Do asset pricing anomalies have a common link? An empirical analysis of interactions among failure risk proxies, external financing, and stock returns*

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ABSTRACT

Assuming that failure risk is the sole determinant of risk premiums, we develop and test a hypothesis that the following six asset pricing anomalies share a common link via a mispricing relationship involving operating profit and external financing: (1) The raw profitability anomaly; (2) The failure-risk anomaly; (3) post-earnings announcement drift; (4) The external financing anomaly; (5) The book-to-market anomaly; and (6) The accruals anomaly. Using average cross-sectional data on 314 portfolios U.S. firms (1980-2007) that are developed by sorting and cross-sorting on risk-proxy, cash flow, and past return variables, we find a common link among the first five anomalies, while evidence related to accruals is mixed. We are also able to find a general positive relationship between failure risk and future short- and long-term returns, but only after adjusting for this 'common link' source of mispricing. Stock price 'hyping' in advance of external financing issues is a plausible partial explanation for common link mispricing.

JEL classification: G12
Key words: Asset pricing; Anomalies; Risk proxies; Profit; External financing; Failure risk

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1. Introduction

Question: How many distinct pricing anomalies can fit in an equity database? Numerous asset pricing anomalies have been documented in the finance and accounting literature over several decades. One of the first was the size effect. Banz (1981) documented an inverse relationship between firm size and subsequent stock returns after adjusting for CAPM beta (Sharpe 1964, Lintner 1965). He concludes that the size effect constitutes "evidence that the capital asset pricing model is misspecified," and then states: "It is not known whether size *per se* is responsible for the effect or whether size is just a proxy for one or more true unknown factors correlated with size." (p. 3)

Since then, many such 'factors' have emerged, though none has supplanted firm size as Banz supposed. Indeed, firm size was found to be good proxy for failure risk (a.k.a. distress risk or bankruptcy risk). (See Chan and Chen (1988, 1991)). Basu (1983) found that stock returns are positively related to earnings-price ratios after adjusting for size and CAPM beta. Rosenberg, Reid, and Lanstein (1985) found that stock returns are positively related to book-to-market equity ratio (henceforth BM), while Bhandari (1988) documented a positive relationship between leverage and average return (see also Campbell, Hilscher, and Szilagyi (2008), pp. 2930-2931). Fama and French (1992) then provide evidence that size and BM absorb the power of earnings-price ratio and leverage to explain the cross-section of average stock returns and, in Fama and French (1993) proposed a three-factor asset pricing model that includes market beta, size, and BM. Fama and French (1995) and Chen and Zhang (1998) provide evidence that firm size and BM are related to measures of failure risk. Fama and French (1996, 1998) provide evidence indicating that some, though not all, anomalies disappear within their three-factor model.

However, Dichev (1998) finds a negative, rather than positive, relationship between ex ante failure risk (measured via Altman's (1968) Z-score and Ohlson's (1980) O-score) and future stock returns, even though "simple correlations reveal that bankruptcy risk is negatively related to firm size and positively related to book-to-market." (p. 1132) In addition, Griffin and Lemmon (2002) find that this *failure-risk anomaly* is especially related to BM, as low-BM firms with high failure risk have very low returns. Thus, they link the failure-risk anomaly with the *BM anomaly*, the latter referring to the argument and evidence that firms with low- (high-) BM are over- (under-) priced (Lakonishok, Shleifer, and Vishny (1994), La Porta (1996), La Porta et al. (1997), Ali, Huang, and Trombley (2003)). Using a different approach, Campbell, Hilscher, and Szilagyi (2008) also find a negative relationship between failure risk and stock returns. These studies raise serious questions about (a) whether failure risk is priced, and (b) whether BM is a measure of failure risk or mispricing (though, of course, it could measure both imperfectly). Moreover if BM is a measure of mispricing, and (as we propose) many anomalies have a common link, then the BM factor is an adjustment for general mispricing rather than risk, and we would have a very different interpretation of Fama and French's (1996, 1998) results that many anomalies disappear within their three-factor model.

Three additional anomalies directly related to a firm's profitability (i.e., in addition to the earnings-price anomaly, discussed above) have emerged over the years. The second, and most widely researched, is *post-earnings announcement drift (a.k.a. earnings momentum)*. Evidence abounds that abnormal returns following the announcement of earnings are positively related to the initial earnings announcement surprise (Ball and Brown (1968); Foster, Olsen, and Shevlin (1984); Bernard and Thomas (1989, 1990); Haugen and Baker (1996); Easterwood and Nutt (1999); Collins and Hribar (2000); Skinner and Sloan (2002); Cohen, Gompers, and Vuolteenaho (2002); and Ng, Rusticus, and Verdi (2008); Chan, Jegadeesh, and Lakonishok (1996); Chordia and Shivakumar (2006)). We defer discussion of the possible relationship between post-earnings announcement drift and other anomalies to Section 2.

The third, and least researched, profitability-related anomaly we call the *raw profitability anomaly*. Future stock returns are positively, rather than negatively, related to recent raw profitability (i.e., earnings). This anomaly is distinct, at least mechanically, from (a) the earnings-price anomaly because earnings are not scaled by price; and (b) post-earnings announcement drift because earnings are not adjusted for (a proxy for) market expectations of earnings. Haugen and Baker (1996) develop a model of expected returns that includes numerous market, accounting, and past return variables, and finds that, even after adjusting for all other variables, more profitable firms tend to have the greater expected returns. Moreover, when they sort firms into deciles by (ex ante) expected return: "As we move from decile 1 (low return) to decile 10 (high return), the stocks exhibit lower degrees of financial leverage, higher levels of interest coverage, lower market betas, lower volatility of total return, higher rates of earnings growth, and higher rates of profitability in all dimensions (profit margin, asset turnover, return on assets and equity, and on trailing rates of growth in earnings per share)." (p. 411) Fama and French (2006) find that, controlling for BM and expected investment, more profitable firms have higher expected returns. Fama and French (2008a) find "Among profitable firms, higher profitability tends to be associated with abnormally high returns, but there is little evidence that unprofitable firms have unusually low returns." (p. 1653)

It is easy to discern a potential link between the failure risk anomaly and the raw profitability anomaly. Assume that the ex ante failure risk measures used by Dichev (1998), Griffin and Lemmon (2002), and Campbell, Hilscher, and Szilagyi (2008) are largely determined by raw profitability where, of course, failure risk is inversely related to raw profitability. However, separate evidence (i.e., the raw profitability anomaly) indicates that average returns are *positively* related to raw profitability. Thus, the failure risk anomaly may be a manifestation of the raw profitability anomaly. Indeed, a conclusion that raw profitability is the culprit in the failure risk anomaly given that two other important variables that are commonly included in an ex ante failure risk measure, leverage and firm size, separately have been shown to exhibit (qualitatively) rational pricing behavior; that is, both failure risk and expected return increase with leverage, while both failure risk and expected return decrease with firm size.

The fourth profitability-related anomaly is the *accruals anomaly*. Actually, an early study of accruals by Bernard and Stober (1989) found no evidence that the information content of cash flow and accrual components of earnings differ systematically. In contrast, Sloan (1996) finds that stock returns (adjusted alternatively for firm size or market beta) are negatively related to accruals. Richardson, Sloan, Soliman, and Tuna (2005) focus on the reliability of accruals, and adjust stock returns using firm size. They find that: "…less reliable accruals lead to lower earnings persistence and that investors do not fully anticipate the lower earnings persistence, leading to significant security mispricing." (pp. 437-438). Their results suggest that firms can, and perhaps do, use accruals to temporarily manipulate their stock price. Finally, Fama and French (2008a) find that abnormal returns (adjusted for firm size and BM) associated with accruals are pervasive across firm size groups.

How does the accruals anomaly relate to the other anomalies? First, if abnormal returns are positively related to earnings (which are the sum of cash profit and accruals), but abnormal returns are negatively related to accruals, then abnormal returns must be particularly strongly positively related to cash profits. Second, we argued above that raw profitability is the likely culprit in the failure risk anomaly. But the accruals anomaly potentially tells us that the accruals component of profitability is not the culprit (in that higher accruals are associated with lower stock returns, which we would expect if failure risk is inversely related to accruals). Thus, the cash profit component of profitability is the likely culprit in the failure risk anomaly. Indeed, Sloan (1996) finds that investors appear to place "too small a weighting on cash flows." (p. 304)

The final anomaly that we consider is the *external financing anomaly*. Evidence indicates that stock price performance is poor following a seasoned equity offering (Loughran, and Ritter (1995, 1997), Spiess and Affleck-Graves (1995), Ritter (2003), Dechow, Hutton, and Sloan (2000), Jegadeesh (2000), Eberhart and Siddique (2002), Fama and French (2008a, 2008b)), and is superior following stock repurchases (Lakonishok and Vermaelen (1990), Ikenberry, Lakonishok, and Vermaelen (1995).

More recently, Richarsdon and Sloan (2003), Bradshaw, Richardson, and Sloan (2006) and Cohen and Lys (2006) find that future stock returns are negatively related to total external financing (i.e., the sum of equity and/or debt financing activity). Cohen and Lys also examine the relationship between the external financing anomaly and the accruals anomaly. They summarize their findings as follows: "We show that once controlling for total accruals, the relation between external financing activities and future stock returns is attenuated and not statistically significant." (p. 87) They conclude that their evidence is consistent with Richardson and Sloan (2003), who find that "…the negative relation between external financing and future stock returns is most consistent with a combination of over-investment and aggressive accounting." Cohen and Lys find a strong positive correlation between total external financing and accruals (0.346).

Both Richardson and Sloan (2003) and Cohen and Lys (2006) also find a strong negative correlation between total external financing and net income (-0.403 and -0.209, resp.), but neither elaborates on this result. In the present context, however, this result is important in relating the external financing anomaly to the other anomalies. First, note that if external financing is negatively related to net income, but positively related to accruals, then external financing must be especially strongly negatively related to cash profits. Indeed, our estimate of the latter correlation, documented later, is -0.57. Earlier, we argued that a positive relationship between cash profit and stock returns, combined with a negative relationship between cash profit and failure risk, links the raw profitability and failure risk anomalies. It is now clearly possible that the raw profitability anomaly, the failure risk anomaly, the accruals anomaly, and the external financing anomaly are all linked. For instance, a firm with a large negative cash flow, and therefore relatively high failure risk, may upwardly manipulate accruals in order to raise the firm's stock price in advance of external financing (which would be used, at least in part, to cover the operating loss). But if this proposed common link among these four anomalies is true, then the BM anomaly is also linked, because the firm's hyping of its stock price will cause it to exhibit a lower than normal BM. It is also not difficult to devise a converse example. A firm with large positive cash flow, and therefore relatively low failure risk, might downwardly manipulate its accruals to smooth income or to reduce taxes (e.g., Trueman and Titman (1988), Tucker and Zarowin (2006); Guenther (1994); Guenther et al. (1997)), and may also repurchase equity or debt if the result of the manipulation is that the firm's stock price is below fair value (and thus its BM is higher than normal).

In this paper, we conduct empirical tests of the *common link hypothesis* described above. Using panel data on U.S. nonfinancial, non-utility firms (1980-2007), we develop a total of 314 portfolios each year by sorting firms by individual risk-proxy, external financing, or past variables, or combinations of these variables. We then use a variety of techniques to examine relationships among these variables and (a) both short- and long-term portfolio failure rates and (b) past and future portfolio returns. The empirical results are consistent with the hypothesis. In brief, the evidence reveals a mispricing relationship involving operating profit and external financing. One of our final results is also novel and important: We are able to find a general positive relationship between failure risk and future short- and long-term returns, but only after adjusting for external financing, which in turn at least partially embeds the anomalous aspects of the relationships between cash profit, accruals, and BM with future returns.

The paper is organized as follows. In Section 2 we graphically illustrate and further discuss the hypothesis. Section 3 discusses the data and methodology that we use in our empirical analyses. In Section 4 we inspect the characteristics of, and returns on, the portfolios that we formulate for analysis. In Section 5 we present and discuss the results of more sophisticated statistical analyses of the portfolios, with the primary goal of separating rational risk pricing effects from mispricing effects. Section 6 summarizes.

2. Graphical illustration and further discussion of the common link hypothesis

In this section, we provide further discussion of the common link hypothesis described in Section 1, which links six asset pricing anomalies via a mispricing relationship between operating profit and external financing. The hypothesis requires two assumptions. First, we assume that the failure risk is the sole priced risk in the stock market. Second, we assume that arbitrage costs inhibit investors from correcting mispricing quickly; instead, mispricing will be corrected only over time, as additional value-relevant information spurs arbitragers to trade in the mispriced stocks if and when they become even more mispriced. Mispricing can be substantial enough to disturb, or even reverse, the rational relationship between a given failure-risk proxy variable and future stock returns.

The six asset pricing anomalies (APAs) are ordered and labeled as follows:

APA1: *Raw profitability anomaly.* Future stock returns are abnormally positively related to recent raw profit (and here, specifically operating profit).

APA2: *The failure-risk anomaly*. Future stock returns are abnormally negatively related to ex ante failure risk.

APA3: *Post-earnings announcement drift (PEAD; a.k.a. Earnings momentum)* Abnormal returns following the announcement of earnings are positively related to the initial earnings announcement surprise.

APA4: *The external financing anomaly*. Future stock returns are abnormally negatively related to prior external financing activity.

APA5: *The book-to-market anomaly*. Future stock returns are positively related to BM, but this relationship is due to mispricing rather than risk.

APA6: *The accruals anomaly*. Future stock returns are abnormally negatively related to accruals.

The various predictions of the common link hypothesis are illustrated in Figure 1. For this purpose, we assume that year t operating profit, denoted as PROFIT, is the sole determinant of priced risk. (As shown, the correlation between PROFIT and FAILURE RISK (i.e., FAIL1, as defined) is -0.70.) The figure traces rational and mispricing, and direct and indirect, relationships between PROFIT and both contemporaneous return (denoted as PAST RETURN) and future return (denoted as FUTURE RETURN). The indirect relationships flow through external financing (EXTERNAL FINANCING), accruals (ACCRUALS), and/or book-to-market equity ratio (BM). A line is used to denote a relationship between two variables, and the line is labeled R- or R+ (M- or M+) if the hypothesis predicts a *rational* negative or positive relationship, respectively (*mispricing* negative or positive relationship, respectively). The number attached to each line is our empirical estimate of the correlation between the two variables. In the case of FUTURE RETURN, the estimated correlation is between another variable and RET1yr, the return over one year starting six months after year-end t.

We focus initially on the relationship between PROFIT and FUTURE RETURN. Rationally, this relationship should be negative. However, empirically the direct relationship is positive (0.34), indicating that mispricing dominates. This mispricing relationship relates to APA1, APA2, and APA3. Indirectly, this mispricing relationship can be traced through EXTERNAL FINANCING, and therefore also relates to APA4, as the correlations between PROFIT and EXTERNAL FINANCING and EXTERNAL FINANCING and FUTURE RETURN are both strongly negative (-0.57 and -0.76, resp.).

We focus initially on the relationship between PROFIT and PAST RETURN. Rationally, this relationship should be positive (assuming that (a) investors become aware of the bulk of the information contained in PROFIT contemporaneously in year t, and (b) the 'surprise' component of PROFIT dominates the ex ante 'expected' component). Indeed, the correlation between PROFIT and PAST RETURN is positive, but it is relatively weak (0.18). According to our hypothesis, the weakness of this result is due to the distortive effect of external financing. Given the strong negative relationship between PROFIT and EXTERNAL FINANCING (-0.57), rationally the relationship between EXTERNAL FINANCING and PAST RETURN should be negative, but instead it is positive (0.19). This evidence suggests that stocks with positive (negative) external financing are overpriced (underpriced), and is therefore consistent with the central prediction of the common link hypothesis that the focal anomalies are due to a mispricing relationship involving operating profit and external financing.

Does this mispricing relationship involve accruals? If so, we should see a negative correlation between PROFIT and ACCRUALS, and a positive correlation between EXTERNAL FINANCING and ACCRUALS. Indeed, the former correlation is -0.30, and the latter correlation is 0.14. However, this evidence is weak because (a) the former correlation could be due to general income smoothing (i.e., unrelated to external financing), and the latter correlation is very weak. ACCRUALS is also positively correlated with PAST RETURN (0.19), but this is consistent with both rational pricing (i.e., if accruals have genuine income value) and the proposed mispricing relationship. Accruals are also strongly negatively related to FUTURE RETURN (-0.37), this evidence is also consistent with both rational pricing (i.e., if accruals have genuine income value and therefore are inversely related to failure risk) and the proposed mispricing relationship. Indeed, if this rational relationship argument holds (i.e., if we find that failure risk is negatively related to accruals), there may be no accrual anomaly. In summary, the evidence in Figure 1 on accruals is mixed and ultimately leaves open not only the possibility that accruals are involved in the proposed common mispricing relationship, but also the possibility, which we investigate further later, that there is no accruals anomaly *per se*.

Next we consider relationships that involve BM. Rationally (according to Fama and French (1995)), FUTURE RETURN should be positively related to BM, and indeed the correlation is strongly positive (0.58). However, a positive correlation is also predicted on a mispricing basis, so we need to examine other relationships in order to distinguish the two predictions. Rationally, BM should be negatively related to PROFIT because PROFIT (BM) is (should be) negatively (positively) related to failure risk. The correlation is negative, but it is very weak (-0.05), suggesting that the relationship may also involve mispricing. Again, given the strong negative correlation between PROFIT and EXTERNAL FINANCING, the correlation between EXTERNAL FINANCING and BM should be positive. Instead, this latter correlation is strongly *negative* (-0.33), suggesting that the mispricing relationship involving PROFIT and EXTERNAL FINANCING causes BM to reflect mispricing. Meanwhile, the correlation between ACCRUALS and BM is negative (-0.12), but this result is consistent with both rational pricing (for the reasons noted above) and mispricing. Moreover, the modest magnitude of this correlation, especially as compared to the large magnitude of the correlation between EXTERNAL FINANCING and BM, suggests that accruals are not strongly manipulated in connection with external financing. We investigate this issue more formally in later empirical analyses.

Finally, we discuss several implications of the common link hypothesis for post-earnings announcement drift (PEAD). At first blush, there is no obvious connection between PEAD and the other anomalies we are discussing because PEAD is the only one of these anomalies that involves an 'event.' On the other hand, if, as an extreme, the earnings expectations from which 'earnings surprises' are calculated are irrelevant, then PEAD and the raw profitability anomaly are virtually identical. Stated differently, suppose (again, as an extreme) that all of the information contained in an annual earnings statement is already known to the market by fiscal year-end instead of at the announcement date. With no frictions or distortions, the event study should yield no abnormal returns either at announcement or on a drift basis thereafter.

However, the central tenet of the common link hypothesis is that, due to a mispricing relationship between PROFIT and EXTERNAL FINANCING, prices are distorted by year-end in a direction opposing the earnings result (i.e., firms with profits (losses) are underpriced (overpriced)), and arbitrage costs inhibit immediate correction of these distortions. Thus, our interpretation of the low correlation between PROFIT and RETpy (0.18) is that the market is inhibited from applying a normal contemporaneous reaction to profit results. Consequently, we predict abnormal return drift in the same direction of earnings (or, more specifically, cash profits) starting at least at year-end t (i.e., well before the earnings announcement date), if not before. Indeed, the classic PEAD studies of Ball and Brown (1968) and Bernard and Thomas (1989) both provide figures that illustrate such pre-announcement drift. (Heretofore, pre-announcement drift has been attributed to information leakage.) Also, studies document that PEAD is somewhat concentrated in the days after subsequent earnings announcements (Bernard and Thomas 1989, 1990), which we expect because arbitrageurs will act only when new information takes the mispricing of a stock beyond arbitrage-cost bounds. (See Ng, Rusticus, and Verdi (2008).) However, we argue that even at the *initial* earnings event date a stock is already in the midst of a gradual (i.e., arbitrage cost-inhibited) adjustment process. This argument has implications later for our interpretation of returns in the initial six-month period following year-end t, which we denote as RET6m, and its relationship to subsequent returns such as for the following year, denoted as RET1yr.

3. Data and methodology

In this section, we describe the data and methodology used in our empirical analyses.

3.1. Data

The universe of firms from which our samples are drawn includes all U.S. incorporated NYSE, AMEX, and NASDAQ listed stocks following fiscal years-end 1980-2001. We choose 1980 as our beginning year because there are many more listed firms after 1980 than before, due in large part to the influx of new firms (see Fama and French (2004)). Our last year is 2001 because we use a total of 5.5

years of returns after year-end t for returns analysis, which takes us well into 2007, the latest year of returns data available to us at this writing.

For each sample year, we use Standard & Poor's (S&P's) Compustat Industrial Annual file (Compustat) and the University of Chicago's Center for Research in Securities Prices (CRSP) monthly stock file to eliminate firms that do not meet certain criteria (or for which insufficient data is available), and gather the necessary data on firms that do. We initially use Compustat to omit foreign firms by requiring that the value of the Foreign Incorporation Code (FINC) is zero, and the CRSP file to exclude financial firms (Standard Industrial Classification (SIC) codes 6000 through 6999) and utilities (SIC codes 4910 through 4949).

From Compustat we collect, for each firm at year-end t, financial statement data as well as year-end stock price per share and shares outstanding. A firm's year-end market equity value, denoted as MEV, is the product of price per share and shares outstanding. The financial statement data includes fiscal year-end t values of total assets, long-term debt (including debt in current liabilities, if present), and book equity, as well as fiscal year: (a) income before extraordinary items (IBEI); (b) net cash flow from operations (NCFO); (c) net debt financing; (d) net equity financing; and (e) total external financing, which is the sum of net debt financing and net equity financing. Accruals is then defined as the difference of IBEI and NCFO, and is denoted as ACCRUAL.

The CRSP monthly stock file is our source for monthly stock returns, and we include delisting returns in our calculation of portfolio returns. To be included in the sample for a given year, a firm must have monthly stock returns for each of the 12 consecutive months ending at fiscal year-end. Thus, we do not include 'unseasoned' firms that went public during the year. In addition, a stock is included in the year t sample only if it survives for six months after year-end t and, on a portfolio basis, the average monthly return for this six-month period is denoted as RETpy. We also collect monthly returns for the five-year period starting six months after year-end t, denoting (on a portfolio basis) the average monthly return in the first year of this period as RET1yr and the average monthly return in years two through five as RET2-5yr.

As noted in the previous section, we assume that failure risk is the sole determinant of priced risk in the market. Thus, we need variables to gauge failure risk on an ex ante basis. Our candidate risk-proxy variables are as follows. The first is firm size, denoted as SIZE. SIZE in a given year is measured simply as the firm's quintile number (1=smallest, 5=largest) from an annual sort of firms by year-end MEV. The second is book-to-market equity ratio, measured as the ratio of book equity value at year-end, BEV, to MEV, and denote as BM. Firms with a negative BM potentially disrupt the monotonicity of this variable as a risk proxy, so we eliminate negative BM observations. We also Winzorize (1%) BM to mitigate the effect of extreme values on calculations using this variable.

The third candidate risk-proxy variable is recent cash profitability, measured as the ratio of year t net cash flow from operations to year-end t total assets, and denoted as PROFIT. The fourth risk-proxy variable is ACCRUAL, defined above. The fifth and final candidate risk-proxy variable is market leverage, denoted as LEV and measured as D/V, where V=MEV+D and D is the book value long-term debt (including the portion in current liabilities).

We also collect year t financing cash flow data for each firm, and each financing cash flow variable is scaled by year-end t total assets. Net equity financing (i.e., sales of common stock less repurchases) is denoted as NETEQ, while net debt financing (i.e., issuance of long-term debt less retirement of long-term debt, plus change in debt in current liabilities) is denoted as NETDEBT. We define total net external financing as the sum of NETEQ and NETDEBT (i.e., we ignore 'other financing activity' which is generally zero or relatively small), and denote this variable as TXFIN.

We define a firm as having failed if and when the exchange on which its stock trades delists the stock for ‘performance’ (as opposed to ‘merger’). A firm is delisted for performance if the value of the CRSP delisting code is greater than or equal to 400, while delists for merger have delisting code values less than 400. Our dummy variables for one- and five-year failure are denoted as FAIL1 and FAIL5, and each takes on a value of 1 (0) if the firm has failed (has not failed) within one and five years, respectively, after allowing for a six-month gap period following fiscal year-end.

Our initial year-end sample includes 77,400 firm-year observations. The number of firms in 1980 is 2,771, and the number increases irregularly over the years to 3,691 in 2001. Of the total, 718 firms, or 0.93%, fail within the six-month 'gap' period.[1] The final sample includes 76,682 firm-year observations.

3.2. Methodology

Our empirical approach involves analyses of the characteristics of, and past and future returns on, portfolios that are formed by sorting firms into classes, generally quintiles, by a given risk-proxy or external financing variable, or a combination of these variables. To respect the changing numbers of observations over the years, we sort firms into classes annually for a given variable, and where quintile combinations are involved, the focal variables are sorted independently by each variable. Mean values are obtained by initially calculating the cross-sectional average value for each sample year and then calculating the time series mean of these cross-sectional average values. All portfolios are equally weighted, and when a firm in a portfolio ceases to trade (i.e., because of either failure or merger), portfolio weights are adjusted to maintain an equal weighting of the remaining stocks.

4. Initial inspection of the characteristics of, and returns on, 314 portfolios

In this section, we simply inspect the characteristics of, and returns on, a total of 314 portfolios that are formed by sorting firms into classes, generally quintiles, by a given risk-proxy or external financing variable or combination of these variables. For each portfolio, we calculate mean values of SIZE, BM, PROFIT, ACCRUAL, LEV, NETDEBT, NETEQ, TXFIN, FAIL1, FAIL5, RETpy, RET6m, RET1yr, and RET2-5yr.

4.1. Univariate sorts

Table 1 displays the results of sorting by each individual risk-proxy or external financing variable. Results for sorts by SIZE, BM, PROFIT, ACCRUAL, LEV, NETDEBT, NETEQ, and TXFIN are shown

[1] Two-thirds of these failed firms (67.0%) had operating losses in the fiscal year. Also, while 38.0% of the firms had high BM (i.e., BM>1.0), 44.9% had relatively low BM (i.e., BM<0.5).

in Panels A, B, C, D, E, F, G, and H respectively. With the exception of NETEQ, we sort firms into quintiles by the focal variable. For NETEQ, we are distinctly interested in firms that have net stock repurchases (NETEQ<0), zero (net) external equity financing (NETEQ=0), and low versus high positive external equity financing (0%<NETEQ<5% versus NETEQ≥5%), so our sorting by NETEQ is into these four classes rather than into quintiles. As a result, the sorts in table 1 produce 39 of the 314 portfolios that we develop.

All results for SIZE (Panel A) are consistent with the argument that firm size is a priced risk factor (or proxy), where again we assume that failure risk is the only priced risk. On average, smaller firms appear to be more risky, as they have higher BM, lower PROFIT, higher LEV, and higher FAIL1 and FAIL5 rates. Portfolios of smaller firms also have lower mean returns in the past year (RETpy) and higher mean returns in the 6-month gap period, year 1 thereafter, and years 2-5 thereafter (RET6m, RET1yr, and RET2-5yr, resp.).

The results for BM (Panel B) are mixed with respect to the role of BM as a risk proxy versus a measure of mispricing. Past mean returns (RETpy) decrease monotonically and substantially with BM, and future mean returns (RET6m, RET1yr, and RET2-5yr) increase monotonically and substantially with BM; however, both interpretations of BM share these predictions. Low BM firms have the lowest (rather than the highest) average PROFIT, a result that is inconsistent (consistent) with the risk-proxy (mispricing) role. On the other hand, low BM firms are larger on average, and LEV increases monotonically and substantially with BM, results that are consistent with the risk-proxy role for BM. However, both FAIL1 and FAIL5 are U-shaped (rather than increasing) across BM, a result that is inconsistent with the risk-proxy role for BM. Moreover, NETDEBT, NETEQ, and TXFIN all are negatively related to BM, results that are consistent with the mispricing role for BM. Overall, the evidence in Panel B suggest that BM plays dual roles as a risk proxy and a measure of mispricing, consistent with the common link hypothesis (see lower portion of Figure 1).

The results for PROFIT (Panel C) are also mixed. High PROFIT firms appear to be less risky as, on average, they are larger, have (slightly) lower BM, lower LEV, higher RETpy, and much lower FAIL1 and FAIL5 rates. Yet, high PROFIT firms have the highest (rather than the lowest) mean values of both RET6m and RET1yr (while RET2-5yr is flat across the PROFIT quintiles). Moreover, NETDEBT, NETEQ, and TXFIN are all negatively related to PROFIT. These results are consistent with the central prediction of the common link hypothesis that pricing anomalies are linked by a mispricing relationship involving operating profit and external finance.

The results for ACCRUAL (Panel D) provide our first indication of whether accruals is a measure of genuine profitability, and thus can serve as a risk-proxy, or whether it is involved in the mispricing scenario of the common link hypothesis. Both SIZE and BM are flat across ACCRUAL quintiles, so ACCRUAL is not related to either of these risk proxies. On the other hand, PROFIT decreases substantially across the ACCRUAL quintiles. By itself, this result is difficult to interpret because it could be due to income smoothing. In any event, the bottom line regarding the role of accruals as a risk proxy comes by examining FAIL1 and FAIL5. Both decrease fairly substantially across the ACCRUAL quintiles, indicating that ACCRUAL can be interpreted as a genuine income variable and thus a risk proxy. Moreover, past returns, RETpy, increase with ACCRUAL while future returns RET6m, RET1yr, and RET2-5yr all decrease with ACCRUAL, results that are complete the depiction of ACCRUAL as a risk proxy. Thus, qualitatively at least, it appears from this evidence that there is no accruals anomaly. Moreover, all of the external financing variables, NETDEBT, NETEQ, and TXFIN, are fairly flat across the ACCRUAL quintiles, suggesting that accruals are not associated with the external financing anomaly and therefore are not involved with the distortions modeled with the common link hypothesis.

The results for LEV (Panel E) are also mixed. LEV is slightly negatively related to SIZE, and is strongly positively (negatively) related to BM (RETpy), suggesting that LEV may be a risk proxy. However, PROFIT is inverse U-shaped across LEV, and FAIL1 and FAIL5 rates are fairly flat across the LEV quintiles, except for the highest LEV quintile, where failure rates jump. Finally, future returns (RET6m, RET1yr, and RET2-5yr) are, overall, flat across LEV. Comparing the results for PROFIT and LEV in Panels C and D, respectively, we have an early indication that the failure risk anomaly may be driven more by the profit component, rather than the leverage component, of Altman's (1968) or Ohlson's

(1980) ex ante bankruptcy risk measures. As for the common link hypothesis, LEV appears to be relatively uninformative, as neither PROFIT nor TXFIN is strongly related to LEV.

The results for NETDEBT (Panel F) are weakly consistent with the central prediction of the common link hypothesis that pricing anomalies are linked by a mispricing relationship involving operating profit and external finance. NETDEBT is not strongly related to ex ante failure risk measures SIZE, BM, or LEV, and ex post failure rates FAIL1 and FAIL5 are flat across NETDEBT. PROFIT (ACCRUAL) is modestly negatively (positively) related to NETDEBT, consistent with the common link hypothesis. On the other hand, future returns (RET6m, RET1yr, and RET2-5yr) are strongly negatively related to NETDEBT, consistent with the hypothesis.

Finally, the results for NETEQ (Panel G) and TXFIN (Panel H) are very similar, and both are strongly consistent with the common link hypothesis. Ex ante failure risk proxies SIZE and LEV are not strongly related to NETEQ, but PROFIT and BM are both strongly negatively related to NETEQ. Failure rates FAIL1 and FAIL5 are moderately positively related to NETEQ. However, past returns (RETpy) are strongly *positively* related to NETEQ, and future returns (RET6m, RET1yr, and RET2-5yr) are strongly *negatively* related to NETEQ. These results strongly suggest that firms that intend to engage in positive (negative) external financing become over- (under-) priced in the same year, and therefore have relatively low (high) future returns. With respect to the NETEQ results in particular, while evidence is replete that equity issuers (repurchasers) have abnormally low (high) future returns, here we show that this differential mispricing is simultaneously related to differences in past returns, BM, operating profit, and failure risk.

4.2. Bivariate sorts

The remaining 275 portfolios result from independent sorts of various pairs of variables. In most cases, the variables are risk-proxy variables and/or external financing variables, though two cases involve RETpy. For each portfolio, we calculate mean values of each of the risk-proxy, cash flow, external financing, failure rate, and past and future return variables. The results are displayed in Tables 2 through 11. Due to the expanse of these results, we limit our discussion to the most salient results in each table.

4.2.1. SIZE and BM

The first set of portfolios results from using the Fama-French 'distress' factors of SIZE and BM as sorting variables. The results are displayed in Table 2. SIZE emerges as a very robust priced risk factor as, for each BM quintile, smaller firms generally have lower PROFIT, higher FAIL1 and FAIL5 rates, lower past returns (RETpy), and higher future returns (RET6m, RET1yr, RET2-5yr). In addition, TXFIN is not reliably and consistently related to SIZE. In sharp contrast, BM emerges as a mispricing indicator rather than a risk factor. For SIZE quintiles (1), (2), and (3), PROFIT actually increases with BM, while failure rates FAIL1 and FAIL5 actually *decrease* with BM. Yet, past returns strongly decrease with BM for each SIZE quintile, while future returns (RET6m, RET1y, and RET2-5yr) generally increase substantially with BM. Moreover, for each SIZE quintile, TXFIN is strongly inversely related to BM. As such, the results for BM in Table 2 are consistent with the common link hypothesis.

4.2.2. PROFIT and LEV

The next set of portfolios results from using the PROFIT and LEV as sorting variables. The results are displayed in Table 3. Since these two variables are central to the bankruptcy risk models of Altman (1968) and Ohlson (1980), we expect to find results that relate to the failure-risk anomaly, particularly the results of Dichev (1998). Note initially that both of these variables forecast failure rates FAIL1 and FAIL5, though failure rates are more sensitive to PROFIT than to LEV. In addition, past returns (RETpy) increase with PROFIT for each LEV quintile, and decrease with LEV for each PROFIT quintile. However, for each LEV quintile, future returns (RETpy, RET1y, and RET2-5yr) increase, rather than decrease, with PROFIT (consistent with the raw profitability anomaly), while the relationship between future returns and LEV is irregular. These results suggest that the failure-risk anomaly is driven more by the PROFIT component of an ex ante failure risk model than the LEV component. Adding the evidence that TXFIN is strongly negatively related to PROFIT for all LEV quintiles, the overall evidence is consistent with the common link hypothesis.

4.2.3. SIZE and PROFIT

The next set of portfolios results from using SIZE and PROFIT as sorting variables. The results are displayed in Table 4. SIZE again emerges as a very robust priced risk factor as, for each PROFIT quintile, smaller firms generally have higher FAIL1 and FAIL5 rates, lower past return (RETpy), and higher future returns (RET6m, RET1yr, RET2-5yr). In addition, TXFIN is not strongly related to SIZE. Meanwhile, PROFIT is a strong forecaster of failure rates FAIL1 and FAIL5, and RETpy increases with PROFIT for each SIZE quintile. However, future returns (RET6m, RET1yr, and RET2-5yr) generally increase with PROFIT for each SIZE quintile, while TXFIN is strongly inversely related to PROFIT for each SIZE quintile. All of these results are consistent with the mispricing relationship involving PROFIT and TXFIN that is central to the common link hypothesis.

4.2.4. BM and PROFIT

The next set of portfolios results from using BM and PROFIT as sorting variables. The results are displayed in Table 5. Failure rates FAIL1 and FAIL5 are both relatively weakly positively related to BM for most PROFIT quintiles, but are strongly negatively related to PROFIT for each BM quintile. Past return (RETpy) is strongly negatively related to BM and strongly positively related to PROFIT. Future returns (RET6m, RET1yr, and RET2-5yr) are strongly positively related to BM for each PROFIT quintile, but are relatively weakly positively related to PROFIT for each BM quintile. Meanwhile, TXFIN is strongly negatively related to BM for each PROFIT quintile, and strongly negatively related to PROFIT for each BM quintile. To see how these results relate to the common link hypothesis, note that lowest future returns are associated with the BM quintile (1), PROFIT quintile (1) portfolio (i.e., low BM, high-loss firms), and these firms also have the highest TXFIN. In contrast, the highest (or nearly highest) future returns are associated with the BM quintile (5), PROFIT quintile (5) portfolio (i.e., high BM, high-profit firms), and these firms also have the lowest TXFIN.

4.2.5. PROFIT and TXFIN

The next set of portfolios results from using PROFIT and TXFIN as sorting variables. The results are displayed in Table 6. Failure rates FAIL1 and FAIL5 are both strongly negatively related to PROFIT for every TXFIN quintile, but are relatively flat across TXFIN for every PROFIT quintile. Past return

(RETpy) is strongly positively related to PROFIT for each TXFIN quintile, and strongly positively related to TXFIN for each PROFIT quintile. Future returns (RET6m, RET1yr, and RET2-5yr) are irregularly related to PROFIT for each TXFIN quintile, but are strongly negatively related to TXFIN for each PROFIT quintile. The mispricing relationship involving operating profit and external financing is thus evident, and the common link hypothesis is further corroborated by the evidence that BM is strongly negatively related to TXFIN for every PROFIT quintile.

4.2.6. BM and TXFIN

The next set of portfolios results from using BM and TXFIN as sorting variables. The results are displayed in Table 7. Failure rates FAIL1 and FAIL5 are generally weakly positively related to BM for each TXFIN quintile, and are moderately positively related to TXFIN for each BM quintile. Past return (RETpy) is strongly negatively related to BM for each TXFIN quintile, and irregularly related to TXFIN for each BM quintile. Future returns (RET6m, RET1yr, and RET2-5yr) are positively related to BM for each TXFIN quintile, and are strongly negatively related to TXFIN for each PROFIT quintile. The mispricing relationship involving operating profit and external financing is thus evident, especially as we note that PROFIT is negatively related to TXFIN for each BM class. As for accruals, ACCRUAL does tend to increase with TXFIN for each SIZE quintile, consistent with the argument that accruals are manipulated in association with external financing. However, the differences are relatively small.

4.2.7. SIZE and TXFIN

The next set of portfolios results from using SIZE and TXFIN as sorting variables. The results are displayed in Table 8. Failure rates FAIL1 and FAIL5 are both strongly negatively related to SIZE for each TXFIN quintile, and are moderately positively to TXFIN for every SIZE quintile. Past return (RETpy) is strongly positively related to SIZE for each TXFIN quintile, but is irregularly related to TXFIN for each SIZE quintile. Future returns (RET6m, RET1yr, and RET2-5yr) are negatively related to SIZE for each TXFIN quintile, and are also strongly negatively related to TXFIN for each SIZE quintile. The mispricing relationship involving operating profit and external financing is evident, and the common link hypothesis is further corroborated by evidence that BM is negatively related to TXFIN for each SIZE quintile, even though PROFIT is also negatively related to TXFIN for each SIZE quintile. As for accruals, again ACCRUAL does tend to increase with TXFIN for each SIZE quintile, consistent with the argument that accruals are manipulated in association with external financing. However, again the differences are relatively small.

4.2.8. PROFIT and RETpy

The next set of portfolios results from using PROFIT and RETpy as sorting variables. We chose this combination of variables in part to shed light on the seemingly low correlation between these two variables (0.18) as reported in Figure 1. The results are displayed in Table 9. Failure rates FAIL1 and FAIL5 are both strongly negatively related to PROFIT for each RETpy quintile, and are fairly strongly negatively related to RETpy for each PROFIT quintile. Future returns (RET6m, RET1yr, and RET2-5yr) are generally positively related related to PROFIT for each RETpy quintile, and are generally strongly negatively related to RETpy for each PROFIT quintile. The lowest future returns are associated with the combination of the lowest PROFIT quintile and highest RETpy quintile, and this portfolio also has the highest average value of TXFIN. Reflectively, the highest future returns are associated with the combination of the highest PROFIT quintile and lowest RETpy quintile, and this portfolio also has the lowest average value of TXFIN. Furthermore, BM strongly decreases with RETpy for each PROFIT quintile. These results are consistent with common link hypothesis. Regarding accruals, the evidence is mixed. ACCRUAL increases strongly with RETpy for each PROFIT quintile. Thus, since TXFIN also increases with RETpy for each PROFIT quintile, the evidence suggests that accruals are manipulated in association with external financing. On the other hand, failure risk (i.e., both FAIL1 and FAIL5) strongly decreases with RETpy for each PROFIT quintile, suggesting that accruals carry genuine value information, and thus at least qualitatively justifying, on a rational pricing basis, the negative relationship between future returns and RETpy for each PROFIT quintile.

4.2.9. SIZE and RETpy

The next set of portfolios results from using SIZE and RETpy as sorting variables. The results are displayed in Table 10. SIZE again appears to be a robust rational risk proxy, as both failure risk and future returns strongly decreases with SIZE for each RETpy quintile. Curiously, this variable combination results in very little variation in TXFIN, so the case does not allow us an opportunity for a straightforward assessment of the common link hypothesis. On the other hand, the case allows us to view relationships in the absence of the hypothesized distortive effect of TXFIN. Indirectly then, the hypothesis suggests that rational pricing relationships should dominate in this case. Indeed, in addition to the rational pricing results for SIZE noted above, we find that BM decreases with RETpy for each SIZE quintile, as do both failure risk variables (FAIL1 and FAIL5) and all future return variables (RET6m, RET1yr, and RET2-5yr). Thus, in this case BM emerges as not only a rational risk proxy, but one that is distinct from SIZE. The highest future returns are associated with small, high BM firms that also have the highest failure risk, and the lowest future returns are associated with large, low BM firms that also have the lowest failure risk.

4.2.10. PROFIT and ACCRUAL

The next set of portfolios results from using PROFIT and ACCRUAL as sorting variables. The results are displayed in Table 11. TXFIN decreases with PROFIT for each ACCRUAL quintile. However, TXFIN does not increase strongly with ACCRUAL for each PROFIT quintile as we would expect if accrual manipulation is strongly associated with external financing. Indeed, for the lowest PROFIT quintile, where TXFIN is generally the largest, TXFIN actually strongly *decreases* with ACCRUAL. Instead, in this case accruals emerge as a rational risk proxy as, for every PROFIT quintile: (a) failure risk decreases with ACCRUAL; (b) RETpy increases with ACCRUAL; and (c) future returns decrease with ACCRUAL.

4.2.11. ACCRUAL and TXFIN

The final set of portfolios results from using ACCRUAL and TXFIN as sorting variables. The results are displayed in Table 12. The distortive effect of TXFIN is robustly evident in this case as, for each ACCRUAL quintile failure risk increases with TXFIN, RETpy increases with TXFIN, and future returns decrease with TXFIN. On the other hand, accruals again emerge as a rational risk proxy as, for each TXFIN quintile failure risk decreases with ACCRUAL, RETpy increases with ACCRUAL, and future returns decrease with ACCRUAL.

4.3. *Summary*

Our inspection of a total of 314 portfolios, formed via various univariate or bivariate sorts involving many variables, reveals evidence that is generally consistent with the common link hypothesis, and in particular a mispricing relationship involving operating profit and external financing. The single potential exception is that accruals manipulation does not seem to be a major culprit in pricing distortions associated with external financing. Instead, the evidence generally indicates that accruals are a rationally priced risk proxy; that is, there is no accruals anomaly.

5. Can rational risk pricing effects and mispricing effects be separated?

In this section, we present and discuss the results of additional statistical analyses of the 314 portfolios formed in the previous section. Our initial inspection of these portfolios revealed evidence of both rational risk pricing effects and mispricing effects, the latter consistent with the common link hypothesis. Thus, the primary goal of the analyses in this section is to separate rational risk pricing effects from mispricing effects. As illustrated in Figure 1, this goal is not likely to be easily achieved given that many variables (PROFIT and BM in particular) are associated with both. The data for all analysis in this section consists of the mean value of each variable for each portfolio in Tables 1-12. Thus, we have 314 observations for each variable.

5.1. *Correlations and other basic statistics*

Initially we examine the correlations among all variables, including the candidate risk-proxy variables (SIZE, BM, PROFIT, ACCRUAL, and LEV), external financing variables (NETDEBT, NETEQ, and TXFIN), failure probability variables (FAIL1 and FAIL5), and past and future return variables (RETpy, RET6m, RET1yr, and RET2-5yr). The correlation matrix is displayed in Table 13 Panel A.

Correlations associated with SIZE are consistent with rational risk pricing, as (portfolios of) larger firms are less risky via both ex ante and ex post measures (i.e., they have lower BM, higher PROFIT, weakly higher ACCRUAL, lower LEV, and lower failure rates FAIL1 and FAIL5) and have lower future returns (RET6m, RET1yr, and RET2-5yr). In contrast, the evidence for BM is as a risk-proxy variable is mixed, as BM is (a) negatively related to SIZE and positively related to LEV, but unrelated to PROFIT; (b) positively related to FAIL1 and FAIL5, though these correlations are much smaller than for SIZE; and (c) negatively related to past return (RETpy) and positively related to future returns (RET6m, RET1yr, and RET2-5yr). As for the common link hypothesis, BM is negatively correlated with NETDEBT, NETEQ and TXFIN. This evidence, coupled with the reversing signs of the correlations between BM and past returns versus future returns, is consistent with the hypothesis.

PROFIT is strongly negatively correlated with FAIL1 and FAIL5 (-0.70 and -0.75, resp.), attesting to its failure-forecasting power. However, PROFIT is only weakly positively correlated with past return (RETpy), and is positively, rather than negatively, related to future returns (RET6m, RET1yr, and RET2-5yr). Coupled with the strong negative correlation between PROFIT and TXFIN (-0.57), and perhaps as well the negative correlation between PROFIT and ACCRUAL (-0.30), the evidence is consistent with the common link hypothesis.

LEV is only modestly positively correlated with FAIL1 and FAIL5 (0.28 and 0.30, resp.), indicating that LEV is a relatively weak failure-forecasting variable. Nevertheless, LEV is negatively correlated with past return (RETpy) and positively correlated with future returns (RET6m, RET1yr, and RET2-5yr), behavior that is consistent with a risk-proxy variable. In addition, LEV is uncorrelated with both TXFIN and PROFIT, suggesting that LEV is not related to the mispricing associated with the common link hypothesis.

Next, we focus on the external financing variables. NETDEBT, NETEQ, and TXFIN are all positively correlated with each other. However, NETEQ is more highly correlated with TXFIN than NETDEBT, suggest that net equity financing is a stronger determinant of variation in total external financing than is net debt financing, and by extension the common link hypothesis may be more closely associated with equity financing activity than debt financing activity. This suggestion is given greater credence with the evidence that NETDEBT is uncorrelated with past return (RETpy), while both NETEQ and TXFIN are positively correlated with past return. On the other hand, NETDEBT, like NETEQ and

TXFIN, is strongly negatively correlated with future returns (RET6m, RET1y, and RET2-5yr), suggesting that both debt and equity financing activity are potentially associated with the hypothesis.

FAIL1 and FAIL5 are negatively correlated with past return (RETpy), but are essentially uncorrelated with future returns (RET6m, RET1yr, and RET2-5yr). The lack of a positive correlation between *ex post* failure risk and future returns is new evidence consistent with the failure-risk anomaly. However, it is important to note that we do not find a significant *negative* relationship between ex post failure risk and future stock returns, in contrast with Dichev (1998), who documents evidence of a significant negative relationship between *ex ante* failure risk and both raw and (size- and BM-) adjusted future returns. We suspect that an important difference between Dichev's results and ours is that Dichev's models for ex ante failure risk, Altman's Z-score and Ohlson's O-score, are both 'contaminated' by including a measure of profit in the model, because of the mispricing relationship involving profit and external financing. We investigate this possibility more closely later.

Two additional and related sets of correlation results are interesting. First, past return (RETpy) is strongly negatively correlated with future returns at every horizon (i.e., RET6m, RET1yr, and RET2-5yr). Second, future returns at the different horizons are *extremely* highly correlated with each other. Of course, all of these results are at least qualitatively consistent with either (a) rational risk pricing (i.e., past winners (losers) are less (more) risky, so they require a smaller (larger) risk premium, which can persist; or (b) mispricing that emerged in the past year and is only slowly corrected. As illustrated in Figure 1, our common link model proposes that *both* of these effects would be present in the data. Again, the primary goal of the analysis in this section is to separate these rational and mispricing effects.

Panel B of Table 13 shows the mean, standard deviation, minimum, and maximum values of each of the focal variables. The results for past and future returns are of particular interest. Note that as we proceed in time horizon, the standard deviation of returns decreases dramatically, from 2.05% for RETpy to 0.78%, 0.47%, and only 0.18% for RET6m, RET1yr, and RET2-5yr, respectively. Of course, at this point we do not know the extent to which this volatility pattern is due to (a) our choice of portfolios per se,

(b) rational dynamics in returns, or (c) mispricing dynamics, but awareness of this pattern is important for interpretation of the results of analyses conducted later in the section.

Finally, for additional perspective we briefly focus on the portfolios that provide the lowest and highest values of RET1yr. Panel C displays variable means for the portfolio with the lowest mean return, which is the Table 7 portfolio in the lowest BM quintile and highest TXFIN quintile. The mean value of RET1y for this portfolio is actually negative (-0.24% per month). According to the common link hypothesis, this portfolio is predicted to have low future returns because: (a) TXFIN is very large (41.59); and (b) RETpy is very high (4.66%) despite the results that PROFIT is negative (-11.48) and failure rates are relatively high (FAIL1=6.53 and FAIL5=26.29); and (c) BM is extremely low (0.15). However, ACCRUAL for this portfolio (-7.67) is actually slightly more negative than the average for all portfolios (-5.94).

At the other extreme, two portfolios tie for the maximum mean return, 2.36% per month. The first of these is the last portfolio in Table 5, formed of firms in the highest quintiles of BM and PROFIT. The second is the first portfolio in Table 8, formed of firms in the lowest quintiles of SIZE and TXFIN. Mean statistics for these extreme-return portfolios are displayed in Panel C. The statistics for both portfolios are consistent with the common link hypothesis (i.e., these portfolios are predicted to have high future returns). For the first of these, on average RETpy is low (0.02%) and BM is high (1.71) despite the fact that the firms in this portfolio are generally highly profitable (PROFIT=21.01), and as a result the firms in this portfolio are observed, on average, to retire both debt and equity (NETDEBT=-4.45% and NETEQ=-0.68%, on average). For the second maximum-return portfolio, BM is high (1.38) and PROFIT is close to the overall average (4.29 vs. 4.76), RETpy is low (-0.05%), and the firms in this portfolio also are observed, on average, to retire both debt and equity (NETDEBT=-10.92 and NETEQ=-1.09).

5.2. OLS regressions

Next, we apply OLS regression to the data on the 314 portfolios to analyze determinants of failure rates and future returns. At the outset, we suspect that this may be difficult because of the generally high correlations among the variables, as discussed above. Nevertheless, the analyses should at least allow us to gauge the extent of the problem.

In the first set of regressions, we attempt to explain variation in the failure rates across the portfolios. The results are displayed in Table 14, Panels A and B for FAIL1 and FAIL5, respectively. In regression equations A1-A8 (B1-B8), a single regressor is used to explain FAIL1 (FAIL5). By far, the most important single regressors are SIZE and PROFIT, producing adjusted R^2 statistic values of 0.572 and 0.492, respectively (0.703 and 0.566, respectively). In regression equation A9 (B9), all five of our original risk-proxy candidates, SIZE, BM, PROFIT, ACCRUAL, and LEV, are used as regressors. Collectively, these variables explain the vast bulk of variation in FAIL1 (FAIL5) based on the adjusted R^2 statistic value of 0.811 (0.916). All have the expected sign except BM. Comparing these results to those in regression equations A10 and A11 (B10 and B11), which add NETDEBT and NETEQ or TXFIN, respectively, as regressors, we see that these financing variables add very little to explanatory power. Finally, regression equations SW2 and SW3 are based on stepwise regression in which the best two and three variables, respectively, are found. The best two-variable regression includes SIZE and PROFIT, which together explain 72.3% (86.3%) of the variance in FAIL1 (FAIL5). ACCRUAL is added as the best third variable, and adding this variable raises the explanatory power to 80.7% (91.0%). It is interesting to note that ACCRUAL enters the regressions not only with a negative sign, but also with a magnitude that is very similar to that of PROFIT.

Next, we use OLS regression to explain variation in past and future returns. The results for the dependent variables RETpy, RET6m, RET1yr, and RET2-5yr are displayed in Table 15, Panels A, B, C, and D, respectively. In Panel A, among single regressors BM has the greatest explanatory power for RETpy, 42.6%, followed by LEV at 28.1% and SIZE at 11.8%. The five candidate risk-proxy variables collectively explain 48.9% of the variance of RETpy, and the best two-variable (three-variable) regression includes BM and PROFIT (BM, PROFIT, and ACCRUAL), producing an adjusted R^2 statistic value of 0.449 (0.474).

In Panel B, among single regressors BM has the greatest explanatory power for RET6m, 49.4%, followed by TXFIN, NETEQ, NETDEBT, and SIZE. The five candidate risk-proxy variables collectively explain 79.9% of the variance of RET6m, and the best two-variable (three-variable) regression includes BM and TXFIN (BM, ACCRUAL, and TXFIN), producing an adjusted R^2 statistic value of 0.665 (0.750). In Panel C, among single regressors TXFIN has the greatest explanatory power for RET1yr, 57.5%, followed by NETEQ, NETDEBT, and BM. The five candidate risk-proxy variables collectively explain 61.0% of the variance of RET1yr, and the best two-variable (three-variable) regression includes SIZE and TXFIN (BM, ACCRUAL, and TXFIN), producing an adjusted R^2 statistic value of 0.703 (0.750). Finally, in Panel D, among single regressors BM has the greatest explanatory power for RET2-5yr, 41.1%, followed by TXFIN, NETEQ, and NETDEBT. The five candidate risk-proxy variables collectively explain 63.4% of the variance of RET2-5yr, and the best two-variable (three-variable) regression includes BM and TXFIN (SIZE, BM, and TXFIN), producing an adjusted R^2 statistic value of 0.666 (0.700).

One fairly stark conclusion can be drawn from the OLS regression results in Tables 14 and 15: While the candidate risk-proxy variables SIZE, PROFIT, and ACCRUAL are the strongest in terms of explaining variation in failure rates, the dubious risk-proxy variable BM, along with financing variables, especially TXFIN, are the most important in explaining variation in future returns. As such, the results are consistent with the failure risk anomaly and the external financing anomaly (i.e., given that the coefficient of TXFIN is negative in all equations in which it appears in Table 15 Panels B, C, and D). Other than this, the analyses in Tables 14 and 15 do not effectively allow us to gauge the efficacy of the common link hypothesis.

5.3. Factor analysis

The generally high correlations among the focal variables in our analysis suggest the possibility that a small number of 'factors' may be underlying their behavior. Indeed, the common link model in Figure 1, as well as evidence presented thus far, suggest that both a 'rational risk pricing' factor and a 'mispricing' factor may lurk in the data. Can factor analysis reveal these factors? To address this question, we conduct several factor analyses using all or some of the focal variables. We use SAS principal components factor analysis (which produces orthogonal factors) with VARIMAX rotation. We accept the default cutoff for the number of retained factors, which is based on the 'proportional criterion.' The reported results of each factor analysis, which consist of eigenvalues as well as the correlations of the scores of each factor with each focal variable, are shown in Table 16 Panel A. The results of OLS regressions of each of the failure rate and return variables on one or all of the extracted factor(s) from each factor analysis are displayed directly below its associated factor analysis results, in Panel B.

Our first factor analysis is of the 'kitchen sink' variety in that we enter all of the focal variables. The SAS model retained three factors, with eigenvalues of 5.49, 4.09, and 1.20 for Factors 1, 2, and 3, respectively. The scores of Factor 1 are highly negatively correlated with SIZE and PROFIT, and are highly positively correlated with FAIL1 and FAIL5, but are not correlated with any of the return variables (RETpy, RET6m, RET1yr, and RET2-5yr). Thus, Factor 1 appears to be a 'failure risk' factor, but is not a 'rational risk pricing' factor.

In sharp contrast, the scores of Factor 2 are highly positively correlated with NETDEBT, NETEQ, and TXFIN, and are highly negatively correlated with the future return variables (RET6m, RET1yr, and RET2-5yr), but are not correlated with the failure rate variables (FAIL1 and FAIL5). Thus, Factor 2 appears to well capture the external financing anomaly. The factor also appears to lend broader support for the common link hypothesis because its scores are also negatively correlated with both BM and PROFIT. Finally, Factor 3 could be interpreted as rational BM factor because it is highly positively correlated with BM (as well as LEV), negatively correlated with RETpy, positively correlated with both failure rates (though weakly), and positively correlated with all future returns.

In the second factor analysis, we enter only the five candidate risk-proxy variables (SIZE, BM, PROFIT, ACCRUAL, and LEV. The SAS model retains two factors. The scores of Factor 1 are highly negatively correlated with SIZE and RETpy, and highly positively correlated with FAIL1, FAIL5, and all of the future return variables. Thus, Factor 1 appears to be a 'rational risk pricing' factor. Meanwhile, the scores of Factor 2 are highly positively correlated with PROFIT and all of the future return variables, and are highly negatively correlated with ACCRUAL, NETEQ, TXFIN, FAIL1 and FAIL5. Thus, Factor 2 is clearly a 'mispricing' factor, and the correlations are all consistent with their corresponding predictions in Figure 1 for the common link hypothesis.

In the third factor analysis, we include only SIZE, PROFIT, TXFIN, RETpy, and RET6m. Here the SAS program retains three factors. Factor 1 appears to be a 'common-link' mispricing factor, Factor 2 appears to be a rational risk pricing factor, while Factor 3 appears to isolate the accruals anomaly. The fourth and final factor analysis is the most parsimonious in that we include only SIZE, TXFIN, RETpy, and RET6m. Here Factor 1 clearly captures common link mispricing, while Factor 2 is clearly a rational risk pricing factor.

In summary, factor analysis proved to be very useful in identifying both a rational risk pricing factor and a mispricing factor (related to the common link hypothesis) in our portfolio data. Moreover, it appears that a very parsimonious number of variables, SIZE, TXFIN, RETpy, and RET6m, are required to identify these two factors.

5.4. Two-stage least squares regressions

For our final analysis, we use two-stage regression analysis as an alternative method to attempt to distill a positive relationship between failure risk and future returns. In the first stage, FAIL5 is regressed on combinations of four of the candidate risk proxy variables (i.e., sans BM) to obtain estimates of five-year failure rate which we denote as FAIL5est. In the second stage, each of the return variables (RETpy, RET6m, RET1yr, or RET2-5yr) is regressed against FAIL5est and perhaps one or more additional independent variables included to adjust for mispricing.

The results of the two-stage regression analysis are displayed in Table 17. In Panel A, we include only SIZE as a regressor in the first-stage regression, and only FAILest as a regressor in the second-stage regression. Of course, in one respect these results are not surprising because it is well known that SIZE is a priced factor, and that smaller firms are more likely to fail. Nevertheless, at least two aspects of the results are important. First, SIZE explains over two-thirds (70.3%) of the cross-sectional variance in the failure rates of the 314 portfolios in our analysis, and failure risk estimates based on SIZE 'work' in the sense of being priced. Thus, if a researcher wishes to add additional variables to the first-stage regression to increase failure-risk forecasting power, the gains will necessarily be limited and the peril is that the additional variables are 'contaminated'; i.e., also associated with mispricing (such as BM or PROFIT). This peril is illustrated by the results in Panel B, where PROFIT is used in the first-stage regression, resulting in a negative pricing for failure risk in the second stage.

The second important point is that the power of FAILest to explain cross-sectional variation in the mean returns on the portfolios used in the analysis is very limited, as the adjusted R^2s for RET6m, RET1yr, and RET2-5yr are only 0.141, 0.081, and 0.121, respectively. These results suggest that either (or both): (a) other priced risk factors (e.g., PROFIT, market beta, etc.) also govern the data; or (b) mispricing may be a much larger source of cross-sectional variation in portfolio returns than differences in rational risk premiums.

Returning to the results, Panels C and D represent attempts to remediate the model in Panel B by adjusting for the contamination of PROFIT. In Panel C, we add TXFIN as a second regressor in the second-stage regression. By doing so, the coefficients of FAIL5est in the various regressions of future returns are, as expected, converted from significantly negative to insignificant or significantly positive. In Panel D, we instead add ACCRUAL as a second regressor in the first-stage regression. This adjustment does not convert the coefficients of FAIL5est in the future return regressions to positive values, but does substantially reduce their magnitude. In Panel E, we both add ACCRUAL in the first-stage regression and TXFIN in the second-stage regression. The result is that the coefficients of FAIL5est in all future return regressions are positive and significant.

In Panel F, we include SIZE, PROFIT, ACCRUAL, and LEV in the first-stage regression, but leave FAIL5est as the sole regressor in the second-stage regression. The result is that we get positive, but small coefficients of FAIL5est in all future return regressions. In Panel G, we add PROFIT and ACCRUAL as second-stage regressors. The result is that the coefficients of FAIL5est are positive, relatively large, and highly significant in all future return regressions. In Panel H, we also add TXFIN as a regressor in the second-stage regression. The coefficients of FAIL5est remain positive, large, and highly significant in all future return regressions. However, the coefficients of PROFIT and ACCRUAL are substantially attenuated relative to their values in Panel G. This result suggests that external financing is the dominant driver of mispricing, as predicted by the common link hypothesis.

In Panel I, we include only one additional regressor in the second-stage regression, BMmisprice. BMmisprice consists of the residuals from a regression of BM on SIZE and RETpy, and represents our attempt to isolate the mispricing component of BM. The result is that the coefficient of BMmisprice is positive and significant in all of the future return regressions, and the coefficients of FAIL5est are all positive in these regressions as well, though they are small.

Finally, in Panel J we include TXFIN, PROFIT, ACCRUAL, and BMmisprice as mispricing adjustment variables in the second-stage regression. The coefficients of FAIL5est are positive, highly significant, and relatively large in all of the future return regressions. Moreover, the values of the coefficients of PROFIT, ACCRUAL, and BMmispricing are much smaller than their corresponding values in previous panels, while the values of the coefficients of TXFIN are similar to their corresponding values in Panel H. This result also suggests that external financing is the dominant driver of mispricing, as predicted by the common link hypothesis.

6. Summary

Assuming that failure risk is the sole determinant of risk premiums, we develop and test a hypothesis that the following six asset pricing anomalies share a common link via a mispricing relationship involving operating profit and external financing: (1) The raw profitability anomaly; (2) The failure-risk anomaly; (3) post-earnings announcement drift; (4) The external financing anomaly; (5) The book-to-market anomaly; and (6) The accruals anomaly. Using average cross-sectional data on 314 portfolios U.S. firms (1980-2007) that are developed by sorting and cross-sorting on risk-proxy, cash flow, and past return variables, we find a common link among the first five anomalies, while evidence related to accruals is mixed. We are also able to find a general positive relationship between failure risk and future short- and long-term returns, but only after adjusting for this 'common link' source of mispricing. Stock price 'hyping' in advance of external financing issues is a plausible partial explanation for common link mispricing.

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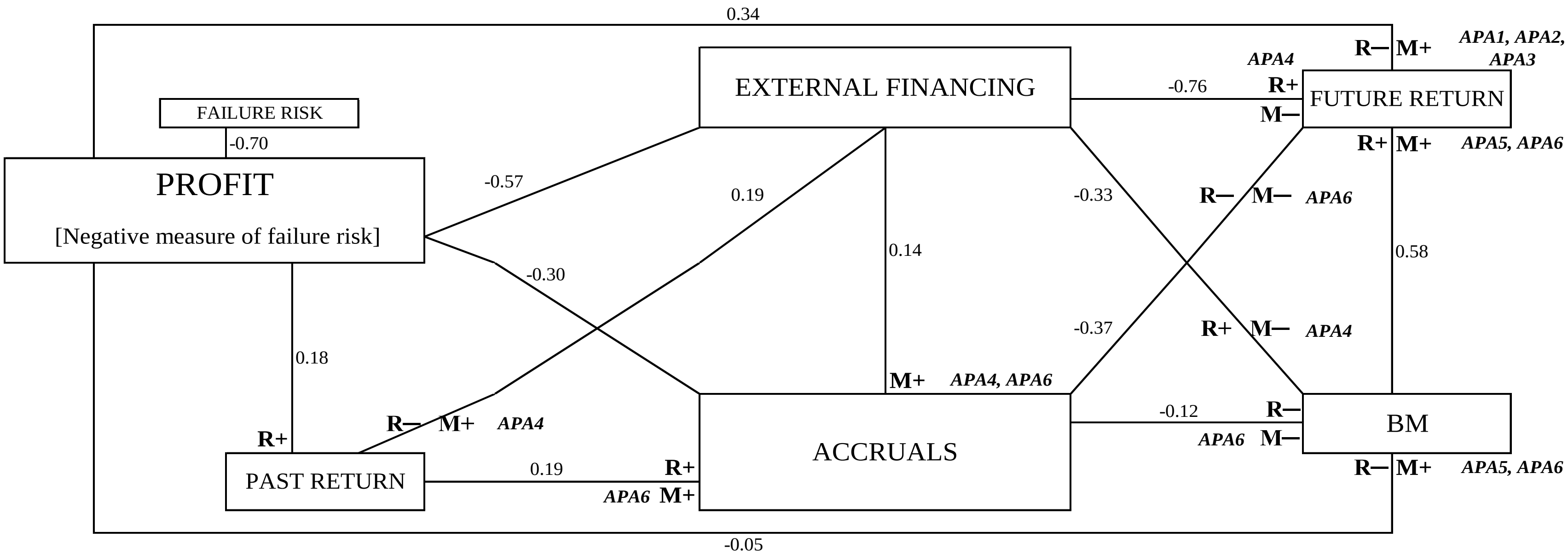
Figure 1

Illustration of hypothesized common link among six asset pricing anomalies

The anomalies are: ***APA1:*** The raw profitability anomaly; ***APA2:*** The failure-risk anomaly; ***APA3:*** Post-earnings announcement drift; ***APA4:*** The external financing anomaly; ***APA5:*** The book-to-market (BM) anomaly; and ***APA6:*** The accruals anomaly. Rational pricing relationships (R- and R+) assume that failure risk is the sole determinant of risk premiums. It is also assumed that arbitrage costs allow mispricing relationships to emerge and persist. Numbers in the figure are cross-sectional correlations from portfolio data developed in this paper. The correlation between PROFIT and FAILURE RISK refers to FAIL1. All correlations with 'FUTURE RETURN' refer to RET1yr.



Legend:

PROFIT		Year t ratio of NCFO to year-end t total assets (PROFIT)
EXTERNAL FINANCING		Year t ratio of total external financing (net debt issuance plus net equity issuance) to year-end t total assets (TXFIN)
	or	Debt or equity component of TXFIN (NETDEBT, NETEQ)
ACCRUALS		Year t ratio of income-based accruals to year-end t total assets (ACCRUAL)
BM		Year-end t ratio of book equity to market equity
FAIL1		Probability of failure within 1 year (starting 6 months after year-end t)
FAIL5		Probability of failure within 5 years (starting 6 months after year-end t)
PAST RETURN		Stock return in year t (RETpy)
FUTURE RETURN		Stock return over six months starting at year-end t (RET6m)
	or	Stock return over one year starting six months after year-end t (RET1yr)
	or	Stock return over four years starting 1.5 years after year-end t (RET2-5yr)
R─ (R+)		Rational negative (positive) risk-return relationship
M─ (M+)		Mispricing negative (positive) relationship

Table 1

Mean statistics by quintiles of each risk-proxy variable and quintiles or classes of each financing variable

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) into quintiles by each of five risk-proxy variables and either quintiles or classes of each of three external financing variables. Then for each quintile or class of each variable, time series means of cross-sectional averages of the following variables (defined in the text) are calculated: SIZE, BM, PROFIT, ACCRUAL, LEV, NETDEBT, NETEQ, TXFIN, FAIL1, FAIL5, RETpy, RET6m, RET1yr, RET2-5yr. Significance indicators for differences: * (10%); ** (5%); and *** (1%).

	Quintile of focal risk-proxy variable:					Diff.
	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: Focal risk-proxy variable: SIZE						
SIZE	1.00	2.00	3.00	4.00	5.00	4.00***
BM	1.22	0.85	0.70	0.58	0.49	-0.73***
PROFIT (%)	-1.42	1.56	3.70	8.02	11.78	13.20***
ACCRUAL (%)	-8.31	-6.19	-5.09	-4.64	-5.30	3.01***
LEV (%)	32.38	26.11	22.83	21.47	19.52	-12.86***
NETDEBT (%)	-0.41	1.10	1.43	2.05	1.81	2.22***
NETEQ (%)	3.52	4.95	5.82	4.25	1.11	-2.41***
TXFIN (%)	3.11	6.05	7.25	6.29	2.92	-0.19
FAIL1 (%)	11.38	3.65	1.67	0.61	0.15	-11.23***
FAIL5 (%)	36.88	18.37	10.13	5.09	1.29	-35.59***
RETpy (%)	-0.23	1.02	1.81	2.32	2.31	2.54***
RET6m (%)	3.41	1.86	1.59	1.46	1.44	-1.97***
RET1yr (%)	1.90	1.25	0.99	0.96	1.11	-0.79***
RET2-5yr (%)	1.67	1.42	1.34	1.31	1.29	-0.38***
Panel B: Focal risk-proxy variable: BM						
SIZE	3.35	3.51	3.30	2.85	2.06	-1.29***
BM	0.17	0.38	0.60	0.89	1.79	1.62***
PROFIT (%)	0.11	6.91	6.98	6.11	3.74	3.63***
ACCRUAL (%)	-6.87	-4.92	-5.25	-5.66	-6.76	0.12
LEV (%)	12.01	16.39	22.91	29.67	41.13	29.12***
NETDEBT (%)	2.38	1.81	1.25	0.91	-0.32	-2.70***
NETEQ (%)	11.67	4.31	2.33	1.00	0.37	-11.30***
TXFIN (%)	14.05	6.12	3.58	1.90	0.05	-14.00***
FAIL1 (%)	4.88	2.28	1.90	2.61	5.51	0.63***
FAIL5 (%)	18.05	9.84	9.48	12.39	21.25	3.20***
RETpy (%)	4.09	2.40	1.38	0.41	-1.00	-5.09***
RET6m (%)	0.77	1.46	1.83	2.23	3.43	2.66***
RET1yr (%)	0.46	1.11	1.33	1.48	1.81	1.35***
RET2-5yr (%)	1.05	1.32	1.42	1.51	1.64	0.59***
Panel C: Focal risk-proxy variable: PROFIT (%)						
SIZE	2.16	2.72	3.19	3.48	3.51	1.35***
BM	0.73	0.98	0.85	0.71	0.55	-0.18***
PROFIT (%)	-18.16	2.01	7.36	11.79	20.35	38.51***
ACCRUAL (%)	-4.17	-3.08	-4.62	-6.42	-11.10	-6.94***
LEV (%)	23.06	33.27	29.78	22.25	13.60	-9.46***
NETDEBT (%)	1.94	2.51	1.89	0.72	-1.01	-2.95***
NETEQ (%)	13.91	2.97	1.81	0.96	0.24	-13.67***
TXFIN (%)	15.85	5.48	3.71	1.68	-0.77	-16.62***
FAIL1 (%)	9.73	3.71	1.63	1.02	1.19	-8.54***
FAIL5 (%)	32.68	16.66	9.45	6.28	6.26	-26.42***
RETpy (%)	0.49	0.97	1.45	1.82	2.55	2.06***
RET6m (%)	1.41	1.64	2.05	2.19	2.40	0.99**
RET1yr (%)	1.02	0.99	1.32	1.41	1.42	0.40*
RET2-5yr (%)	1.29	1.41	1.40	1.42	1.39	0.10
Panel D: Focal risk-proxy variable: ACCRUAL (%)						
SIZE	2.59	3.19	3.32	3.18	2.79	0.20***
BM	0.80	0.79	0.76	0.76	0.72	-0.08**
PROFIT (%)	6.05	8.72	7.08	4.59	-2.56	-8.61***
ACCRUAL (%)	-20.70	-8.24	-4.77	-1.76	5.69	26.38***
LEV (%)	24.97	25.87	25.79	23.66	21.72	-3.25***
NETDEBT (%)	-0.71	0.88	1.67	2.01	2.14	2.84***
NETEQ (%)	5.94	2.62	2.47	3.34	5.35	-0.59
TXFIN (%)	5.24	3.50	4.14	5.35	7.48	2.25***
FAIL1 (%)	7.42	2.30	2.06	1.98	3.48	-3.95***
FAIL5 (%)	23.55	10.91	9.82	10.67	16.16	-7.39***
RETpy (%)	0.54	1.50	1.59	1.67	1.98	1.44***
RET6m (%)	2.26	2.11	1.99	1.76	1.60	-0.66***
RET1yr (%)	1.45	1.41	1.32	1.14	0.88	-0.57***
RET2-5yr (%)	1.43	1.51	1.40	1.33	1.25	-0.18***

	Quintile or class of financing variable:					Diff.
	(1) (low)	(2)	(3)	(4)	5) (high	[(5)-(1)]
Panel E: Focal risk-proxy variable: LEV (%)						
SIZE	3.00	3.25	3.28	3.07	2.47	-0.53***
BM	0.54	0.52	0.64	0.83	1.29	0.75***
PROFIT (%)	3.40	4.63	6.47	5.77	3.61	0.21
ACCRUAL (%)	-5.49	-5.70	-5.96	-5.83	-6.46	-0.97***
LEV (%)	0.60	6.59	18.36	34.79	62.17	61.57***
NETDEBT (%)	-0.89	-0.03	1.64	2.61	2.71	3.60***
NETEQ (%)	9.19	6.35	2.26	1.09	0.73	-8.46***
TXFIN (%)	8.30	6.32	3.89	3.71	3.44	-4.86***
FAIL1 (%)	2.62	2.31	2.51	3.12	6.63	4.01***
FAIL5 (%)	12.62	11.82	11.07	12.55	22.95	10.33***
RETpy (%)	2.43	2.44	1.70	1.03	-0.34	-2.77***
RET6m (%)	1.80	1.54	1.78	2.06	2.53	0.73***
RET1yr (%)	1.32	1.16	1.26	1.27	1.16	-0.16
RET2-5yr (%)	1.43	1.35	1.36	1.38	1.40	-0.03
Panel F: Focal financing variable: NETDEBT (%)						
SIZE	2.75	3.01	2.97	3.31	3.11	0.36***
BM	0.87	0.81	0.69	0.79	0.68	-0.19***
PROFIT (%)	6.84	5.14	3.70	5.49	3.21	-3.63***
ACCRUAL (%)	-8.26	-5.78	-5.42	-5.12	-4.71	3.55***
LEV (%)	30.63	22.44	9.29	29.88	35.21	4.58***
NETDEBT (%)	-9.70	-1.31	-0.07	2.09	15.32	25.02***
NETEQ (%)	4.78	3.62	5.17	2.74	2.66	-2.12***
TXFIN (%)	-4.92	2.31	5.10	4.83	17.98	22.90***
FAIL1 (%)	3.78	3.12	3.09	2.91	4.21	0.43
FAIL5 (%)	15.60	12.66	13.46	12.27	16.73	1.13
RETpy (%)	1.66	1.45	1.55	1.30	1.29	-0.37
RET6m (%)	2.48	2.14	1.99	1.82	1.27	-1.22***
RET1yr (%)	1.49	1.43	1.47	1.18	0.56	-0.93***
RET2-5yr (%)	1.46	1.48	1.44	1.35	1.16	-0.30***
Panel G: Focal financing variable: NETEQ[a] (%)						
SIZE	3.28	2.37	3.22		2.99	-0.29***
BM	0.85	1.08	0.67		0.43	-0.42***
PROFIT (%)	9.54	4.41	6.20		-5.74	-15.28***
ACCRUAL (%)	-5.56	-6.65	-5.48		-6.26	-0.70
LEV (%)	24.76	33.42	23.09		15.22	-15.62***
NETDEBT (%)	1.16	0.54	1.78		0.82	-0.34
NETEQ (%)	-3.24	0.00	0.87		29.20	32.44***
TXFIN (%)	-2.08	0.54	2.65		30.02	32.10***
FAIL1 (%)	1.65	6.38	2.35		5.65	4.00***
FAIL5 (%)	8.80	21.60	10.64		22.41	13.61***
RETpy (%)	1.04	0.62	1.56		3.01	1.97***
RET6m (%)	2.24	2.56	1.89		0.91	-1.33***
RET1yr (%)	1.50	1.36	1.30		0.40	-1.10***
RET2-5yr (%)	1.44	1.44	1.43		1.03	-0.41***
Panel H: Focal financing variable: TXFIN (%)						
SIZE	2.89	2.93	3.03	3.24	2.98	0.09
BM	0.89	0.91	0.78	0.73	0.52	-0.37***
PROFIT (%)	9.63	6.96	5.67	5.10	-3.49	-13.12***
ACCRUAL (%)	-7.88	-5.74	-5.51	-5.03	-5.28	-2.61***
LEV (%)	29.06	23.91	16.41	27.88	25.03	-4.03***
NETDEBT (%)	-7.74	-1.21	0.09	3.40	11.60	19.34***
NETEQ (%)	-2.34	-0.18	0.45	1.90	19.77	22.11***
TXFIN (%)	-10.07	-1.39	0.53	5.30	31.37	41.44***
FAIL1 (%)	2.92	2.88	2.99	3.07	5.12	2.20***
FAIL5 (%)	12.49	12.25	12.43	12.50	21.36	8.87***
RETpy (%)	1.31	1.03	1.21	1.40	2.33	1.02***
RET6m (%)	2.61	2.41	2.07	1.68	0.94	-1.67***
RET1yr (%)	1.69	1.53	1.55	1.13	0.27	-1.42***
RET2-5yr (%)	1.49	1.49	1.47	1.39	1.07	-0.42***

[a]NETEQ classes are: (1) NETEQ<0; (2) NETEQ=0; (3) 0<NETEQ<5%; and (5) NETEQ≥5%.

Table 2

Mean statistics by combinations of SIZE and BM

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by SIZE and BM, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

BM	SIZE quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	1.00	2.00	3.00	4.00	5.00	4.00***
(2)	1.00	2.00	3.00	4.00	5.00	4.00***
(3)	1.00	2.00	3.00	4.00	5.00	4.00***
(4)	1.00	2.00	3.00	4.00	5.00	4.00***
(5) (high)	1.00	2.00	3.00	4.00	5.00	4.00***
Diff. [(5)-(1)]	n/a	n/a	n/a	n/a	n/a	n/a
Panel B: BM						
(1) (low)	0.16	0.16	0.16	0.18	0.19	0.03
(2)	0.39	0.38	0.39	0.39	0.38	-0.01
(3)	0.60	0.60	0.60	0.60	0.59	-0.01
(4)	0.91	0.90	0.89	0.87	0.87	-0.04
(5) (high)	2.06	1.66	1.56	1.45	1.40	-0.66***
Diff. [(5)-(1)]	1.90***	1.50***	1.40***	1.27***	1.21***	
Panel C: PROFIT (%)						
(1) (low)	-16.06	-11.63	-7.10	5.70	14.83	30.89***
(2)	-5.06	1.49	5.26	9.64	12.23	17.29***
(3)	-0.61	4.51	7.01	9.13	10.54	11.15***
(4)	1.82	5.53	7.18	7.86	8.68	6.86***
(5) (high)	1.79	4.73	5.10	5.97	6.85	5.06***
Diff. [(5)-(1)]	17.85***	16.36***	12.20***	0.27	-7.98***	
Panel D: ACCRUAL (%)						
(1) (low)	-13.63	-8.85	-6.56	-4.89	-4.99	8.64***
(2)	-8.36	-5.05	-4.02	-3.95	-5.07	3.29***
(3)	-7.65	-4.94	-4.40	-4.66	-5.59	2.06***
(4)	-7.32	-5.46	-5.05	-4.81	-5.83	1.49***
(5) (high)	-7.69	-6.49	-5.60	-5.59	-5.69	2.00***
Diff. [(5)-(1)]	5.94***	2.36***	0.96***	-0.70**	-0.71**	
Panel E: LEV (%)						
(1) (low)	22.61	13.17	10.21	10.25	9.19	-13.42***
(2)	21.62	18.17	15.15	15.15	15.44	-6.18***
(3)	25.99	22.82	20.85	22.27	24.25	-1.74***
(4)	29.66	28.16	41.45	30.61	33.89	4.23***
(5) (high)	41.24	39.19	41.45	44.46	45.40	4.16***
Diff. [(5)-(1)]	18.63***	26.02***	31.24***	34.21***	36.21***	
Panel F: NETDEBT (%)						
(1) (low)	0.58	2.42	2.63	2.91	2.56	1.98***
(2)	0.21	1.81	1.74	2.48	1.82	1.61***
(3)	-0.03	1.12	1.37	1.74	1.41	1.44***
(4)	-0.25	0.80	1.01	1.76	1.42	1.67***
(5) (high)	-1.07	0.02	0.23	0.60	1.04	2.11***
Diff. [(5)-(1)]	-1.65***	-2.40***	-2.40***	-2.31***	-1.52***	
Panel G: NETEQ (%)						
(1) (low)	14.51	18.25	18.89	11.36	2.60	-11.91***
(2)	7.58	6.90	6.30	4.42	0.77	-6.81***
(3)	3.92	3.20	3.06	2.19	0.25	-3.67***
(4)	1.60	0.93	1.07	0.79	0.35	-1.25***
(5) (high)	0.44	0.22	0.35	0.39	0.27	-0.17
Diff. [(5)-(1)]	-14.07***	-18.03***	-18.54***	-10.97***	-2.33***	

BM	SIZE quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	15.09	20.66	21.52	14.28	5.16	-9.93***
(2)	7.79	8.72	8.03	6.90	2.58	-5.21***
(3)	3.89	4.32	4.43	3.93	1.66	-2.23
(4)	1.35	1.73	2.08	2.55	1.77	0.42
(5) (high)	-0.63	0.25	0.57	0.99	1.30	1.93***
Diff. [(5)-(1)]	-15.72***	-20.41***	-20.95***	-13.29***	-3.86***	
Panel I: FAIL1 (%)						
(1) (low)	21.63	7.56	3.74	0.91	0.12	-21.51***
(2)	13.47	3.46	1.14	0.54	0.17	-13.30***
(3)	9.68	2.09	0.95	0.33	0.17	-9.51***
(4)	8.47	2.48	0.89	0.60	0.26	-8.21***
(5) (high)	9.80	3.19	1.93	1.37	0.00	-9.80***
Diff. [(5)-(1)]	-11.83***	-4.37***	-1.81***	0.46	-0.12	
Panel J: FAIL5 (%)						
(1) (low)	53.61	30.90	19.46	7.73	1.23	-52.38***
(2)	40.08	17.55	8.50	4.36	1.00	-39.08***
(3)	34.29	14.47	7.26	3.34	1.18	-33.11***
(4)	32.05	14.49	6.98	4.45	1.91	-30.14***
(5) (high)	34.21	16.07	8.94	7.99	5.09	-29.12***
Diff. [(5)-(1)]	-19.40***	-14.83***	-10.52	0.26	3.86***	
Panel K: RETpy (%)						
(1) (low)	1.07	3.43	4.86	5.47	4.08	3.01***
(2)	1.33	2.34	2.90	2.77	2.19	0.86***
(3)	0.68	1.56	1.44	1.55	1.38	0.70***
(4)	0.07	0.37	0.49	0.53	0.62	0.55*
(5) (high)	-1.36	-0.94	-0.65	-0.54	-0.14	1.22***
Diff. [(5)-(1)]	-2.43***	-4.37***	-5.51***	-6.01***	-4.22***	
Panel L: RET6m (%)						
(1) (low)	1.74	0.64	0.29	0.63	1.03	-0.71**
(2)	2.15	1.65	1.50	1.14	1.43	-0.72**
(3)	3.00	1.77	1.67	1.69	1.55	-1.45***
(4)	3.17	1.96	2.01	1.99	1.91	-1.26***
(5) (high)	4.39	2.81	2.68	2.60	2.34	-2.05***
Diff. [(5)-(1)]	2.65***	2.17***	2.39***	1.97***	1.31***	
Panel M: RET1yr (%)						
(1) (low)	0.80	0.47	0.05	0.35	0.88	0.08
(2)	1.70	0.95	1.05	1.03	1.10	-0.60***
(3)	1.91	1.35	1.26	1.16	1.24	-0.67***
(4)	1.98	1.45	1.39	1.21	1.24	-0.74***
(5) (high)	2.23	1.71	1.26	1.16	1.37	-0.86***
Diff. [(5)-(1)]	1.43***	1.24***	1.21***	0.81***	0.49*	
Panel N: RET2-5yr (%)						
(1) (low)	0.79	1.01	0.94	1.22	1.16	0.37***
(2)	1.46	1.47	1.35	1.30	1.28	-0.18
(3)	1.67	1.44	1.40	1.40	1.36	-0.31***
(4)	1.73	1.46	1.56	1.35	1.40	-0.33***
(5) (high)	1.87	1.57	1.45	1.31	1.22	-0.65***
Diff. [(5)-(1)]	1.08***	0.56***	0.51***	0.09	0.06	

Table 3

Mean statistics by PROFIT and LEV quintiles

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by PROFIT and LEV, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

LEV	PROFIT quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	2.30	2.59	2.93	3.27	3.59	1.29***
(2)	2.28	2.85	3.30	3.66	3.79	1.51***
(3)	2.09	2.90	3.48	3.79	3.56	1.47***
(4)	2.04	2.88	3.38	3.53	3.13	1.09***
(5) (high)	1.92	2.47	2.82	2.69	2.29	0.37***
Diff. [(5)-(1)]	-0.38***	-0.12	-0.11	-0.58***	-1.30***	
Panel B: BM						
(1) (low)	0.48	0.76	0.69	0.59	0.43	-0.05
(2)	0.43	0.65	0.63	0.54	0.43	0.00
(3)	0.60	0.75	0.69	0.60	0.58	-0.02
(4)	0.83	0.92	0.85	0.78	0.74	-0.09**
(5) (high)	1.30	1.37	1.21	1.17	1.26	-0.04
Diff. [(5)-(1)]	0.82***	0.61***	0.52***	0.58***	0.83***	
Panel C: PROFIT (%)						
(1) (low)	-24.77	1.86	7.37	12.00	21.56	46.33***
(2)	-21.87	1.92	7.39	11.93	20.14	42.01***
(3)	-16.79	2.03	7.48	11.84	19.33	36.12***
(4)	-12.99	2.14	7.38	11.65	19.57	32.56***
(5) (high)	-10.05	2.05	7.18	11.52	20.59	30.64***
Diff. [(5)-(1)]	14.72***	0.19	-0.19	-0.48*	-0.97***	
Panel D: ACCRUAL (%)						
(1) (low)	-5.25	-2.13	-3.09	-4.17	-8.65	-3.40***
(2)	-5.51	-2.42	-2.60	-4.52	-9.61	-4.10***
(3)	-4.30	-2.21	-3.80	-6.13	-12.02	-7.72***
(4)	-2.13	-2.73	-4.86	-7.62	-15.08	-12.95***
(5) (high)	-1.66	-4.30	-6.95	-10.53	-20.21	-18.56***
Diff. [(5)-(1)]	3.59***	2.17***	-3.86***	-6.36***	-11.56***	
Panel E: LEV %)						
(1) (low)	0.52	0.52	0.65	0.65	0.63	0.11
(2)	6.32	6.85	6.90	6.83	6.35	0.03
(3)	18.08	18.57	18.74	18.43	17.89	-0.19
(4)	35.03	35.30	35.21	34.09	33.83	-1.2
(5) (high)	63.38	62.90	60.91	59.24	61.53	-1.85
Diff. [(5)-(1)]	63.23***	62.57***	60.35***	58.65***	61.04***	
Panel F: NETDEBT (%)						
(1) (low)	-0.86	-0.82	-0.71	-0.82	-1.04	-0.18
(2)	1.62	0.40	-0.11	-0.21	-1.11	-2.73***
(3)	3.62	2.16	1.98	1.32	-0.31	-3.93***
(4)	4.27	3.85	3.00	2.02	-0.74	-5.01***
(5) (high)	4.71	4.01	3.05	0.84	-2.84	-7.55***
Diff. [(5)-(1)]	5.20***	4.81***	3.72***	1.55***	-1.92***	
Panel G: NETEQ (%)						
(1) (low)	25.45	7.06	5.23	3.39	0.92	-24.53***
(2)	18.84	6.44	3.72	1.70	0.18	-18.66***
(3)	9.40	3.14	1.45	0.22	-0.38	-9.78***
(4)	4.63	1.48	0.70	-0.06	-0.25	-4.88***
(5) (high)	2.17	0.75	0.44	0.12	-0.01	-2.18***
Diff. [(5)-(1)]	-23.28***	-6.31***	-4.79***	-3.27***	-0.93***	

LEV	PROFIT quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	24.59	6.23	4.52	2.57	-0.12	-24.71***
(2)	20.46	6.84	3.61	1.48	-0.93	-21.39***
(3)	13.02	5.30	3.42	1.54	-0.69	-13.71***
(4)	8.90	5.32	3.70	1.96	-0.99	-9.89***
(5) (high)	6.88	4.76	3.49	0.95	-2.86	-9.74***
Diff. [(5)-(1)]	-17.71***	-1.47**	-1.03	-1.62***	-2.74***	
Panel I: FAIL1 (%)						
(1) (low)	7.54	1.39	1.02	0.67	0.72	-6.82***
(2)	7.84	1.54	0.95	0.57	0.68	-7.16***
(3)	9.84	2.58	0.93	0.78	0.85	-8.99***
(4)	12.26	3.34	1.01	0.79	2.25	-10.01***
(5) (high)	16.03	6.65	3.26	3.09	5.15	-10.88***
Diff. [(5)-(1)]	8.49***	5.26***	2.24***	2.42***	4.43***	
Panel J: FAIL5 (%)						
(1) (low)	29.84	12.91	7.89	5.34	4.41	-25.43***
(2)	32.14	13.52	6.82	4.38	4.81	-27.33***
(3)	33.02	13.99	6.68	4.75	5.45	-27.57***
(4)	34.64	14.15	7.72	5.34	9.03	-25.61***
(5) (high)	40.20	23.30	15.21	14.27	19.84	-20.36***
Diff. [(5)-(1)]	10.36***	10.39***	7.32***	8.93***	15.43***	
Panel K: RETpy (%)						
(1) (low)	1.92	1.94	2.23	2.30	3.15	1.23***
(2)	1.61	2.44	2.51	2.45	2.96	1.35***
(3)	0.16	1.62	1.77	2.09	2.30	2.14***
(4)	-0.56	0.91	1.36	1.48	1.64	2.20***
(5) (high)	-1.79	-0.41	0.36	0.51	0.39	2.18***
Diff. [(5)-(1)]	-3.71***	-2.35***	-1.87***	-1.79***	-2.76***	
Panel L: RET6m (%)						
(1) (low)	1.40	1.60	1.45	1.99	2.24	0.84***
(2)	0.96	0.88	1.47	1.80	2.07	1.11***
(3)	1.37	1.13	1.80	1.93	2.37	1.00***
(4)	1.54	1.62	2.08	2.45	2.89	1.35***
(5) (high)	1.64	2.31	2.94	2.96	3.89	2.25***
Diff. [(5)-(1)]	0.24	0.71**	1.49***	0.97***	1.65***	
Panel M: RET1yr (%)						
(1) (low)	1.24	1.17	1.48	1.21	1.40	0.16
(2)	0.96	0.67	1.14	1.30	1.32	0.36
(3)	1.13	1.09	1.18	1.36	1.41	0.28
(4)	0.69	1.00	1.40	1.52	1.62	0.93***
(5) (high)	0.47	0.90	1.45	1.82	2.06	1.59***
Diff. [(5)-(1)]	-0.77***	-0.27	-0.04	0.60***	0.67***	
Panel N: RET2-5yr (%)						
(1) (low)	1.34	1.51	1.58	1.39	1.39	0.05
(2)	1.29	1.39	1.39	1.34	1.35	0.06
(3)	1.16	1.43	1.36	1.39	1.38	0.22**
(4)	1.22	1.31	1.38	1.49	1.42	0.20**
(5) (high)	1.30	1.41	1.39	1.59	1.55	0.25**
Diff. [(5)-(1)]	-0.04	-0.10	-0.19*	0.20**	0.16	

Table 4
Mean statistics by combinations of SIZE and PROFIT

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by SIZE and PROFIT, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

PROFIT	SIZE quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	1.00	2.00	3.00	4.00	5.00	4.00***
(2)	1.00	2.00	3.00	4.00	5.00	4.00***
(3)	1.00	2.00	3.00	4.00	5.00	4.00***
(4)	1.00	2.00	3.00	4.00	5.00	4.00***
(5) (high)	1.00	2.00	3.00	4.00	5.00	4.00***
Diff. [(5)-(1)]	n/a	n/a	n/a	n/a	n/a	n/a
Panel B: BM						
(1) (low)	1.03	0.64	0.51	0.48	0.58	-0.45***
(2)	1.45	1.03	0.84	0.71	0.66	-0.79***
(3)	1.35	1.00	0.83	0.68	0.60	-0.75***
(4)	1.24	0.90	0.72	0.59	0.49	-0.75***
(5) (high)	1.09	0.71	0.57	0.44	0.35	-0.74***
Diff. [(5)-(1)]	0.06	0.07	0.06	-0.04	-0.23***	
Panel C: PROFIT (%)						
(1) (low)	-19.06	-19.33	-18.34	-13.84	-8.34	10.72***
(2)	1.75	1.87	2.01	2.18	2.54	0.79
(3)	7.20	7.27	7.30	7.39	7.55	0.35
(4)	11.70	11.72	11.79	11.79	11.87	0.17
(5) (high)	22.26	20.62	20.36	20.14	19.69	-2.17***
Diff. [(5)-(1)]	41.32***	39.95***	38.70***	33.98***	28.03***	
Panel D: ACCRUAL (%)						
(1) (low)	-6.57	-4.05	-2.87	-0.81	1.81	8.38***
(2)	-5.69	-3.49	-1.98	-1.19	-1.97	3.72***
(3)	-7.95	-5.25	-4.19	-3.40	-3.52	4.43***
(4)	-10.00	-7.81	-6.19	-5.52	-5.26	4.74***
(5) (high)	-18.07	-13.35	-11.51	-9.71	-8.30	9.77***
Diff. [(5)-(1)]	-11.50***	-9.30***	-8.64***	-8.90***	-10.11***	
Panel E: LEV (%)						
(1) (low)	28.14	21.74	17.99	20.00	25.74	-2.40***
(2)	38.89	33.32	31.03	30.08	31.07	-7.82***
(3)	36.19	31.72	28.64	27.45	27.34	-8.85***
(4)	30.66	25.87	21.70	19.98	19.41	-11.25***
(5) (high)	25.07	16.63	13.44	11.44	9.72	-15.35***
Diff. [(5)-(1)]	-3.07***	-5.11***	-4.55***	-8.56***	-16.02***	
Panel F: NETDEBT (%)						
(1) (low)	0.69	2.46	2.19	3.66	5.23	4.54***
(2)	0.36	2.28	2.82	4.09	4.07	3.71***
(3)	0.29	1.17	2.29	2.62	2.74	2.45***
(4)	-1.42	-0.07	0.70	1.42	1.43	2.85***
(5) (high)	-4.03	-2.03	-1.56	-0.37	0.37	4.40***
Diff. [(5)-(1)]	-4.72***	-4.49***	-3.75***	-4.03***	-4.86***	
Panel G: NETEQ (%)						
(1) (low)	8.82	15.19	18.76	17.83	9.48	0.66
(2)	1.24	2.17	3.57	4.81	3.81	2.57***
(3)	0.63	1.23	2.35	2.74	1.59	0.96*
(4)	0.30	0.46	1.40	1.87	0.43	0.13
(5) (high)	0.20	0.07	1.01	0.80	-0.45	-0.65
Diff. [(5)-(1)]	-8.62***	-15.12***	-17.75***	-17.03***	-9.93***	

PROFIT	SIZE quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	9.51	17.65	20.95	21.49	14.71	5.20***
(2)	1.60	4.46	6.39	8.99	7.88	6.28***
(3)	0.34	2.40	4.64	5.35	4.34	4.00***
(4)	-1.12	0.40	2.11	3.29	1.87	2.99***
(5) (high)	-3.83	-1.96	-0.55	0.43	-0.08	3.75***
Diff. [(5)-(1)]	-13.34***	-19.61***	-21.50***	-21.06***	-14.79***	
Panel I: FAIL1 (%)						
(1) (low)	18.34	7.54	3.92	1.51	1.06	-17.28***
(2)	9.21	3.47	2.09	0.96	0.62	-8.59***
(3)	6.48	1.95	0.85	0.44	0.05	-6.43***
(4)	5.49	1.32	0.51	0.31	0.07	-5.42***
(5) (high)	6.63	1.63	0.60	0.32	0.04	-6.59***
Diff. [(5)-(1)]	-11.71***	-5.91***	-3.32***	-1.19**	-1.02**	
Panel J: FAIL5 (%)						
(1) (low)	49.69	31.01	19.57	12.41	6.73	-42.96***
(2)	33.59	18.32	11.24	7.83	3.41	-30.18
(3)	28.00	13.77	7.28	4.02	1.24	-26.76
(4)	23.91	10.12	5.57	2.95	0.83	-23.08***
(5) (high)	26.45	10.43	5.38	2.49	0.53	-25.92***
Diff. [(5)-(1)]	-23.24***	-20.58***	-14.19***	-9.92***	-6.20***	
Panel K: RETpy (%)						
(1) (low)	-1.36	0.40	1.86	2.90	3.31	4.67***
(2)	-0.15	0.53	1.23	1.83	2.21	2.36***
(3)	0.39	1.02	1.47	1.95	1.97	1.58***
(4)	0.89	1.50	1.91	2.06	2.08	1.19***
(5) (high)	1.46	2.40	2.66	2.93	2.65	1.19***
Diff. [(5)-(1)]	2.82***	2.00***	0.80***	0.03	-0.66**	
Panel L: RET6m (%)						
(1) (low)	3.22	0.86	0.32	0.02	-0.10	-3.32***
(2)	3.18	1.55	1.20	0.88	0.81	-2.37***
(3)	3.52	2.29	1.98	1.57	1.42	-2.10***
(4)	3.88	2.46	2.15	1.93	1.59	-2.29***
(5) (high)	4.10	2.98	2.54	2.08	1.70	-2.40***
Diff. [(5)-(1)]	0.88*	2.12***	2.22***	2.06***	1.80***	
Panel M: RET1yr (%)						
(1) (low)	1.83	0.92	0.38	0.13	0.37	-1.46***
(2)	1.76	1.00	0.74	0.58	0.70	-1.06***
(3)	2.07	1.35	1.24	1.10	1.14	-0.93***
(4)	2.17	1.79	1.26	1.22	1.20	-0.97***
(5) (high)	2.04	1.44	1.42	1.33	1.26	-0.78***
Diff. [(5)-(1)]	0.21	0.52*	1.04***	1.20***	0.89**	
Panel N: RET2-5yr (%)						
(1) (low)	1.43	1.22	1.28	1.15	1.39	-0.04
(2)	1.72	1.49	1.31	1.21	1.33	-0.39***
(3)	1.87	1.40	1.40	1.25	1.30	-0.57***
(4)	1.79	1.67	1.37	1.35	1.29	-0.50***
(5) (high)	1.75	1.37	1.36	1.46	1.25	-0.50***
Diff. [(5)-(1)]	0.32**	0.15	0.08	0.31**	-0.14	

Table 5

Mean statistics by combinations of BM and PROFIT

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by BM and PROFIT, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

PROFIT quintile:	BM quintile: (1) (low)	(2)	(3)	(4)	(5) (high)	Diff. [(5)-(1)]
Panel A: SIZE						
(1) (low)	2.43	2.27	2.22	2.03	1.65	-0.78***
(2)	3.10	3.24	3.03	2.74	2.10	1.00***
(3)	3.60	3.71	3.54	3.16	2.32	-1.28***
(4)	4.00	3.96	3.74	3.17	2.21	-1.79***
(5) (high)	4.12	3.84	3.40	2.78	1.91	-2.21***
Diff. [(5)-(1)]	1.69***	1.57***	1.18***	0.75***	0.26***	
Panel B: BM						
(1) (low)	0.14	0.38	0.59	0.90	1.92	1.78***
(2)	0.18	0.39	0.60	0.90	1.83	1.65***
(3)	0.19	0.39	0.60	0.89	1.71	1.52***
(4)	0.20	0.39	0.60	0.89	1.64	1.44***
(5) (high)	0.19	0.38	0.59	0.88	1.71	1.52***
Diff. [(5)-(1)]	0.05	0.00	0.00	-0.02	-0.21***	
Panel C: PROFIT						
(1) (low)	-25.92	-17.00	-14.54	-12.53	-11.88	14.04***
(2)	1.75	2.05	2.14	2.07	1.97	0.22
(3)	7.35	7.42	7.42	7.35	7.24	-0.11
(4)	12.02	11.91	11.80	11.67	11.58	-0.44
(5) (high)	22.00	19.60	19.14	19.86	21.01	-0.99
Diff. [(5)-(1)]	47.92***	36.60***	33.68***	32.39***	32.89***	
Panel D: ACCRUAL (%)						
(1) (low)	-7.56	-2.46	-2.29	-1.15	-2.70	4.86***
(2)	-4.43	-1.83	-2.03	-2.60	-4.17	0.26
(3)	-4.35	-2.96	-3.75	-4.70	-6.73	-2.38***
(4)	-4.96	-4.90	-5.91	-7.19	-9.90	-4.94***
(5) (high)	-8.83	-9.51	-11.08	-14.09	-18.55	-9.72***
Diff. [(5)-(1)]	-1.27**	-7.05***	-8.79***	-12.94***	-15.85***	
Panel E: LEV (%)						
(1) (low)	11.64	17.92	24.63	30.45	39.54	27.90***
(2)	19.96	22.53	29.44	34.36	44.77	24.81***
(3)	18.22	21.28	26.36	32.38	41.62	23.40***
(4)	13.59	16.23	20.80	26.61	36.26	22.67***
(5) (high)	6.62	10.14	15.20	21.06	32.03	25.41***
Diff. [(5)-(1)]	-5.02***	-7.78***	-9.43***	-9.39***	7.51***	
Panel F: NETDEBT (%)						
(1) (low)	3.19	1.98	1.66	1.60	0.53	-2.66***
(2)	4.67	4.21	2.68	2.41	1.00	-3.67***
(3)	4.38	3.34	2.23	1.50	-0.19	-4.57***
(4)	2.22	1.52	0.92	0.26	-1.58	-3.80***
(5) (high)	-0.01	-0.38	-0.99	-2.25	-4.45	-4.44***
Diff. [(5)-(1)]	-3.20***	-2.36***	-2.65***	-3.85***	-4.98***	
Panel G: NETEQ (%)						
(1) (low)	26.79	13.60	8.42	3.87	1.90	-24.89***
(2)	8.58	5.66	3.25	1.59	0.39	-8.19***
(3)	6.07	3.64	1.80	0.66	0.00	-6.07***
(4)	3.53	1.43	0.64	-0.03	-0.28	-3.81***
(5) (high)	0.88	0.27	0.03	-0.51	-0.68	-1.56***
Diff. [(5)-(1)]	-25.91***	-13.33***	-8.39***	-4.38***	-2.58***	

PROFIT quintile:	BM quintile: (1) (low)	(2)	(3)	(4)	(5) (high)	Diff. [(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	29.98	15.58	10.09	5.47	2.43	-27.55***
(2)	13.25	9.87	5.92	4.00	1.40	-11.85***
(3)	10.45	6.98	4.04	2.16	-0.19	-10.64***
(4)	5.75	2.95	1.55	0.23	-1.86	-7.61***
(5) (high)	0.88	-0.11	-0.96	-2.77	-5.13	-6.01***
Diff. [(5)-(1)]	-29.10***	-15.69***	-11.05***	-8.24***	-7.56***	
Panel I: FAIL1 (%)						
(1) (low)	10.64	9.18	7.59	8.50	11.67	1.03
(2)	4.43	2.27	2.23	3.10	5.57	1.14
(3)	1.92	0.72	0.78	1.31	3.31	1.39
(4)	1.78	0.55	0.55	0.72	2.37	0.59
(5) (high)	0.80	0.71	0.86	1.45	4.63	3.83***
Diff. [(5)-(1)]	-9.84***	-8.47***	-6.73***	-7.05***	-7.04***	
Panel J: FAIL5 (%)						
(1) (low)	35.38	29.38	29.96	29.89	36.62	1.24**
(2)	19.47	13.21	12.96	15.52	20.77	1.30**
(3)	11.33	6.28	6.37	7.99	15.59	4.26***
(4)	7.50	4.02	3.29	5.98	14.12	6.62***
(5) (high)	4.59	3.84	5.14	8.62	17.50	12.91***
Diff. [(5)-(1)]	-30.79***	-25.54***	-24.82***	-21.27***	-19.12***	
Panel K: RETpy (%)						
(1) (low)	3.23	0.71	-0.38	-1.28	-2.76	-5.99***
(2)	4.74	2.58	1.33	0.24	-1.00	-5.74***
(3)	4.74	2.90	1.65	0.76	-0.46	-5.20***
(4)	4.40	2.60	1.66	0.88	-0.13	-4.53***
(5) (high)	4.39	2.70	1.88	1.05	0.02	-4.37***
Diff. [(5)-(1)]	1.16***	1.99***	2.26***	2.33***	2.78***	
Panel L: RET6m (%)						
(1) (low)	0.26	0.95	1.56	1.68	3.37	3.11***
(2)	0.04	0.73	1.12	1.64	3.00	2.96***
(3)	0.69	1.19	1.72	2.22	3.49	2.80***
(4)	1.05	1.68	2.05	2.49	3.84	2.79***
(5) (high)	1.57	2.14	2.48	3.36	4.49	2.92***
Diff. [(5)-(1)]	1.31***	1.19***	0.92*	1.68***	1.12**	
Panel M: RET1yr (%)						
(1) (low)	0.16	1.34	1.35	1.38	1.73	1.57***
(2)	-0.07	0.61	0.92	0.96	1.61	1.68***
(3)	0.32	1.02	1.26	1.57	1.76	1.44***
(4)	0.54	1.12	1.49	1.71	2.15	1.61***
(5) (high)	1.08	1.29	1.53	1.85	2.36	1.28***
Diff. [(5)-(1)]	0.92***	-0.05	0.18	0.47*	0.62**	
Panel N: RET2-5yr (%)						
(1) (low)	0.93	1.45	1.35	1.52	1.55	0.62***
(2)	0.97	1.24	1.34	1.48	1.65	0.68***
(3)	1.02	1.25	1.38	1.48	1.63	0.61***
(4)	1.09	1.28	1.47	1.59	1.73	0.64***
(5) (high)	1.19	1.38	1.51	1.54	1.70	0.51***
Diff. [(5)-(1)]	0.26*	-0.07	0.17	0.02	0.15	

Table 6

Mean statistics by PROFIT and TXFIN quintiles

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by PROFIT and TXFIN, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

TXFIN	PROFIT quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	1.88	2.43	2.87	3.17	3.29	1.41***
(2)	1.83	2.38	3.05	3.44	3.48	1.65***
(3)	2.02	2.63	3.15	3.58	3.54	1.52***
(4)	2.29	2.94	3.48	3.73	3.80	1.51***
(5) (high)	2.37	3.08	3.42	3.56	3.57	1.20***
Diff. [(5)-(1)]	0.49***	0.65***	0.55***	0.39***	0.28***	
Panel B: BM						
(1) (low)	1.01	1.13	1.03	0.84	0.64	-0.37***
(2)	1.04	1.21	0.99	0.77	0.58	-0.46***
(3)	0.87	1.02	0.86	0.67	0.52	-0.35***
(4)	0.76	0.94	0.78	0.64	0.45	-0.31***
(5) (high)	0.44	0.66	0.60	0.52	0.44	0.00
Diff. [(5)-(1)]	-0.57***	-0.47***	-0.43***	-0.32***	-0.20***	
Panel C: PROFIT (%)						
(1) (low)	-15.55	2.21	7.47	11.87	21.32	36.87***
(2)	-14.88	2.17	7.35	11.78	19.60	34.48***
(3)	-17.53	2.06	7.38	11.85	20.36	37.89***
(4)	-14.67	1.93	7.32	11.72	19.80	34.47***
(5) (high)	-21.93	1.82	7.25	11.67	19.75	41.68***
Diff. [(5)-(1)]	-6.38***	-0.39	-0.22	-0.2	-1.57***	
Panel D: ACCRUAL (%)						
(1) (low)	-3.50	-4.26	-5.45	-7.41	-12.74	-9.24***
(2)	-3.43	-3.25	-4.67	-6.27	-10.22	-6.79***
(3)	-3.98	-2.96	-4.32	-5.66	-9.94	-5.96***
(4)	-3.11	-2.77	-4.20	-6.17	-10.37	-7.26***
(5) (high)	-5.00	-2.57	-4.52	-6.45	-12.31	-7.31***
Diff. [(5)-(1)]	-1.50**	1.69***	0.93	0.96	0.43	
Panel E: LEV (%)						
(1) (low)	32.12	38.22	35.76	27.73	18.07	-14.05***
(2)	26.15	33.07	28.62	20.16	11.52	-14.63***
(3)	15.79	24.93	21.15	14.73	7.24	-8.55***
(4)	27.62	37.43	31.92	24.01	13.97	-13.65***
(5) (high)	19.67	32.71	31.41	24.91	18.25	-1.42
Diff. [(5)-(1)]	-12.45***	-5.51***	-4.35***	-2.82***	0.18	
Panel F: NETDEBT (%)						
(1) (low)	-13.64	-8.44	-6.53	-6.07	-7.37	6.27***
(2)	-1.38	-1.28	-1.28	-1.16	-1.02	0.36
(3)	-0.13	0.09	0.16	0.21	0.07	0.20
(4)	2.57	3.71	3.85	3.80	2.79	0.22
(5) (high)	8.97	13.97	14.20	12.93	10.65	1.68
Diff. [(5)-(1)]	22.61***	22.41***	20.73***	19.00***	18.02***	
Panel G: NETEQ (%)						
(1) (low)	-1.30	-1.49	-1.58	-2.16	-3.75	-2.45**
(2)	0.12	-0.07	-0.14	-0.27	-0.42	-0.54
(3)	0.62	0.46	0.39	0.33	0.45	-0.17
(4)	3.10	1.66	1.43	1.35	2.17	-0.93
(5) (high)	33.24	12.40	10.23	9.55	11.55	-21.69***
Diff. [(5)-(1)]	34.54***	13.89***	11.81***	11.71***	15.30***	

TXFIN	PROFIT quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	-14.94	-9.93	-8.11	-8.24	-11.12	3.82***
(2)	-1.26	-1.36	-1.42	-1.42	-1.44	-0.18
(3)	0.49	0.55	0.55	0.33	0.52	0.03
(4)	5.67	5.37	5.28	5.15	4.96	-0.71
(5) (high)	42.21	26.37	24.43	22.48	22.19	-20.02***
Diff. [(5)-(1)]	57.15***	36.30***	32.54***	30.72***	33.31***	
Panel I: FAIL1 (%)						
(1) (low)	10.41	4.27	2.03	1.39	1.48	-8.92***
(2)	9.36	3.87	1.64	0.96	1.32	-8.04***
(3)	9.10	3.45	1.41	0.81	0.84	-8.26***
(4)	8.99	3.62	1.30	0.81	0.77	-8.22***
(5) (high)	10.22	3.37	1.74	1.10	1.73	-8.49***
Diff. [(5)-(1)]	-0.19	-0.90	-0.29	-0.29	0.25	
Panel J: FAIL5 (%)						
(1) (low)	33.09	17.32	11.86	7.77	7.02	-26.07***
(2)	30.84	17.20	9.91	5.37	5.88	-24.96***
(3)	31.58	15.07	7.98	4.97	5.49	-26.09***
(4)	28.94	15.72	7.68	5.50	4.74	-24.20***
(5) (high)	35.77	17.70	10.06	8.33	9.06	-26.71***
Diff. [(5)-(1)]	2.68***	0.38	-1.80**	0.56	2.04***	
Panel K: RETpy (%)						
(1) (low)	-0.53	0.60	1.08	1.68	2.29	2.82***
(2)	-0.76	0.35	1.04	1.52	2.32	3.08***
(3)	-0.36	0.66	1.25	1.66	2.52	2.88***
(4)	0.08	0.81	1.47	1.87	3.00	2.92***
(5) (high)	1.71	2.21	2.58	2.94	3.62	1.91***
Diff. [(5)-(1)]	2.24***	1.61***	1.50***	1.26***	1.33***	
Panel L: RET6m (%)						
(1) (low)	2.46	2.25	2.66	2.78	2.81	0.35
(2)	2.83	2.23	2.40	2.24	2.57	-0.26
(3)	1.88	2.02	1.97	2.12	2.33	0.45*
(4)	1.41	1.46	1.71	1.80	2.11	0.70***
(5) (high)	0.46	0.58	1.44	1.63	1.58	1.12***
Diff. [(5)-(1)]	-2.00***	-1.67***	-1.22***	-1.15***	-1.23***	
Panel M: RET1yr (%)						
(1) (low)	1.57	1.67	1.83	1.69	1.71	0.14
(2)	1.71	1.31	1.44	1.64	1.59	-0.12
(3)	1.92	1.40	1.56	1.44	1.43	-0.49**
(4)	1.09	0.92	1.15	1.35	1.29	0.2
(5) (high)	0.18	-0.03	0.67	0.62	0.45	0.27
Diff. [(5)-(1)]	-1.39***	-1.70***	-1.16***	-1.07***	-1.26***	
Panel N: RET2-5yr (%)						
(1) (low)	1.46	1.56	1.54	1.59	1.42	-0.04
(2)	1.65	1.59	1.46	1.49	1.41	-0.24**
(3)	1.59	1.54	1.47	1.37	1.43	-0.16*
(4)	1.41	1.36	1.39	1.38	1.42	0.01
(5) (high)	0.94	1.10	1.11	1.21	1.24	0.30***
Diff. [(5)-(1)]	-0.52***	-0.46***	-0.43***	-0.38***	-0.18**	

Table 7
Mean statistics by combinations of BM and TXFIN quintiles
NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by BM and TXFIN, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

TXFIN	BM quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	3.44	3.54	3.25	2.71	1.98	1.46***
(2)	3.45	3.60	3.36	2.86	2.02	1.43***
(3)	3.52	3.57	3.29	2.80	2.01	1.51***
(4)	3.54	3.65	3.45	3.10	2.29	1.25***
(5) (high)	3.07	3.21	3.09	2.79	2.12	0.95***
Diff. [(5)-(1)]	-0.37***	-0.33*	-0.16	0.08	0.14	
Panel B: BM						
(1) (low)	0.17	0.38	0.60	0.90	1.84	1.67***
(2)	0.19	0.39	0.60	0.89	1.81	1.62***
(3)	0.19	0.38	0.59	0.89	1.76	1.57***
(4)	0.18	0.38	0.60	0.89	1.75	1.57***
(5) (high)	0.15	0.38	0.59	0.88	1.74	1.59***
Diff. [(5)-(1)]	-0.02	0.00	-0.01	-0.02	-0.10	
Panel C: PROFIT (%)						
(1) (low)	10.79	12.07	10.58	9.42	6.80	-3.99***
(2)	7.20	10.00	8.29	6.75	4.10	-3.10***
(3)	5.13	7.82	7.03	5.62	2.51	-2.62***
(4)	3.89	7.07	6.31	5.10	2.70	-1.19***
(5) (high)	-11.48	-0.15	2.05	2.06	-0.66	10.82***
Diff. [(5)-(1)]	-22.27***	-12.22***	-8.53***	-7.36***	-7.46***	
Panel D: ACCRUAL (%)						
(1) (low)	-8.76	-6.86	-7.05	-7.97	-8.74	0.02
(2)	-6.27	-5.33	-5.55	-5.43	-6.21	0.06
(3)	-5.57	-4.64	-4.82	-5.43	-7.03	-1.46**
(4)	-5.62	-4.50	-4.82	-4.89	-5.49	0.13
(5) (high)	-7.67	-3.79	-4.01	-3.90	-4.67	3.00***
Diff. [(5)-(1)]	1.09**	3.07***	3.04***	4.07***	4.07***	
Panel E: LEV (%)						
(1) (low)	17.54	18.43	24.40	31.04	44.43	26.89***
(2)	12.68	14.40	19.60	25.52	36.81	24.13***
(3)	6.71	9.98	15.04	20.16	29.94	23.23***
(4)	11.67	18.20	27.18	35.33	50.09	38.42***
(5) (high)	12.31	20.70	29.85	40.40	52.95	40.64***
Diff. [(5)-(1)]	-5.23***	2.27*	5.45***	9.36***	8.52***	
Panel F: NETDEBT (%)						
(1) (low)	-9.13	-6.91	-6.93	-7.42	-8.44	0.69***
(2)	-1.27	-1.21	-1.27	-1.16	-1.21	0.06
(3)	-0.12	0.02	0.13	0.13	0.27	0.39**
(4)	1.89	3.06	3.55	4.09	4.52	2.63***
(5) (high)	9.83	10.79	12.04	14.27	14.53	4.70***
Diff. [(5)-(1)]	18.96***	17.70***	18.97***	21.69***	22.97***	
Panel G: NETEQ (%)						
(1) (low)	-3.47	-2.95	-2.31	-2.09	-1.43	-2.04***
(2)	-0.10	-0.19	-0.12	-0.22	-0.20	-0.10
(3)	0.73	0.55	0.42	0.36	0.18	-0.55***
(4)	3.35	2.20	1.80	1.28	0.76	-2.59***
(5) (high)	31.75	18.12	13.12	8.63	6.87	-24.88***
Diff. [(5)-(1)]	35.22***	21.07***	15.43***	10.72***	8.30***	

TXFIN	BM quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	-12.60	-9.86	-9.24	-9.51	-9.87	2.73***
(2)	-1.37	-1.40	-1.39	-1.38	-1.41	-0.04
(3)	0.62	0.57	0.55	0.49	0.45	-0.17
(4)	5.24	5.26	5.35	5.37	5.27	0.03
(5) (high)	41.59	28.91	25.16	22.90	21.40	-20.19***
Diff. [(5)-(1)]	54.19***	38.77***	34.40***	32.41***	31.27***	
Panel I: FAIL1 (%)						
(1) (low)	4.53	1.66	1.77	2.50	4.18	-0.35
(2)	3.99	1.58	1.68	2.13	4.75	0.76***
(3)	3.61	1.59	1.37	2.13	6.23	2.62***
(4)	4.06	1.85	1.79	2.46	5.87	1.81***
(5) (high)	6.53	4.40	3.27	4.40	8.78	2.25***
Diff. [(5)-(1)]	2.00***	2.74***	1.50***	1.90***	4.60***	
Panel J: FAIL5 (%)						
(1) (low)	13.98	8.43	8.65	11.33	18.77	4.79***
(2)	12.74	6.36	7.74	10.78	20.62	7.88***
(3)	12.52	7.56	7.85	11.89	22.28	9.76***
(4)	14.66	8.39	8.49	11.73	21.28	6.62***
(5) (high)	26.29	16.98	15.93	18.67	27.26	0.97*
Diff. [(5)-(1)]	12.31***	8.55***	7.28***	7.34***	8.49***	
Panel K: RETpy (%)						
(1) (low)	3.28	2.45	1.71	0.83	-0.49	-3.77***
(2)	3.48	2.46	1.42	0.56	-0.76	-4.24***
(3)	3.88	2.17	1.22	0.34	-1.21	-5.09***
(4)	4.19	2.39	1.27	0.18	-1.31	-5.50***
(5) (high)	4.66	2.59	1.26	-0.04	-2.18	-6.84***
Diff. [(5)-(1)]	1.38***	0.14	-0.45*	-0.87***	-1.69***	
Panel L: RET6m (%)						
(1) (low)	1.47	2.00	2.20	2.59	4.05	2.58***
(2)	1.45	1.89	1.91	2.52	2.00	0.55
(3)	0.99	1.71	1.95	2.15	3.32	2.33***
(4)	0.51	1.33	1.72	1.99	2.97	2.46***
(5) (high)	0.29	0.68	1.31	1.66	2.79	2.50***
Diff. [(5)-(1)]	-1.18***	-1.32***	-0.89***	-0.93***	-1.26***	
Panel M: RET1yr (%)						
(1) (low)	0.97	1.37	1.49	1.95	2.27	1.30***
(2)	1.14	1.38	1.42	1.55	1.83	0.69***
(3)	0.92	1.36	1.67	1.64	2.03	1.11***
(4)	0.64	1.13	1.26	1.23	1.36	0.72***
(5) (high)	-0.24	0.47	0.70	0.70	0.81	1.05***
Diff. [(5)-(1)]	-1.21***	-0.90***	-0.79***	-1.25***	-1.46***	
Panel N: RET2-5yr (%)						
(1) (low)	1.08	1.25	1.46	1.61	1.86	0.78***
(2)	1.17	1.39	1.51	1.57	1.66	0.49***
(3)	1.28	1.47	1.48	1.55	1.56	0.28*
(4)	1.12	1.36	1.40	1.48	1.60	0.48***
(5) (high)	0.88	1.16	1.21	1.21	1.26	0.38**
Diff. [(5)-(1)]	-0.20	-0.09	-0.25	-0.40**	-0.60***	

Table 8

Mean statistics by combinations of SIZE and TXFIN

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by SIZE and TXFIN, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

TXFIN quintile:	SIZE quintile: (1) (low)	(2)	(3)	(4)	(5) (high)	Diff. [(5)-(1)]
Panel A: SIZE						
(1) (low)	1.00	2.00	3.00	4.00	5.00	4.00***
(2)	1.00	2.00	3.00	4.00	5.00	4.00***
(3)	1.00	2.00	3.00	4.00	5.00	4.00***
(4)	1.00	2.00	3.00	4.00	5.00	4.00***
(5) (high)	1.00	2.00	3.00	4.00	5.00	4.00***
Diff. [(5)-(1)]	n/a	n/a	n/a	n/a	n/a	n/a
Panel B: BM						
(1) (low)	1.38	0.97	0.82	0.66	0.49	-0.89***
(2)	1.37	1.00	0.85	0.68	0.54	-0.83***
(3)	1.24	0.87	0.71	0.57	0.48	-0.76***
(4)	1.16	0.87	0.70	0.60	0.51	-0.66***
(5) (high)	0.80	0.54	0.48	0.46	0.40	-0.40***
Diff. [(5)-(1)]	-0.58***	-0.43***	-0.34***	-0.20***	-0.09***	
Panel C: PROFIT (%)						
(1) (low)	4.29	8.74	9.77	12.18	14.68	10.39***
(2)	0.84	5.41	7.36	9.94	12.30	11.46***
(3)	-1.71	2.11	5.73	9.70	12.34	14.05***
(4)	-1.57	1.56	3.96	7.52	10.63	12.20***
(5) (high)	-11.64	-9.51	-5.33	2.45	8.10	19.74***
Diff. [(5)-(1)]	-15.93***	-18.25***	-15.10***	-9.73***	-6.58***	
Panel D: ACCRUAL (%)						
(1) (low)	-10.08	-8.33	-7.30	-6.79	-6.64	3.44***
(2)	-7.15	-5.73	-5.11	-5.01	-5.37	1.78**
(3)	-7.64	-5.71	-4.82	-4.35	-4.96	2.68***
(4)	-7.48	-5.05	-4.09	-4.11	-5.08	2.40***
(5) (high)	-9.22	-5.96	-4.49	-3.43	-4.20	5.02***
Diff. [(5)-(1)]	0.86	2.37***	2.81***	3.36***	2.44***	
Panel E: LEV (%)						
(1) (low)	39.71	30.66	28.06	24.95	19.01	-20.70***
(2)	30.83	25.32	22.69	20.57	19.10	-11.73***
(3)	21.22	16.84	15.22	14.20	14.88	-6.34***
(4)	38.05	32.00	26.32	24.72	22.73	-15.32***
(5) (high)	32.71	25.61	22.14	23.13	22.21	-10.50***
Diff. [(5)-(1)]	-7.00***	-5.05***	-5.92***	-1.82*	3.20***	
Panel F: NETDEBT (%)						
(1) (low)	-10.92	-8.40	-8.27	-6.13	-4.31	6.61***
(2)	-1.36	-1.28	-1.26	-1.27	-0.88	0.48***
(3)	0.04	0.01	0.01	0.03	0.33	0.29***
(4)	3.50	3.47	3.23	3.33	3.51	0.01
(5) (high)	11.66	11.56	10.40	11.36	13.13	1.47**
Diff. [(5)-(1)]	22.75***	19.98***	18.66***	17.49***	17.44***	
Panel G: NETEQ (%)						
(1) (low)	-1.09	-2.01	-2.06	-2.75	-3.85	-2.76***
(2)	0.01	-0.12	-0.13	-0.14	-0.54	-0.55***
(3)	0.39	0.47	0.55	0.54	0.29	-0.10
(4)	1.88	1.97	2.09	2.01	1.55	-0.33
(5) (high)	20.41	23.10	23.57	17.94	10.92	-9.49***
Diff. [(5)-(1)]	21.50***	25.11***	25.63***	20.69***	14.77***	

TXFIN quintile:	SIZE quintile: (1) (low)	(2)	(3)	(4)	(5) (high)	Diff. [(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	-12.01	-10.41	-10.34	-8.87	-8.15	3.86***
(2)	-1.36	-1.40	-1.39	-1.41	-1.42	-0.06
(3)	0.43	0.48	0.56	0.57	0.62	0.19***
(4)	5.39	5.44	5.32	5.34	5.06	-0.33***
(5) (high)	32.07	34.66	33.97	29.31	24.05	-8.02***
Diff. [(5)-(1)]	44.08***	45.07***	44.31***	38.18***	32.20***	
Panel I: FAIL1 (%)						
(1) (low)	9.21	2.33	1.01	0.45	0.22	-8.99***
(2)	8.73	2.63	1.32	-0.44	0.07	-8.66***
(3)	10.84	2.45	1.15	0.34	0.06	-10.78***
(4)	12.49	3.70	1.60	0.57	0.10	-12.39***
(5) (high)	17.49	6.92	2.84	1.13	0.43	-17.06***
Diff. [(5)-(1)]	8.28***	4.59***	1.83***	0.68***	0.21	
Panel J: FAIL5 (%)						
(1) (low)	32.51	14.05	6.82	3.45	0.95	-31.56***
(2)	33.12	13.04	7.08	3.26	0.81	-32.31***
(3)	35.40	15.43	7.91	3.33	0.69	-34.71***
(4)	37.99	18.91	8.84	5.48	1.13	-36.86***
(5) (high)	48.41	30.01	17.67	8.87	3.55	-44.86***
Diff. [(5)-(1)]	15.90***	15.96***	10.85***	5.42***	2.60***	
Panel K: RETpy (%)						
(1) (low)	-0.05	1.24	1.61	1.95	2.04	2.09***
(2)	-0.22	0.87	1.23	1.78	1.78	2.00***
(3)	-0.21	0.83	1.29	1.95	2.15	2.36***
(4)	-0.34	0.75	1.63	2.22	2.13	2.47***
(5) (high)	-0.40	1.39	2.93	3.42	3.94	4.34***
Diff. [(5)-(1)]	-0.35	0.15	1.32***	1.47***	1.90***	
Panel L: RET6m (%)						
(1) (low)	4.13	2.41	2.29	2.08	1.87	-2.26***
(2)	3.58	2.27	2.21	2.00	1.66	-1.92***
(3)	3.26	2.02	1.85	1.75	1.38	-1.88***
(4)	3.21	1.83	1.28	1.25	1.35	-1.86***
(5) (high)	2.39	0.85	0.64	0.56	0.80	-1.59***
Diff. [(5)-(1)]	-1.74***	-1.56***	-1.65***	-1.52***	-1.07***	
Panel M: RET1yr (%)						
(1) (low)	2.36	1.76	1.46	1.38	1.37	-0.99***
(2)	1.95	1.56	1.36	1.31	1.34	-0.61***
(3)	2.25	1.54	1.38	1.25	1.28	-0.97***
(4)	1.67	0.99	1.20	0.92	1.11	-0.56**
(5) (high)	0.88	0.41	-0.11	0.17	0.25	-0.63**
Diff. [(5)-(1)]	-1.48***	-1.35***	-1.57***	-1.21***	-1.12***	
Panel N: RET2-5yr (%)						
(1) (low)	1.87	1.50	1.54	1.47	1.25	-0.62***
(2)	1.78	1.58	1.47	1.34	1.32	-0.46***
(3)	1.80	1.49	1.39	1.38	1.31	-0.49***
(4)	1.63	1.50	1.33	1.32	1.33	-0.30**
(5) (high)	1.06	1.00	1.04	1.09	1.24	0.18*
Diff. [(5)-(1)]	-0.81***	-0.50***	-0.50***	0.38**	-0.01	

Table 9

Mean statistics by combinations of PROFIT and RETpy quintiles

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by PROFIT and RETpy, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

RETpy quintile:	PROFIT quintile: (1) (low)	(2)	(3)	(4)	(5) (high)	Diff. [(5)-(1)]
Panel A: SIZE						
(1) (low)	1.81	2.26	2.55	2.73	2.78	0.97***
(2)	2.19	2.69	3.16	3.39	3.37	1.18***
(3)	2.25	2.90	3.41	3.74	3.73	1.48***
(4)	2.40	3.02	3.50	3.70	3.78	1.38***
(5) (high)	2.51	2.89	3.22	3.40	3.43	0.92***
Diff. [(5)-(1)]	0.70***	0.63***	0.67***	0.67***	0.65***	
Panel B: BM						
(1) (low)	1.00	1.34	1.22	1.06	0.90	-0.10
(2)	0.79	1.07	0.96	0.84	0.68	-0.11
(3)	0.67	0.94	0.83	0.70	0.56	-0.11
(4)	0.54	0.78	0.72	0.61	0.49	-0.05
(5) (high)	0.36	0.56	0.53	0.48	0.38	0.02
Diff. [(5)-(1)]	-0.64***	-0.78***	-0.69***	-0.58***	-0.52***	
Panel C: PROFIT (%)						
(1) (low)	-19.09	1.72	7.25	11.63	20.88	39.97***
(2)	-16.23	2.11	7.33	11.77	20.13	36.36***
(3)	-16.37	2.15	7.40	11.79	19.66	36.03***
(4)	-17.60	2.18	7.43	11.85	19.92	37.52***
(5) (high)	-19.46	1.99	7.33	11.87	21.33	40.79***
Diff. [(5)-(1)]	-0.37	0.27	0.08	0.24	0.45	
Panel D: ACCRUAL (%)						
(1) (low)	-7.38	-7.06	-8.33	-10.42	-17.45	-10.07***
(2)	-3.05	-2.66	-4.86	-7.09	-11.93	-8.88***
(3)	-2.23	-1.92	-3.85	-5.86	-10.32	-8.09***
(4)	-1.19	-1.21	-3.37	-5.46	-9.72	-8.53***
(5) (high)	-2.56	-1.17	-3.25	-5.21	-10.27	-7.71***
Diff. [(5)-(1)]	4.82***	5.89***	5.08***	5.21***	7.18***	
Panel E: LEV (%)						
(1) (low)	28.63	40.05	36.53	29.44	22.18	-6.45***
(2)	25.40	35.50	32.83	24.59	16.24	-9.16***
(3)	22.62	33.25	28.82	21.75	13.65	-8.97***
(4)	19.36	29.09	27.23	20.66	11.76	-7.60***
(5) (high)	13.48	24.50	22.81	17.48	10.40	-3.08**
Diff. [(5)-(1)]	-15.15***	-15.55***	-13.72***	-11.96***	-11.78***	
Panel F: NETDEBT (%)						
(1) (low)	1.52	2.22	1.34	0.67	-2.05	-3.57***
(2)	1.93	2.55	1.98	0.48	-0.55	-2.48***
(3)	2.05	2.39	1.81	0.81	-0.76	-2.81***
(4)	2.37	2.44	2.05	0.52	-1.08	-3.45***
(5) (high)	2.72	3.20	2.22	1.02	-1.29	-4.01***
Diff. [(5)-(1)]	1.20***	0.98***	0.88**	0.35	0.76**	
Panel G: NETEQ (%)						
(1) (low)	10.54	1.88	1.23	0.50	0.24	-10.30***
(2)	10.64	1.49	0.58	0.13	-0.72	-11.36***
(3)	11.69	1.73	0.84	0.14	-0.81	-12.50***
(4)	13.82	3.13	1.75	0.82	4.07	-0.75***
(5) (high)	23.00	7.45	5.66	3.64	2.23	-20.77***
Diff. [(5)-(1)]	12.46***	5.57***	4.43***	3.14***	1.99***	

RETpy quintile:	PROFIT quintile: (1) (low)	(2)	(3)	(4)	(5) (high)	Diff. [(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	12.06	4.11	2.57	1.17	-1.81	-13.87***
(2)	12.57	4.03	2.55	0.61	-1.27	-13.84***
(3)	13.75	4.12	2.65	0.96	-1.57	-15.32***
(4)	16.19	5.58	3.80	1.34	-1.12	-17.31***
(5) (high)	25.73	10.64	7.87	4.67	0.95	-24.78***
Diff. [(5)-(1)]	13.67***	6.53***	5.30***	3.50***	2.76**	
Panel I: FAIL1 (%)						
(1) (low)	13.79	6.83	3.60	2.85	3.66	-10.13***
(2)	7.84	3.34	1.40	0.90	0.89	-6.95***
(3)	7.12	2.93	1.11	0.58	0.79	-6.33***
(4)	7.23	2.24	1.09	0.60	0.79	-6.44***
(5) (high)	8.19	2.17	1.31	1.16	1.27	-6.92***
Diff. [(5)-(1)]	-5.60***	-4.66***	-2.29***	-1.69***	-2.39***	
Panel J: FAIL5 (%)						
(1) (low)	38.55	24.29	17.01	14.19	14.26	-24.29***
(2)	27.99	15.44	9.05	5.96	6.24	-21.75***
(3)	28.21	13.42	7.05	4.11	4.70	-23.51***
(4)	28.78	12.28	6.85	4.26	4.07	-24.71***
(5) (high)	32.54	15.67	9.35	7.23	6.96	-25.58***
Diff. [(5)-(1)]	-6.01***	-8.62***	-7.66***	-6.96***	-7.30***	
Panel K: RETpy (%)						
(1) (low)	-5.32	-4.38	-3.94	-3.81	-4.01	1.31***
(2)	-0.78	-0.71	-0.66	-0.64	-0.65	0.13
(3)	1.17	1.15	1.19	1.21	1.23	0.06
(4)	3.16	3.13	3.13	3.12	3.17	0.01
(5) (high)	9.55	8.17	7.63	7.32	7.79	-1.76***
Diff. [(5)-(1)]	14.87***	12.55***	11.57***	11.13***	11.80***	
Panel L: RET6m (%)						
(1) (low)	2.41	2.32	3.00	2.71	3.28	0.87**
(2)	1.23	1.76	2.11	2.40	2.46	1.23***
(3)	1.12	1.44	1.79	2.05	2.21	1.09***
(4)	0.17	1.28	1.87	2.14	2.37	2.20***
(5) (high)	0.60	1.01	1.67	1.91	2.27	1.67***
Diff. [(5)-(1)]	-1.81***	-1.31***	-1.33***	-0.80*	-1.01**	
Panel M: RET1yr (%)						
(1) (low)	1.67	1.34	1.77	1.93	1.68	0.01
(2)	1.13	1.06	1.38	1.51	1.64	0.51**
(3)	0.99	1.17	1.30	1.44	1.53	0.54**
(4)	0.68	0.89	1.27	1.33	1.40	0.72***
(5) (high)	0.09	0.35	0.84	0.98	1.13	1.04***
Diff. [(5)-(1)]	-1.58***	-0.99***	-0.94***	-0.95***	-0.55**	
Panel N: RET2-5yr (%)						
(1) (low)	1.46	1.65	1.52	1.54	1.51	0.05
(2)	1.48	1.43	1.45	1.42	1.43	-0.05
(3)	1.27	1.30	1.38	1.40	1.36	0.09
(4)	1.19	1.34	1.34	1.40	1.39	0.20**
(5) (high)	0.90	1.28	1.29	1.43	1.39	0.49***
Diff. [(5)-(1)]	-0.56***	-0.37***	-0.23**	-0.11	-0.12	

Table 10

Mean statistics by combinations of SIZE and RETpy

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by SIZE and RETpy, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

RETpy	SIZE quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	1.00	2.00	3.00	4.00	5.00	4.00***
(2)	1.00	2.00	3.00	4.00	5.00	4.00***
(3)	1.00	2.00	3.00	4.00	5.00	4.00***
(4)	1.00	2.00	3.00	4.00	5.00	4.00***
(5) (high)	1.00	2.00	3.00	4.00	5.00	4.00***
Diff. [(5)-(1)]	n/a	n/a	n/a	n/a	n/a	n/a
Panel B: BM						
(1) (low)	1.44	1.04	0.93	0.82	0.72	-0.72***
(2)	1.30	0.98	0.81	0.72	0.62	-0.68***
(3)	1.15	0.88	0.75	0.64	0.54	-0.61***
(4)	1.06	0.73	0.63	0.52	0.44	-0.62***
(5) (high)	0.79	0.50	0.41	0.37	0.31	-0.48***
Diff. [(5)-(1)]	-0.65***	-0.54***	-0.52***	-0.45***	-0.41***	
Panel C: PROFIT (%)						
(1) (low)	-6.07	-3.07	0.18	5.21	9.23	15.30***
(2)	0.86	2.41	4.28	7.87	10.93	10.07***
(3)	1.85	3.90	5.79	9.15	11.86	10.01***
(4)	2.04	3.98	5.52	9.10	12.31	10.27***
(5) (high)	1.14	2.26	2.62	7.45	12.33	11.19***
Diff. [(5)-(1)]	7.21***	5.33***	2.44***	2.44***	3.10***	
Panel D: ACCRUAL (%)						
(1) (low)	-10.84	-8.60	-7.11	-6.65	-7.10	3.74***
(2)	-7.23	-5.58	-5.08	-4.97	-5.64	1.59*
(3)	-6.30	-5.49	-4.76	-4.69	-5.28	1.02
(4)	-6.41	-4.88	-4.25	-4.15	-5.09	1.32
(5) (high)	-6.91	-5.27	-4.45	-3.90	-4.71	2.20***
Diff. [(5)-(1)]	3.93***	3.33***	2.66***	2.75***	2.39***	
Panel E: LEV (%)						
(1) (low)	36.46	31.46	29.53	29.14	28.19	-8.27***
(2)	33.95	28.69	26.29	25.95	24.33	-9.62***
(3)	30.42	25.52	23.66	23.04	20.87	-9.55***
(4)	28.14	23.23	20.51	19.33	18.26	-9.88***
(5) (high)	24.94	18.50	15.48	14.59	12.94	-12.00***
Diff. [(5)-(1)]	-11.52***	-12.96***	-14.05***	-14.55***	15.25***	
Panel F: NETDEBT (%)						
(1) (low)	-0.30	1.57	2.03	2.97	2.69	2.99***
(2)	-0.25	1.10	1.51	2.43	1.97	2.22***
(3)	-0.47	0.82	1.07	1.98	1.52	1.99***
(4)	-0.60	0.80	0.80	1.60	1.39	1.99***
(5) (high)	-0.62	0.93	1.68	1.72	2.35	2.97***
Diff. [(5)-(1)]	-0.32	-0.64	-0.35	-1.25**	-0.34	
Panel G: NETEQ (%)						
(1) (low)	4.93	6.03	4.76	2.33	0.04	-4.89***
(2)	2.31	3.13	3.74	1.48	-0.23	-2.54***
(3)	2.33	3.45	3.03	1.52	-0.24	-2.57***
(4)	2.43	4.23	4.84	3.38	0.58	-1.85***
(5) (high)	4.17	8.00	12.06	10.69	5.61	1.44***
Diff. [(5)-(1)]	-0.76***	1.97***	7.30***	8.36***	5.57***	

RETpy	SIZE quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	4.63	7.60	6.79	5.31	2.74	-1.89***
(2)	2.06	4.23	5.24	3.91	1.74	-0.32***
(3)	1.86	4.27	4.10	3.50	1.28	-0.58***
(4)	1.83	5.02	5.64	4.98	1.97	0.14*
(5) (high)	3.54	8.94	13.74	12.41	7.96	4.42***
Diff. [(5)-(1)]	-1.09***	1.34***	6.95***	7.10***	5.22***	
Panel I: FAIL1 (%)						
(1) (low)	15.46	5.78	3.06	1.30	0.29	-15.17***
(2)	8.73	2.73	1.26	0.58	0.11	-8.62***
(3)	8.81	2.67	0.87	0.29	0.11	-8.70***
(4)	8.05	2.49	1.44	0.47	0.23	-7.82***
(5) (high)	10.08	3.63	1.75	0.71	0.11	-9.97***
Diff. [(5)-(1)]	-5.38***	-2.15***	-1.31***	-0.59**	-0.18	
Panel J: FAIL5 (%)						
(1) (low)	43.44	23.41	13.40	8.88	3.19	-40.25***
(2)	31.97	15.79	8.99	4.43	1.35	-30.62***
(3)	31.33	15.85	6.77	3.89	0.91	-30.42***
(4)	32.19	15.06	8.44	3.72	0.91	-31.28***
(5) (high)	36.29	19.89	13.00	6.26	1.94	-34.35***
Diff. [(5)-(1)]	-7.15***	-3.52***	-0.4	-2.62***	-1.25***	
Panel K: RETpy (%)						
(1) (low)	-5.27	-4.51	-4.10	-3.77	-3.37	1.90***
(2)	-0.76	-0.73	-0.72	-0.63	-0.57	0.19
(3)	1.17	1.16	1.17	1.21	1.23	0.06
(4)	3.16	3.14	3.17	3.16	3.10	-0.06
(5) (high)	8.66	8.52	8.34	7.85	7.16	-1.50***
Diff. [(5)-(1)]	13.93***	13.03***	12.44***	11.62***	10.53***	
Panel L: RET6m (%)						
(1) (low)	4.18	1.77	1.48	1.67	1.63	-2.55***
(2)	3.23	2.04	1.56	1.57	1.70	-1.53***
(3)	3.10	1.75	1.72	1.51	1.42	-1.68***
(4)	2.37	2.02	1.86	1.54	1.41	-0.96***
(5) (high)	2.87	1.64	1.37	1.20	1.25	-1.62***
Diff. [(5)-(1)]	-1.31***	-0.13	-0.11	-0.47*	-0.38*	
Panel M: RET1yr (%)						
(1) (low)	2.16	1.49	1.33	1.05	1.48	-0.68***
(2)	1.74	1.50	1.11	1.16	1.18	-0.56**
(3)	1.94	1.33	1.22	1.16	1.22	-0.72***
(4)	1.83	1.12	1.06	1.09	1.12	-0.71***
(5) (high)	1.50	0.69	0.36	0.45	0.73	-0.77***
Diff. [(5)-(1)]	-0.66***	-0.80***	-0.97***	-0.60**	-0.74**	
Panel N: RET2-5yr (%)						
(1) (low)	1.69	1.53	1.50	1.28	1.42	-0.27***
(2)	1.75	1.44	1.41	1.31	1.32	-0.43***
(3)	1.61	1.41	1.33	1.30	1.28	-0.33***
(4)	1.61	1.36	1.34	1.34	1.29	-0.32***
(5) (high)	1.59	1.27	1.14	1.31	1.25	-0.34***
Diff. [(5)-(1)]	-0.10	-0.27***	-0.36***	0.03	-0.17*	

Table 11

Mean statistics by combinations of PROFIT and ACCRUAL quintiles

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by PROFIT and ACCRUAL, and the time series mean of annual cross-sectional averages is calculated for each indicated variable for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

ACCRUAL	PROFIT quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	1.88	2.19	2.46	2.74	3.03	1.15***
(2)	2.16	2.50	2.94	3.39	3.75	1.59***
(3)	2.22	2.71	3.26	3.75	3.93	1.71***
(4)	2.27	2.79	3.43	3.71	3.95	1.68***
(5) (high)	2.27	2.89	3.34	3.50	3.52	1.25***
Diff. [(5)-(1)]	0.39***	0.70***	0.88***	0.76***	0.49***	
Panel B: BM						
(1) (low)	0.62	1.05	1.10	0.97	0.72	0.10
(2)	0.72	1.11	1.06	0.84	0.50	-0.22***
(3)	0.69	1.13	0.92	0.63	0.40	-0.29***
(4)	0.76	1.05	0.74	0.52	0.35	-0.41***
(5) (high)	0.79	0.80	0.57	0.43	0.31	-0.48***
Diff. [(5)-(1)]	0.17*	-0.25***	-0.53***	-0.54***	-0.54***	
Panel C: PROFIT (%)						
(1) (low)	-23.66	1.70	7.35	12.10	23.09	46.75***
(2)	-19.94	2.13	7.64	11.96	18.61	38.55***
(3)	-18.54	2.40	7.48	11.67	18.22	36.76***
(4)	-16.06	2.49	7.25	11.57	18.50	34.56***
(5) (high)	-15.06	1.55	6.99	11.61	19.56	34.62***
Diff. [(5)-(1)]	8.60***	-0.15	0.36	-0.49	-3.53***	
Panel D: ACCRUAL (%)						
(1) (low)	-24.97	-21.34	-19.22	-17.74	-19.16	5.81***
(2)	-8.31	-8.20	-8.02	-8.08	-8.48	-0.17
(3)	-4.73	-4.62	-4.68	-4.85	-4.93	-0.2
(4)	-1.70	-1.54	-1.83	-1.95	-1.90	-0.2
(5) (high)	9.26	3.70	2.83	2.80	3.65	-5.61***
Diff. [(5)-(1)]	34.23***	25.04***	22.05***	20.54***	22.54***	
Panel E: LEV (%)						
(1) (low)	19.66	34.90	36.95	33.47	20.81	1.15***
(2)	20.65	38.05	38.85	29.59	12.09	-8.56***
(3)	21.61	39.47	35.75	19.84	6.55	-15.06***
(4)	22.32	36.94	24.68	11.28	3.65	-18.67***
(5) (high)	26.03	25.86	12.44	6.21	3.21	-22.82***
Diff. [(5)-(1)]	6.37***	-9.04***	-24.51***	-27.26***	-17.60***	
Panel F: NETDEBT (%)						
(1) (low)	0.79	-0.67	0.28	-1.00	-2.09	-2.88***
(2)	2.08	2.14	1.57	0.89	-0.32	-2.40***
(3)	2.06	2.77	2.48	1.22	-0.17	-2.23***
(4)	2.08	3.18	2.35	0.81	-0.32	-2.40***
(5) (high)	2.34	2.92	1.01	-0.01	-1.06	-3.40***
Diff. [(5)-(1)]	1.55***	3.59***	0.73*	0.99***	1.03***	
Panel G: NETEQ (%)						
(1) (low)	19.84	3.41	2.33	1.05	0.43	-19.41***
(2)	16.21	3.06	1.50	0.70	0.24	-15.97***
(3)	15.84	2.65	1.33	0.75	-0.12	-15.96***
(4)	14.41	2.75	1.77	1.21	-0.20	-14.61***
(5) (high)	9.42	3.21	2.90	2.19	0.36	-9.06***
Diff. [(5)-(1)]	-10.42***	-0.20	0.57*	1.14***	-0.07	

ACCRUAL	PROFIT quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN (%)						
(1) (low)	20.63	2.73	2.61	0.05	-1.66	-22.29***
(2)	18.29	5.20	3.07	1.59	-0.08	-18.37***
(3)	17.90	5.43	3.81	1.97	-0.29	-18.19***
(4)	16.49	5.94	4.12	2.02	-0.51	-17.00***
(5) (high)	11.76	6.14	3.91	2.18	-0.70	-12.46***
Diff. [(5)-(1)]	-8.87***	3.41***	1.30***	2.13***	0.96***	
Panel I: FAIL1 (%)						
(1) (low)	16.94	10.05	6.64	3.78	2.36	-14.58***
(2)	9.31	5.55	2.29	0.86	0.48	-8.83***
(3)	8.10	4.43	1.40	0.58	0.44	-7.66***
(4)	7.06	2.72	0.63	0.36	0.24	-6.82***
(5) (high)	7.02	1.84	0.65	0.46	0.46	-6.56***
Diff. [(5)-(1)]	-9.92***	-8.21***	-5.99***	-3.32***	-1.90***	
Panel J: FAIL5 (%)						
(1) (low)	45.72	30.98	23.96	16.74	11.21	-24.29***
(2)	33.21	20.27	12.88	6.77	3.47	-21.75***
(3)	30.87	18.51	8.33	3.96	2.41	-23.51***
(4)	27.06	15.60	6.21	2.65	1.74	-24.71***
(5) (high)	27.72	11.75	5.79	4.36	4.09	-25.58***
Diff. [(5)-(1)]	-18.00***	-19.23***	-18.17***	-12.38***	-7.12***	
Panel K: RETpy (%)						
(1) (low)	-0.73	-0.98	-0.63	0.23	2.04	2.77***
(2)	0.54	0.07	0.65	1.55	2.75	2.21***
(3)	0.67	0.53	1.37	2.08	2.78	2.11***
(4)	0.82	0.99	1.90	2.46	2.98	2.16***
(5) (high)	1.12	2.00	2.87	3.31	4.35	3.23***
Diff. [(5)-(1)]	1.85***	2.98***	3.50***	3.08***	2.31***	
Panel L: RET6m (%)						
(1) (low)	1.76	1.75	2.22	2.63	2.61	0.85**
(2)	1.57	1.91	1.99	2.25	2.38	0.81**
(3)	1.26	1.65	2.20	2.09	2.17	0.91***
(4)	1.14	1.56	1.98	2.02	2.30	1.16***
(5) (high)	1.22	1.60	1.95	2.21	2.21	0.99***
Diff. [(5)-(1)]	-0.54*	-0.15	-0.27	-0.42*	-0.40*	
Panel M: RET1yr (%)						
(1) (low)	1.21	1.03	1.60	1.77	1.54	0.33*
(2)	1.00	1.19	1.56	1.52	1.41	0.41*
(3)	1.30	1.23	1.33	1.37	1.30	0.00
(4)	1.08	0.90	1.21	1.38	1.42	0.34*
(5) (high)	0.81	0.85	1.11	0.93	1.28	0.47**
Diff. [(5)-(1)]	-0.40*	-0.18	-0.49*	-0.84***	-0.26	
Panel N: RET2-5yr (%)						
(1) (low)	1.20	1.69	1.51	1.51	1.46	0.26
(2)	1.51	1.62	1.54	1.56	1.42	-0.09
(3)	1.43	1.55	1.41	1.39	1.32	-0.11
(4)	1.42	1.35	1.34	1.31	1.28	-0.14
(5) (high)	1.23	1.27	1.27	1.32	1.20	-0.03
Diff. [(5)-(1)]	0.03	-0.42***	-0.24*	-0.19*	-0.26**	

Table 12
Mean statistics by combinations of ACCRUAL and TXFIN quintiles

NYSE, AMEX, and Nasdaq firms are sorted annually (1980-2001) and independently into quintiles by ACCRUAL and TXFIN, and mean statistics are calculated for each quintile combination. Significance indicators: * (10%); ** (5%); and *** (1%).

TXFIN	ACCRUALS quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel A: SIZE						
(1) (low)	2.54	3.07	3.21	3.06	2.60	0.06
(2)	2.52	3.17	3.21	3.03	2.56	0.04
(3)	2.59	3.23	3.37	3.20	2.76	0.17*
(4)	2.81	3.43	3.52	3.39	2.97	0.16*
(5) (high)	2.52	3.08	3.26	3.20	2.93	0.41***
Diff. [(5)-(1)]	-0.02	0.01	0.05	0.14	0.33***	
Panel B: BM						
(1) (low)	0.96	0.90	0.84	0.84	0.86	-0.10*
(2)	0.95	0.91	0.89	0.90	0.87	-0.08
(3)	0.86	0.81	0.76	0.76	0.72	-0.14**
(4)	0.74	0.74	0.74	0.74	0.70	-0.04
(5) (high)	0.47	0.53	0.55	0.55	0.53	0.07
Diff. [(5)-(1)]	-0.50***	-0.37***	-0.29***	-0.29***	-0.33***	
Panel C: PROFIT (%)						
(1) (low)	13.88	12.00	9.65	7.11	-0.50	-14.38***
(2)	9.45	10.25	8.26	5.84	-0.22	-9.67***
(3)	7.19	9.25	8.24	5.70	-0.92	-8.11***
(4)	6.26	9.24	7.24	4.95	-1.34	-7.60***
(5) (high)	-7.53	0.06	0.80	-0.53	-7.33	0.20
Diff. [(5)-(1)]	-21.41***	-11.95***	-8.85***	-7.64***	-6.83***	
Panel D: ACCRUAL (%)						
(1) (low)	-20.34	-8.32	-4.79	-1.81	6.22	25.56***
(2)	-19.37	-8.21	-4.76	-1.80	4.78	24.15***
(3)	-20.88	-8.15	-4.77	-1.75	5.25	26.13***
(4)	-19.87	-8.23	-4.77	-1.73	5.19	25.06***
(5) (high)	-22.70	-8.26	-4.73	-1.72	6.67	29.37***
Diff. [(5)-(1)]	-2.36**	0.06	0.06	0.09	0.45	
Panel E: LEV						
(1) (low)	31.93	30.24	27.77	26.10	25.96	-5.97***
(2)	24.03	24.64	25.23	23.31	21.36	-2.67**
(3)	16.56	18.03	18.39	16.32	13.23	-3.33***
(4)	27.46	29.16	29.74	27.66	25.99	-1.47
(5) (high)	22.12	26.01	28.04	25.57	23.52	1.40
Diff. [(5)-(1)]	-9.81***	-4.23***	0.27	-0.53	-2.44*	
Panel F: NETDEBT						
(1) (low)	-10.96	-6.43	-5.62	-5.88	-9.11	1.85***
(2)	-1.35	-1.25	-1.21	-1.17	-1.10	0.25
(3)	-0.08	0.18	0.19	0.14	0.00	0.08
(4)	2.77	3.62	3.67	3.59	3.27	0.50
(5) (high)	9.78	11.88	13.03	12.21	10.98	1.20**
Diff. [(5)-(1)]	20.74***	18.31***	18.65***	18.09***	20.09***	
Panel G: NETEQ						
(1) (low)	-1.78	-2.08	-2.61	-2.92	-2.88	-1.10***
(2)	-0.04	-0.20	-0.20	-0.21	-0.19	-0.15
(3)	0.59	0.38	0.36	0.40	0.51	-0.08
(4)	2.61	1.60	1.54	1.65	2.15	-0.46
(5) (high)	28.01	17.56	15.60	17.44	19.64	-8.37***
Diff. [(5)-(1)]	29.79***	19.64***	18.21***	20.36***	22.52***	

TXFIN	ACCRUALS quintile:					Diff.
quintile:	(1) (low)	(2)	(3)	(4)	(5) (high)	[(5)-(1)]
Panel H: TXFIN						
(1) (low)	-12.74	-8.51	-8.23	-8.80	-11.99	0.75*
(2)	-1.38	-1.45	-1.42	-1.38	-1.29	0.09
(3)	0.52	0.55	0.55	0.54	0.51	-0.01
(4)	5.38	5.22	5.21	5.24	5.42	0.04
(5) (high)	37.79	29.44	28.64	29.65	30.62	-7.17***
Diff. [(5)-(1)]	50.53***	37.95***	36.87***	38.45***	42.61***	
Panel I: FAIL1 (%)						
(1) (low)	5.78	1.28	1.80	1.72	3.17	-2.61***
(2)	6.36	2.45	1.72	1.67	3.06	-3.30***
(3)	6.42	2.02	1.69	1.67	3.31	-3.11***
(4)	7.08	2.20	2.33	2.08	2.54	-4.54***
(5) (high)	11.18	4.24	3.10	2.72	4.79	-6.39***
Diff. [(5)-(1)]	5.40***	2.96***	1.30	1.00	1.62*	
Panel J: FAIL5 (%)						
(1) (low)	18.86	8.64	8.41	10.10	15.45	-3.41***
(2)	20.68	9.78	8.94	9.90	14.28	-6.40***
(3)	21.69	9.91	7.81	8.80	14.49	-7.20***
(4)	21.34	9.19	9.91	9.37	14.53	-6.81***
(5) (high)	35.18	19.02	14.98	15.36	20.64	-14.54***
Diff. [(5)-(1)]	16.32***	10.38***	6.57***	5.26***	5.19***	
Panel K: RETpy (%)						
(1) (low)	0.60	1.55	1.69	1.48	1.63	1.03***
(2)	0.15	1.01	1.26	1.20	1.41	1.26***
(3)	0.30	1.18	1.43	1.43	1.58	1.28***
(4)	0.28	1.54	1.43	1.53	1.92	1.64***
(5) (high)	1.21	2.44	2.31	2.75	2.92	1.71***
Diff. [(5)-(1)]	0.61***	0.89***	0.62***	1.27***	1.29***	
Panel L: RET6m (%)						
(1) (low)	3.06	2.67	2.53	2.26	2.32	-0.74***
(2)	2.98	2.52	2.23	2.19	2.25	-0.73***
(3)	2.55	2.07	2.04	1.90	1.86	-0.69***
(4)	1.83	1.74	1.68	1.60	1.59	-0.24
(5) (high)	0.82	1.28	1.30	0.94	0.57	-0.26
Diff. [(5)-(1)]	-2.24***	-1.39***	-1.23***	-1.32***	-1.75***	
Panel M: RET1yr (%)						
(1) (low)	1.92	1.87	1.70	1.43	1.30	-0.62***
(2)	1.77	1.58	1.47	1.39	1.47	-0.30**
(3)	1.94	1.66	1.54	1.52	1.16	-0.78***
(4)	1.46	1.38	1.16	1.06	0.78	-0.68***
(5) (high)	0.19	0.32	0.58	0.31	0.10	-0.09
Diff. [(5)-(1)]	-1.73***	-1.55***	-1.13***	-1.12***	-1.20***	
Panel N: RET2-5yr (%)						
(1) (low)	1.55	1.60	1.47	1.37	1.41	-0.14
(2)	1.59	1.59	1.53	1.37	1.41	-0.18
(3)	1.64	1.48	1.46	1.45	1.37	-0.27*
(4)	1.47	1.59	1.37	1.35	1.19	-0.28*
(5) (high)	0.90	1.24	1.15	1.13	0.99	0.09
Diff. [(5)-(1)]	-0.65***	-0.36**	-0.32**	-0.24*	-0.42**	

Table 13

Correlations and other statistics for portfolio variable values in Tables 1-12

Correlations (Panel A) and other statistics (Panels B, C, D) for previously-defined risk-proxy, failure probability, financing, and return variables: SIZE, BM, PROFIT, ACCRUAL, LEV, NETDEBT, NETEQ, TXFIN, FAIL1, FAIL5, RETpy, RET6m, RET1yr, RET2-5yr. Values are taken from Tables 1-12 (314 ptf. obs.) Interpretation of results in letter-labeled boxes in the correlation matrix is provided in the text. The standard error of each correlation coefficient in Panel A is 0.06. Significance indicators for means in Panel B: * (10%); ** (5%); and *** (1%).

	SIZE	BM	PROFIT	ACCRUAL	LEV	NETDEBT	NETEQ	TXFIN	FAIL1	FAIL5	RETpy	RET6m	RET1yr	RET2-5yr
Panel A: Correlation matrix														
SIZE	1.00													
BM	-0.51	1.00												
PROFIT	0.47	-0.05	1.00											
ACCRUAL	0.17	-0.12	-0.30	1.00										
LEV	-0.34	0.75	-0.12	-0.08	1.00									
NETDEBT	0.13	-0.20	-0.27	0.22	0.08	1.00								
NETEQ	-0.16	-0.36	-0.66	0.06	-0.20	0.57	1.00							
TXFIN	-0.05	-0.33	-0.57	0.14	-0.10	0.83	0.93	1.00						
FAIL1	-0.76	0.28	-0.70	-0.22	0.28	0.06	0.40	0.30	1.00					
FAIL5	-0.84	0.32	-0.75	-0.16	0.30	0.09	0.46	0.35	0.97	1.00				
RETpy	0.35	-0.65	0.18	0.19	-0.53	0.09	0.23	0.19	-0.35	-0.32	1.00			
RET6m	-0.43	0.70	0.37	-0.42	0.39	-0.52	-0.58	-0.63	0.17	0.14	-0.44	1.00		
RET1yr	-0.32	0.58	0.34	-0.37	0.22	-0.66	-0.68	-0.76	0.06	0.03	-0.49	0.87	1.00	
RET2-5yr	-0.40	0.69	0.23	-0.26	0.35	-0.52	-0.61	-0.64	0.06	0.09	-0.47	0.77	0.85	1.00
Panel B: Mean, standard deviation, minimum, and maximum														
Mean	3.00***	0.76***	4.76***	-5.94***	24.56***	1.21***	3.88***	5.07***	3.48***	14.39***	1.46***	1.94***	1.24***	1.39***
Std. dev.	0.93	0.35	9.71	4.51	10.73	4.13	6.36	9.36	3.60	10.52	2.05	0.78	0.47	0.18
Minimum	1.00	0.14	-25.92	-24.97	0.52	-13.64	-3.85	-14.94	0.00	0.53	-5.32	-0.10	-0.24	0.79
Maximum	5.00	2.06	23.09	9.26	63.38	15.32	33.24	42.21	21.63	53.61	9.55	4.49	2.36	1.87
Panel C: Means for portfolio with lowest RET1yr (Table 7, lowest BM and highest TXFIN)														
Mean	3.07	0.15	-11.48	-7.67	12.31	9.83	31.75	41.59	6.53	26.29	4.66	0.29	-0.24	0.88
Panel D: Means for two portfolios (tied) with highest RET1yr (Respectively: Table 5, highest BM and highest PROFIT; Table 8, lowest SIZE and lowest TXFIN)														
Mean	1.91	1.71	21.01	-18.55	32.03	-4.45	-0.68	-5.13	4.63	17.50	0.02	4.49	2.36	1.70
Mean	1.00	1.38	4.29	-10.08	39.71	-10.92	-1.09	-12.01	9.21	32.51	-0.05	4.13	2.36	1.87

Table 14

OLS regressions of failure probabilities on selected independent variable(s): Portfolio variable values from Tables 1-12

OLS regressions of one-year failure probability (FAIL1; Panel A) and five-year failure probability (FAIL5; Panel B) on combinations of the following risk-proxy and financing variables: SIZE, BM, PROFIT, ACCRUAL, LEV, NETDEBT, NETEQ, and TXFIN. All values are taken from Tables 1-12 (314 ptf. obs.). Significance indicators: * (10%); ** (5%); and *** (1%).

Reg.		Independent variable(s)								
no.	Intercept	SIZE	BM	PROFIT	ACCRUAL	LEV	NETDEBT	NETEQ	TXFIN	Adj. R^2
Panel A. Dependent variable: FAIL1										
A1	12.256***	-2.292***								0.572
A2	1.227***		2.954***							0.078
A3	4.723***			-0.260***						0.492
A4	2.448***				-0.174***					0.044
A5	1.143***					0.095***				0.078
A6	3.419***						0.050			0.001
A7	2.602***							0.227***		0.158
A8	2.896***								0.116***	0.088
A9	7.853***	-1.687***	-0.889**	-0.216***	-0.255***	0.036***				0.811
A10	8.901***	-1.722***	-1.275***	-0.261***	-0.295***	0.022	0.081***	-0.111***		0.819
A11	8.036***	-1.668***	-1.147***	-0.228***	-0.259***	0.039***			-0.020	0.812
SW2	10.606***	-2.117***		-0.164***						0.723
SW3	7.851***	-1.619***		-0.222***	-0.259***					0.807
Panel B. Dependent variable: FAIL5										
B1	42.788***	-9.482***								0.703
B2	6.965***		9.726***							0.100
B3	18.274***			-0.816***						0.566
B4	12.171***				-0.373***					0.023
B5	7.159***					0.294***				0.087
B6	14.170***						0.220			0.004
B7	11.438***							0.761***		0.209
B8	12.384***								0.396***	0.121
B9	32.277***	-6.198***	-2.636***	-0.602***	-0.549***	0.093***				0.916
B10	32.710***	-6.295***	-2.184***	-0.607***	-0.575***	0.068***	0.144**	-0.045		0.917
B11	31.868***	-6.242***	-2.061***	-0.574***	-0.539***	0.085***			0.044*	0.916
SW2	37.799***	-7.003***		-0.497***						0.863
SW3	31.815***	-5.945***		-0.623***	-0.563***					0.910

Table 15

OLS regressions of past and future portfolio returns on selected independent variable(s): Portfolio variable values from Tables 1-12

OLS regressions of previous-year portfolio returns (RETpy; Panel A), six-month 'gap period' portfolio returns (RET6m; Panel B), and future returns (RET1y and RET2-5yr; Panels C and D, resp.) on combinations of the following risk-proxy and financing variables: SIZE, BM, PROFIT, ACCRUAL, LEV, NETDEBT, NETEQ, and TXFIN. All values are taken from Tables 1-12 (314 ptf. obs.). Significance indicators: * (10%); ** (5%); and *** (1%).

Reg.		Independent variable(s)								
no.	Intercept	SIZE	BM	PROFIT	ACCRUAL	LEV	NETDEBT	NETEQ	TXFIN	Adj. R^2
Panel A. Dependent variable: RETpy										
A1	-0.832**	0.765***								0.118
A2	4.401***		-3.854***							0.426
A3	1.275***			0.039***						0.030
A4	1.970***				0.086***					0.033
A5	3.954***					-0.102***				0.281
A6	1.495***						0.043			0.005
A7	1.177***							0.072***		0.048
A8	1.247***								0.042***	0.033
A9	6.294***	-0.433***	-4.071***	0.064***	0.102***	-0.005				0.489
A10	4.602***	-0.388***	-3.361***	0.140***	0.166***	0.014	-0.116***	0.180***		0.558
A11	5.934***	-0.471***	-3.566***	0.089***	0.111***	-0.012			0.039***	0.504
SW2	4.216***		-3.810***	0.032***						0.449
SW3	4.519***		-3.669***	0.043***	0.078***					0.474
Panel B. Dependent variable: RET6m										
B1	3.027***	-0.364***								0.186
B2	0.729***		1.582***							0.494
B3	1.796***			0.030***						0.133
B4	1.506***				-0.072***					0.172
B5	1.235***					0.029***				0.151
B6	1.984***						-0.098***			0.266
B7	2.213***							-0.071***		0.336
B8	2.201***								-0.052***	0.389
B9	1.790***	-0.329***	1.430***	0.042***	-0.023***	-0.012***				0.799
B10	1.924***	-0.304***	1.165***	0.032***	-0.024***	-0.007**	-0.030***	-0.013**		0.833
B11	1.988***	-0.308***	1.152***	0.029***	-0.027***	-0.008***			-0.021***	0.833
SW2	1.165***		1.254***						-0.037***	0.665
SW3	0.893***		1.197***		-0.051***				-0.034***	0.750

Reg.		Independent variable(s)								
no.	Intercept	SIZE	BM	PROFIT	ACCRUAL	LEV	NETDEBT	NETEQ	TXFIN	Adj. R^2
Panel C. Dependent variable: RET1yr										
C1	1.722***	-0.162***								0.101
C2	0.635***		0.787***							0.337
C3	1.158***			0.016***						0.112
C4	1.009***				-0.038***					0.132
C5	0.998***					0.010***				0.046
C6	1.280***						-0.076***			0.440
C7	1.432***							-0.051***		0.466
C8	1.429***								-0.038***	0.575
C9	1.035***	-0.115***	1.023***	0.019***	-0.015***	-0.017***				0.610
C10	1.404***	-0.091***	0.613***	-0.003	-0.026***	-0.013***	-0.021***	-0.040***		0.807
C11	1.318***	-0.085***	0.625***	0.000	-0.022***	-0.011***			-0.031***	0.803
SW2	1.981***	-0.182***							-0.039***	0.703
SW3	0.883***		0.475***		-0.025***				-0.031***	0.750
Panel D. Dependent variable: RET2-5yr										
D1	1.623***	-0.077***								0.160
D2	1.122***		0.353***							0.475
D3	1.372***			0.004***						0.052
D4	1.332***				-0.010***					0.062
D5	1.251***					0.006***				0.116
D6	1.404***						-0.022***			0.271
D7	1.458***							-0.017***		0.365
D8	1.454***								-0.012***	0.411
D9	1.313***	-0.049***	0.407***	0.006***	-0.001	-0.005***				0.634
D10	1.429***	-0.044***	0.295***	0.000	-0.005***	-0.004***	-0.003*	-0.012***		0.734
D11	1.388***	-0.041***	0.301***	0.001	-0.003**	-0.003***			-0.008***	0.725
SW2	1.227***		0.274***						-0.009***	0.666
SW3	1.413***	-0.043***	0.206***						-0.010***	0.700

Table 16
Factor analysis results
Factor analysis is applied to all or some of risk-proxy, cash flow, failure probability, and past and future portfolio return variables (Panel A), and portfolio returns are regressed on extracted factors (Panel B). All data values are taken from Tables 1-12 (314 ptf. obs.). For all correlations, the standard error is 0.06. Significance indicators for regression coefficients: * (10%); ** (5%); and *** (1%).

	Factor 1	Factor 2	Factor 3	Var. incl. in f.a.?	Factor 1	Factor 2	Var. incl. in f.a.?	Factor 1	Factor 2	Factor 3	Var. incl. in f.a.?	Factor 1	Factor 2	Var. incl. in f.a.?
Panel A: Selected output of factor analysis														
Eigenvalue >	5.49	4.09	1.20		1.79	0.75		1.99	1.44	0.24		1.54	0.54	
Corr. with:														
SIZE	**-0.81**	0.09	-0.27	Yes	**-0.67**	0.53	Yes	0.20	**0.88**	0.26	Yes	-0.01	**0.86**	Yes
BM	0.19	-0.24	**0.89**	Yes	**0.95**	0.11	Yes	**0.37**	**-0.69**	-0.28	No	-0.47	**-0.73**	No
PROFIT	**-0.76**	-0.29	-0.04	Yes	-0.20	**0.92**	Yes	**0.76**	**0.54**	**-0.57**	Yes	**-0.63**	0.26	No
ACCRUAL	-0.09	0.12	-0.06	Yes	-0.20	**-0.44**	Yes	-0.18	0.14	**0.77**	Yes	0.27	0.33	No
LEV	0.15	0.01	**0.89**	Yes	**0.84**	0.08	Yes	0.14	**-0.47**	-0.15	No	-0.20	**-0.50**	No
NETDEBT	-0.03	**0.97**	0.08	Yes	-0.13	-0.23	No	**-0.64**	0.23	0.11	No	**0.75**	0.10	No
NETEQ	0.43	**0.71**	-0.30	Yes	-0.21	**-0.64**	No	**-0.92**	-0.04	0.21	No	**0.90**	0.00	No
TXFIN	0.28	**0.91**	-0.17	Yes	-0.20	**-0.54**	No	**-0.91**	0.07	0.19	Yes	**0.94**	0.04	Yes
FAIL1	**0.95**	0.08	0.17	Yes	**0.48**	**-0.63**	No	-0.44	**-0.79**	-0.04	No	0.25	**-0.68**	No
FAIL5	**0.97**	0.12	0.19	Yes	**0.52**	**-0.70**	No	-0.50	**-0.82**	-0.02	No	0.31	**-0.71**	No
RETpy	-0.22	0.13	**-0.66**	Yes	**-0.65**	0.00	No	-0.21	**0.61**	0.11	Yes	0.28	**0.62**	Yes
RET6m	0.09	**-0.51**	0.48	Yes	**0.65**	**0.39**	No	**0.72**	**-0.56**	**-0.66**	Yes	**-0.82**	**-0.71**	Yes
RET1yr	0.02	**-0.67**	0.30	Yes	**0.50**	**0.36**	No	**0.75**	**-0.49**	**-0.45**	No	**-0.85**	**-0.54**	No
RET2-5yr	0.05	**-0.54**	0.44	Yes	**0.61**	**0.26**	No	**0.62**	**-0.51**	**-0.38**	No	**-0.71**	**-0.55**	No
Panel B: OLS regressions (intercepts not reported)														
Dep. var.:	Factor 1	Factor 2	Factor 3	Adj. R^2	Factor 1	Factor 2	Adj. R^2	Factor 1	Factor 2	Factor 3	Adj. R^2	Factor 1	Factor 2	Adj. R^2
FAIL1	3.437***			0.902	1.903***		0.226	-1.824***			0.187	1.077***		0.057
		0.290		0.003		-2.980***	0.396		-3.128***		0.615		-3.141***	0.454
			0.670***	0.027						-0.188	-0.002			
	3.422***	0.283***	0.577***	0.931	1.812***	-2.901***	0.603	-1.885***	-3.002***	-0.595***	0.790	1.830***	-3.573***	0.619
FAIL5	10.299***			0.950	6.058***		0.270	-6.143***			0.250	3.943***		0.092
		1.267**		0.011		-9.724***	0.495		-9.517***		0.668		-9.649***	0.503
			2.142***	0.034						-0.330	-0.003			
	10.250***	1.248***	1.867***	0.992	5.761***	-9.470***	0.740	-6.348***	-9.108***	1.863***	0.903	6.288***	-11.133***	0.731
RETpy	-0.461***			0.047	-1.475***		0.424	-0.490***			0.039	0.696***		0.075
		0.267***		0.014		-0.002	-0.003		1.384***		0.372		1.648***	0.387
			-1.430***	0.430						0.329**	0.009			
	-0.428***	0.264***	-1.418***	0.486	-1.477***	-0.068	0.423	-0.606***	1.424***	-0.190	0.425	0.367***	1.562***	0.406
RET6m	0.067			0.004	0.561***		0.422	0.655***			0.520	-0.777***		0.666
		-0.398***		0.258		0.403***	0.152		-0.486***		0.315		-0.713***	0.499
			0.395***	0.223						-0.743***	0.433			
	0.058*	-0.397***	0.392***	0.485	0.575***	0.428***	0.596	0.549***	-0.468***	-0.407***	0.979	-0.660***	-0.557***	0.957
RET1y	0.010			-0.003	0.258***		0.245	0.410***			0.563	-0.487***		0.722
		-0.313***		0.442		0.222***	0.128		-0.254***		0.237		-0.325***	0.285
			0.152***	0.090						-0.307***	0.202			
	0.007	-0.313***	0.151***	0.531	0.265***	0.234***	0.387	0.397***	-0.261***	-0.076***	0.842	-0.440***	-0.221***	0.847
RET2-5yr	0.008			-0.001	0.121***		0.375	0.127***			0.377	-0.155***		0.507
		-0.096***		0.288		0.062***	0.067		-0.101***		0.262		-0.127***	0.305
			0.084***	0.194						-0.098***	0.144			
	0.007	-0.096***	0.083***	0.482	0.123***	0.067***	0.456	0.125***	-0.103***	-0.022**	0.672	-0.134***	-0.096***	0.671

Table 17

Two-stage least squares regressions of portfolio returns on estimates of FAIL5 and other variables

Two-stage least squares regressions of past and future returns (RETpy, RET6m, RET1y, and RET2-5yr) on first-stage estimates of five-year failure risk, denoted as FAIL5est and generated using indicated first-stage instruments, and indicated additional second-stage independent variables. All data values are taken from Tables 1-12 (314 ptf. obs.). Significance indicators: * (10%); ** (5%); and *** (1%).

Reg.				Additional ind. var's in 2nd-stage regr.:					Reg.	Results of first-stage regression to obtain FAIL5est:					
no.	Dep. var.	Intercept	FAIL5est	TXFIN	PROFIT	ACCRUAL	BMmisprice§	Adj. R^2	no.	Intercept	SIZE	PROFIT	ACCRUAL	LEV	Adj. R^2
Panel A. Pricing model A															
A1s2	RETpy	2.619***	-0.081***					0.115	A1s1	42.788***	-9.482***				0.703
A2s2	RET6m	1.384***	0.038***					0.141	A2s1	42.788***	-9.482***				0.703
A3s2	RET1yr	0.990***	0.017***					0.081	A3s1	42.788***	-9.482***				0.703
A4s2	RET2-5yr	1.275***	0.008***					0.121	A4s1	42.788***	-9.482***				0.703
Panel B. Pricing model B															
B1s2	RETpy	2.138***	-0.047***					0.033	B1s1	18.274***		-0.816***			0.566
B2s2	RET6m	2.458***	-0.036***					0.086	B2s1	18.274***		-0.816***			0.566
B3s2	RET1yr	1.525***	-0.020***					0.083	B3s1	18.274***		-0.816***			0.566
B4s2	RET2-5yr	1.467***	-0.005***					0.042	B4s1	18.274***		-0.816***			0.566
Panel C. Pricing model C															
C1s2	RETpy	2.520***	-0.103***	0.082***				0.165	C1s1	18.274***		-0.816***			0.566
C2s2	RET6m	2.218***	-0.001	-0.052***				0.381	C2s1	18.274***		-0.816***			0.566
C3s2	RET1yr	1.335***	0.008***	-0.041***				0.626	C3s1	18.274***		-0.816***			0.566
C4s2	RET2-5yr	1.403***	0.004***	-0.014***				0.471	C4s1	18.274***		-0.816***			0.566
Panel D. Pricing model D															
D1s2	RETpy	2.381***	-0.064***					0.078	D1s1	13.108***		-0.949***	-0.977***		0.726
D2s2	RET6m	2.153***	-0.015***					0.023	D2s1	13.108***		-0.949***	-0.977***		0.726
D3s2	RET1yr	1.363***	-0.009***					0.023	D3s1	13.108***		-0.949***	-0.977***		0.726
D4s2	RET2-5yr	1.425***	-0.002**					0.009	D4s1	13.108***		-0.949***	-0.977***		0.726
Panel E. Pricing model E															
E1s2	RETpy	2.651***	-0.118***	0.100***				0.217	E1s1	13.108***		-0.949***	-0.977***		0.726
E2s2	RET6m	1.988***	0.018***	-0.061***				0.461	E2s1	13.108***		-0.949***	-0.977***		0.726
E3s2	RET1yr	1.239***	0.016***	-0.046***				0.663	E3s1	13.108***		-0.949***	-0.977***		0.726
E4s2	RET2-5yr	1.384***	0.006***	-0.015***				0.497	E4s1	13.108***		-0.949***	-0.977***		0.726
Panel F. Pricing model F															
F1s2	RETpy	2.530***	-0.075***					0.127	F1s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
F2s2	RET6m	1.789***	0.010**					0.014	F2s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
F3s2	RET1yr	1.190***	0.003					0.002	F3s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
F4s2	RET2-5yr	1.353***	0.003***					0.020	F4s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
Panel G. Pricing model G															
G1s2	RETpy	3.252***	-0.102***		-0.042	0.021		0.137	G1s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
G2s2	RET6m	0.147	0.102***		0.118***	0.041***		0.553	G2s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
G3s2	RET1yr	0.426***	0.044***		0.054***	0.012*		0.333	G3s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
G4s2	RET2-5yr	1.066***	0.012***		0.022***	0.012***		0.289	G4s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
Panel H. Pricing model H															
H1s2	RETpy	2.111***	-0.065***	0.088***	0.043	0.063*		0.239	H1s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
H2s2	RET6m	0.660***	0.085***	-0.040***	0.080***	0.022**		0.709	H2s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
H3s2	RET1yr	0.924***	0.027***	-0.039***	0.017***	-0.006		0.711	H3s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
H4s2	RET2-5yr	1.224***	0.015***	-0.012***	0.010***	0.006**		0.543	H4s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
Panel I. Pricing model I															
I1s2	RETpy	2.549***	-0.076***				-0.596***	0.125	I1s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
I2s2	RET6m	1.702***	0.016***				1.648***	0.260	I2s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
I3s2	RET1yr	1.167***	0.005*				0.636***	0.098	I3s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
I4s2	RET2-5yr	1.336***	0.004***				0.356***	0.231	I4s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
Panel J. Pricing model J															
J1s2	RETpy	2.216***	-0.073***	0.089***	0.034	0.053	0.197	0.239	J1s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
J2s2	RET6m	0.760***	0.076***	-0.035***	0.067***	0.007	0.836***	0.770	J2s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
J3s2	RET1yr	0.937***	0.026***	-0.038***	0.015***	-0.008*	0.115*	0.715	J3s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914
J4s2	RET2-5yr	1.243***	0.013***	-0.011***	0.008***	0.002	0.180***	0.596	J4s1	30.388***	-5.782***	-0.625***	-0.563***	0.039**	0.914

§Residual from OLS regression: BM = 1.258 -0.120*SIZE -0.092*RETpy; Adj R^2=0.516