconduct cases that lead to the firing of the adviser. Data on financial adviser misconduct is described in Egan et al. (2018a,b). The sample spans from 2007 to 2015 and covers all institutional investors for which a match with FINRA's BrokerCheck can be established. All variables are described in Table 1.

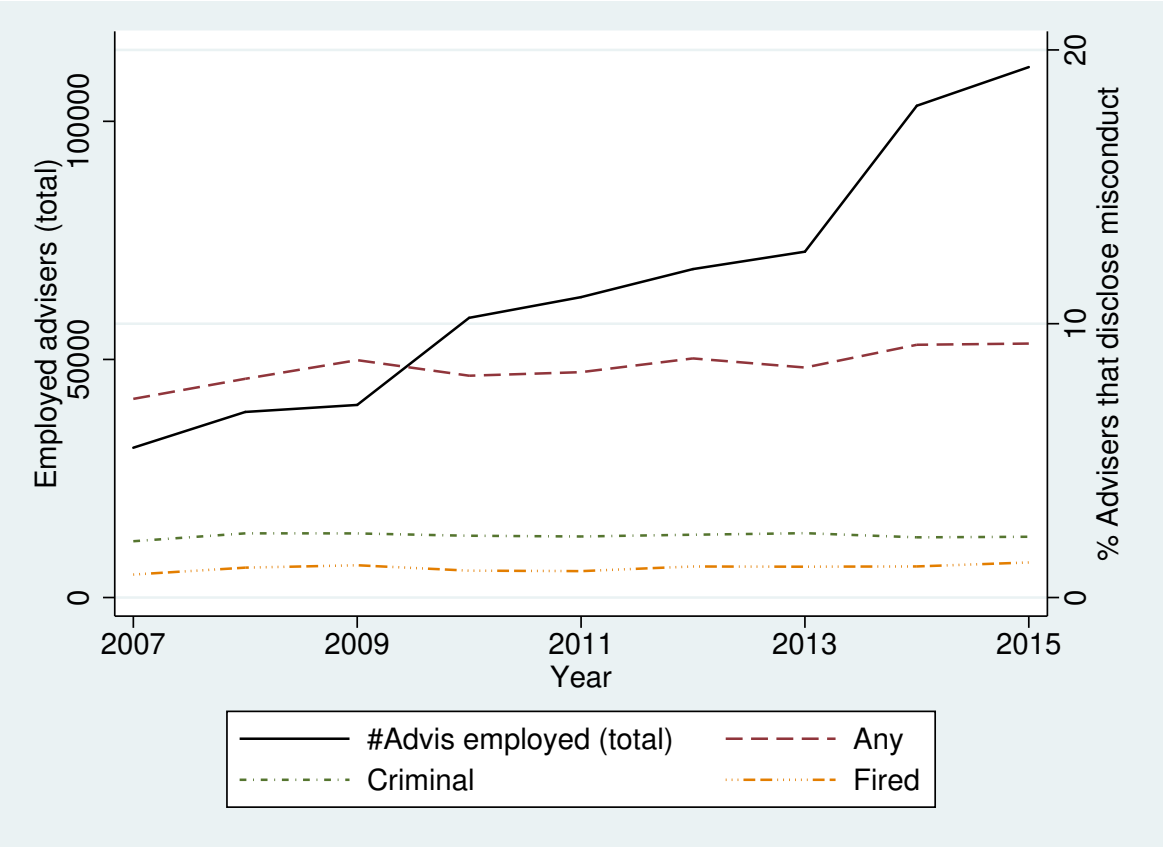


Table A1: Correlation of individual WR components

The table provides correlations between the industry-year rankings of yearly exploitation measures computed on a firm level. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995 to 2017 and covers all firms in the Compustat - I/B/E/S universe. All variables are described in Table 1.

	WR	CashETR	DQ	DTAX	EM	just beat	#tax havens
WR	1.00						
CashETR	0.47***	1.00					
DQ	0.51***	0.04***	1.00				
DTAX	0.45***	0.04***	0.01	1.00			
EM	0.38***	0.02***	-0.01**	-0.06***	1.00		
just beat	0.43***	0.02***	-0.04***	0.00	-0.02***	1.00	
#tax havens	0.63***	0.00	0.09***	0.03***	-0.08***	0.01***	1.00

Table A2: Investor-level summary statistics - Matched and full samples
The table compares descriptive statistics for all variables of interest between the matched Thomson 13F - FINRA BrokerCheck sample and the full 13F sample. Performance variables have been winsorized at the 1% level. The sample spans from 2007Q1 to 2015Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

	Matched sample				Full sample			
	Obs	mean	p50	sd	Obs	mean	p50	sd
Duration	40719	6.68	6.43	3.20	96374	6.00	5.48	3.42
Idiosyncratic risk	40514	0.02	0.02	0.02	94817	0.03	0.02	0.02
ln(Assets)	40763	6.15	5.80	1.62	96584	6.23	5.91	1.79
ln(#Stocks)	40763	4.70	4.63	1.06	96585	4.51	4.47	1.40
MA	40663	0.10	0.11	0.08	95802	0.09	0.10	0.09
PWR	40763	0.43	0.43	0.04	96585	0.42	0.42	0.05
#qtrs in sample	40763	29.89	34.00	7.98	96585	28.69	34.00	8.53
Ret (qtr, %)	40763	1.46	2.41	9.36	96585	1.50	2.46	10.22
Return volatility	40763	0.09	0.09	0.03	96585	0.10	0.10	0.04
Spec	40763	0.01	0.00	0.10	96585	0.03	0.00	0.16
TO	40712	0.10	0.06	0.10	95841	0.13	0.08	0.14
WRcov (%)	40763	0.86	0.97	0.24	96585	0.89	0.98	0.21
α	33863	0.00	0.00	0.01	77152	0.00	0.00	0.02
β_{HML}	33863	0.01	0.01	0.36	77152	0.01	0.01	0.44
β_{MKT}	33863	0.97	0.97	0.25	77152	1.01	0.98	0.31
β_{SMB}	33863	0.13	0.05	0.48	77152	0.20	0.08	0.59
σ_{PWR}	40763	0.15	0.15	0.02	96585	0.15	0.15	0.02

Table A3: Predicting assignment to treatment

The table provides results of logit regressions of a treatment indicator on investor characteristics. Treatment "Any" considers any type of misconduct disclsoed during a given year; "Criminal" considers only disclosures that contain criminal charges; "Fired" considers only disclosures that lead to the firing of the adviser. Data on financial adviser misconduct is described in Egan et al. (2018a,b). Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 2007 to 2015 and covers all institutional investors for which a match with FINRA's BrokerCheck can be established. All variables are described in Table 1.

	Type of treatment:					
	(1) Any		(2) Criminal		(3) Fired	
#Advisers	0.014***	(5.24)	0.003***	(4.33)	0.005***	(9.94)
β_{HML}	0.231	(0.52)	0.722	(0.33)	-0.271	(-0.65)
β_{MKT}	-0.896*	(-2.07)	-2.263	(-1.30)	-0.084	(-0.11)
β_{SMB}	-0.049	(-0.15)	-0.002	(-0.00)	-0.901*	(-2.39)
Duration	-0.081	(-1.05)	0.005	(0.04)	-0.025	(-0.40)
∅Exam_63	1.065***	(3.47)	0.945*	(2.03)	0.788	(1.59)
∅Exam_65	0.855	(1.82)	0.720	(1.16)	0.939*	(2.03)
∅Exam_66	2.243***	(4.81)	3.056***	(4.99)	2.625***	(4.31)
∅Experience	-0.015	(-0.53)	-0.050	(-0.56)	-0.038	(-0.99)
Fired_past	9.426***	(6.01)	11.786***	(5.41)	9.574***	(6.31)
ln(Assets)	-0.445***	(-8.08)	-0.337	(-1.29)	-0.292*	(-2.15)
Loss	0.574	(1.37)	-0.823	(-0.83)	0.205	(0.17)
TO	-1.503	(-1.24)	-1.418	(-0.24)	-0.003	(-0.00)
ln(#Stocks)	0.465**	(2.61)	1.155*	(2.56)	0.788**	(2.76)
Constant	-4.167***	(-4.09)	-9.314***	(-3.49)	-8.209***	(-4.65)
Observations	6035		5067		6057	
Year dummies	Yes		Yes		Yes	

Table A4: Balancing of treatment and control group

The table provides mean comparison for the treated and control groups obtained by the propensity score matching. Treatment "Any" considers any type of misconduct disclsoed during a given year; "Fired" considers only disclosures that lead to the termination of the employment contract between the adviser and her employer. Data on financial adviser misconduct is described in Egan et al. (2018a,b). The control group is estimated via nearest neighbor propensity score matching using year dummies and the following investor characteristics, measured on the last available quarter before treatment: #Adivers, β_{HML}, β_{MKT}, β_{SMB}, Duration, ∅Exam_63, ∅Exam_65, ∅Exam_66, ∅Experience, Fired_past, ln(Assets), ln(# Stocks), Loss, and TO. Standard errors are multi-way clustered along year and investor. The sample spans from 2007 to 2015 and covers all institutional investors for which a match with FINRA's BrokerCheck can be established. All variables are described in Table 1.

	Type of treatment:					
	Any			Fired		
	Treatment	Control	(t stat)	Treatment	Control	(t stat)
#Advisers	258.23	255.07	(0.10)	530.01	521.57	(0.09)
β_{HML}	0.03	0.06	(-1.20)	0.03	0.06	(-0.82)
β_{MKT}	0.92	0.94	(-0.85)	0.90	0.91	(-0.20)
β_{SMB}	0.04	0.02	(0.64)	0.02	-0.01	(0.65)
Duration	6.74	7.02	(-1.10)	6.76	6.81	(-0.14)
∅Exam_63	0.62	0.54	(3.22)	0.66	0.66	(-0.19)
∅Exam_65	0.51	0.57	(-2.26)	0.50	0.46	(1.10)
∅Exam_66	0.36	0.33	(0.87)	0.38	0.43	(-1.13)
∅Experience	6.91	6.34	(1.77)	6.94	6.41	(1.27)
Fired_past	0.01	0.01	(-0.39)	0.02	0.01	(1.41)
ln(Assets)	7.08	7.85	(-2.82)	7.25	7.41	(-0.58)
Loss	0.26	0.23	(0.65)	0.19	0.28	(-1.35)
TO	0.09	0.08	(1.08)	0.09	0.09	(-0.14)
ln(#Stocks)	5.87	5.78	(0.64)	6.16	6.17	(-0.03)
Observations	160	5875		75	5982	
Year Dummies	Yes	Yes		Yes	Yes	

Table A5: Excess returns and portfolio alphas

The table provides results of regressions of excess performance measures on PWR. The first three models are regressions of quarterly excess returns on PWR, controlling for exposure to the FF-5 portfolios. The last three are regressions of portfolio alphas on PWR. All regressions control for investor characteristics, and time (quarter) fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

Dependent variable:	Excess returns			α		
	(1)	(2)	(3)	(4)	(5)	(6)
PWR	-0.023	-0.023	-0.024	-0.025***	-0.023**	-0.023**
	(-0.35)	(-0.33)	(-0.34)	(-3.41)	(-3.10)	(-3.14)
σ_{PWR}	-0.013	-0.019	-0.015	-0.022	-0.017	-0.019
	(-0.10)	(-0.13)	(-0.11)	(-1.58)	(-1.15)	(-1.35)
MA	0.001	0.003	0.001	-0.005	-0.003	-0.004
	(0.03)	(0.08)	(0.02)	(-1.51)	(-0.97)	(-1.29)
β_{CMA}	0.001	0.001	0.001			
	(0.16)	(0.16)	(0.18)			
β_{HML}	-0.002	-0.002	-0.001			
	(-0.27)	(-0.25)	(-0.23)			
β_{MKT}	-0.001	-0.001	-0.001			
	(-0.11)	(-0.17)	(-0.16)			
β_{RMW}	-0.002	-0.002	-0.002			
	(-0.69)	(-0.64)	(-0.70)			
β_{SMB}	0.003	0.003	0.003			
	(0.92)	(0.84)	(0.96)			
Constant	0.024	0.024	0.024	0.021**	0.017*	0.018*
	(0.43)	(0.39)	(0.39)	(2.61)	(2.08)	(2.31)
Observations	158047	156981	157015	163446	156981	162390
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Horizon and TO	No	Yes	No	No	Yes	No
Strategy	No	No	Yes	No	No	Yes

Table A6: Exposure to idiosyncratic risk

The table provides results of regressions of exposure to idiosyncratic risk on PWR after controlling for exposure to the FF-5 portfolios. All regressions control for investor characteristics, and time (quarter) fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

Dependent variable:	Idiosyncratic risk				
	(1)	(2)	(3)	(4)	(5)
PWR	-0.057***	-0.064***	-0.045***	-0.043***	-0.039***
	(-9.04)	(-9.53)	(-6.91)	(-6.48)	(-6.36)
σ_{PWR}		-0.015	-0.020*	-0.017	-0.015
		(-1.62)	(-2.12)	(-1.76)	(-1.67)
MA			-0.041***	-0.036***	-0.034***
			(-16.37)	(-14.58)	(-13.35)
Constant	0.074***	0.079***	0.075***	0.067***	0.067***
	(17.51)	(16.38)	(15.76)	(13.26)	(14.72)
Observations	214324	211703	207022	194200	183913
Controls	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes
Horizon and TO	No	No	No	Yes	No
Strategy	No	No	No	No	Yes

Table A7: Portfolio performance and risk measures - Individual WR proxies
The table provides results of regressions of exposure to idiosyncratic risk after controlling for the FF-5 factors on the individual proxies for regulatory wiggle room exploitation. These are first computed on the firm level, where I assign percentile rankings within a given industry-year. Second, they are brought to a quarterly portfolio level through the weighted average across an investor's holdings. The dependent variables for models (1) and (2) are quarterly excess returns, for (3) and (4) portfolio alphas, and for (5) and (6) exposure to idiosyncratic risk. All regressions control for investor characteristics, and time (quarter) fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

Dependent variable:	Excess returns		α		Idiosyncratic risk	
	(1)	(2)	(3)	(4)	(5)	(6)
CashETR	-0.008	-0.008	0.009*	0.008*	0.012***	0.013***
	(-0.18)	(-0.18)	(2.44)	(2.26)	(4.37)	(5.41)
DQ	-0.004	-0.005	-0.010*	-0.010*	-0.008**	-0.008**
	(-0.08)	(-0.10)	(-2.35)	(-2.41)	(-2.75)	(-2.88)
DTAX	-0.003	-0.003	0.002	0.002	0.002	0.003
	(-0.06)	(-0.06)	(0.76)	(0.75)	(1.08)	(1.43)
EM	-0.014	-0.012	0.012*	0.013*	0.037***	0.034***
	(-0.22)	(-0.20)	(2.10)	(2.47)	(11.50)	(11.69)
just beat	-0.015	-0.015	-0.003	-0.004	-0.016***	-0.015***
	(-0.18)	(-0.19)	(-0.75)	(-1.02)	(-5.43)	(-5.69)
#tax havens	-0.003	-0.004	-0.002	-0.003	-0.014***	-0.012***
	(-0.25)	(-0.30)	(-1.61)	(-1.70)	(-5.82)	(-5.91)
Constant	0.030	0.031	0.008	0.009	0.037***	0.038***
	(0.39)	(0.39)	(1.73)	(1.81)	(8.10)	(9.76)
Observations	134980	135369	134980	140575	168731	175786
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Horizon and TO	Yes	No	Yes	No	Yes	No
Strategy	No	Yes	No	Yes	No	Yes

Table A8: Lagged market sentiment and uncertainty
The table provides results of regressions of quarterly PWR on the average orthogonlaized market sentiment and VIX during the previous quarter. Sentiment is interacted with dummy variables that identify investors by investment horizon through average portfolio duration, trading intensity through quarterly prtfolio turnover (TO), and general investment strategy from Bushee (1998). All regressions control for the volatility of PWR, portfolio MA, exposure to FF-3 factor portfolios, investor characteristics, and seasonality via quarter-of-year fixed effects. Standard errors are multi-way clustered along quarter and investor, and t-statistics are presented in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. The sample spans from 1995Q1 to 2017Q4, and covers all quarterly portfolio holdings of institutional investors for which a minimum of 8 observations are available. All variables are described in Table 1.

	Sentiment$^{\perp}$ (lagged)			VIX (lagged)		
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Sent}^{\perp}_{t-1}$	0.008***	0.008***	0.008**			
	(4.90)	(4.17)	(2.89)			
$\varnothing\text{VIX}_{t-1}$				0.003***	0.003***	0.003***
				(4.75)	(4.74)	(4.73)
$\varnothing\text{VIX}^2_{t-1}$				-0.000***	-0.000***	-0.000***
				(-4.72)	(-4.67)	(-4.69)
short-term $\times$ $\text{Sent}^{\perp}_{t-1}$	-0.005***					
	(-3.97)					
long-term $\times$ $\text{Sent}^{\perp}_{t-1}$	0.001					
	(0.78)					
low TO $\times$ $\text{Sent}^{\perp}_{t-1}$		0.003*				
		(2.34)				
high TO $\times$ $\text{Sent}^{\perp}_{t-1}$		-0.003**				
		(-2.99)				
DED $\times$ $\text{Sent}^{\perp}_{t-1}$			0.001			
			(0.13)			
TRA $\times$ $\text{Sent}^{\perp}_{t-1}$			0.001			
			(0.76)			
Constant	0.374***	0.374***	0.375***	0.323***	0.321***	0.324***
	(57.52)	(57.59)	(56.29)	(31.65)	(30.97)	(29.87)
Observations	132692	132692	137367	162649	156221	159463
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Qtr-of-yr FE	Yes	Yes	Yes	Yes	Yes	Yes
Horizon and TO	Yes	Yes	No	No	Yes	No
Strategy	No	No	Yes	No	No	Yes

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