

Misreaction^{*}

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Abstract

To learn about investors' information processing, we examine the issuances of trust preferred stock, a leverage-neutral hybrid security. Specific benefits of trust preferred stock issuance have become focal points for issuers. These "focal" benefits include tax and financial distress avoidance, for example. We find these benefits are associated with short-run stock price misreactions. For those issuers that do not have a focal benefit of issue, mean short-run abnormal returns tend to be negative but long-run abnormal returns tend to be positive. Unanticipated changes in long-run profit opportunities, not short-run operating profits, appear to be the key to the misreaction.

Keywords: Market misreaction, trust preferred stock, long-run returns

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I. Introduction

Recent studies document anomalous long-run returns following financing announcements and reject the null hypothesis of market efficiency. Secondary equity offerings, debt and convertible debt issues are all associated with zero-to-negative announcement period abnormal returns, and with long-run abnormal performance that continues in a negative direction.¹ Thus, investors apparently underreact at the time of equity or debt issue announcements. Similar patterns of announcement period underreaction have been documented for other events with capital structure implications.² Examination of post-issue financial statements suggests that unanticipated deterioration in operating performance can explain the underreaction.³ Others have postulated more formal behavioral explanations that include investor conservatism (Barberis, Shleifer and Vishny (1998)), heterogeneity of investor beliefs (Hong and Stein (1999)), and categorical thinking (Mullainathan (2002)).

However, if stock risk is expected to change given the announcement of an issue, then post-issue returns patterns might merely reflect the event-induced risk changes. With equity and debt issues, leverage changes post-issue, and, hence, stock risk can be expected to change as well. When the event itself implies a change in stock risk level, then risk-benchmarks based on pre-issue data are invalidated, leading to spurious long-run abnormal returns measurements. Eckbo, Masulis, and Norli (2000) demonstrate that existing results on long-run returns after seasoned equity issues can be explained in this manner. They also document risk-change-induced problems in benchmarking the market responses to debt issues.

Our goal in this paper is to gain additional understanding about the sources of abnormal stock returns around financing events. To this end, we examine the announcement period stock reaction and the subsequent long-run returns around the issuances of a hybrid security called trust preferred stock that has not been previously researched in the long-run returns literature. Trust preferred

¹See Masulis and Korwar (1986) for evidence on market reaction to equity issues, Eckbo (1986) and Mikkelsen and Partch (1986) for debt issues and Dann and Mikkelsen (1984) for convertibles; Jung, Kim and Stulz (1996) provide more recent evidence. See Loughran and Ritter (1995) and Spiess and Affleck-Graves (1995) for evidence on long-run returns following SEOs, and Spiess and Affleck Graves (1999) for debt and convertibles.

²For example, Ikenberry, Lakhonishok and Vermaelen (1995) document underreaction to stock repurchases, and Ikenberry and Ramnath (2002) document underreaction to stock splits.

³See Loughran and Ritter (1997) for SEOs, and Lewis, Rogalski and Seward (2001) for convertibles.

is essentially redeemable preferred stock with deferrable dividend obligations, issued in such a way that dividends are tax deductible to the issuer. Why do we choose trust preferred stock issuances as the laboratory setting for our purpose?

First, as a debt-equity hybrid, trust preferred stock provides a natural control for spurious, risk-change induced long-run abnormal stock performance: it is roughly leverage-neutral by construction. Accounting standards at the time of our sample stipulate the trust preferred stock should be listed on the “mezzanine” of the issuer’s balance sheet, between debt and equity (Frischmann, Kimmel and Warfield (1999)). Ratings agencies agree: when assessing credit ratings, Standard and Poor has historically accorded trust preferred stock substantial, but not complete, equity credit. There is little by way of increased financial distress likelihood, at least for a substantial period (as with debt), nor are there obligations to or control implications of new shareholders (as with equity). Therefore, there is no *a priori* reason to expect any leverage-change induced stock risk changes with the issuance of trust preferred, alleviating the potential for spurious long-run abnormal returns. In the absence of leverage-change, Barber and Lyon (1997) and Lyon, Barber and Tsai (1999) provide extensive simulation support for control-firm techniques like the ones we use, so we can be confident that empirical post-trust-preferred abnormal returns patterns are not spurious.

Second, if stock risk does change for reasons ancillary to the issue of this debt-equity hybrid, we can observe the likely direction of the change *a priori*. For example, bank issues of trust preferred stock are classified as equity for regulatory purposes because the Federal Reserve judges that trust preferred provides additional loss-absorbing cushion, and so risk might be reduced. Similarly, issuers who swap trust preferred for debt reduce financial distress risk. On the other hand, issuers who swap trust preferred for equity add a more senior security to their balance sheet, thus, if anything, increasing risk, even though they avoid tax obligations. Issuers who use trust preferred proceeds to fund acquisitions avoid the cost of signaling overvalued stock (i.e., compared to funding with new equity), but also inform the market of their plans to undertake possibly-risk-increasing outside projects. In these instances, any change in stock risk would likely be an increase. If the post-issue long-run abnormal returns pattern turns out to be the same irrespective of the likely direction of stock risk change, then we can be more confident that the pattern is not due to the stock risk change.

Third, trust preferred stock is a security that allows us to cleanly identify certain desired benefits

of each issue event, from the point of view of the issuer. Our reading of company press releases and press reports around trust preferred issuance events over the full history of the security tells us that the sorts of benefits mentioned above are focal to investment banks in that they were very prominent in the design and marketing of trust preferred stock to issuers, and are similarly prominent in issuers' decisions to finance with trust preferred (Engel, Erickson and Maydew (1999)). For example, as mentioned, banks issue trust preferred stock because it is classified as equity for regulatory purposes, but has lower issue costs and no dilution or control effects relative to equity. We will refer to such desired benefits as "focal" benefits.

Clean identification of various categories of focal benefits is important to our design in two ways. First, we need categories of issues that stratify ancillary risk changes, as discussed above. Second, we hypothesize that these benefits of issuance, if clearly delineated and brought to the attention of investors, become important in influencing market reaction at the time of announcement. Our evidence shows that these focal benefits are in fact important to the market at the time trust preferred issues are announced and, more surprising, that lack of focal benefits is a source of systematic stock price misreactions.

Our central empirical finding is a pattern of risk-adjusted short- and long-run reactions to trust preferred issues in which investors bid up (or down) the stock prices of issuers that have (or don't have, respectively) focal benefits at the time of announcement. The short-run mean abnormal returns are statistically as well as economically significant: about 1 percent in absolute value over a three-day event window for issues that exhibit many of the focal benefits. Similar results obtain for issues with various narrower sets of focal benefits. For issues with focal benefits, the market is efficient from the point of view of post issue abnormal returns: long-run abnormal stock price performance is insignificantly different from zero. However, for the issues that do not have many focal benefits, the initial stock price reactions are misreactions: the post-issue overall buy and hold abnormal return in the first year is more than 7 percent for issues that fail to exhibit most of the focal benefits. The post-issue second year abnormal return is insignificantly different from zero. Thus, the long-run adjustment appears to be complete after one year. Similar findings obtain for issues that have various narrower sets of focal benefits.

The most striking elements of this pattern are that long-run risk-adjusted stock price return is in the opposite direction from the announcement period return, and that the pattern is connected

to the focal benefits in an extremely consistent manner.

We investigate whether unanticipated operating performance can explain the patterns we document for trust preferred issuances, and find that it does not.⁴ We, however, find that issuers that do not have focal benefits of issue at the time of issue tend to experience sharp increases in their market-to-book ratios (a proxy for the firm’s growth opportunities and future profitability) post-issue. Thus, investors properly evaluate complex costs and benefits of issuance once they have been named and become focal. But they fail to anticipate long-term value creation in cases where such benefits of issue are not sharply delineated at the time of issue announcement. For those issues, investors react significantly negatively at the time of announcements of issues that appear to entail strongly positive changes in growth opportunities.

Why do investors react this way? One possibility is “categorical thinking,” as developed by Mullainathan (2002) and Barberis and Shleifer (2003). When finer information is difficult to access or analyze, categorical thinkers economize by making assessments according to coarse information categories. Categorical investors update prices only when they have seen enough data to suggest that a different category better fits the data.⁵ In the case of security issuance, asymmetric information encourages opportunism, (Myers (1984), Myers and Majluf (1985), Lee (1997)), and post-issue agency problems can arise because of the discretion trust preferred stock affords (especially given its dividend deferral provisions) regarding use of issue proceeds. Thus, it is possible that investors apply to trust preferred the same judgments as for another security that has similar features – equity – except where they have a focal reason to judge differently.⁶ Issues with focal benefits would be assessed positively, while others would be assessed negatively. As time passes, the accumulation of information forces a category change for the latter group, confirming the misreaction.

Whether or not categorical thinking applies to our case, an implication of our work is that behavioral theories or other general explanations for long-run returns puzzles must account for patterns more complex than short-run underreactions followed by long-run continuations, and short-

⁴That operating performance is not the explanation is perhaps not surprising, given that Lewis, Rogalski and Seward (2001) document that the pattern of accounting performance after issues of another hybrid security, convertible debt, is markedly different than after seasoned equity offerings.

⁵The distinction between categorical thinking and a pooling equilibrium is, most fundamentally, that categorical thinkers do not consider the full set of posterior probabilities. Therefore, rather than prices adjusting smoothly as news develops, they adjust discretely as category assignments change.

⁶Trust preferred stock itself is simpler to value than equity, so opportunism in terms of issuing an overvalued security may be limited. In that case, discretion in the use of proceeds would be the main analogy with equity issues.

run overreactions in the right direction. Daniel, Hirshleifer and Subrahmanyam (1998) and Fama (1998) express similar notions. Nonetheless, patterns of underreaction and overreaction have been the focus of modeling efforts, including the one by Daniel, Hirshleifer and Subrahmanyam.⁷ Simple underreactions and overreactions have also been the focus of normative analyses of market inefficiency and advice for managers (for example, Stein (1995)). Our evidence suggests that misreactions may occur when investors focus only on subsets of the available information. In our sample, pricing is correct when investors are presented with an obvious focus on the value-relevant subset of information. Pricing is incorrect when such focal information is not prominent. In terms of normative suggestions, our results imply that it behooves managers to credibly articulate the focal benefits expected from issuing any security.

Because investors may focus only on certain subsets of all available information even when researchers cannot cleanly identify what those subsets are, and because the effects of changing stock risk could muddy the effects of focus, there are reasons to suspect that misreaction due to over-focus may be present but masked in other situations. Moreover, since trust preferreds state specific dividend rates and are generally issued by investment-grade entities, this security itself is not considered difficult to price. With the issue itself fairly priced, the full value-effect of the issue accrues to common equity. That may be one reason why we find such large misreactions.

Although we use trust preferred issuance as a laboratory to better understand investors' information processing at the time of events, a study of stock returns around trust preferred issuance is important in its own right because trust preferred stock has become a widely-issued security.⁸ It is a major source of Tier I capital for banks, having completely displaced traditional redeemable preferred stock. Non-bank issues of trust preferred lead-managed by Goldman Sachs alone account for more than \$65 billion outstanding as of January 2000 (Irvine and Rosenfeld (2000)). It is a major source of backing for collateralized debt obligations, with about \$3 billion in trust preferred-backed collateralized debt obligations issued during 2001 (High Yield Report, (2002)) and more than \$1 billion in trust preferred-backed collateralized debt obligations issued during the first six months of 2002 (Hurst (2002)). Trust preferreds have become an important source of financing

⁷Theoretical models of overreaction include the overconfidence and biased self-attribution model of Daniel, Hirshleifer and Subrahmanyam (1998), the momentum-trader model of Hong and Stein (1999), and investor-representativeness model by Barberis, Shleifer and Vishny (1998).

⁸For studies of announcement period returns, see Irvine and Rosenfeld (2000) and Benston, Irvine, Rosenfeld, and Sinkey (2003).

in the insurance industry and for real estate investment trusts (\$6 billion issued in 1997 (Morgan Keegan (1998)). Overall, our search of the SDC Platinum database for trust preferred stock and its trade names turned up more than \$94 billion in issues between 1995 and 2000. Kimmelman (2002) estimates the outstanding market value of publicly-issued trust preferred and closely related securities at more than \$200 billion. Thus, understanding returns patterns around the issuances of trust preferred stock is important, *per se*.

The remainder of the paper is organized as follows. The following section describes the security, our focal benefit of issue categories, and our sample. Section III documents investor misreaction by examining the announcement period market reaction and the subsequent long-run stock returns. Section IV seeks the economic rationale for post-issue performance. Section V discusses the implications of our results and concludes.

II. The security, the categories and the sample

A. The security

We begin by describing the security and the reasons for issue that have been prominent over its history. Trust preferred stock was first issued in 1993 as Monthly Income Preferred Stock. It has since been issued under many specific names, with various terms, as public and private issues, in straight and convertible versions, by single issuers and through pools of issuers. Despite the variations, this security is, in essence, redeemable preferred stock, often with a 30-year term. It is typically priced at a spread (often 100-300 basis points) over the appropriate-maturity Treasury note to sell at par. Figure 1 provides a diagram of the cash flow and ownership relationships. To issue trust preferred stock, an issuer establishes and owns all the equity of a special-purpose trust, which issues preferred stock to investors. The proceeds are loaned to the issuer, which pays debt service to the trust for pass-through to investors as preferred dividends.

Figure 1 here.

A dividend deferral feature (usually 5 years) combined with the issuer's equity control ensures that trust preferred presents, at most, a very mild financial distress risk for quite some time. Historically, trust preferred and similar securities have usually been listed separately on the issuer's

balance sheet, in-between debt and equity (Frischmann, Kimmel and Warfield (1995, 1999))⁹. In view of this structure and considering the temporally fungible nature of cash payments, debt ratings agencies – Standard and Poor, for example – accord substantial equity credit for trust preferred, often in the neighborhood of 40 percent (Standard and Poor’s Creditweek (1996)). Given this hybrid nature, trust preferred stock is a roughly leverage-neutral security for the issuer.

The tax deductibility of the interest on these securities has become gradually, but firmly, established (see IRS Revenue Ruling 93-7 (1993)). Industry press and our informal discussions with bankers suggest that trust preferred stock is often chosen over straight debt or equity because issue costs, and perhaps even all-in cost of capital, are lower. For example, direct floatation costs for sizable trust preferred stock issues are often only half that of equity issues (Corporate Financing Week (2002)). In October 1996, the Federal Reserve qualified trust preferred as Tier I (core) capital for bank holding companies. As a result, bank holding companies have been dominant issuers since that time. Trust preferred stock has replaced other forms of preferred in bank financing, and has become a mainstay method of raising external finance for the industry (see Benston, Irvine, Rosenfeld and Sinkey (2003)).

In addition to direct floatation costs, any equity issuer faces the likelihood of negative stock price effects due to adverse selection (Myers (1984) and Myers and Majluf (1985)). Such adverse selection costs should be a concern for all issuers.¹⁰ Applying pecking order thinking, trust preferred would be one way for a firm that is not overvalued to fund its plans without bearing adverse selection costs. Similarly, trust preferred would be a way for a firm to fund its plans without bearing the financial distress costs associated with risky debt issues. Though professorial terminology is not employed, company press releases and analyst discussions sometimes suggest this benefit (see, for example, Plain Dealer (1998)).

Some of the discussion above has focused on the practical transactions cost of issue. The lower bound for trust preferred stock issues large enough to be cost-effective has varied over time, from about \$15 million to \$25 million being the lower bound to be cost-effective, with \$250 million being a more typical range for issue size. (Investment Dealers Digest (1998), Jordan (2000)). Almost

⁹This treatment was changed in 2003, after the time of our sample.

¹⁰Lee (1997) provides evidence that CEOs of seasoned equity issuers do in fact know whether their stock is overvalued. Cornett, Mehran and Terhanian (1998) show that negative abnormal returns to bank seasoned equity issues have tended to be most severe when they were not required to issue stock for capital adequacy purposes.

all our sample trust preferred issues are well above this bound, but there are reasons to believe that the market might expect the most value creation when issue size is relatively limited. First, there are substantial information-theoretic reasons to expect that the cost of funds is convex in the issue size (Stein (1998), Kashyap and Stein (1994), Froot, Scharfstein and Stein (1993)). Second, agency costs of excess cash holdings under management discretion are also limited when issue size is limited. Jensen’s (1986) free cash flow reasoning suggests this might be an issue; Blanchard, Lopes-de-Silanes and Shleifer (1994), Harford (1999) and Harford and Haushalter (2000) provide empirical evidence that managerial motives influence the use of one-time influxes of cash.

In summary, given the way trust preferred stock is treated by accounting, ratings, tax and regulatory authorities, it is not hard to see why investment banks have been able to market this security to issuers as a security with the tax benefits of debt and the balance-sheet benefits of equity (i.e., low financial distress risk).¹¹ Moreover, it has some attractiveness from the point of view of issue costs and signaling value. Press releases and analyst comments when issues are announced often refer to the benefits we have discussed. In essence, our study investigates whether the market becomes unduly focused on such benefits. Therefore, these benefits delineate our categories of focal event-time information, as discussed next.

B. Focal benefits categories

We want to know whether the benefits of trust preferred stock noted in the discussion above condition announcement period market reaction, and if so, whether the conditioning information makes the market more efficient. We follow the reasoning above very closely to establish six “categories” of conditioning information. We refer to these below as Benefits-of-Issue categories.

1. *Bank Regulatory Benefit category.* This category is comprised of issues with primary SIC code 60-69 on COMPUSTAT.
2. *Tax Reduction Benefit category.* This category is comprised of issues that specifically state in the prospectus that issue proceeds will be used to repurchase equity.
3. *Financial Distress Reduction Benefit category.* This category is comprised of issues that specifically state in the prospectus that issue proceeds will be used to pay off non-bank debt.

¹¹Other sources provide additional detail. Engel, Erickson and Maydew (1999) provide a more detailed description of trust preferred structure and history and an empirical analysis of the reasons for issue. Frischman, Kimmel and Warfield (1999) provide a description of the accounting treatment of trust preferreds. Standard and Poor’s Creditweek (1996) discusses the ratings agency treatment. Hariton (1994) and Gergen and Schmitz (1997) discuss the tax issues. Benston, Irvine, Rosenfeld and Sinkey (2003) analyze trust preferreds with a focus on the regulatory treatment.

These issuers should benefit from a reduced likelihood of financial distress. Unlike firms that undertake an equity-for-debt exchange offer, these firms also avoid any signal of impending financial trouble. We exclude firms that plan to pay down bank debt, as returns for those firms may additionally be influenced by the loss of any monitoring service performed by banks (see James (1987) and, for evidence in the context of trust preferred stock, Irvine and Rosenfeld (2000)).

4. *Use Cheaper External Financing Benefit category.* This category is defined to include issues that state in the prospectus that they will use trust preferred issue proceeds for expansion through acquisitions. By using trust preferred, these firms may hope to obtain the funding to implement their desired acquisition plans without bearing the asymmetric information costs that the use of equity can entail or the higher financial distress costs that the use of debt can entail.
5. *Self-imposed Managerial Discipline Benefit category.* This category includes all issues that are less than 2 percent of asset value, the sample median. Given that issues of trust preferred need to be of a certain minimum size to be attractive from the perspective of issue and agency costs (see the discussion above), we form this category of relatively small issues. The category definition is not based on the sort of specific prospectus information as for others, and so provides for a robustness check. On the other hand, it involves our judgment as to the size cutoff, so we use this category in only a limited way, as described just below.
6. *Total Benefits category.* To facilitate summaries of our results for all focal categories, we construct a binary variable, Total Benefits, which is equal to one for issues that are at or above our sample median in terms of the integer number of focal categories to which they correspond (i.e., for each issue, we count the number of the above-mentioned benefit categories for which “In-Category” requirements are satisfied). The Total Benefits category captures the essence of issues that had clearly delineated and prominent benefits of issues at the time of announcement. Total Benefits is our summary measure. We exclude “Self-imposed Managerial Discipline Benefit” category in constructing this measure, since it is constructed based partly on our judgment, but we have verified that our conclusions do not change if we include it. With this convention, the median number of specific benefit categories that apply to an issue is two, out of a possible four.

C. The sample

Our sample comprises trust preferred stock issue announcements since its inception in 1993 through the early months of 2001. The initial sample was obtained by searching the SDC Platinum database, using keywords related to trust preferred securities. That search yielded several thousand candidate issues. We manually screened these issues to identify actual trust preferred issues. 467 issues survived this screening. We aggregated into a single case all multiple announcements made on the same day by the same issuer. The sample was further limited by the availability of requisite data from the CRSP files and the COMPUSTAT quarterly files. We require quarterly COMPUSTAT data to appropriately measure characteristics just prior to issue announcements. We collected

prospectuses or related SEC filings for public issues, and these documents are the source of focal benefit category definitions that are based on the intended use of funds. Our final sample comprises 210 trust preferred issues.

Table 1 displays the composition of our sample by year. Only a few issues are observed in the earliest years, prior to the Federal Reserve’s blessing of trust preferred stock as Tier I capital. The Fed’s ruling, along with marketing efforts of investment banks and law firms suggesting that the benefit might be rescinded, resulted in a scramble to issue in the middle years of our sample. That initial scramble has abated somewhat in later years.¹²

Table 1 here.

Table 2 displays the composition of our sample by Benefits-of-Issue categories. Each category has enough issues inside and outside of the category to allow meaningful statistical tests. The Bank Regulatory Benefit category contains the greatest number of observations, consistent with the prominent role of trust preferred stock in bank finance. The Tax Reduction Benefit category has the fewest observations, perhaps because banks and other businesses were generally growing their equity bases during this period, and thus would not be so inclined to swap out one equity security for another as to retain both.

Table 2 here.

For most Benefits-of-Issue categories, information from the prospectus is required for an In-Category designation. Our sample contains 41 private issues, or about 20 percent of the total sample. In our work below, we are careful to show that the lack of In-Category designations for private issues does not drive our results.

In the next section, we report on announcement period market reaction and the subsequent long-run stock returns focusing on the Benefits-of-Issue categories defined above.

III. Short-run reaction and subsequent long-run returns

In this section, we document that the stock market properly evaluates the value impact of the costs and benefits of issuance for issues in our focal benefit categories. But it does not properly

¹²The sample ends in early 2001. Our few issues from early 2001 are consolidated with 2000 in the table to avoid the impression of a sharply lower issue rate.

anticipate long-term value creation for out-of-category issues, i.e. where the focal issue benefits are not delineated at the time of issue announcement. For such issues, investors react significantly negatively at the time of issue announcement, but the subsequent risk-adjusted abnormal returns turn out to be significantly positive. We find patterns that have rarely been documented: significantly positive announcement period risk-adjusted returns for issues with focal issue benefits at the time of the announcement, and economically and statistically significant positive post-issue abnormal performance for trust preferred issues without focal issue benefits at the time of the announcement.

A. Announcement Period Returns

1. Results

Announcement period abnormal stock returns are calculated using returns data from the daily CRSP tapes. Following standard event study methodology, we compute market-adjusted announcement period returns from the day before the announcement date through the day after the announcement date. We call this the cumulative market-adjusted return. We choose a 3-day window because (as usual) some investors might receive information in advance of the formal announcement, and because the market might sometime become informed only afterward in that a filing notice is not always available on Dow Jones News Service until a day late (see Irvine and Rosenfeld (2000)).

Table 3 shows abnormal returns for trust preferred issues sorted according to whether they fall “In-Category” or “Out-of-Category” with respect to the Benefits-of-Issue Categories developed in the previous section, provides standard test statistics, and difference of means tests between In-Category and Out-of-Category abnormal returns.¹³

Table 3 here.

Most striking, the mean In-Category abnormal returns are positive for every category, and statistically significant in every category. Significant positive mean In-Category market adjusted returns ranging from 0.52 to 0.94 percent are observed for issuers in all benefit categories. For

¹³The table includes two types of z -statistics to test the null hypothesis of zero mean market adjusted returns. In addition to the usual event-study z -statistic, a cross-sectional z -statistic is listed. The purpose is comparison of the two, because we will depend on cross sectional test statistics for other tests later in the paper. Note that the event study z -statistics and cross-sectional z -statistics are of similar magnitude.

the summary Total Benefits category, the mean market adjusted return is 1.01 percent, with a cross-sectional z -statistic of 3.20. The breadth of the pattern of positive returns – comprising every category – is unusual. Consistent with our earlier evidence that trust preferred issuers focus on the benefits of issue that we have identified, the evidence of Table 3 is that the stock market also focuses on these categorical benefits, and values them positively.

Conversely, the mean Out-of-Category market adjusted returns are always negative, and significantly negative for the summary Total Benefit category. A significantly negative mean Out-of-Category market adjusted return of below -1 percent is observed for the Bank regulatory category, for example. For the Total Benefits category, the average Out-of-Category market adjusted return is -0.84 percent, with a z -statistic of -3.20 . The stock market thus reacts negatively to issues that do not have at least the sample median level of focal issue benefits. The difference between the In-Category and Out-of-Category market adjusted return is positive and highly statistically significant for all categories. For the Total Benefits category, this difference is 1.85 percent with a z -statistic of 3.94. The stock market clearly values the In-Category designations over the Out-of-Category designations.

Previous studies have shown that certifiers associated with an issue can influence announcement period market reaction. These are the lead underwriters (Carter, Dark and Singh (1998)), the auditors (Tubbs, Messier and Knechel (1990)) and the ratings agencies. Certification provides investors with assurance that the issue is appropriate. Since our focal benefits of issue categories are, at least partly, statements about the appropriateness of a trust preferred issue, we check whether they provide similar information. We control for lead underwriter reputation, auditor reputation and ratings using the following regression equation:

$$(1) \quad MAR = \beta_0 + \beta_1 UR + \beta_2 AR + \beta_3 SP + \delta IC$$

where MAR is the market adjusted return, UR is the Carter-Manaster lead underwriter reputation rank as modified by Jay Ritter and made available at his website,¹⁴ AR is an indicator variable equal to one if the issuer's auditor of record in the quarter prior to issue is one of the Big 5, SP is an indicator variable equal to one for issuers with S&P debt ratings of A– or better in the

¹⁴We extend our thanks to Jay Ritter for making this information available.

quarter before issue, and IC is an In-Category indicator variable. With this regression setup, the coefficient δ measures the difference between the In-Category and Out-of-Category market adjusted returns after controlling for the extraneous certifier effects for a given benefits of issue category. The estimate and t -value of the δ coefficient for each benefits of issue category are reported in the rightmost column of Table 3. This mean difference after controlling for the certifier effects is positive, statistically significant except for the Tax Reduction Benefit category, and of roughly the same size as the raw difference between the In-Category and Out-of-Category market adjusted returns. For the Total Benefits category, the δ estimate is 1.73 percent with a z -statistic of 3.34. Clearly, the pattern of announcement period market reactions we uncover is separate from the previously known certification effects. In fact, the certifier effects are not very influential for trust preferred issues.

Our main results, so far, are:

1. that abnormal returns to trust preferred issues within focal benefit categories – the In-Category market adjusted returns – are strongly positive, and
2. abnormal returns for Out-of-Category issues are always negative and strongly negative when an issue falls outside several benefit categories (i.e., outside of the summary Total Benefits category).

2. Discussion: Signalling and financial distress reduction

Given that there are manifest benefits to issuing within the focal benefits categories, the question arises: Why don't all issuers signal focal benefits? Our answer is that there are costs of credibly claiming the benefits that can be prohibitive. In the case of banks, this is obvious, in that only a bank can credibly claim to be a bank. For other focal benefit categories, an issuer would need to expressly declare specific uses for the funds in the prospectus and/or limit the size of the issue. The cost of making statements in the prospectus is that the company must either follow through on the statement or bear the possible regulatory/reputational costs of failing to do so. The cost of limiting the size of the issue is the larger transactions costs that go with smaller issues.

A possible alternative explanation for our results so far is that In-Category issuers might be different from Out-of-Category issuers in terms of operating or financial characteristics that are important to the market. This may be a motivation for issuers to signal focal benefits to the

market and thereby experience a positive market reaction to a financing event that would shore up their financial position. To investigate this possibility, we check whether In-Category issuers have different characteristics prior to issue than do the Out-of-Category issuers. We examine three broad business aspects of issuers: recent profitability (as measured by annualized gross Return on Assets – *ROA* – based on operating income before depreciation), Market-to-Book Value of Equity Ratio (*MB*), and leverage (as measured by Debt-to-Equity capital – *DE*).

In the quarter prior to issue, business characteristics of issuers are unremarkable on average. *ROA* is about 7.5 percent, the ratio of market to book value of equity (*MB*) is about 2.25, and debt-to-equity capital (*DE*) is about 0.66. To assess whether In-Category issuers are unusually weak in terms of any of these performance indicators, we follow the general suggestion of Barber and Lyon (1996) and the practice of other studies of abnormal accounting performance (for example, Loughran and Ritter (1997) and Lewis, Rogalski and Seward (2001)). Specifically, we measure *ROA*, *MB*, and *DE*, respectively, for each trust preferred issuer as deviations from the same characteristics for a non-issuing firm that is performance-matched to each issuer in the quarter prior to the issue announcement. The matched firm is identified in the quarter pre-issue as the non-issuing firm on the COMPUSTAT quarterly database that has *ROA* closest to the issuing firm, is between 0.7 and 1.3 times as large in book value of assets, and is in the same 2-digit SIC industry. If no matched firm is found, we search for a match in the same 1-digit SIC industry, or, if necessary, drop the industry match requirement altogether.

On all three characteristics, In-Category firms and Out-of-Category firms are insignificantly different from their matched firms. Only for the Self-imposed Managerial Discipline category is there a significant mean deviation from matched firm. In that one case, mean *ROA* is below average and mean *DE* is above the match benchmark. Since an occasional significant statistic is likely when so many comparisons are made, we conclude that In-Category and Out-of-Category issuers are similar to their match firms and not different in operating and financial characteristics across categories. Nonetheless, this finding might hint at an explanation rooted in the firm’s ability to satisfy its obligations – low *ROA* and high *DE* make that more difficult.

For a subset of our issuers, we can perform an additional check. For non-banks, we can measure *Interest Cover*, the ratio of interest expense to operating income before depreciation. This ratio focuses specifically on the current debt-paying ability of the issuers, which might be shored up

by an In-Category trust preferred stock issue in the Tax Reduction, Financial Distress Reduction, and Cheaper External Financing categories. Panel A of Table 4 hints that In-Category firms might have lower match-adjusted interest cover. While no statistics are significant, average match-adjusted *Interest Cover* is negative for all In-Category groups and positive for all Out-of-Category groups.

Table 4 here.

For this subset of 86 non-bank issuers, do differences in *Interest Cover* explain cross-category market-adjusted returns instead of or in addition to our Benefit-of-Issue categories?

Panel B of Table 4 shows that they do not. Panel B reports the mean market-adjusted return for sub-categories of each Benefit-of-Issue category, according to whether *Interest Cover* is high or low. In all cases, there is no significant difference between high- versus low-*Interest Cover* issuers. Moreover, Out-of-Category issuers often (6 of 8 cases) have significantly negative mean market-adjusted returns while In-Category issuers never do. Finally, though the small sample size precludes finding significant In-Category versus Out-of-Category differences for the narrow categories, for the Total Benefits summary category, In-Category mean market-adjusted return is significantly higher than Out-of-Category market-adjusted return for both high-*Interest Cover* ($t = 2.72$) and low-*Interest Cover* sub-categories ($t = 1.77$). The dominant explanation for cross-firm differences in market-adjusted return is the Benefit-of-Issue categories.

3. Robustness check: Private placements

Of our 210 trust preferred stock issues, 41 are private placements. These issues are not eligible for inclusion in most of our Benefits-of-Issue categories, which require information from the prospectus. As a result, it is possible that the strong short-run returns to In-Category issuers might be a public-issue effect rather than being related to our categories. Such an effect might occur because of the greater transparency and information availability around public issues, which might help investors better understand the positive value of the issue.¹⁵ In fact, our public issue sample displays a

¹⁵Such an effect would, however, not be in keeping with the existing evidence on private placements of equity, which are associated with positive stock price reactions motivated by enhanced monitoring and information provision (Wruck (1989), Hertzler and Smith (1993)).

positive mean announcement-period market-adjusted return of 0.50 percent ($n = 169, t = 1.92$).¹⁶ Though private-placement trust preferred stock issues would normally be reported on the public issuer’s next 8-K filing or 10-Q filing with the SEC, it is plausible that the market is uninformed at the time of issue, leading for a zero-reaction for the Out-of-Category firms. This possibility is somewhat muted by the facts that we can find quite a few press releases at the time of issue for trust preferred stock private placements. Moreover, SEC rules proposed after the time of our sample would require immediate reporting of material financing events, suggesting that financing events were high on the list for judgment-call immediate reporting during earlier periods. Also inconsistent with this no-information notion is the fact that the mean announcement-period market-adjusted return is significantly negative, even though it is rather near zero (-0.23 percent, $n = 41, t = -4.04$).¹⁷

One way to check whether our Benefit-of-Issue categories are core drivers of the stock market reaction is to use our sample of bank issues of trust preferred stock. For this Bank Regulatory Benefits category, we have a usable number of private placements that are also In-Category. The mean announcement-period market-adjusted return for In-Category public issues is 1.02 percent ($n = 101$), while the corresponding statistic for Out-of-Category public issues is -0.02 percent ($n = 68$). The difference of 1.04 percent is statistically significant ($t = 2.52$). The mean market-adjusted return for In-Category private placements of trust preferred stock is -1.08 percent ($n = 23$) versus -3.90 percent ($n = 18$) for Out-of-Category private placements. As for public issues, the difference in mean market-adjusted return for private placements is positive and significant (2.82 percent, $t = 2.62$). So, it is clear that In-Category issues are associated with larger market-adjusted returns than Out-of-Category issues even after controlling for the private placement effect. In summary, while private versus public issues display a small but significant announcement period reaction overall, the evidence does not suggest that this effect is the driver of our category effects.

¹⁶ As for the full sample, the median number of focal benefits for the public issue sample is 2, indicating that the public sample does share some broad characteristics with the full sample.

¹⁷ Though the difference between the mean public and private announcement effects is significant, its size is only about 2/3 that of the smallest analogous difference from Table 3, and less than 1/2 that for the “Total Benefits” summary category.

B. Long-run returns

1. Methodology

Next, we investigate whether the market's initial assessment of the value of trust preferred issues is correct from a long-run perspective. We estimate long-run performance as the post-announcement long-run abnormal returns for each year post-issue.

To assess long-run abnormal performance, we use a control-firm approach. Following Daniel, Grinblatt, Titman and Wermers (1997) and others, a matched non-issuing firm is found for each issuer based on size, book to market and momentum. In addition, we also match on industry to account for differences in stock performances across industries, following the suggestion of Lyon, Barber and Tsai (1999) for situations where cross-correlation by industry might be an issue. Specifically, we first identify a portfolio of matched non-issuing firms for each trust preferred issuer in our sample, based on the time-matched quintile cutoff points for size, and book-to-market-value portfolios from Ken French's web site.¹⁸

From this portfolio, we select one risk-matched non-issuing firm for every issuer as the non-issuing firm that is in the same industry (using the 2 digit SIC code) as the issuer and with the closest momentum (based on return calculated over the preceding 12 months) to the issuer. If we do not find a matched firm in the same 2-digit industry, we attempt to use a 1-digit industry criterion, but, if necessary, we eliminate the industry criterion. In all but 46 cases, we find a 2-digit match. Of those 46 cases, we find a 1-digit match in all but 7 cases. In 9 cases, we have more than one issue sharing the same matched firm. Generally, this is due to multiple issues by the same issuer. However, in 6 of those 9 cases, the issuance announcements are more than two years apart. Since we generally measure stock returns over 2 years, the actual sharing of any matched-firm stock price data is minimal.

For each of our sample issues, we next compute the buy-and-hold abnormal return as the compounded return on an arbitrage portfolio of the sample stock and the matched stock (i.e., the compounded difference of the monthly returns). Though this implies rebalancing over time, it guards against the possibility that outcomes are disproportionately influenced by diverging risk of the issuers and matched firms.

¹⁸We extend our thanks to Ken French for making this information available.

Barber and Lyon (1997) present evidence that control firm approaches like ours are less prone to bias than other methods they examine for benchmarking long-run stock performance. In particular, the procedure reduces the skewness in the resulting abnormal returns versus control portfolio approaches, and makes standard cross-sectional t -statistics appropriate. We therefore report standard t -statistics, but, as a safeguard, we also report skewness-adjusted t -statistics and compare them to bootstrapped critical values to assess significance. In computing the skewness-adjusted t -statistics and bootstrapping the critical values, we follow exactly the procedures suggested by Lyon, Barber and Tsai (1999) and use 10,000 bootstrap replications of the statistic under the null hypothesis that each mean return is zero. We also report standard cross-sectional t -statistics, since they are useful in benchmarking some of the regressions we report later. In all cases, we use event-study precision weights in forming averages and test statistics for long-run returns because one-year event study results indicate that some issuer's abnormal returns are more precise than others. Our precision weights are proportional to the variance of matched-firm cumulative abnormal returns.

Like ours, many other studies on long-run stock performance report buy-and-hold abnormal return because they are most relevant for an investor. However, Fama (1998) has raised a set of concerns about the use of this computation in long-run stock performance studies. Among other concerns, initial small differences can be exaggerated through compounding and time-period overlap can introduce cross-sectional correlations. To add robustness to our conclusions, we follow the practice of Teoh, Welch and Wong (1998a, 1998b) and others in reporting results based not only on post-event buy-and-hold abnormal return, but also on matched-firm-adjusted cumulative abnormal returns (i.e., without compounding). In what follows, we denote the buy-and hold abnormal return as $BHAR$ and the cumulative abnormal return as CAR .

We report $BHARs$ and $CARs$ over several specific event-time periods following the event. We denote time-period specific measures as $BHAR(i, j)$ or $CAR(i, j)$, where i is the starting month and j the ending month. In particular, for the first-year post issue returns, we report $BHAR(1, 12)$ and $CAR(1, 12)$. These 11-month returns cover the entire post-announcement year except the month of announcement. To include information for that first month, we also report the difference between the 12 month $BHAR$, denoted by $BHAR(0, 12)$, and the announcement period market-adjusted return as well as the difference between the 12 month CAR , denoted by $CAR(0, 12)$, and the announcement period market-adjusted return. These net returns cover the entire year

starting just after the announcement period. We then move to the second year. We choose these time periods because we are primarily interested in observing any correction after the initial stock market reaction.

2. Results

Table 5 displays the mean *BHARs* and mean long-run *CARs* following trust preferred issues, organized according to Benefits-of-Issue categories. Results and test statistics are computed in the various ways described above. There are several strong regularities.

Table 5 here.

First, the mean first year post-issue In-Category abnormal returns are essentially zero. Recall that the In-Category announcement period market-adjusted returns were significantly positive. In no case are the one-year post announcement returns measures greater than about 2 percent in absolute value. In no case are these measures statistically significant, as evidenced by both the skewness-adjusted *t*-statistics and the standard cross-sectional *t*-statistics. The evidence is that the market manages to properly value the focal Benefits-of-Issue (such as easing bank regulatory burdens, reducing financial distress risk, and so on) at the time of issue announcement.¹⁹ There is no need for the market to adjust its initial judgment in the long-run.

Second, the mean first year post-issue Out-of-Category *BHARs* and *CARs* are strongly positive and much larger in absolute value than any of the short-run abnormal returns. The long-run correction swamps the announcement period effect, and in the opposite direction. Depending on the reference category and the performance measure, the long-run performance measures range from 3.66 to 8.10 percent. Statistical significance is also strong. Standard *t*-statistics are always 1.90 or above, almost always above 2.00, and often above 2.30. Skewness-adjusted *t*-statistics are large as well. For the summary category, Total Benefits, the difference between the Out-of-Category *BHAR*(0, 12) and announcement period market-adjusted return, for instance, is 7.18 percent, with a standard *z*-statistic of 2.68 and a skewness-adjusted *t*-statistic of 3.13. Both *t*-statistics are significant at the 5 percent level.

¹⁹We note that, while bank regulation benefits are clearly important in our sample, this is not a bank-driven result. We present evidence later in the paper that focal benefits, not any one specific type of focal benefits, are what is crucial.

Third, there are economically and statistically significant differences between the Out-of-Category *BHARs* or *CARs*, and the In-Category *BHARs* or *CARs*. The economic significance of the across-category differences is evident in a comparison of the first two columns of the table: Out-of-Category performance is much stronger, as implied above. We document these differences in returns along with standard cross-sectional z -statistics (reported in the third column for each type of long-run returns). Within the specific Benefit-of-Issue categories, the difference between the In-Category and Out-of-Category $BHAR(0, 12)$ adjusted for the announcement period market-adjusted returns ranges from -5.29 percent to -8.23 percent, with standard t -statistics ranging from -1.24 to -2.68 . For the summary category, Total Benefits, this difference in returns is -9.82 percent with a z -statistic of -3.61 .

The implication is clear. For the Out-of-Category issues, i.e., those that do not have sharply delineated focal benefits at the time of issue, announcement period returns are negative and sometimes significantly so. These are followed by strong significantly positive post-issue stock return in the first year after the issue. This indicates that the market does not anticipate that shareholder value will be created post-issue. For the summary Total Benefits measure (for issues that fall outside several benefits categories), the market assessment at the time of issue announcement was that shareholder value would actually be destroyed post-issue. Figure 2 pictorially displays this evidence of market misreaction.

Figure 2 here.

Our analysis thus far has focused on returns in the first year following the issue announcement. Conceptually, it is possible that abnormal performance persists for a longer period. In this section, we show that this is not the case. Abnormal performance is zero beyond the first year post-issue.

Table 6 displays the weighted-mean *BHARs* and *CARs* for the period beginning the 13th month after issue announcement and ending the 24th month after issue announcement, organized according to Benefit-of-Issue categories. $BHAR(13, 24)$ and $CAR(13, 24)$ are computed using the same procedures we have used for first-year post-issue measure. Standard cross sectional t -statistics are reported in parenthesis, and skewness-adjusted t -statistics are reported in brackets. As before, the significance of each skewness-adjusted t -statistic is assessed by comparison with critical values from 10,000 bootstrap replications of the statistic under the null hypothesis.

Table 6 here.

The table shows that the mean In-Category abnormal stock returns, the mean Out-of-Category abnormal stock returns, and the difference between the mean In-category and Out-of-Category abnormal stock returns are all essentially zero in the second year. Recall that the In-category abnormal returns in the first year were zero, while the Out-of-Category abnormal returns in the first year were strongly positive. Since the second year abnormal stock returns are insignificantly different from zero, the implication is that stock prices have adjusted to efficient levels by the end of the first year following issue announcements, for the Out-of-Category issues. Therefore, while analyzing the post-issue returns, we stop at the second year.

To summarize our findings, the market properly evaluates the complex costs and benefits of issuance that are often focal to issuers in deciding to use trust preferred stock. But it fails to anticipate long-term value creation in cases where the issue benefits are not sharply delineated at the time of issue announcement. For such issues, investors misreact: they react negatively at the time of issue announcement, but the first year post-issue abnormal returns are significantly positive. However, by the end of the first year these stocks appear to have attained their long-run valuations because the second year post-issue abnormal returns are insignificantly different from zero.

3. Marginal category effects

Thus far, we have studied trust preferred issues by segregating our sample issues into those that fall into each specific Benefits-of-Issue category from those that do not, as well as by segregating issues that fall into a specific summary category from the others. Results are consistent across categories, lending credence to our conclusion that focal benefits categories are the key to valuation. However, an issue may fall into more than one specific benefit category. For instance, an issuer can state more than one use of issue proceeds in the prospectus: an issuer can use the issue proceeds to pay off non-bank debt and to fund acquisitions. This would seem to open the possibility that some one category is really the key. This concern is partially alleviated in that it is also true that issues may be designated as In-Category with respect to some benefit categories and Out-of-Category with respect to others. Nonetheless, to more completely address this concern, we examine the marginal effects of membership in Benefits-of-Issue categories for one-year post-issue abnormal performance.

Since we have already shown that abnormal stock returns show up only in the first year post issue and that all abnormal performance measures yield similar results, we perform this analysis only for $BHAR(0, 12)$ minus the market-adjusted announcement period returns.

Table 7 shows the marginal effect attributable to an issue displaying n specific Benefits-of-Issue as compared to m Benefits-of-Issue, where $n > m$ and m varies from 1 to 3, given that we have 4 specific Benefit-of-Issue categories.²⁰ These marginal effects are measured using a series of weighted least-squares regression of the form:

$$(2) \quad BHAR(0, 12) - MAR = \mu_0 + \sum_{n=m+1}^4 \mu_n D_n$$

for $m = 1, 2$ or 3 , where D_n is an indicator variable for the number of specific benefits an issue displays ($n = m + 1, \dots, 4$) and MAR is the announcement period market adjusted returns. Because each regression includes only an intercept and indicator-variable regressors, each regression coefficient D_n captures the marginal effect on post-issue long-run returns of membership in the additional number of benefits categories. Standard t -statistics test the null hypothesis that the marginal effect on long-run return is zero.

Table 7 here.

The entries show that the marginal effect on post-issue abnormal performance due to additional benefits of issue is always negative and almost always strongly significant. The implication is that if an issue has one or more prominent and clearly delineated benefit(s) at the time of issue announcement, the positive post-issue abnormal returns are partially or completely reversed. The greater the number of benefit categories that apply, the greater is this canceling effect. The analysis supports our conclusion that focal benefits in the aggregate lead to misreactions, and shows that no one category is the overwhelming driver of the results.

4. Robustness check: Private placements

As discussed above, 41 of our 210 trust preferred stock issues are private placements. These issues are not eligible for inclusion in most of our Benefits-of-Issue categories, which require information

²⁰ As before, we exclude the Self-imposed Managerial Discipline Benefit category from results depending on summary Total Benefits. Consistent with our general statements above that this choice does not affect our conclusions, we have verified that this choice does not affect the specific conclusions of the current analysis.

from the prospectus. We have already provided evidence that Benefits-of-Issue categories, not private-placement designations, are the source of our announcement period results in the previous section. *A priori*, if private placements happen to drive our long-run returns results, the importance of Benefits-of-Issue categories is not put in doubt *per se*. The reason is that material private-placement financings must be reported in a company’s 10-Q filing, and thus become public with a one-quarter lag at most. If there is an information lag, it is resolved long before the end of our long-run returns window. So, if our categorical thinking is correct, there is no reason to expect a difference in long-run returns to trust preferred stock public issues versus private-placements. However, if private placements are driving our results, there would seem to be additional factors at work that we have not investigated. Therefore, we now establish that private placements alone are not driving our long-run performance results.

Table 8 here.

Table 8 presents Out-of-Category long-run abnormal returns, measured in each of the four ways we have used in other tables, for public issues of trust preferred stock in Panel A, and for private-placements of trust preferred stock in Panel B. The fundamental result is that both public issues and private placements appear to be associated with positive abnormal performance in the long-run. When we split the sample in this way, the size of each subsample is rather small, and so the statistical significance is reduced versus the full sample results shown in earlier tables. Though the table does not show the *t*-statistics on the differences across public versus private trust preferred stock financing announcements, we can report that the differences are not ever near to significantly different from zero. This “no difference” result holds for every category.

Given that all private issues are Out-of-Category with respect to uses specified in the prospectus, the “Any specified use of issue proceeds” row in Panel B displays the mean long-run abnormal returns for the sample of all private issues. The corresponding numbers for the sample of all public issues are 1.60, 2.18, 1.51 and 2.02 percent, respectively. The “no difference” result holds for public issues versus private issues overall. For our four measures of long-run abnormal returns, the *z*-statistics against the null hypothesis that private and public issues have the same mean are 1.48, 1.53, 1.58, and 1.83, respectively.

In a number of cases, it does appear that the private placement Out-of-Category performance might be stronger than for the corresponding public issue case. For example, for non-banks private placements in Panel B, $BHAR(0, 12)$ in excess of the announcement period market adjusted return is 9.84 percent, whereas for public issues in Panel A the corresponding figure is 6.50 percent. However, the private placement t -statistic is much smaller (0.88 versus 1.93), so we are not inclined to assign any strong interpretation to the comparison.

IV. Economic sources of misreactions

In previous sections, we have established statistical evidence of market misreaction to trust preferred issues. In this section, we inquire whether there is economic rationale for the misreactions. We have already shown that several prominent operating and financial characteristics, including some related to financial distress, are similar before issue for our In-Category and our Out-of-Category firms.

We continue to focus on the same three characteristics as before. short-run profitability (ROA) and long-term profit generation potential (as proxied by MB) are two measures relating to value creation, changes to which could explain stock price movements. We also look at leverage because of the link between expected leverage changes and long-run returns patterns that we discussed earlier. In measuring DE , we count preferred stock as equity—so a trust preferred issue, in itself, would tend to slightly depress our measure of DE .

Table 9 here.

For the fourth quarter following the quarter of the trust preferred stock announcement, Table 9 displays match-firm adjusted ROA (Panel A), MB (Panel B) and DE (Panel C). ROA and DE are measured in percentage points; MB is measured as the level of the ratio times 100. For ease of exposition, we refer to all three units of measure as “percent” below.

Three results stand out. First, in Panel A, it is clear that for all issuers, ROA remain insignificantly different from those of non-issuing firms. It does not appear that unanticipated poor near-term operating performance is the reason for the initial misreactions. This contrasts with findings for seasoned equity offerings, where unanticipated poor near-term operating performance

appears to the source of initial underreactions to issues.

Second, in Panel B, it is clear that many Out-of-Category issuers, especially those that fall outside most or all of the categories, experience increases in MB over the year following issue that are above any changes in the matched firms' ratios. For the summary Total Benefits category, the abnormal MB ratio a year after issue is 47.21 percent, and is highly statistically significant ($z = 3.54$); in comparison, the abnormal MB was statistically indistinguishable from zero in the pre-issue quarter. Reasoning from the common interpretation of the market-to-book ratio as a proxy for Tobin's q , this is evidence that issuers outside of any focal Benefits-of-Issue category, the Out-of-Category issuers, experience strong increases in the market's assessment of their long-run profitability and growth potential.

Third, in Panel C, In-Category issuers experience increases in DE ratios (above any changes in the matched firms' ratio) over the year following issue. For example, for the summary Total Benefits category, the abnormal DE ratio a year after issue is 6.09 percentage points, and is statistically significant ($z = 2.23$); in comparison the abnormal DE had been statistically indistinguishable from zero in the pre-issue quarter. In terms of static trade-off theories of capital structure, the value effects of abnormal DE are not clear. In this case, since increasing DE is associated with In-Category issuers, we suspect that the empirical effects are negative.²¹

Given that Out-of-Category issuers tend to experience systematic match-adjusted MB increases and In-Category issuers tend to experience systematic match-adjusted DE increases, we are motivated to assess the associated effects on long-run performance using regressions. For compactness of reporting, we use the 12 month $BHAR$ net of the announcement period market-adjusted returns for our regression analysis, given that we have already shown that various long-run performance measures have similar magnitudes.

We estimate two versions of the following regression specification:

$$(3) \quad BHAR(0, 12) - MAR = \gamma_0 + \gamma_1 ROA + \gamma_2 MB + \gamma_3 DE + \Delta IC.$$

Since IC is a dummy variable, the coefficient Δ measures the long-run performance difference between In-Category and Out-of-Category issues. We report estimates of a restricted benchmark

²¹For example, it is possible that increases in debt ratios are evidence of managerial entrenchment (as in North (2001)) or can prevent positive NPV investments when cash is tight (as in Stulz (1990)).

version of this regression (called Specification A) in which γ_1 , γ_2 and γ_3 are set to zero. We also report an augmented version, Specification B, which allows for the effects of the match-adjusted issuer characteristics four quarters after the issue. We estimate regressions with weighted least squares, using the same event study precision weights as we have used in calculating weighted averages earlier in the paper. The results are presented in Table 10, with Specification A on the left and Specification B on the right.

Table 10 here.

The first finding is that *MB* and *DE* are found to have significantly positive and negative slope coefficients, respectively. Positive long-run performance is the statistical result of unanticipated changes in long-run profit growth and leverage. Our reasoning above, which is based on the examination of univariate firm characteristics in each Benefits-of-Issue category, stands up to a multivariate analysis.

The second finding is that, in Specification A, the coefficient Δ is negative and strongly statistically significant, consistent with the univariate results reported earlier. For example, Δ measured with respect to the Total Benefits summary category is -9.82 ($t = -2.95$). This coefficient compares with the analogous result from Table 5, which measures the difference between the In-Category and Out-of-Category long-run performance as a simple weighted average: -9.82 with cross-sectional z -statistic of -3.61 . Clearly, the regression coefficient Δ measures what it is intended to: the In-Category versus Out-of-Category long-run returns difference.

The third and most important finding is that the firm characteristic regressors account for the same effects in the data as does the In-Category indicator, *IC*. For example, for the Total Benefits summary category, the slope coefficient Δ is -3.71 ($t = -1.01$) in Specification B, whereas in Specification A, without the inclusion of the business characteristics as regressors, it had been about three times as large and highly statistically significant. Similar comparisons obtain for other Benefits-of-Issue categories. We conclude that unexpected changes in these profitability and debt related business variables are plausible candidates both as the factors that the market fails to anticipate, and as the economic source of the misreactions we document.

To follow up and support our earlier discussion as to whether In-Category versus Out-of-Category returns differences might be related to differences in the market's perceptions about

financial distress, we have investigated the survival of trust preferred stock issuers beyond the time period of our study. Though In-Category and Out-of-Category issuers are similar in terms of their distress-related characteristics at issue time, it is possible that the In-Category issuers fail more often and the Out-of-Category firms survive surprisingly well. If so, this would help explain the much stronger long-run returns for the Out-of-Category issuers as compared to the In-Category issuers. Searching the COMPUSTAT tapes for our issuer sample for the year 2003, we fail to find entries for 17 non-bank issuers and 32 bank issuers. We next search Lexis-Nexis to find all news announcements regarding the status of these firms. We find that none of these disappeared firms have gone bankrupt or otherwise failed. Rather, all of them have either merged with or been acquired by other firms. This finding indicates the positive long-run returns for Out-of-Category issuers is not due to them having a different long-run survival rate than In-Category issuers.

V. Discussion and Conclusion

This article studies the initial reaction of shareholders to security issue announcements, and the subsequent systematic corrections to those initial reactions. For the event we study – issuance of trust preferred stock, a dominant debt-equity hybrid – we are able to cleanly categorize a set of benefits of issuance that are prominent for many issuers and, arguably, for investors. These categories include the potential to create value by easing regulatory constraints, by reducing tax burdens, by reducing financial distress risk, and several others.

We find that announcement period reactions to issuance events are efficient when these benefits of the issue apply. However, investors misreact when these focal benefits are not present. The misreactions we document are initial risk-adjusted reactions that turn out to be in the wrong direction—negative—considering the subsequent and much larger positive long-run risk-adjusted returns. Our results are robust to four different ways of measuring long-run abnormal performance, and two different ways of assessing the statistical significance of those long-run returns. Our results obtain for specific benefits of issue categories and also for a summary category that aggregates the specific benefits. They obtain whether measured as average effects or as marginal effects. The statistical and economic significance of return reversals from the announcement period short-run to the post-issue long-run and the robustness of our results are striking. In short, where there is

focus, the valuation is efficient. Where there's no focus, the valuation is not efficient, and often in the wrong direction.

Mullainathan (2002) and Barberis and Shleifer (2003) suggest that investors may form coarse categories for assessing the value of new information, and also react later if they have enough data to change categories. Categorical thinking, they suggest, might be a way of economizing on information collection or processing costs. Our focal conditioning variables are examples of information that investors appear to use in making categorical judgments. When the benefits of a trust preferred issue are not sharply delineated at the time of announcement, there is no focal conditioning information. In such cases, investors react negatively at the time of announcement, similar to the case of seasoned equity offerings. Like equity, trust preferred stock accords managers broad discretion as to the use of funds, so the similarity of the reaction seems somewhat natural. Without focal benefits, investors do not seem to anticipate the subsequent shareholder value created following trust preferred issues (which is evidenced by later changes in price-to-book ratios). Consequently, their initial reaction is in the wrong direction when compared to the post-issue long-run returns. When investors have a focal reason to judge issuances, their valuation is efficient.

In summary, we have uncovered a pattern of short-run inefficiency in equity markets, with subsequent long-term pull towards fundamentals. The pattern we uncover is different from the well-documented patterns of underreaction and overreaction. Here, the market misreacts. Our evidence suggests that investors may focus only on subsets of information, which they use to sort stocks into categories, and price accordingly. Investors drive down the value of stocks that do not fall into the “right” categories—even though such stocks have other, non-focal, characteristics that cause them to increase in value over a longer period.

Our results also serve to reinforce the importance of credible corporate communication about announcements with capital structure implications. The idea is old, but bears renewed emphasis in view of recent events that may have debased confidence in management. For example, Woolridge and Ghosh (1986) examine the case of two firms that cut dividends in the period 1983-1984. For one firm the announcement period market reaction was significantly positive, while for the other the announcement period market reaction was harshly negative. The firm with the positive reaction had preceded the announcement with extensive organized communication explaining that the old dividend policy was possibly out of synch with its current business strategy. Our results support

a similar point. When the benefits of new financing are conveyed to the market in a focused manner, the announcement period market reaction is positive and stock valuation efficient. If not, announcement period market reaction is negative and stock valuation inefficient.

In the case of trust preferred stock, the focal information is easy to identify. Further, there is no obvious way in which stock risk is expected to change, if at all, at the time of the event. Hence, there is no reason to suspect that the returns patterns we uncover are spurious due to benchmarking difficulties, as in Eckbo, Masulis, and Norli (2000). It is reasonable to suspect similar human behavior, and similar returns patterns, in other, more common, situations like equity issuances. But it will be harder for researchers to cleanly identify focal information and standard methods for measuring long-run abnormal performance are more likely to be contaminated with risk change effects. Nonetheless, future studies should attempt to see if misreaction patterns exist in other situations. As Daniel, Hirshleifer and Subrahmanyam (1998) argue, behavioral theories deserving of consideration must explain a range of anomalous patterns in different contexts.

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Table 1
Composition of trust preferred stock issuance announcements by year

Year of trust preferred security announcement	Number of Observations
1993	1
1994	3
1995	19
1996	43
1997	51
1998	49
1999	25
2000	19
Total	210

This table shows the number of issuance announcements of trust preferred security each year. The initial sample is obtained from the SDC Platinum database, and then screened for the availability of additional data from the CRSP files and the COMPUSTAT quarterly files. Multiple announcements made on the same day by the same issuer are aggregated into a single observation.

Table 2
Sample composition by Benefits-of Issue category

Benefits-of-Issue category	Number of Observations
Bank regulatory	124
Tax reduction	31
Financial distress risk reduction	75
Use cheaper external financing	76
Self imposed managerial discipline	105
Total benefits	89
Full sample	210

The table reports the number of sample trust preferred stock issues announced each year from 1993 through 2000, segregated by the following categories:

- (a) Bank Regulatory Benefit: The issuer is a bank or bank holding company;
- (b) Tax Reduction Benefit: Issues for which the proceeds will be used to repurchase equity securities;
- (c) Financial Distress Risk Reduction Benefit: Issues for which the proceeds will be used to pay off non-bank debt;
- (d) Use Cheaper External Financing Benefit: Issues for which the proceeds will be used for expansion through acquisitions;
- (e) Self-imposed Managerial Discipline Benefit: Issues for which relative issue size (measured by issue proceeds divided by total assets) is smaller than 2 percent relative issue size;
- (f) Total Benefits: A summary category consisting of issues that are above the sample median in terms of a count of the categories listed above, not including the "Self-imposed Managerial Discipline" benefit category, to which an issue belongs. The sample median count is 2.

Table 3
Announcement period market reaction to trust preferred issues

Benefits-of-Issue category	Market-adjusted Returns (<i>MAR</i>)			Certifier-adjusted Difference (δ)
	In-Category (<i>z</i> -statistic)	Out-of-Category (<i>z</i> -statistic)	Difference (<i>z</i> -statistic)	(<i>t</i> -statistic)
Bank regulatory	0.63 (2.19, 2.30)*	-1.04 (-2.38, -1.70)*	1.67 (3.24)**	1.62 (2.93)**
Tax reduction	0.94 (1.83, 1.96)*	-0.22 (-0.12, -0.82)	1.16 (2.10)*	1.12 (1.58)
Financial distress risk reduction	0.78 (2.49, 2.14)*	-0.52 (-1.11, -1.62)	1.30 (2.56)**	1.46 (2.82)**
Use cheaper external financing	0.81 (2.10, 2.21)*	-0.54 (-0.83, -1.69)	1.35 (2.66)**	1.20 (2.27)*
Self imposed managerial discipline	0.52 (2.22, 1.83)*	-0.63 (-1.38, -1.57)	1.15 (2.33)*	1.16 (2.30)*
Total benefits	1.01 (2.92, 3.20)**	-0.84 (-1.73, -3.20)**	1.85 (3.94)**	1.73 (3.34)**

* (**) denotes different from zero at the 5 (1) percent confidence level, based on the event study *z*-statistic (for “In-Category” and “Out-of-Category”), or the cross-sectional *z*-statistic or *t*-statistic (for “Difference”), as appropriate.

The left portion of the table reports the equally-weighted CRSP market-adjusted returns, in percentage points, over 3 day announcement period, averaged within various sub samples of trust preferred issues. The first two columns show the mean In-Category market-adjusted returns and the Out-of-Category market-adjusted returns. The categories are the Benefits-of-Issue categories that are defined in Table 2. In-Category issues are those that fall in a category, and Out-of-Category issues are those that don't fall in the category. Event study *z*-statistics and cross-sectional *z*-statistics are shown in parentheses (in that order). The third column shows the difference in the mean In-Category market-adjusted returns and Out-of-Category market-adjusted returns, along with the cross-sectional *z*-statistics that test the equality of In-Category versus Out-of-Category market adjusted returns. The right portion of the table reports the difference between the In-Category versus Out-of-Category market-adjusted returns, controlling for the certifier effects using the following regression equation:

$$MAR = \beta_0 + \beta_1 UR + \beta_2 AR + \beta_3 SP + \delta IC,$$

where *MAR* is the announcement period market adjusted returns, *UR* is the Carter Manaster lead underwriter reputation rank as modified by Ritter and made available at his website, *AR* is an indicator variable equal to one if the issuer's auditor of record in the quarter prior to issue is one of the Big 5, *SP* is an indicator variable equal to one for issuers with S&P debt ratings of A- or better in the quarter before issue, and *IC* is an In-Category indicator variable. The coefficient δ measures the *MAR* difference between In-Category and Out-of-Category issuers net of the regression adjustment for the certifier variables.

Table 4
Announcement period market reaction, distress, and focal benefits

<u>Panel A:</u> Interest Coverage Ratios			
Benefits-of-Issue category	Mean matched-firm-adjusted <i>Interest Cover</i> 1 quarter before the announcement		
	In-Category (z-statistic)	Out-of-Category (z-statistic)	Difference (z-statistic)
Tax reduction	-0.53 (-0.45)	-0.83 (-0.63)	0.30 (-0.17)
Financial distress risk reduction	-3.17 (-1.37)	1.31 (1.96)*	-4.48 (-1.87)
Use cheaper external financing	-0.73 (-0.86)	-0.81 (-0.53)	0.09 (0.05)
Total benefits	-2.19 (-1.26)	1.58 (1.77)	-3.77 (-1.96)*

Panel B: Market-adjusted Return

Match-firm-adjusted Interest Coverage 1 quarter before announcement by Benefits-of-Issue category		Market-adjusted Return		
		In-Category (z-statistic)	Out-of-Category (z-statistic)	Difference (z-statistic)
Tax reduction	Match-firm-adjusted Interest Coverage < 0 or missing	-0.15 (-0.24)	-0.92 (-1.45)	0.77 (0.87)
	Match-firm-adjusted Interest Coverage > 0	0.85 (0.80)	-1.62 (-2.11)*	2.47 (1.88)
	Difference (z-statistic)	-1.00 (-0.81)	0.70 (0.71)	
Financial distress risk reduction	Match-firm-adjusted Interest Coverage < 0 or missing	0.07 (0.08)	-1.94 (-3.24)**	2.01 (2.01)*
	Match-firm-adjusted Interest Coverage > 0	0.23 (0.29)	-2.07 (-2.20)*	2.30 (1.87)
	Difference (z-statistic)	-0.16 (-0.14)	0.13 (0.12)	
Use cheaper external financing	Match-firm-adjusted Interest Coverage < 0 or missing	-0.90 (-1.79)	-0.75 (-1.02)	-0.15 (-0.16)
	Match-firm-adjusted Interest Coverage > 0	0.37 (0.34)	-1.66 (-2.07)*	2.03 (1.50)
	Difference (z-statistic)	-1.27 (-1.05)	0.91 (0.83)	
Total benefits	Match-firm-adjusted Interest Coverage < 0 or missing	-0.26 (-0.39)	-2.13 (-2.57)**	1.87 (1.77)
	Match-firm-adjusted Interest Coverage > 0	0.43 (0.72)	-3.17 (-2.68)**	3.60 (2.72)**
	Difference (z-statistic)	-0.69 (-0.72)	1.04 (0.77)	

* (**) denotes significantly different from zero at the 5 (1) percent confidence level.

(Legend for Table 4.)

Panel A reports the mean of match-firm-adjusted interest coverage ratios (*Interest Cover*) for the pre-issue quarter, calculated as the match-adjusted interest expense divided by operating cash flow, for non-banks issuing trust preferred stock, by Benefits-of-Issue category. These matched-adjusted ratios are measured as the difference in the ratio between the issuer and a performance-matched non-issuing industry peer, in percentage point form. The z-statistics, in parentheses, test the null hypothesis that these matched-adjusted performance measures are not statistically different from zero. The sample size is 81, the number of non-banking issuers in our sample with non-missing *Interest Cover* based on quarterly COMPUSTAT data.

Panel B reports the average announcement period market adjusted returns with cross-sectional z-statistics are shown in parentheses, for In-Category issuers and Out-of-category issuers, further segregated according to whether the match-firm-adjusted *Interest Cover* before announcement is negative/missing or positive. The sample size is 86, the number of non-bank issuers in our sample.

Table 5
Long-run abnormal performance in the first year following trust preferred announcements

PANEL A: Buy and Hold Abnormal Returns

Benefits-of-Issue category	<i>BHAR(0, 12) – MAR</i>			<i>BHAR(1, 12)</i>		
	In-Category	Out-of-Category	Difference	In-Category	Out-of-Category	Difference
Bank regulatory	0.11 (0.07) [0.09]	7.09 (2.08)* [2.43]*	-6.98 (-2.27)*	1.62 (1.01) [1.07]	6.38 (1.90) [2.21]	-4.76 (-1.79)
Tax reduction	-2.07 (-0.63) [-0.68]	3.80 (2.20)* [2.30]	-5.87 (-1.24)	1.19 (0.36) [0.31]	3.96 (2.11)* [2.41]	-2.77 (-0.59)
Financial distress risk reduction	-0.28 (-0.17) [-0.16]	5.01 (2.01)* [2.28]*	-5.29 (-1.78)	-0.95 (-0.63) [-0.61]	6.46 (2.59)** [3.00]**	-7.41 (-2.65)**
Use cheaper external financing	-1.71 (-0.99) [-0.86]	5.64 (2.32)* [2.66]**	-7.35 (-2.33)*	-0.48 (-0.26) [-0.20]	5.89 (2.46)* [2.84]**	-6.37 (-2.22)*
Self imposed managerial discipline	-0.89 (-0.61) [-0.58]	7.34 (2.38)* [2.77]**	-8.23 (-2.68)**	-0.40 (-0.29) [-0.27]	8.10 (2.63)** [3.06]**	-8.50 (-2.92)**
Total benefits	-2.64 (-1.86) [-1.80]	7.18 (2.68)** [3.13]**	-9.82 (-3.61)**	-1.35 (-0.92) [-0.91]	7.28 (2.73)** [3.21]**	-8.63 (-2.59)**

PANEL B: Cumulative Abnormal Returns

Benefits-of-Issue category	$CAR(0, 12) - MAR$			$CAR(1, 12)$		
	In-Category	Out-of-Category	Difference	In-Category	Out-of-Category	Difference
Bank regulatory	0.64 (0.43) [0.44]	5.92 (2.01)* [2.03]*	-5.28 (-1.81)	1.90 (1.50) [1.56]	5.53 (1.94) [2.02]*	-3.63 (-1.62)
Tax reduction	-2.31 (-0.55) [-0.69]	3.66 (2.29)* [2.46]*	-5.97 (-1.41)	1.61 (0.40) [0.26]	3.68 (2.50)* [2.81]**	-2.07 (-0.53)
Financial distress risk reduction	0.20 (0.13) [0.13]	4.45 (2.03)* [2.06]*	-4.25 (-1.47)	-0.59 (-0.39) [0.39]	5.93 (2.97)** [3.13]**	-6.52 (-2.73)**
Use cheaper external financing	-0.81 (-0.49) [-0.48]	4.88 (2.26)* [2.30]*	-5.69 (-1.92)	0.12 (0.08) [0.10]	5.27 (2.66)** [2.79]*	-5.15 (-2.13)*
Self imposed managerial discipline	-0.36 (-0.26) [-0.26]	6.41 (2.38)* [2.41]*	-6.77 (-2.35)*	0.64 (0.52) [0.53]	6.52 (2.58)* [2.71]**	-5.88 (-2.48)*
Total benefits	-1.84 (-1.27) [-1.28]	6.31 (2.69)** [2.73]**	-8.15 (-2.73)**	-0.79 (-0.58) [-0.58]	6.55 (3.04)** [3.22]**	-7.34 (-2.66)**

* (**) denotes different from zero at the 5 (1) percent confidence level.

The table reports mean long-run abnormal returns following trust preferred stock issue announcements in percentage points, by Benefits-of-Issue category designation. Long-run abnormal returns are measured as long-run buy and hold abnormal returns ($BHAR$) in Panel A, and cumulative abnormal returns (CAR) in Panel B for a period of a year or a month less than a year, depending on the method used. Market-adjusted announcement period returns (MAR) are subtracted if the long-run return period overlaps with the announcement period, so that the reversal is always net of the announcement period effect. Each issuer's long run abnormal performance is calculated relative to a risk-matched non-issuer, as described in the text. Returns are precision-weighted using the event-study variance when calculating averages. The category indicators are the same as in Table 2. Two t -statistics are reported for mean returns, and one for differences in returns. In parenthesis, the table reports standard cross-sectional t -statistics. In brackets, the table reports skewness-adjusted t -statistics. Following Lyon, Barber, and Tsai (1999), the significance levels of the cross-sectional t 's are assessed by comparison with critical values from the tabulated t -distribution, and the significance levels of the skewness-adjusted t 's are assessed by comparison with critical values from 10,000 bootstrap replications of the statistic under the null hypothesis.

Table 6
Abnormal performance in the second year following trust preferred announcements

Benefits-of-Issue category	Buy & Hold Abnormal Returns <i>BHAR</i> (13, 24)			Cumulative Abnormal Returns <i>CAR</i> (13, 24)		
	In-Category	Out-of-Category	Difference	In-Category	Out-of-Category	Difference
Bank regulatory	-0.95 (-0.44) [-0.42]	1.01 (0.32) [0.38]	-1.96 (-0.54)	-0.34 (-0.16) [-0.16]	0.64 (0.22) [0.22]	-0.98 (-0.28)
Tax reduction	-5.89 (-1.85) [-2.22]	0.94 (0.46) [0.55]	-6.83 (-1.35)	-4.57 (-1.37) [-1.80]	0.90 (0.46) [0.53]	-5.47 (-1.11)
Financial distress risk reduction	0.40 (0.14) [0.19]	-0.47 (-0.20) [-0.18]	0.87 (0.24)	0.26 (0.10) [0.12]	-0.04 (-0.19) [-0.22]	0.30 (0.09)
Use cheaper external financing	-4.40 (-1.59) [-1.41]	2.61 (1.11) [1.19]	-7.01 (-1.90)	-3.93 (-1.40) [-1.35]	2.60 (1.17) [1.16]	-6.53 (-1.82)
Self imposed managerial discipline	2.01 (1.05) [1.10]	-3.04 (-0.94) [-0.85]	5.05 (1.38)	3.02 (1.62) [1.65]	-4.06 (-1.29) [-1.27]	7.08 (2.01)*
Total benefits	-1.06 (-0.48) [-0.48]	1.97 (0.63) [0.66]	-3.03 (-0.78)	-0.83 (-0.39) [-0.38]	2.01 (0.65) [0.64]	-2.84 (-0.76)

* (**) denotes significantly different from zero at the 5 (1) percent level.

The table reports the percent average abnormal stock returns in the 2nd year following trust preferred stock issue announcements, by various benefits-of-issue categories. Long-run abnormal returns are measured as buy and hold abnormal returns (*BHAR*(13, 24)), and cumulative abnormal returns (*CAR*(13, 24)) for the period beginning the 13th month after issue announcement and ending the 24th month after issue announcement. Long-run abnormal return of the issuer is calculated relative to a non-issuer that is risk-matched to the issuer based on size, book to market ratio, momentum and industry as described in the text. Returns are precision-weighted using the event-study standard deviation when calculating averages. The category indicators are the same as in Table 2. Two *t*-statistics are reported for mean returns, and one for difference in mean returns. Standard cross sectional *t*-statistics are reported in parenthesis, and skewness-adjusted *t*-statistics are reported in brackets. Both sets of *t*-statistics test the null hypothesis that each mean return (difference in mean returns) is zero. Following Lyon, Barber and Tsai (1999), the significance of the cross-sectional statistics is assessed in comparison with the critical values from the tabulated *t*-distribution, while the significance of the skewness-adjusted *t*-statistics is assessed by comparison with 10,000 bootstrap replications of the statistic under the null hypothesis.

Table 7
Marginal effects of Benefits-of-Issue category memberships on long-run abnormal returns

Marginal effect of membership in n categories above that of membership in m categories

	$n = 1$	$n = 2$	$n = 3$	$n = 4$
$m = 0$	-19.38 (-3.20)**	-19.14 (-3.05)**	-28.39 (-4.48)**	-24.32 (-2.53)*
$m = 1$		-3.58 (-0.88)	-12.82 (-3.10)**	-8.76 (-1.03)
$m = 2$			-11.51 (-2.99)**	-7.44 (-0.89)
$m = 3$				-4.47 (-0.53)

* (**) denotes different from zero at the 5 (1) percent confidence level.

The table shows the marginal effects on one-year abnormal stock returns associated with issues displaying n Benefits-of-Issue as compared to m Benefits-of-Issue, where $n > m$. Benefits-of-Issue categories are the same as defined in Table 2. The abnormal performance is measured as 12-month buy and hold abnormal returns ($BHAR(0, 12)$) minus the market-adjusted announcement period returns, MAR . Issuer's long-run return is calculated relative to a non-issuer that is risk-matched to the issuer based on size, book to market ratio, momentum and industry as described in the text. Marginal effects are measured as the coefficients μ_n from a weighted least squares regression of the form:

$$BHAR(0,12) - MAR = \mu_0 + \sum_{n=m+1}^4 \mu_n D_n,$$

for $m = 1, 2,$ or 3 where D_n is an indicator variable for the number of specific benefits an issue displays ($n = m+1, \dots, 4$). Because each regression includes only an intercept (not reported) and indicator-variable regressors, each regression coefficient μ_n captures the marginal effect on post-issue long-run returns of membership in the additional number of benefits categories. Standard t -statistics are reported in parenthesis and test the null hypothesis that the marginal effect on long-run return is zero.

Table 8
Public issues and private placements sub-samples:
Long-run abnormal stock performance for Out-of-Category issuers

<u>PANEL A: Public Issues: Out-of-category Long-run Abnormal Returns</u>					
Benefits-of-Issue category	Out-of-Category <i>N</i>	<i>BHAR</i> (0, 12) - <i>MAR</i>	<i>BHAR</i> (1, 12)	<i>CAR</i> (0,12) - <i>MAR</i>	<i>CAR</i> (1,12)
Bank regulatory	68	6.50 (1.93)	5.29 (1.64)	5.47 (1.89)	4.31 (1.52)
Tax reduction	138	2.47 (1.20)	2.41 (1.20)	2.41 (1.42)	2.12 (1.32)
Financial distress risk reduction	94	3.54 (1.16)	5.38 (1.79)	2.85 (1.07)	4.69 (1.96)*
Use cheaper external financing	93	4.59 (1.56)	4.57 (1.62)	3.62 (1.40)	3.74 (1.59)
Self imposed managerial discipline	82	6.43 (1.97)*	7.02 (2.19)*	5.54 (1.96)*	5.23 (1.98)*
Total benefits	80	6.93 (2.02)*	6.61 (1.98)*	5.73 (1.93)	5.56 (2.06)*

PANEL B: Private Placements: Out-of-category Long-run Abnormal Returns

Benefits-of-Issue category	Out-of-Category <i>N</i>	$BHAR(0, 12) - MAR$	$BHAR(1, 12)$	$CAR(0,12) - MAR$	$CAR(1,12)$
Bank regulatory	18	9.84 (0.88)	12.41 (1.05)	8.41 (0.84)	12.21 (1.30)
Any specified use of issue proceeds	41	7.56 (1.74)	8.30 (1.85)	7.19 (1.85)	8.07 (2.23)*
Self imposed managerial discipline	23	10.01 (1.34)	11.99 (1.44)	9.54 (1.34)	11.18 (1.67)
Total benefits	41	7.56 (1.74)	8.30 (1.85)	7.19 (1.85)	8.07 (2.23)*

* (**) denotes different from zero at the 5 (1) percent confidence level.

The table reports mean long-run abnormal returns following trust preferred stock public issues and private placements announcements in percentage points, by Benefits-of-Issue category. Panel A reports on public issues and Panel B reports on private placements. For private placements, the “Any Specified Use of Issue Proceeds” category includes all three specific use of issue proceeds: Tax Reduction, Financial Distress Risk Reduction, and Use Cheaper External Financing, because private placements have no issue prospectuses that are our source for determining use of issue proceeds. The table reports the Out-of-Category sample sizes used in computing the long-run abnormal returns. Long-run abnormal returns are measured as long-run buy and hold abnormal returns ($BHAR$), and cumulative abnormal returns (CAR) for a period of a year or a month less than a year, depending on the method used. Market-adjusted announcement period returns (MAR) are subtracted if the long-run return period overlaps with the announcement period, so that the reversal is always net of the announcement period effect. Each issuer’s long-run abnormal performance is calculated relative to a risk-matched non-issuer, as described in the text. Returns are precision-weighted using the event-study variance when calculating averages. In parenthesis, the table reports standard cross-sectional t -statistics for mean returns and for differences in returns.

Table 9
**Post issue performance of trust preferred issuers:
Profitability, long-run expected profitability, and leverage**

PANEL A: Return on Assets (*ROA*)

4th quarter after the announcement

Benefits-of-Issue category	In-Category (z-statistic)	Out-of-Category (z-statistic)	Difference (z-statistic)
Bank regulatory	-0.20 (-1.61)	0.07 (0.25)	-0.27 (-0.95)
Tax reduction	-0.20 (-0.84)	-0.06 (-0.36)	-0.14 (-0.50)
Financial distress risk reduction	-0.12 (-0.64)	-0.06 (-0.29)	-0.06 (-0.23)
Use cheaper external financing	-0.13 (-0.66)	-0.05 (-0.25)	-0.08 (-0.31)
Total benefits	-0.21 (-1.09)	0.01 (0.05)	-0.21 (-0.80)

PANEL B: Market to Book Ratio (MB)

4th quarter after the announcement

Benefits-of-Issue category	In-Category (z-statistic)	Out-of-Category (z-statistic)	Difference (z-statistic)
Bank regulatory	22.61 (1.28)	22.06 (1.25)	0.55 (0.95)
Tax reduction	15.11 (1.06)	64.67 (2.79)**	-49.56 (-1.82)
Financial distress risk reduction	-18.57 (-0.81)	46.96 (3.24)**	-65.53 (-2.54)*
Use cheaper external financing	3.71 (0.15)	32.83 (2.40)*	-29.12 (-1.10)
Total benefits	-12.89 (-0.54)	47.21 (3.54)**	-60.10 (-2.36)*

PANEL C: Leverage (DE)

4th quarter after the announcement

Benefits-of-Issue category	In-Category (z-statistic)	Out-of-Category (z-statistic)	Difference (z-statistic)
Bank regulatory	5.46 (2.40)*	3.75 (1.12)	1.71 (0.43)
Tax reduction	10.40 (1.99)*	3.76 (1.81)	6.64 (1.22)
Financial distress risk reduction	5.82 (2.57)**	4.10 (1.50)	1.72 (0.48)
Use cheaper external financing	6.71 (2.12)*	3.63 (1.49)	3.08 (0.77)
Total benefits	6.09 (2.23)*	3.81 (1.43)	2.28 (0.65)

* (**) denotes significantly different from zero at the 5 (1) percent confidence level.

(Legend for Table 9.)

The table reports post-issue match-firm-adjusted Return on Assets (*ROA*), Market to Book Value of Equity Ratio (*MB*) and Debt-to-Equity ratio (*DE*) for trust preferred stock issuers, by Benefits-of-Issue category. The categories are the same as in Table 2. As described in the text, these matched-adjusted ratios are measured as the difference in the ratio between the issuer and a performance-matched non-issuing industry peer, in percentage point form. Panel A reports *ROA*, calculated as the match-adjusted operating cash flow divided by assets. Panel B reports *MB*, calculated as the match-adjusted ratio of the market value of equity to the book value of equity. Panel C reports *DE* measured as the match-adjusted ratio of long-term debt to equity, or, when long-term debt is not available, of all debt to equity. In each panel, the matched-adjusted characteristics are presented for the fourth quarter following the announcement. The z-statistics, in parentheses, test the null hypothesis that these matched-adjusted performance measures are not statistically different from zero.

Table 10
Economic determinants of long run stock performance

Benefits-of-Issue category	Specification A		Specification B				
	γ_0	Δ	γ_0	γ_1	γ_2	γ_3	Δ
Bank regulatory	7.09 (2.70)**	-6.98 (-2.06)*	4.15 (1.46)	0.53 (0.41)	5.96 (4.34)**	-0.23 (-2.51)*	-4.41 (-1.20)
Tax reduction	3.45 (1.90)	-3.62 (-0.76)	2.33 (1.18)	0.49 (0.38)	6.14 (4.41)**	-0.23 (-2.47)*	-5.54 (-1.10)
Financial distress risk reduction	5.01 (2.33)*	-5.30 (-1.55)	1.50 (0.63)	0.60 (0.47)	5.91 (4.16)**	-0.23 (-2.45)*	0.67 (0.02)
Use cheaper external financing	5.64 (2.69)**	-7.35 (-2.13)*	2.64 (1.10)	0.62 (0.48)	5.73 (4.09)**	-0.23 (-2.43)*	-2.71 (-0.73)
Total benefits	2.17 (3.28)**	-9.82 (-2.95)**	3.14 (1.29)	0.60 (0.47)	5.67 (4.66)**	-0.23 (2.44)*	-3.71 (-1.01)

* (**) denotes significantly different from zero at the 5 (1) percent confidence level.

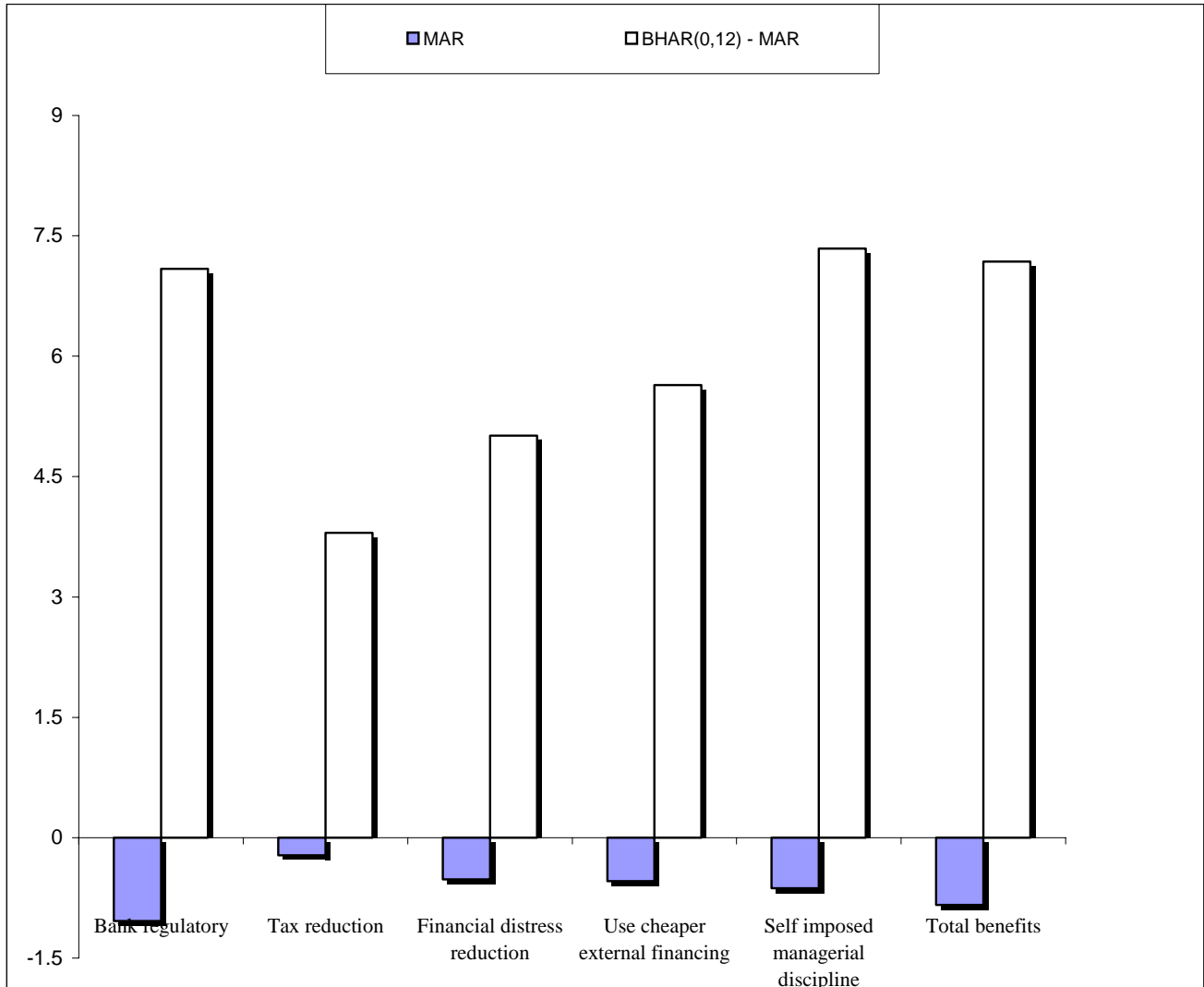
The table reports regression coefficients (and t -statistics, in parentheses) where the dependent variable is the long-run stock performance of trust preferred stock issuers, and regressors are match-adjusted firm characteristics four quarters after the trust preferred stock issue announcement as well as an In-Category (IC) indicator variable for Benefits-of-Issue Categories. The Benefits-of-Issue Categories are the same as in Table 2. The Regression specification used is:

$$BHAR(0, 12) - MAR = \gamma_0 + \gamma_1 ROA + \gamma_2 MB + \gamma_3 DE + \Delta IC,$$

where ROA , MB and DE are the return on assets, market-to-book ratio, and debt-equity ratio as in Table 9.

Specification A (reported at the left) is a benchmark regression that includes only the intercept and an In-Category indicator, IC . Specification B (reported at the right) also includes match-adjusted issuer characteristics four quarters after the announcement. In Specification A, the coefficient Δ measures the long-run performance difference between In-Category and Out-of-Category issuers. In Specification B, the coefficient Δ measures the same difference effect, but net of the regression adjustment for the post-issue characteristics.

Figure 2
 Stock return measures for Out-of-Category issues



The figure shows the sample weighted-average values of a) the equally weighted CRSP index adjusted cumulative announcement period returns, MAR , and b) the post-issue 12 month buy and hold abnormal returns, $BHAR(0, 12) - MAR$. These two returns measures are averaged across issues that are not in each Benefits-of-Issue category, i.e., the Out-of-Category issues, and plotted side by side. The category indicators are the same as in Table 2. All figures are expressed as percentages.