The Bond Pricing Implications of Rating-Based Capital Requirements

Internet Appendix

This Version: January 2021

Abstract

This Internet Appendix examines the robustness of our main results and presents complete results of tests that are summarized in the main paper. Section IA-I provides a discussion of insurer guaranty funds and capital requirements, and their joint effect on insurers' investment incentives. Section IA-II describes the data sources we use to calculate monthly bond returns and repeats our main bond pricing tests using a sample that does not include returns calculated from matrix prices in the Lehman database. Section IA-III presents summary statistics for the corporate bond market factors used in our analyses. Section IA-IV shows that our findings are robust when using alternative bond factor definitions and Section IA-V shows that they are robust when using alternative factor models to assess performance. Sections IA-VI and IA-VII demonstrate that our results are not driven by exposure to aggregate bond liquidity risk or the factors in the Bai, Bali, and Wen (2019) model. Section IA-VIII investigates whether our results are impacted by the 2007-2009 financial crisis period. Section IA-IX examines the robustness of our finding that bonds with high non-investment grade (NIG) proximity outperform other investment-grade (IG) bonds. Section IA-X presents the complete results of the beta-sorted portfolio analyses that examine the 1993-2014 period. Section IA-XI analyzes the alphas and proportion held by insurers of portfolios formed by sorting on NIG proximity and term factor exposure. Section IA-XII tests whether the negative relation between insurer holdings and bond performance is robust when using different samples of bonds and when using β^{CBMKT} as the measure of systematic risk exposure. Section IA-XIII explores whether the propensity to underweight bonds with high NIG proximity and overweight (underweight) bonds with high (low) exposure differs between unconstrained and constrained insurers. Section IA-XIV presents results for the bond pricing tests that examine the 1978-2014 period. Sections IA-XV and IA-XVI show that our results cannot be explained by the financial intermediary risk factor of He, Kelly, and Manela (2017) or the broker-dealer leverage risk factor of Adrian, Etula, and Muir (2014), respectively. Section IA-XVII examines whether bond maturity affects insurer holdings and bond performance. Section IA-XVIII shows that the Gibbons, Ross, and Shanken (1989) test fails to reject the null hypothesis that our factor model correctly prices our test portfolios during the 1978-1992 period.

IA-I. Regulatory Background

The focus of our paper is insurers' risk-based capital requirements. However, since the need for risk-based capital requirements arises from the existence of insurer guaranty funds, we begin with a discussion of these funds and their effect on insurers' investment incentives.

Insurer guaranty funds, established mostly during the 1970s and still in existence today, guarantee the benefits of an insolvent insurer's policyholders.[1] When an insurer becomes insolvent and unable to satisfy policyholders' claims, the claims are covered through assessments against surviving insurers in the same state (Munch and Smallwood (1980)).[2] Thus, guaranty funds enable insurers to take on risk without bearing its full cost (Cummins (1988)), thereby inducing insurers to take on more risk than they otherwise would (Lee et al. (1997)).

Capital requirements for insurers were implemented in part to reign in the risk-taking incentives created by state guaranty funds. Early efforts to ensure that insurers had sufficient equity to cover policyholders' losses took on two forms. First, acquiring a state insurance license required an initial fixed dollar amount of equity capital that varied with insurer ownership form and line of business (Munch and Smallwood (1979) and Grace, Harrington, and Klein (1998)). Second, to make certain that capital grew as an insurer grew, state regulators encouraged, though did not require, insurers to hold more capital as their premiums written increased (Munch and Smallwood (1979)). Importantly, these early capital requirements did not constrain in a meaningful way insurers' leverage or the risk of insurers' investments, and thus did little to curb the incentive for insurers to take on risk.

This changed in 1993 when insurer regulators introduced risk-based capital requirements.[3] Specifically, regulators adopted the ratio of actual capital (i.e., total adjusted capital) to required capital (i.e., authorized control level risk-based capital), referred to as the risk-based capital (RBC) ratio, as the primary measure of insurer capital adequacy. Although regulators consider a number of risk sources in the calculation of required capital, the risk of the insurer's investment portfolio, and in particular its fixed-income holdings, is one of the most important. This risk is assessed through NAIC designations, which are based on credit ratings. Table IA-1 of this Internet Appendix summarizes the one-to-one mapping from ratings to NAIC designations and in turn to required capital charges. We argue that the methodology for calculating the RBC ratio and particularly its reliance on fixed-income securities' credit ratings, create incentives for insurers to invest in corporate bonds with certain characteristics. As discussed in Section 2 in the main paper, these incentives allow

[1] Guaranty funds were established by states at different times between 1969 and 1981 (Lee, Mayers, and Smith (1997)). All but two states, Alabama and Oklahoma, had guaranty funds in place by 1978 when the sample we use to test *H5* begins. Oklahoma established its guaranty fund in 1980 and Alabama did so in 1981.

[2] In all states except New York, guaranty funds are funded post-insolvency and assessments are a flat percentage of the surviving insurers' premiums in the state (Duncan (1984)). The New York guaranty fund is pre-funded through quarterly assessments until a certain prescribed level is reached.

[3] The NAIC's Risk-Based Capital Model Act became effective in 1993. For more details, see http://www.naic.org/documents/prod_serv_statistical_rsn_lb.pdf.

us to develop specific hypotheses about patterns in bond prices that are attributable to insurers' capital regulations.

IA-II. Data Sources and Return Construction

The monthly bond returns in our sample are constructed using data from four different sources: (1) Lehman Brothers' Fixed Income Database (Lehman), (2) Thomson Reuter's DataStream (DataStream), (3) Mergent's National Association of Insurance Commissioners Database (MNAIC), and (4) FINRA's TRACE (TRACE). In this section we describe each data source, the information it provides, and how we use this information to construct monthly returns.

Lehman provides monthly bond returns for the period from January 1973 through March 1998.[4] Most returns reflect dealer quotes, but some are based on "matrix" prices derived from quotes of bonds with similar characteristics. Like Gebhardt, Hvidkjær, and Swaminathan (2005) and Jostova, Nikolova, Philipov, and Stahel (2013), we use returns based on both quote and matrix prices. However, Sarig and Warga (1989) and Gebhardt et al. (2005) suggest that matrix prices may be poor proxies for transaction prices. We therefore examine whether our results are robust when we remove from the sample observations for which the bond return is calculated using a Lehman matrix price and repeat the bond pricing tests whose results are presented in Tables 2, 3, and 7 of the main paper. The results of these tests, shown in Tables IA-2-IA-6 of this Internet Appendix, are very similar to those reported in the corresponding tables of the main paper, indicating that our findings are not due to Lehman matrix prices.

From DataStream, we collect end-of-month bond prices for the period from January 1990 through December 2014. Prices in DataStream are based on dealer quotes or transaction prices. We calculate returns from price data instead of from DataStream's cumulative total return indices because we detect errors in these indices. The errors include negative index values (28 securities affected), decreasing index values but increasing prices (more than 4,000 securities affected), and missing index values when price and accrued interest data are available (more than 3,000 securities affected).

The MNAIC database contains information on bonds acquired or disposed of by insurers from January 1994 through December 2014. We keep only records pertaining to trades, and remove records related to non-trading activity (e.g., maturity, repayment, and calls).

Finally, we collect data on all transactions in publicly traded TRACE-eligible securities between July 2002 and March 2014 from FINRA's TRACE Enhanced database. The data end in March 2014 because FINRA distributes TRACE Enhanced data with an 18-month lag. We therefore augment TRACE Enhanced data with TRACE data from April 2014 through December 2014. TRACE data are available in real time and during this period include all trades that will eventually be distributed through TRACE Enhanced.[5] Taken together, the TRACE and TRACE Enhanced

[4] Data are largely unavailable for two months during this period, August 1978 and December 1984.

[5] We use TRACE Enhanced for the early part of the sample for two reasons. First, prior to 2005 TRACE is incomplete due to its gradual phase-in and therefore contains only a subset of the trades in TRACE Enhanced. Second, for the entire period, TRACE reports the size of all IG bond trades larger than $5 million as "$5MM+"

data provide a comprehensive database of transactions in TRACE-eligible securities from July 2002 through December 2014. We filter out trade cancellations and corrections using the approach in Dick-Nielsen (2009, 2014), and also remove trades where the reported price cannot be correctly interpreted as the transaction price. Specifically, we remove agency customer transactions without commission, when-issued trades, locked-in trades, trades with special sales conditions, trades with more than three days to settlement, and commission trades.

The MNAIC and TRACE databases provide intraday transaction data. For these databases, we follow Jostova et al. (2013) and Chordia, Goyal, Nozawa, Subrahmanyam, and Tong (2017) and construct daily prices as the trade size-weighted average of intraday prices. This approach is motivated by Bessembinder, Kahle, Maxwell, and Xu (2009), who find that using trade size-weighted intraday prices minimizes the impact of the bid-ask bounce and results in more informative prices than using the last traded price of the day. We do not exclude trades of \$100,000 or less because, as discussed in O'Hara, Wang, and Zhou (2018), insurers frequently execute such trades. The month-end price is then taken to be the last available daily price from the last five trading days of the month. We combine MNAIC and TRACE month-end prices into one data set, giving precedence to the latter when prices are available from both sources. Combining TRACE and MNAIC month-end prices prior to calculating monthly returns allows us to retain observations where a price is available in one database in one month and the other database in the next month, but not available in any one database in both months.

We then use month-end prices from DataStream or from the combined TRACE/MNAIC data to calculate monthly returns separately for each dataset as in equation (1) in the main paper.[6] Since this calculation requires information about each bond's coupon and monthly accrued interest, we obtain the data needed to calculate these from Mergent's Fixed Income Securities Database (FISD) and Thomson Reuter's DataScope (DataScope).[7] We do not calculate returns for bonds with variable-rate coupons or bonds with non-standard coupon features (step-up, increasing-rate, pay-in-kind, and split-coupon) because we have no information on how these bonds' coupons change over time.

IA-III. Factor Summary Statistics

Table IA-7 of this Internet Appendix presents summary statistics for the 1993-2014 period for the three corporate bond market factors described in Section 3.2 of the main paper. Panel A shows that $CBMKT$ generates an average (median) excess return of 0.35% (0.40%) per month, with a standard deviation of 1.28%. $TERM$ produces an average monthly excess return of 0.47% with

whereas TRACE Enhanced reports the actual trade size.

[6] Before calculating monthly returns, we remove from all databases observations with negative prices as well as observations with issuance or trade dates after the maturity date, since these observations are obvious data errors.

[7] Computing accrued interest requires the bond's coupon amount, coupon frequency, and day count convention. Following Jostova et al. (2013), we assume a semi-annual coupon frequency if the coupon frequency is missing, and 30/360 day count convention if the day count convention is missing. If information on the bond's coupon amount is missing, we do not calculate a return.

a standard deviation of 2.84%. Summary statistics for DEF are from a regression of $CBMKT$ on $TERM$ using data from 1993-2014. The intercept coefficient from the regression indicates that DEF generates a premium of 0.21% per month, which is notably smaller than that of $TERM$. The regression's slope coefficient (unreported in the table) is 0.30, suggesting that the exposure of the aggregate IG corporate bond market to term factor risk is substantially less than one. The standard deviation of the regression residuals, which reflects default factor variation, is 0.95% per month. Panel B shows that during 1993-2014, the correlation between $CBMKT$ and $TERM$ is 0.67, while that between $CBMKT$ and DEF is 0.74. The correlation between DEF and $TERM$ is zero by construction.

IA-IV. Alternative Factors

In this section we examine whether our results are robust when we measure aggregate corporate bond market risk using the Barclays U.S. investment-grade corporate bond index. Specifically, we define $CBMKT_{Barclays}$ to be the Barclays index return minus the one-month U.S. Treasury return. We then define $DEF_{Barclays}$ to be the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$.

IA-IV.A. Factor Analysis of Original Portfolios Using Barclays Factors

First, we test whether our results are robust when we replace DEF with $DEF_{Barclays}$ in the factor regressions we use to calculate risk-adjusted returns. Here, the portfolios we examine are exactly the same as those examined in Tables 2, 3, and 7 of the main paper. Specifically, the zero-cost long-short portfolios based on systematic risk exposure are formed by sorting on betas estimated from regressions of excess bond returns on our main bond factors, either $CBMKT$ or $TERM$ and DEF. The only difference between the analyses here and those in the main paper is that when we calculate alpha, we use a factor model that includes $DEF_{Barclays}$ instead of DEF. The results in Tables IA-8-IA-12 of this Internet Appendix show that our results are robust when we use an alternative default factor definition. Interestingly, the alphas of the long-only portfolios are all positive and significant when using $DEF_{Barclays}$ instead of DEF. There are two reasons for this. First, the portfolios' exposures to DEF are substantially higher than those to $DEF_{Barclays}$, likely due to the fact that DEF is calculated from $CBMKT$, which is constructed directly from the bonds in our data, while $DEF_{Barclays}$ is constructed from the universe of bonds used by Barclays. Second, the premium generated by $DEF_{Barclays}$ is 0.16% per month, which is lower than the 0.21% per month generated by DEF. As a result, the average premium generated by the bonds in our sample cannot be explained by $TERM$ and $DEF_{Barclays}$. We therefore focus on the results for the long-short portfolios. Consistent with our findings in the main paper, Tables IA-8-IA-12 of this Internet Appendix show that during the 1993-2014 period, portfolios that are long BBB− bonds and short better-rated bonds generate a statistically significant and positive alpha, the β^{CBMKT} $10-1$ and β^{TERM} $10-1$ portfolios generate a statistically significant and negative alpha, and the β^{DEF} $10-1$ portfolio produces a statistically insignificant alpha. The alphas of all of the long-short

portfolios are insignificant during the 1978-1992 period.

IA-IV.B. Betas Calculated Using Barclays Factors

Next, we calculate $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$ in exactly the same way we calculate β^{CBMKT} and β^{DEF} in the main paper, except that we use $CBMKT_{Barclays}$ and $DEF_{Barclays}$ instead of $CBMKT$ and DEF. We then repeat the portfolio analyses, whose results are shown in Tables 3 and 7 of the main paper, using $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$ instead of β^{CBMKT} and β^{DEF} as the sorting variables. We continue to follow the main paper by using DEF (not $DEF_{Barclays}$) in the regressions used to estimate portfolio alphas. The results of these regressions, presented in Tables IA-13-IA-15 of this Internet Appendix, show that the pricing patterns observed in portfolios formed by sorting on $\beta^{CBMKT}_{Barclays}$ and $\beta^{TERM}_{Barclays}$ are qualitatively the same as those in portfolios sorted on β^{CBMKT} and β^{DEF}.

IA-IV.C. Betas and Factor Analysis Using Barclays Factors

Our third set of tests examines the performance of portfolios sorted on $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$ with factor models that use $CBMKT_{Barclays}$ and $DEF_{Barclays}$ instead of $CBMKT$ and DEF. These tests are identical to those whose results are reported in Tables 3 and 7 of the main paper, except that here we use $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$ instead of β^{CBMKT} and β^{DEF} when sorting bonds into portfolios, and $CBMKT_{Barclays}$ and $DEF_{Barclays}$ instead of $CBMKT$ and DEF when running the post-formation factor regressions. For the same reasons discussed in Section IA-IV.A, we focus our attention on the results for the long-short portfolios. They are presented in Tables IA-16-IA-18 of this Internet Appendix and are qualitatively the same as those in the main paper.

IA-V. Alternative Factor Models

In this section, we examine whether our results are robust to using alternative factor models to estimate alphas. The first alternative is a single-factor model with $CBMKT$ as the only factor. We denote the alpha from this factor model as α_{CBMKT}. The second alternative is a two-factor model that uses $TERM$ and DEF as the factors (Fama and French (1993) and Gebhardt et al. (2005)). We denote the alpha estimated from this factor model as $\alpha_{TERM+DEF}$. We then use the two alternative factor models to repeat the portfolio analyses presented in Tables 2, 3, and 7 of the main paper. Tables IA-19-IA-23 of this Internet Appendix show that our findings remain qualitatively unchanged.

IA-VI. Bond Liquidity Factor

In this section we investigate the robustness of our results to including a corporate bond liquidity factor to the model used to risk-adjust returns. The factor model used to risk-adjust returns in our main analyses includes a stock liquidity factor but not a bond liquidity factor. The reason for this is

that the high-frequency data needed to construct a corporate bond liquidity factor are not available for the entirety of the 1993-2014 period that is the focus of our main tests. While some previous studies suggests that aggregate corporate bond liquidity is an important driver of corporate bond returns (e.g., Lin, Wang, and Wu (2011) and Dick-Nielsen, Feldhütter, and Lando (2012)), others disagree (e.g., Bongaerts, de Jong, and Driessen (2017)). Nonetheless, we assess the robustness of our findings to augmenting our baseline factor model with a bond liquidity factor. We repeat the bond pricing tests, the results of which are presented in Tables 2 and 3 of the main paper, using only observations from the 2003-2014 period for which high-frequency data are available (after the introduction of TRACE).

We construct a return-based bond liquidity factor using the Roll (1984) measure of illiquidity. Specifically, for any bond i with at least 10 daily return observations in month t, we calculate the illiquidity measure to be twice the square root of the negative of the autocovariance of the bond's daily returns during the month. Daily returns are calculated as the change of subsequent end-of-day log prices from TRACE, where the two prices are no more than five trading days apart. If the autocovariance is positive, we do not calculate the illiquidity measure. At the end of each month t, we sort all IG bonds in our data with at least one year to maturity into three maturity groups using 30th and 70th percentile breakpoints, and into two illiquidity groups using the median illiquidity value. The intersections of the three maturity groups and two illiquidity groups form six portfolios. We then calculate the month $t+1$ MV-weighted excess return for each portfolio. The excess return of our bond liquidity factor, $BONDLIQ$, in month $t+1$ is taken to be the equal-weighted average excess return of the three high-illiquidity portfolios minus that of the three low-illiquidity portfolios.[8]

Tables IA-24-IA-27 of this Internet Appendix show the results of factor regressions of the returns of portfolios formed by sorting on NIG-proximity, β^{CBMKT}, β^{TERM}, and β^{DEF}. The regressions are identical to those used to generate the alphas reported in Tables 2 and 3 of the main paper except that we now add $BONDLIQ$ to the set of independent variables. Since the TRACE data used to generate $BONDLIQ$ begin in 2002, the regressions cover only the 2003-2014 period. The results are similar to those presented in the main paper, and demonstrate that controlling for exposure to aggregate bond liquidity does not qualitatively change our findings.

IA-VII. Bai, Bali, and Wen (2019) Factors

In this section we examine whether the bond factors in the Bai, Bali, and Wen (2019) model can explain the outperformance of high-NIG proximity bonds and the underperformance (outperformance) of bonds with high (low) systematic risk exposure. We do so by repeating the analyses whose results are presented in Tables 2 and 3 of the main paper, this time using a factor model that includes $TERM$, DEF, and the downside risk, credit risk, and liquidity risk bond market factors from Bai et al. (2019).[9] We do not include Bai et al. (2019)'s aggregate bond market factor

[8] Our methodology is similar to that used by Fama and French (1993) to construct their size (SMB) factor.

[9] Monthly excess returns for the factors in the Bai et al. (2019) model are taken from Jennie Bai's website, http://www.jenniebai.com/data.html.

because for analyses of the performance of portfolios sorted on β^{CBMKT}, β^{TERM}, and β^{DEF}, it is important for the factor upon which the beta is calculated to be included in the factor model and our $TERM$ and DEF factors combine to form a corporate bond market factor. Because the downside risk and credit risk factor data begin in July 2004, these analyses cover portfolio formation months t (return months $t+1$) from June (July) 2004 through November (December) 2014. The results of these tests, shown in Tables IA-28-IA-31 of this Internet Appendix, demonstrate that the Bai et al. (2019) factors do not explain the outperformance of bonds with a BBB− rating or the underperformance (outperformance) of bonds with high (low) systematic risk exposure.

IA-VIII. Excluding the 2007-2009 Crisis Period

The financial crisis of 2007-2009 was a period characterized by a large number of credit rating downgrades and substantial price volatility in fixed-income markets. To ensure that our results are not driven by the events of this period, we remove from our sample observations from the crisis period and repeat the bond pricing tests whose results are shown in Tables 2 and 3 of the main paper. Specifically, we remove return months $t+1$ from December 2007 through June 2009, inclusive, the period characterized by the NBER as recessionary. The results of the tests with the financial crisis period removed, shown in Tables IA-32-IA-35 of this Internet Appendix, are qualitatively the same as those in the main paper. There is no evidence that our results are driven by the financial crisis.

IA-IX. Additional NIG Proximity Tests

This section presents the results of tests examining the robustness of our finding that high-NIG proximity bonds outperform other IG bonds.

IA-IX.A. BBB− Bonds With an NIG Rating

For bonds that are rated by all three credit rating providers (CRPs), it is the middle rating that is used for regulatory capital purposes. Therefore, some of the bonds with a BBB− regulatory rating are rated NIG by one of the CRPs. We refer to such bonds as having a BBB$-_{NIG}$ rating, and other BBB− bonds as having a BBB$-_{NoNIG}$ rating, and take bonds rated BBB$-_{NIG}$ to have higher NIG proximity than BBB$-_{NoNIG}$ bonds. If the NIG proximity pricing effect we document is truly driven by low insurer demand for high NIG proximity bonds, we expect bonds rated BBB$-_{NIG}$ to have prices that are even further below the frictionless benchmark than bonds rated BBB$-_{NoNIG}$.

The results in Table IA-36 of this Internet Appendix show that this is indeed the case. During the 2003-2014 period, when the number of BBB− bonds rated by three CRPs is sufficient for our portfolio analyses, bonds rated BBB$-_{NIG}$ generate higher alpha than bonds rated BBB$-_{NoNIG}$. In addition, both sets of BBB− bonds outperform all subsets of better-rated bonds. The results are consistent with the pricing effect we document being driven by NIG proximity.

IA-IX.B. Recently Downgraded BBB− Bonds

Lando and Skødeberg (2002) document momentum in bond ratings, suggesting that BBB− bonds recently downgraded from a better rating have higher NIG proximity than other BBB− bonds. We therefore test whether the NIG proximity pricing effect we document is stronger among recently-downgraded BBB− bonds than among other BBB− bonds. Specifically, we categorize a BBB− bond as having been recently downgraded (BBB$-_{Down}$) if its most recent prior rating, observed in the last 12 months, is better than BBB−. We denote all BBB− bonds that do not meet this criteria as BBB$-_{NotDown}$.

Table IA-37 of this Internet Appendix shows the results of the portfolio analyses that include the two sets of BBB− bonds. Because of the small number of bonds categorized as BBB$-_{Down}$, the standard deviation of the BBB$-_{Down}$ portfolio's returns is very high, making the power of tests using this portfolio low. We therefore focus on the point estimates rather than the statistical significance of these tests. Furthermore, prior to 2001 there are too few bonds categorized as BBB$-_{Down}$ for us to form meaningful portfolios, so our tests cover the 2001-2014 period. The results demonstrate that both sets of BBB− bonds outperform better-rated bonds. Consistent with our hypothesis, the 0.19% monthly alpha generated by the BBB$-_{Down}$ portfolio is greater than the 0.14% monthly alpha generated by the BBB$-_{NotDown}$ portfolio.

IA-IX.C. BBB Bonds

Since bonds rated BBB have the second highest NIG proximity, in this subsection we examine whether their prices are also below the frictionless benchmark. Table IA-38 of this Internet Appendix presents the results of tests comparing the performance of BBB bonds to that of better-rated bonds. Consistent with our expectation that insurers may have moderately low demand for BBB bonds, the results show that BBB bonds generate higher risk-adjusted returns than better-rated bonds, but this difference is not statistically significant.

IA-IX.D. A− Bonds

Finally, since bonds rated A− are the worst-rated NAIC designation 1 bonds, and any downgrade of these bonds would result in a slightly higher required capital charge, it is possible that insurers also have low demand for bonds rated A−, and that this low demand affects prices. To test this hypothesis, we examine the performance of bonds rated A− relative to that of other NAIC category 1 bonds, and that of BBB+ bonds. The results of these tests, shown in Table IA-39 of this Internet Appendix, provide no evidence that the performance of A− bonds is different from that of better-rated bonds or bonds rated BBB+.

IA-X. Full Results

Tables IA-40-IA-42 of this Internet Appendix present the full set of results for the unconditional and conditional portfolio analyses of portfolios sorted on β^{CBMKT}, β^{TERM}, and β^{DEF}, respectively. For the unconditional portfolio analyses, at the end of each month t we sort all bonds into decile portfolios based on an ascending ordering of one of our risk factor exposure measures (β^{CBMKT}, β^{TERM}, or β^{DEF}). We then calculate the MV-weighted month $t+1$ excess returns for each portfolio. The conditional portfolio analyses are described in Section 4.2 of the main paper and the results are summarized in Table 3 of the main paper.

IA-XI. Alphas and Insurer Holdings of Independently Sorted Portfolios

In this section, we analyze the alphas and proportion held by insurers of the 20 portfolios formed by sorting on NIG proximity and term factor exposure as described in Section 5.1.2 of the main paper. Panel A of Table IA-43 presents the alphas for each of these portfolios, as well as for the β^{TERM} $10-1$ portfolio in each NIG proximity group, and the [BBB−]−NAIC 2 No BBB− portfolio in each β^{TERM} group. The results indicate that the pricing patterns documented in Section 4 of the main paper remain strong in the shortened 2003-2014 period. The average β^{TERM} $10-1$ portfolio generates large and highly significant monthly alpha of -0.44% (t-statistic$=-5.06$). Similarly, in the average β^{TERM} group, the alpha of the [BBB−]−NAIC 2 No BBB− portfolio is positive and significant.

Table IA-43 Panel B presents the time-series averages of the portfolio-level $\%InsHeld$ for each of the β^{TERM} and rating-based portfolios. The patterns are highly consistent with the results of the bond-level FM regressions reported in Table 5. In each β^{TERM} group, the average portfolio-level $\%InsHeld$ is substantially smaller for the BBB− portfolio than for the NAIC 2 No BBB− portfolio. Similarly, in both the BBB− group and the NAIC 2 No BBB− group, the average portfolio-level $\%InsHeld$ values of high-β^{TERM} portfolios are much higher than those of low-β^{TERM} portfolios.

IA-XII. Insurer Holdings and Alphas - Robustness

In this section, we examine the robustness of the negative relation between insurer holdings and bond performance by repeating the single and FM regression analyses, the results of which are presented in columns (1) and (2) of Table 6 of the main paper, using different sets of IG bonds or using β^{CBMKT} as the measure of systematic risk exposure. First, we use all bonds in our sample, instead of only NAIC designation 2 bonds, to form 30 portfolios from the intersection of β^{TERM} deciles and three NIG proximity groups. The three NIG proximity groups are NAIC designation 1 bonds, NAIC designation 2 bonds that are not rated BBB−, and bonds rated BBB−. The results of the single and FM regression analyses, shown in the columns labeled "IG Single" and "IG FM"

of Table IA-44 of this Internet Appendix, demonstrate that the negative relation between insurer holdings and risk-adjusted returns holds when examining all bonds in our sample. Second, we repeat the tests using only bonds rated BBB or BBB−. Here, portfolios are formed from the intersection of β^{TERM} deciles and two NIG proximity groups, BBB and BBB−. The results of these tests, shown in the columns labeled "BBB and BBB− Single" and "BBB and BBB− FM" of Table IA-44 of this Internet Appendix, indicate that the negative relation between insurer holdings and risk-adjusted returns still holds when we examine only bonds rated BBB and BBB−. Finally, we repeat the tests using β^{CBMKT}, instead of β^{TERM}, as the measure of systematic risk exposure. The results of these tests, shown in the columns labeled "β^{CBMKT} Single" and "β^{CBMKT} FM" of Table IA-44 of this Internet Appendix, are qualitatively the same as those of our tests in the main paper.

IA-XIII. Unconstrained and Constrained Insurer Holdings

In this section, we explore whether the propensity to underweight bonds with high NIG proximity and overweight (underweight) bonds with high (low) exposure to corporate bond market and term risk, the bond characteristics that we link to patterns in bond prices, differs between unconstrained and constrained insurers. We begin by repeating the analyses whose results are presented in Section 5.1.1 and Table 5 of the main paper, but replace the dependent variable $\%InsHeld$ with the proportion of a bond's amount outstanding held by either unconstrained ($\%InsHeld_{Unconstrained}$) or constrained ($\%InsHeld_{Constrained}$) insurers. Because we classify only a quarter of sample insurers as constrained, to ensure comparability, we multiply values of $\%InsHeld_{Constrained}$ by the ratio of the total market value of all bonds held by unconstrained insurers to that of all bonds held by constrained insurers. Table IA-45 presents the results from the FM and panel regressions of unconstrained and adjusted constrained insurer holdings on bond characteristics. The table shows that while both unconstrained and constrained insurers hold less (more) of bonds with $BBB-$ rating (higher β^{CBMKT} and β^{TERM}), these effects are larger in the sample of constrained insurers.

We next analyze the portfolio composition of unconstrained and constrained insurers and compare it to that of the market portfolio. Specifically, each month t we calculate the percentage of the total market capitalization of all bonds in our sample that falls into each of six subsets of bonds. These subsets are IG bonds not rated BBB−, bonds rated BBB−, and bonds in the first and 10th decile of β^{CBMKT} and β^{TERM}. We then calculate the percentage of the total market capitalization of the aggregate unconstrained insurer portfolio that falls into each of these same subsets, and do the same for the aggregate constrained insurer portfolio. Finally, for the unconstrained and constrained insurer portfolios, we measure the percentage by which insurers overweight or underweight each subset of bonds by dividing the insurers' weight in the given subset by the corresponding market portfolio weight, and substracting one. The results from these analyses are presented in Table IA-46. Consistent with the regression results in Table 5 of the main paper, we find that both unconstrained and constrained insurers underweight (overweight) $BBB-$ (high β^{CBMKT} and β^{TERM}) bonds, but these patterns are more pronounced for constrained insurers. Unconstrained

insurers underweight $BBB-$ bonds by 11.61%, while constrained insurers underweight them by 18.21%. Similarly, unconstrained insurers overweight β^{CBMKT} 10 (β^{TERM} 10) bonds by 12.02% (41.39%), while constrained insurers overweight them by 26.02% (54.67%).

IA-XIV. 1978-2014 Analyses

This section presents the full set of results summarized in Table 7 of the main paper as well as additional subperiod analyses. Tables IA-47-IA-50 of this Internet Appendix present the full results of the factor analyses examining the performance of portfolios formed by sorting on NIG proximity, β^{CBMKT}, β^{TERM}, and β^{DEF}, respectively, for the 1978-1992 period. Table IA-51 of this Internet Appendix shows the full results of the 1978-2014 factor analyses for portfolios examined in Table 7 of the main paper.

Finally, to get a finer picture of the evolution of the relation between risk-adjusted bond returns and each of NIG proximity and systematic risk exposure, we examine the portfolio alphas during shorter subperiods. We first calculate the alpha for each portfolio in each month by taking the portfolio's excess return in that month minus the sum of the portfolio's risk factor exposures times the corresponding factor excess returns in the same month, where the factor exposures are those from the model used to examine the full 1978-2014 period in Table 7 of the main paper. The alpha for any subperiod is then taken to be the mean of these monthly alphas over all months in the subperiod. The subperiod alphas, reported in Table IA-52 of this Internet Appendix, indicate a short adjustment period following the start of the phase-in of the new regulations in 1993 and lasting until 1997, followed by a period of relatively stable performance of the focal portfolios over the 1998-2002, 2003-2008, and 2009-2014 subperiods. The small risk-adjusted returns during the 1993-1997 period is expected for two reasons. First, because penalties for undercapitalized insurers under the new requirements were phased in over several years, insurers may not have immediately adjusted their portfolios. Second, the change in bond prices caused by the transition from the old equilibrium to the new equilibrium may cause short-term returns during the adjustment period to not exhibit the patterns that are the focus of our paper. For example, during the adjustment period, high-beta bonds go from being fairly-priced to over-priced relative to the frictionless equilibrium. As prices are adjusting, the price increases have a positive effect on the performance of high-beta bonds which counters the corresponding lowering of coupon payments as a percentage of bond prices. Thus, it is not until the prices have stabilized at their new equilibrium levels that we expect to see a stable pattern in bond performance.

IA-XV. Financial Intermediary Risk Factor

In this section, we test whether exposure to the financial intermediary risk factor of He, Kelly, and Manela (2017) explains the pricing patterns of bonds documented in the main paper. Specifically, we add the intermediary value-weighted investment excess return, $IVWIR$, to our factor model

and repeat the tests whose results are presented in Tables 2 and 3 of the main paper using this alternative factor model. $IVWIR$ in each month t is calculated as the value-weighted average return of stocks of firms in the primary dealer sector minus the risk-free rate.[10] We use this factor because it is a traded factor and thus the alpha from the factor regression can be interpreted as the average risk-adjusted return of the portfolio. The results of these tests, shown in Tables IA-53-IA-56 of this Internet Appendix, are extremely similar to those in the main paper. Most importantly, the alphas of the portfolios that are long bonds rated BBB− and short other bonds are all positive and significant, and the alphas of the portfolios that are long (short) bonds with high (low) values of β^{CBMKT} and β^{TERM} are negative and significant. The results demonstrate that exposure to the financial intermediary risk factor of He et al. (2017) cannot explain our findings.

IA-XVI. Broker-Dealer Leverage Risk Factor

In this section we explore the possibility that exposure to the broker-dealer leverage risk factor of Adrian, Etula, and Muir (2014, AEM hereafter) explains the outperformance of high-NIG proximity bonds and the underperformance (outperformance) of high-systematic (low-systematic) risk exposure bonds. AEM show that a one-factor model with broker-dealer leverage as the factor explains the returns of a large number of anomaly portfolios. We construct the factor precisely as in AEM. First, at the end of each quarter q we calculate broker-dealer leverage to be:

$$Leverage_q = \frac{Total\ Financial\ Assets_q}{Total\ Financial\ Assets_q + Total\ Liabilities_q}$$

where $Total\ Financial\ Assets_q$ and $Total\ Liabilities_q$ for broker-dealers come from the Federal Reserve Statistical Release Z.1, Financial Accounts of the United States. We then define the quarterly broker-dealer leverage risk factor innovation for quarter q, $LevFac_q$, as the seasonally-adjusted change in the natural logarithm of $Leverage_q$:

$$LevFac_q = \Delta \ln (Leverage_q) - SA$$

where $\Delta \ln (Leverage_q) = \ln (Leverage_q) - \ln (Leverage_{q-1})$ and SA is the seasonal adjustment, calculated as the average of $\Delta \ln (Leverage_q)$ over all quarters q' between Q1 of 1968 and quarter q that are the same calendar quarter as quarter q.[11] To match the monthly frequency of our portfolios returns, we convert the quarterly factor innovations to monthly factor innovations by taking the innovation for each month m in quarter q to be one third of the quarter q innovation ($LevFac_m = LevFac_q/3$).

The factors used in our main tests are the excess returns of portfolios and as such capture both the premium and innovations in the given factor. $LevFac_m$, on the other hand, is not the

[10] Monthly values of the value-weighted average primary dealer stock return are taken from Asaf Manela's website, http://apps.olin.wustl.edu/faculty/manela/data.html.

[11] We follow AEM and discard data prior to 1968Q1 due to concerns about data quality.

excess return of a portfolio and thus captures the innovations in broker-dealer leverage, but not the premium associated with exposure to this risk. For this reason, the intercept coefficient from a regression of excess portfolio returns on $LevFac_m$ cannot be interpreted as an estimate of risk-adjusted performance. However, a necessary condition for exposure to $LevFac_m$ to explain the performance of our portfolios is that the portfolios have significant exposure to $LevFac_m$. To test whether this is the case, we regress our excess portfolio returns on $LevFac_m$ and examine the slope coefficients from the regressions.

Tables IA-57-IA-60 in this Internet Appendix present the results of these tests for portfolios formed by sorting on NIG proximity, β^{CBMKT}, β^{TERM}, and β^{DEF}. For all portfolios sorted on NIG proximity, β^{CBMKT}, and β^{TERM}, the coefficient on $LevFac_m$ is statistically insignificant. The insignificant exposure of the portfolios to innovations in broker-dealer leverage risk provides strong evidence against an intermediary asset pricing-based explanation for the pricing patterns we document. Interestingly, the results in Table IA-60 suggest that some of the long-short portfolios formed by sorting on β^{DEF} have significant exposure to $LevFac_m$. However, as demonstrated in the main paper, these portfolios do not generate significant alphas and thus there is no pricing effect for the innovations in broker-dealer leverage to explain.

IA-XVII. Maturity

In this section, we investigate whether insurers' asset-liability matching needs, as opposed to rating-based capital requirements, are responsible for the negative relation between term factor risk exposure and risk-adjusted bond returns. First, we examine whether insurers indeed prefer investing in long-maturity bonds and whether this investment preference explains our finding that they tilt their portfolios towards high β^{TERM} bonds. We repeat the analyses of insurer holdings, the results of which are presented in Table 5 of the main paper, but now include bond maturity (MAT) as an additional independent variable. Since β^{TERM} is highly correlated with MAT (0.56 in the average month of our sample period), we replace it in the set of independent variables with its orthogonalized version, $\beta^{TERM}_{\perp}$. We construct $\beta^{TERM}_{\perp}$ as the intercept plus the residual from a cross-sectional regression of β^{TERM} on MAT. The results of the analyses of insurer holdings, presented in Table IA-61 of this Internet Appendix, indicate that insurers indeed have a preference for long-maturity bonds. However, controlling for maturity, insurers also tilt their portfolios towards high-β^{TERM} bonds. This suggests that asset-liability matching alone cannot explain the patterns in insurer holdings we document.

We next examine whether there is a relation between MAT and risk-adjusted bond performance. We begin by repeating the portfolio analysis whose results are shown in Table 3 of the main paper, this time using MAT, instead of β^{TERM}, as the sort variable. The results of this analysis, provided in Panel A of Table IA-62 of this Internet Appendix, demonstrate that during the 1993-2014 period, there is a negative, economically important, and statistically significant relation between risk-adjusted returns and MAT. The results in Panel B present no strong evidence of such a relation

during the 1978-1992 period prior to the implementation of rating-based capital requirements. We then investigate whether the results in Panels A and B do indeed indicate differential performance by repeating the tests whose results are shown in Table 7 of the main paper, now using MAT-sorted portfolios. The results indicate a statistically significant difference in the relation between maturity and risk-adjusted bond returns during the 1993-2014 period compared to the 1978-1992 period. Since MAT and β^{TERM} are highly correlated (0.56 in the average month of our sample period and 0.52 in the average month during 1978-1996 according to Gebhardt et al. (2005)), the results in Table IA-62 of this Internet Appendix are consistent with what we observe in our analyses of the performance of portfolios formed by sorting on β^{TERM}.

To rule out the possibility that the negative relation between risk-adjusted bond returns and term factor risk exposure is driven by maturity, we examine the performance of bivariate portfolios sorted on MAT and β^{TERM}. Specifically, at the end of each month t, we sort all bonds into decile portfolios based on an ascending ordering of MAT. We then sort all bonds in each MAT decile into decile portfolios based on an ascending ordering of β^{TERM}. In each MAT decile, we calculate the market value-weighted month $t+1$ excess return of each β^{TERM} portfolio, as well as that of a zero-cost long-short β^{TERM} portfolio that is long the decile 10 portfolio and short the decile 1 portfolio. Finally, for each β^{TERM} decile portfolio as well as the long-short portfolio, we calculate the average excess return across the MAT deciles and then estimate risk-adjusted returns by regressing the excess returns on $TERM$, DEF, $STOCKMKT$, SMB, HML, MOM, and LIQ. The results from these regressions are presented in Table IA-63 of this Internet Appendix. The slope coefficients of the β^{TERM} $10-1$ portfolios, reported in the row labeled β^{TERM}_{Post}, indicate that in each maturity decile, our sorting procedure generates strong post-formation exposure to $TERM$. The alphas of the β^{TERM} $10-1$ portfolios are negative in all MAT deciles, and significant in most, including the average MAT decile. These results demonstrate that rating-based capital requirements, and not simply asset-liability matching, are the driver of the negative relation between term factor risk exposure and risk-adjusted bond returns we document.

IA-XVIII. GRS Tests - 1978-1992

In this section we perform Gibbons, Ross, and Shanken (1989, GRS hereafter) tests examining whether our main factor model, which includes the $TERM$, DEF, $STOCKMKT$, SMB, HML, MOM, and LIQ factors, correctly prices our test portfolios during the 1978-1992 period, when *H5* predicts that bonds are correctly priced. We perform the GRS test on three sets of our test portfolios. The first set includes the NAIC 1, NAIC 2 No BBB−, IG No BBB−, BBB, and BBB− portfolios examined in Table 2 of the main paper. The second set includes the 30 β-sorted decile (10 β^{CBMKT}, 10 β^{TERM}, and 10 β^{DEF}) portfolios examined in Table 3 of the main paper. The third set includes all 35 (five NIG proximity-based and 30 β-sorted) portfolios. The results, presented in Table IA-64 of this Internet Appendix, show that in all cases the GRS tests fail to reject the null hypothesis that the factor model correctly prices our portfolios. Thus, we conclude that model

misspecification does not drive the pricing patterns we detect during the 1993-2014 period.

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Table IA-1: Regulatory Ratings, NAIC Designations, and Required Capital Charges for Corporate Bonds

This table presents the mapping of corporate bonds' regulatory rating to grade, NAIC designation, and required capital charge. Regulatory rating is the credit rating for regulatory capital purposes. For bonds rated by multiple CRPs, the regulatory rating is the lower rating when two are available and the second lowest rating when more than two are available. We use the S&P/Fitch rating scale without loss of generality. Grade indicates whether a bond with the given regulatory rating is investment grade (IG) or non-investment-grade (NIG). Columns labeled Life (P&C) give required capital charges for life (property/casualty) insurers.

		NAIC	Required Capital Charge	
Regulatory Rating	Grade	Designation	Life	P&C
A- and above	IG	1	0.4%	0.3%
BBB+, BBB, BBB−	IG	2	1.3%	1.0%
BB+, BB, BB−	NIG	3	4.6%	2.0%
B+, B, B−	NIG	4	10.0%	4.5%
CCC+, CCC, CCC−	NIG	5	23.0%	10.0%
CC, C, D	NIG	6	30.0%	30.0%

Table IA-2: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Exclude Matrix Prices

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that the sample excludes observations for which the bond return is calculated from a Lehman matrix price.

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB
Excess Return	0.32	0.38	0.34	0.40	0.48	0.16	0.10	0.15	0.09
	(4.13)	(4.64)	(4.38)	(4.84)	(5.68)	(3.27)	(2.65)	(3.36)	(2.07)
α	−0.01	0.02	−0.00	0.04	0.13	0.14	0.12	0.14	0.09
	(−0.59)	(0.58)	(−0.35)	(1.53)	(3.00)	(2.84)	(2.88)	(3.11)	(2.13)
β_{Post}^{TERM}	0.31	0.30	0.30	0.30	0.24	−0.07	−0.06	−0.06	−0.06
	(15.38)	(13.64)	(15.16)	(13.16)	(9.03)	(−4.09)	(−4.86)	(−4.42)	(−4.20)
β_{Post}^{DEF}	0.91	0.98	0.94	1.00	1.06	0.15	0.08	0.12	0.06
	(48.19)	(37.83)	(69.94)	(38.61)	(24.73)	(2.97)	(2.03)	(2.86)	(1.38)
$\beta_{Post}^{STOCKMKT}$	−0.02	0.01	−0.01	−0.01	0.02	0.03	0.01	0.02	0.03
	(−3.40)	(1.22)	(−1.62)	(−1.20)	(1.51)	(2.59)	(0.84)	(2.02)	(2.31)
β_{Post}^{SMB}	0.00	0.00	0.00	0.00	0.00	−0.00	−0.00	−0.00	0.00
	(0.73)	(0.54)	(1.11)	(0.12)	(0.17)	(−0.12)	(−0.17)	(−0.18)	(0.10)
β_{Post}^{HML}	−0.00	0.01	0.00	−0.00	−0.01	−0.01	−0.02	−0.01	−0.01
	(−0.22)	(1.75)	(1.01)	(−0.01)	(−0.52)	(−0.37)	(−1.72)	(−0.83)	(−0.52)
β_{Post}^{MOM}	0.01	−0.00	0.00	0.01	−0.00	−0.01	−0.00	−0.01	−0.01
	(2.45)	(−0.04)	(1.67)	(1.13)	(−0.56)	(−1.40)	(−0.58)	(−1.08)	(−1.28)
β_{Post}^{LIQ}	−0.01	0.01	−0.00	0.01	0.02	0.03	0.01	0.02	0.02
	(−2.11)	(1.86)	(−0.20)	(1.01)	(2.19)	(2.70)	(1.15)	(2.25)	(1.61)

Table IA-3: Performance of Portfolios Sorted on β^{CBMKT} - 1993-2014 - Exclude Matrix Prices

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sample excludes observations for which the bond return is calculated from a Lehman matrix price.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	β^{CBMKT}_{Post}	0.37	0.56	0.68	0.79	0.82	0.98	1.09	1.20	1.40	1.66	1.28
		(18.71)	(24.21)	(22.27)	(35.20)	(31.72)	(40.18)	(44.70)	(46.82)	(50.20)	(46.16)	(27.01)
	Excess Return	0.34	0.23	0.28	0.29	0.25	0.37	0.39	0.42	0.47	0.49	0.15
		(8.79)	(4.24)	(4.21)	(4.24)	(3.40)	(4.39)	(4.29)	(4.20)	(4.06)	(3.55)	(1.26)
	α	0.22	0.03	0.03	0.01	−0.03	0.01	0.02	−0.01	−0.03	−0.13	−0.35
		(8.39)	(0.93)	(0.69)	(0.30)	(−0.93)	(0.43)	(0.51)	(−0.20)	(−0.84)	(−2.94)	(−5.94)
NAIC 1	β^{CBMKT}_{Post}	0.37	0.54	0.66	0.78	0.84	1.00	1.13	1.21	1.44	1.64	1.28
		(18.90)	(24.36)	(24.97)	(31.00)	(25.30)	(35.31)	(42.86)	(41.05)	(42.45)	(40.66)	(25.54)
	Excess Return	0.29	0.23	0.26	0.27	0.25	0.34	0.37	0.38	0.46	0.47	0.18
		(7.50)	(4.47)	(4.15)	(3.87)	(3.21)	(3.91)	(3.89)	(3.70)	(3.77)	(3.34)	(1.51)
	α	0.17	0.05	0.04	−0.00	−0.03	−0.01	−0.01	−0.05	−0.04	−0.14	−0.31
		(6.58)	(1.56)	(1.09)	(−0.02)	(−0.57)	(−0.24)	(−0.16)	(−1.25)	(−0.97)	(−2.80)	(−4.96)
NAIC 2	β^{CBMKT}_{Post}	0.39	0.58	0.69	0.79	0.80	0.95	1.00	1.23	1.38	1.69	1.30
		(14.55)	(15.24)	(21.13)	(20.40)	(22.45)	(35.63)	(22.13)	(30.62)	(33.22)	(38.87)	(23.58)
	Excess Return	0.40	0.28	0.32	0.31	0.25	0.39	0.45	0.47	0.48	0.56	0.17
		(8.65)	(4.21)	(4.69)	(3.86)	(3.26)	(4.75)	(4.63)	(4.32)	(4.00)	(3.88)	(1.32)
	α	0.27	0.07	0.07	−0.00	−0.04	0.03	0.07	0.03	−0.03	−0.10	−0.37
		(7.62)	(1.29)	(1.48)	(−0.00)	(−0.92)	(0.92)	(1.19)	(0.46)	(−0.47)	(−1.69)	(−5.19)
NAIC Avg.	β^{CBMKT}_{Post}	0.38	0.56	0.67	0.78	0.82	0.98	1.06	1.22	1.41	1.67	1.29
		(20.32)	(22.52)	(29.13)	(32.67)	(34.23)	(45.33)	(38.34)	(48.30)	(48.04)	(48.31)	(28.33)
	Excess Return	0.34	0.26	0.29	0.29	0.25	0.37	0.41	0.43	0.47	0.51	0.17
		(8.96)	(4.68)	(4.75)	(4.16)	(3.54)	(4.47)	(4.52)	(4.21)	(4.02)	(3.70)	(1.47)
	α	0.22	0.06	0.05	−0.00	−0.04	0.01	0.03	−0.01	−0.03	−0.12	−0.34
		(9.07)	(1.68)	(1.66)	(−0.01)	(−1.09)	(0.43)	(0.89)	(−0.33)	(−0.88)	(−2.76)	(−6.04)

Table IA-4: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Exclude Matrix Prices

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sample excludes observations for which the bond return is calculated from a Lehman matrix price.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	β^{TERM}_{Post}	0.09	0.15	0.19	0.22	0.26	0.32	0.36	0.43	0.53	0.67	0.59
		(4.28)	(8.28)	(10.90)	(10.11)	(12.58)	(13.26)	(14.96)	(16.33)	(17.97)	(21.54)	(25.12)
	Excess Return	0.38	0.33	0.29	0.30	0.32	0.36	0.37	0.42	0.45	0.47	0.09
		(6.52)	(5.80)	(4.84)	(4.16)	(4.30)	(4.10)	(4.01)	(3.90)	(3.62)	(3.22)	(0.76)
	α	0.20	0.11	0.04	0.02	0.01	−0.02	−0.04	−0.04	−0.10	−0.16	−0.36
		(5.89)	(4.32)	(1.45)	(0.60)	(0.47)	(−0.47)	(−1.20)	(−1.17)	(−2.64)	(−3.25)	(−5.86)
NAIC 1	β^{TERM}_{Post}	0.09	0.16	0.19	0.23	0.27	0.33	0.37	0.46	0.55	0.69	0.61
		(4.40)	(9.38)	(10.65)	(9.84)	(11.57)	(13.83)	(14.43)	(16.42)	(18.17)	(22.61)	(24.98)
	Excess Return	0.32	0.29	0.27	0.27	0.32	0.35	0.35	0.42	0.43	0.42	0.10
		(5.62)	(5.26)	(4.51)	(3.56)	(3.97)	(3.87)	(3.54)	(3.77)	(3.30)	(2.85)	(0.82)
	α	0.17	0.09	0.04	0.02	0.01	−0.04	−0.06	−0.05	−0.13	−0.19	−0.36
		(4.60)	(3.13)	(1.33)	(0.33)	(0.17)	(−1.04)	(−1.71)	(−1.15)	(−3.38)	(−3.68)	(−5.71)
NAIC 2	β^{TERM}_{Post}	0.08	0.15	0.20	0.21	0.25	0.29	0.34	0.40	0.51	0.64	0.56
		(3.32)	(6.66)	(8.87)	(9.21)	(11.32)	(10.12)	(13.73)	(13.28)	(15.84)	(18.46)	(20.10)
	Excess Return	0.43	0.38	0.34	0.33	0.34	0.41	0.37	0.43	0.48	0.57	0.14
		(6.35)	(5.67)	(4.70)	(4.43)	(4.38)	(4.39)	(3.99)	(3.91)	(3.79)	(3.81)	(1.08)
	α	0.24	0.13	0.04	0.03	0.02	0.04	−0.02	−0.01	−0.07	−0.06	−0.31
		(5.63)	(2.95)	(1.01)	(0.71)	(0.44)	(0.69)	(−0.42)	(−0.13)	(−1.36)	(−0.99)	(−3.92)
NAIC Avg.	β^{TERM}_{Post}	0.08	0.15	0.19	0.22	0.26	0.31	0.36	0.43	0.53	0.66	0.58
		(4.09)	(8.61)	(10.49)	(10.55)	(12.28)	(12.76)	(14.83)	(15.90)	(17.74)	(21.72)	(25.54)
	Excess Return	0.38	0.33	0.30	0.30	0.33	0.38	0.36	0.43	0.45	0.49	0.12
		(6.43)	(5.94)	(4.90)	(4.29)	(4.37)	(4.35)	(3.87)	(4.00)	(3.62)	(3.41)	(0.99)
	α	0.21	0.11	0.04	0.02	0.01	−0.00	−0.04	−0.03	−0.10	−0.13	−0.33
		(6.23)	(3.96)	(1.50)	(0.66)	(0.42)	(−0.00)	(−1.24)	(−0.74)	(−2.65)	(−2.73)	(−5.60)

Table IA-5: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Exclude Matrix Prices

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sample excludes observations for which the bond return is calculated from a Lehman matrix price.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	β^{DEF}_{Post}	0.69	0.66	0.74	0.73	0.75	0.83	0.83	0.94	1.09	1.35	0.66
		(17.23)	(17.04)	(20.40)	(23.02)	(26.14)	(30.08)	(25.70)	(28.15)	(35.67)	(32.01)	(9.55)
	Excess Return	0.38	0.33	0.29	0.26	0.28	0.29	0.34	0.35	0.42	0.48	0.11
		(5.08)	(4.53)	(3.88)	(3.85)	(4.02)	(3.95)	(4.47)	(4.32)	(4.69)	(4.45)	(1.36)
	α	0.08	0.03	−0.01	−0.02	−0.01	−0.01	0.03	0.04	0.04	0.02	−0.05
		(1.89)	(0.86)	(−0.26)	(−0.61)	(−0.39)	(−0.37)	(1.04)	(1.17)	(1.34)	(0.53)	(−0.75)
NAIC 1	β^{DEF}_{Post}	0.69	0.70	0.74	0.69	0.75	0.78	0.82	0.92	1.04	1.25	0.56
		(16.51)	(17.19)	(19.76)	(19.11)	(25.89)	(23.44)	(25.49)	(19.97)	(24.81)	(24.13)	(7.30)
	Excess Return	0.36	0.28	0.28	0.25	0.26	0.29	0.31	0.31	0.41	0.43	0.07
		(4.66)	(3.67)	(3.82)	(3.57)	(3.77)	(3.83)	(4.09)	(3.47)	(4.41)	(3.87)	(0.85)
	α	0.06	−0.03	−0.01	−0.02	−0.02	−0.01	0.02	−0.00	0.05	−0.01	−0.07
		(1.43)	(−0.77)	(−0.39)	(−0.50)	(−0.81)	(−0.25)	(0.65)	(−0.04)	(1.13)	(−0.13)	(−0.86)
NAIC 2	β^{DEF}_{Post}	0.69	0.62	0.73	0.73	0.78	0.82	0.90	1.04	1.15	1.50	0.81
		(12.39)	(13.16)	(17.30)	(16.93)	(20.29)	(22.02)	(23.10)	(23.70)	(26.44)	(29.88)	(9.94)
	Excess Return	0.41	0.35	0.37	0.30	0.34	0.31	0.38	0.43	0.48	0.55	0.14
		(5.14)	(4.64)	(4.92)	(4.03)	(4.60)	(4.16)	(4.77)	(4.76)	(4.98)	(4.73)	(1.50)
	α	0.11	0.05	0.08	0.00	0.05	0.01	0.05	0.08	0.07	0.04	−0.07
		(1.93)	(1.15)	(1.81)	(0.09)	(1.18)	(0.32)	(1.22)	(1.74)	(1.51)	(0.83)	(−0.81)
NAIC Avg.	β^{DEF}_{Post}	0.69	0.66	0.74	0.71	0.77	0.80	0.86	0.98	1.10	1.38	0.69
		(16.34)	(16.82)	(21.09)	(20.99)	(27.26)	(28.36)	(35.15)	(31.35)	(35.59)	(34.55)	(9.85)
	Excess Return	0.39	0.32	0.33	0.27	0.30	0.30	0.35	0.37	0.44	0.49	0.10
		(5.15)	(4.28)	(4.51)	(3.96)	(4.34)	(4.15)	(4.68)	(4.38)	(4.93)	(4.48)	(1.31)
	α	0.08	0.01	0.03	−0.01	0.01	0.00	0.03	0.04	0.06	0.02	−0.07
		(1.99)	(0.29)	(0.91)	(−0.21)	(0.43)	(0.06)	(1.41)	(1.20)	(1.85)	(0.42)	(−0.94)

Table IA-6: Portfolio Alphas - 1978-1992 versus 1993-2014 - Exclude Matrix Prices

This table presents the alphas of portfolios formed by sorting on NIG proximity or systematic risk exposure for the 1978-1992 and the 1993-2014 periods. The methodology is identical to that used to generate Table 7 of the main paper, except that the sample excludes observations for which the bond return is calculated from a Lehman matrix price.

Period	Value	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB	β^{CBMKT} 1	β^{CBMKT} 10	β^{CBMKT} 10−1	β^{TERM} 1	β^{TERM} 10	β^{TERM} 10−1	β^{DEF} 1	β^{DEF} 10	β^{DEF} 10−1
1978-1992	α	−0.01	−0.01	−0.06	−0.01	−0.06	0.06	−0.00	−0.07	0.06	−0.00	−0.06	−0.03	0.06	0.08
		(−0.11)	(−0.12)	(−1.09)	(−0.25)	(−1.18)	(2.30)	(−0.10)	(−1.12)	(2.07)	(−0.01)	(−0.95)	(−0.54)	(1.51)	(1.16)
1993-2014	α	0.13	0.14	0.12	0.14	0.09	0.22	−0.13	−0.35	0.20	−0.16	−0.36	0.08	0.02	−0.05
		(3.00)	(2.84)	(2.88)	(3.11)	(2.13)	(8.39)	(−2.94)	(−5.94)	(5.89)	(−3.25)	(−5.86)	(1.89)	(0.53)	(−0.75)
1978-2014	α	−0.01	−0.01	−0.06	−0.01	−0.06	0.06	−0.00	−0.07	0.06	−0.00	−0.06	−0.03	0.06	0.08
		(−0.12)	(−0.12)	(−1.13)	(−0.26)	(−1.19)	(2.09)	(−0.08)	(−0.99)	(1.54)	(−0.01)	(−0.83)	(−0.52)	(1.21)	(1.03)
	α^{1993}	0.14	0.15	0.17	0.15	0.15	0.16	−0.13	−0.29	0.15	−0.16	−0.30	0.10	−0.03	−0.14
		(1.94)	(1.88)	(2.64)	(2.08)	(2.25)	(3.98)	(−1.96)	(−3.24)	(3.03)	(−2.25)	(−3.34)	(1.63)	(−0.56)	(−1.30)

Table IA-7: Factor Summary Statistics

This table presents summary statistics and correlations for the monthly excess returns of corporate bond factors. $CBMKT$ is the market value-weighted average excess return of the bonds in our return data. $TERM$ is the Barclays Long Maturity U.S. Treasury index return minus the one-month U.S. Treasury bill return. DEF is the component of $CBMKT$ that is orthogonal to $TERM$. Returns are in percent. Panel A shows the time-series mean (Mean), standard deviation (SD), minimum (Min), first percentile (1%), fifth percentile (5%), 25th percentile (25%), median (Median), 75th percentile (75%), 95th percentile (95%), 99th percentile (99%), and maximum (Max) for each time-series. Panel B shows Pearson product-moment correlations. The summary statistics and correlations cover returns from January 1993 through December 2014, inclusive. Values of DEF are taken to be the intercept term plus the residual from a regression of $CBMKT$ on $TERM$ using data from this same period.

Panel A: Summary Statistics

Factor	Mean	SD	Min	1%	5%	25%	Median	75%	95%	99%	Max
$CBMKT$	0.35	1.28	−3.60	−3.29	−1.83	−0.42	0.40	1.06	2.39	3.00	5.44
$TERM$	0.47	2.84	−9.01	−5.89	−3.78	−1.35	0.48	2.15	4.58	8.96	12.27
DEF	0.21	0.95	−3.67	−2.57	−1.16	−0.23	0.20	0.71	1.73	2.90	4.04

Panel B: Correlations

	$TERM$	DEF
$CBMKT$	0.67	0.74
$TERM$		0.00

Table IA-8: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Barclays Factor Models

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that we replace DEF with $DEF_{Barclays}$ in the factor model we use to estimate alphas. We define $DEF_{Barclays}$ to be the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

Value	NAIC 1	NAIC 2 No BBB–	IG No BBB–	BBB	BBB–	[BBB–]–NAIC 1	[BBB–]–NAIC 2 No BBB–	[BBB–]–IG No BBB–	[BBB–]–BBB
Excess Return	0.32	0.38	0.34	0.40	0.48	0.16	0.11	0.14	0.08
	(4.14)	(4.65)	(4.39)	(4.88)	(5.71)	(3.24)	(2.71)	(3.35)	(2.06)
α	0.09	0.11	0.09	0.15	0.24	0.15	0.12	0.14	0.09
	(2.92)	(3.30)	(3.45)	(4.19)	(4.59)	(2.98)	(3.08)	(3.29)	(2.11)
β^{TERM}_{Post}	0.30	0.30	0.30	0.29	0.23	−0.07	−0.06	−0.07	−0.06
	(15.34)	(13.58)	(15.11)	(13.07)	(8.94)	(−4.21)	(−4.84)	(−4.51)	(−4.18)
$\beta^{DEF}_{Barclays,Post}$	0.65	0.71	0.67	0.72	0.75	0.11	0.04	0.08	0.03
	(27.06)	(26.72)	(31.85)	(26.63)	(18.91)	(2.69)	(1.39)	(2.42)	(0.84)
$\beta^{STOCKMKT}_{Post}$	−0.02	0.00	−0.01	−0.01	0.02	0.04	0.01	0.03	0.03
	(−2.27)	(0.46)	(−1.14)	(−1.43)	(1.23)	(2.68)	(1.19)	(2.18)	(2.71)
β^{SMB}_{Post}	0.00	0.00	0.00	0.00	0.00	−0.00	−0.00	−0.00	0.00
	(0.46)	(0.43)	(0.58)	(0.10)	(0.22)	(−0.05)	(−0.09)	(−0.10)	(0.19)
β^{HML}_{Post}	−0.00	0.01	0.00	−0.00	−0.01	−0.01	−0.02	−0.01	−0.01
	(−0.19)	(1.10)	(0.38)	(−0.19)	(−0.43)	(−0.33)	(−1.52)	(−0.75)	(−0.37)
β^{MOM}_{Post}	0.01	−0.00	0.00	0.01	−0.01	−0.02	−0.01	−0.01	−0.01
	(1.37)	(−0.22)	(0.66)	(0.74)	(−0.67)	(−1.54)	(−0.67)	(−1.21)	(−1.44)
β^{LIQ}_{Post}	−0.02	0.01	−0.01	−0.00	0.02	0.03	0.01	0.02	0.02
	(−2.08)	(0.67)	(−1.00)	(−0.05)	(1.41)	(2.75)	(1.24)	(2.30)	(1.77)

Table IA-9: Performance of Portfolios Sorted on β^{CBMKT} 1993-2014 - Barclays Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we replace DEF with $DEF_{Barclays}$ in the factor model we use to estimate alphas. We define $DEF_{Barclays}$ to be the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	Excess Return	0.34	0.22	0.27	0.28	0.25	0.36	0.39	0.41	0.47	0.48	0.14
		(8.97)	(4.27)	(4.23)	(4.28)	(3.51)	(4.39)	(4.41)	(4.21)	(4.06)	(3.52)	(1.19)
	α	0.28	0.10	0.11	0.10	0.07	0.12	0.14	0.11	0.10	0.01	−0.27
		(9.22)	(2.81)	(2.33)	(2.65)	(1.70)	(2.72)	(3.18)	(2.53)	(2.16)	(0.14)	(−4.83)
NAIC 1	Excess Return	0.29	0.23	0.26	0.26	0.25	0.34	0.37	0.38	0.46	0.46	0.18
		(7.60)	(4.54)	(4.24)	(3.86)	(3.29)	(3.90)	(3.96)	(3.77)	(3.78)	(3.34)	(1.49)
	α	0.22	0.12	0.13	0.09	0.08	0.10	0.11	0.07	0.09	−0.00	−0.22
		(7.77)	(3.50)	(3.07)	(2.12)	(1.54)	(2.14)	(2.53)	(1.62)	(1.68)	(−0.07)	(−3.70)
NAIC 2	Excess Return	0.40	0.27	0.31	0.30	0.26	0.38	0.45	0.46	0.48	0.55	0.15
		(8.83)	(4.19)	(4.61)	(3.92)	(3.45)	(4.67)	(4.74)	(4.30)	(4.03)	(3.84)	(1.20)
	α	0.33	0.14	0.14	0.10	0.06	0.12	0.18	0.14	0.11	0.04	−0.29
		(8.52)	(2.58)	(2.88)	(1.69)	(1.22)	(2.88)	(2.82)	(2.36)	(1.83)	(0.83)	(−4.49)
NAIC Avg.	Excess Return	0.34	0.25	0.28	0.28	0.25	0.36	0.41	0.42	0.47	0.51	0.16
		(9.15)	(4.72)	(4.78)	(4.22)	(3.71)	(4.43)	(4.62)	(4.24)	(4.04)	(3.67)	(1.39)
	α	0.28	0.13	0.13	0.09	0.07	0.11	0.15	0.11	0.10	0.02	−0.26
		(9.81)	(3.42)	(3.54)	(2.27)	(1.83)	(2.85)	(3.26)	(2.55)	(2.10)	(0.47)	(−4.95)

Table IA-10: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Barclays Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we replace DEF with $DEF_{Barclays}$ in the factor model we use to estimate alphas. We define $DEF_{Barclays}$ to be the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	Excess Return	0.38	0.32	0.29	0.30	0.32	0.36	0.37	0.41	0.45	0.47	0.09
		(6.54)	(5.88)	(4.88)	(4.24)	(4.33)	(4.18)	(4.08)	(3.93)	(3.62)	(3.19)	(0.71)
	α	0.29	0.20	0.12	0.12	0.12	0.10	0.08	0.08	0.03	−0.04	−0.33
		(7.53)	(6.26)	(3.63)	(2.88)	(3.22)	(2.33)	(1.95)	(1.73)	(0.70)	(−0.77)	(−5.49)
NAIC 1	Excess Return	0.32	0.29	0.27	0.27	0.31	0.35	0.35	0.42	0.43	0.42	0.10
		(5.63)	(5.34)	(4.60)	(3.59)	(3.97)	(3.92)	(3.58)	(3.82)	(3.31)	(2.84)	(0.81)
	α	0.25	0.17	0.13	0.11	0.12	0.08	0.06	0.08	0.00	−0.08	−0.33
		(6.30)	(5.13)	(3.59)	(2.19)	(2.52)	(1.73)	(1.24)	(1.46)	(0.10)	(−1.50)	(−5.35)
NAIC 2	Excess Return	0.43	0.38	0.32	0.33	0.33	0.41	0.36	0.43	0.48	0.55	0.12
		(6.39)	(5.70)	(4.58)	(4.59)	(4.50)	(4.43)	(3.96)	(4.01)	(3.81)	(3.78)	(0.98)
	α	0.34	0.22	0.13	0.13	0.12	0.15	0.08	0.12	0.05	0.05	−0.29
		(7.22)	(4.52)	(2.66)	(2.78)	(2.94)	(2.57)	(1.57)	(1.93)	(0.89)	(0.89)	(−3.83)
NAIC Avg.	Excess Return	0.37	0.33	0.29	0.30	0.32	0.38	0.35	0.43	0.45	0.49	0.11
		(6.47)	(6.00)	(4.90)	(4.41)	(4.44)	(4.41)	(3.88)	(4.08)	(3.63)	(3.38)	(0.93)
	α	0.30	0.20	0.13	0.12	0.12	0.11	0.07	0.10	0.03	−0.01	−0.31
		(7.93)	(5.86)	(3.69)	(3.02)	(3.30)	(2.65)	(1.60)	(2.07)	(0.62)	(−0.25)	(−5.36)

Table IA-11: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Barclays Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we replace DEF with $DEF_{Barclays}$ in the factor model we use to estimate alphas. We define $DEF_{Barclays}$ to be the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	Excess Return	0.38	0.32	0.29	0.27	0.27	0.30	0.34	0.35	0.42	0.48	0.10
		(5.19)	(4.54)	(4.00)	(3.87)	(4.01)	(4.01)	(4.46)	(4.32)	(4.65)	(4.42)	(1.31)
	α	0.15	0.10	0.08	0.06	0.07	0.09	0.13	0.14	0.15	0.15	0.00
		(3.44)	(2.30)	(1.80)	(1.54)	(2.02)	(2.45)	(3.25)	(3.65)	(4.55)	(3.42)	(0.00)
NAIC 1	Excess Return	0.36	0.28	0.28	0.26	0.26	0.29	0.31	0.31	0.40	0.43	0.07
		(4.78)	(3.68)	(3.76)	(3.71)	(3.69)	(3.84)	(4.11)	(3.48)	(4.36)	(3.86)	(0.82)
	α	0.14	0.04	0.07	0.07	0.06	0.08	0.12	0.10	0.15	0.12	−0.02
		(3.01)	(0.95)	(1.44)	(1.66)	(1.66)	(1.94)	(3.02)	(2.15)	(3.56)	(2.27)	(−0.28)
NAIC 2	Excess Return	0.41	0.35	0.36	0.30	0.34	0.30	0.38	0.43	0.48	0.54	0.12
		(5.24)	(4.78)	(4.90)	(4.09)	(4.68)	(4.16)	(4.80)	(4.77)	(5.01)	(4.67)	(1.36)
	α	0.19	0.13	0.15	0.08	0.14	0.10	0.14	0.19	0.18	0.17	−0.01
		(3.16)	(2.51)	(3.12)	(1.75)	(3.22)	(2.37)	(3.18)	(3.77)	(3.96)	(3.52)	(−0.16)
NAIC Avg.	Excess Return	0.39	0.31	0.32	0.28	0.30	0.30	0.35	0.37	0.44	0.48	0.09
		(5.28)	(4.37)	(4.47)	(4.07)	(4.34)	(4.15)	(4.71)	(4.40)	(4.92)	(4.44)	(1.21)
	α	0.16	0.09	0.11	0.08	0.10	0.09	0.13	0.14	0.17	0.15	−0.02
		(3.51)	(1.94)	(2.53)	(1.92)	(2.87)	(2.53)	(3.95)	(3.99)	(5.11)	(3.53)	(−0.25)

Table IA-12: Portfolio Alphas - 1978-1992 versus 1993-2014 - Barclays Factor Models

This table presents the alphas of zero-cost long-short portfolios formed by sorting on NIG proximity or systematic risk exposure for the 1978-1992 and the 1993-2014 periods. The methodology is identical to that used to generate Table 7 of the main paper, except that we replace DEF with $DEF_{Barclays}$ in the factor model we use to estimate alphas. We define $DEF_{Barclays}$ to be the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

Period	Value	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB	β^{CBMKT} 10−1	β^{TERM} 10−1	β^{DEF} 10−1
1978-1992	α	0.01	−0.04	−0.00	−0.05	−0.05	−0.05	0.07
		(0.13)	(−1.07)	(−0.04)	(−1.33)	(−0.83)	(−0.87)	(1.03)
1993-2014	α	0.15	0.12	0.14	0.09	−0.27	−0.33	0.00
		(2.98)	(3.08)	(3.29)	(2.11)	(−4.83)	(−5.49)	(0.00)
1978-2014	α	0.01	−0.04	−0.00	−0.05	−0.05	−0.05	0.07
		(0.11)	(−0.89)	(−0.03)	(−1.06)	(−0.77)	(−0.75)	(0.91)
	α^{1993}	0.14	0.16	0.14	0.14	−0.22	−0.28	−0.07
		(1.91)	(2.82)	(2.18)	(2.30)	(−2.58)	(−3.14)	(−0.71)

Table IA-13: Performance of Portfolios Sorted on $\beta^{CBMKT}_{Barclays}$ - 1993-2014

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on $\beta^{CBMKT}_{Barclays}$. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sorting variable is $\beta^{CBMKT}_{Barclays}$. $\beta^{CBMKT}_{Barclays}$ is the estimated exposure to $CBMKT_{Barclays}$, the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

		$\beta^{CBMKT}_{Barclays}$ 1	$\beta^{CBMKT}_{Barclays}$ 2	$\beta^{CBMKT}_{Barclays}$ 3	$\beta^{CBMKT}_{Barclays}$ 4	$\beta^{CBMKT}_{Barclays}$ 5	$\beta^{CBMKT}_{Barclays}$ 6	$\beta^{CBMKT}_{Barclays}$ 7	$\beta^{CBMKT}_{Barclays}$ 8	$\beta^{CBMKT}_{Barclays}$ 9	$\beta^{CBMKT}_{Barclays}$ 10	$\beta^{CBMKT}_{Barclays}$ 10 − 1
	Value											
Unconditional	Excess Return	0.32	0.26	0.24	0.26	0.28	0.36	0.39	0.43	0.47	0.50	0.17
		(8.29)	(4.76)	(4.25)	(3.89)	(4.07)	(4.23)	(4.44)	(4.24)	(3.99)	(3.54)	(1.45)
	α	0.20	0.06	0.03	0.00	0.01	0.02	0.03	0.00	−0.05	−0.12	−0.33
		(7.54)	(1.71)	(0.83)	(0.08)	(0.25)	(0.51)	(0.77)	(0.06)	(−1.33)	(−2.61)	(−5.45)
NAIC 1	Excess Return	0.28	0.24	0.22	0.24	0.30	0.33	0.39	0.39	0.45	0.46	0.18
		(6.94)	(4.46)	(3.75)	(3.63)	(3.98)	(3.66)	(4.28)	(3.65)	(3.76)	(3.23)	(1.50)
	α	0.16	0.05	0.00	0.00	0.00	−0.00	0.04	−0.06	−0.04	−0.15	−0.30
		(5.70)	(1.51)	(0.15)	(0.02)	(0.10)	(−0.06)	(0.98)	(−1.40)	(−0.94)	(−2.58)	(−4.62)
NAIC 2	Excess Return	0.39	0.28	0.30	0.29	0.29	0.40	0.38	0.47	0.48	0.57	0.18
		(8.40)	(4.34)	(4.30)	(4.15)	(3.84)	(4.40)	(4.08)	(4.56)	(4.08)	(3.92)	(1.41)
	α	0.28	0.06	0.06	0.04	0.02	0.05	0.01	0.05	−0.06	−0.08	−0.37
		(7.46)	(1.17)	(1.18)	(0.84)	(0.46)	(1.03)	(0.16)	(1.03)	(−1.26)	(−1.48)	(−5.31)
NAIC Avg.	Excess Return	0.34	0.26	0.26	0.27	0.30	0.36	0.39	0.43	0.46	0.51	0.18
		(8.67)	(4.74)	(4.32)	(4.17)	(4.29)	(4.29)	(4.42)	(4.27)	(4.03)	(3.66)	(1.51)
	α	0.22	0.05	0.03	0.02	0.01	0.03	0.02	−0.00	−0.05	−0.11	−0.33
		(8.70)	(1.57)	(0.95)	(0.59)	(0.46)	(0.71)	(0.64)	(−0.07)	(−1.40)	(−2.47)	(−5.80)

Table IA-14: Performance of Portfolios Sorted on $\beta^{DEF}_{Barclays}$ - 1993-2014

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on $\beta^{DEF}_{Barclays}$. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sorting variable is $\beta^{DEF}_{Barclays}$. $\beta^{DEF}_{Barclays}$ is the estimated exposure to $DEF_{Barclays}$, the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

	Value	$\beta^{DEF}_{Barclays}$ 1	$\beta^{DEF}_{Barclays}$ 2	$\beta^{DEF}_{Barclays}$ 3	$\beta^{DEF}_{Barclays}$ 4	$\beta^{DEF}_{Barclays}$ 5	$\beta^{DEF}_{Barclays}$ 6	$\beta^{DEF}_{Barclays}$ 7	$\beta^{DEF}_{Barclays}$ 8	$\beta^{DEF}_{Barclays}$ 9	$\beta^{DEF}_{Barclays}$ 10	$\beta^{DEF}_{Barclays}$ $10-1$
Unconditional	Excess Return	0.35	0.31	0.28	0.30	0.30	0.33	0.35	0.36	0.38	0.49	0.14
		(4.89)	(4.44)	(4.01)	(4.39)	(4.09)	(4.57)	(4.52)	(4.21)	(4.16)	(4.46)	(1.81)
	α	0.05	0.03	−0.00	0.02	−0.00	0.04	0.04	0.03	0.00	0.03	−0.02
		(1.46)	(0.73)	(−0.08)	(0.81)	(−0.07)	(1.40)	(1.40)	(0.70)	(0.03)	(0.64)	(−0.29)
NAIC 1	Excess Return	0.32	0.30	0.24	0.27	0.28	0.34	0.33	0.34	0.33	0.46	0.14
		(4.16)	(4.14)	(3.41)	(3.82)	(3.81)	(4.40)	(3.98)	(3.84)	(3.44)	(4.13)	(1.77)
	α	0.00	0.02	−0.04	−0.01	−0.01	0.04	0.02	0.04	−0.05	0.03	0.03
		(0.00)	(0.44)	(−0.99)	(−0.31)	(−0.20)	(1.27)	(0.45)	(0.86)	(−1.14)	(0.51)	(0.37)
NAIC 2	Excess Return	0.38	0.40	0.34	0.34	0.36	0.34	0.37	0.44	0.39	0.56	0.18
		(5.06)	(5.79)	(4.51)	(4.58)	(4.88)	(4.65)	(4.20)	(4.64)	(4.02)	(4.75)	(1.93)
	α	0.12	0.14	0.04	0.05	0.06	0.04	0.02	0.10	−0.01	0.04	−0.08
		(2.28)	(3.32)	(0.94)	(1.23)	(1.53)	(1.08)	(0.39)	(1.70)	(−0.18)	(0.86)	(−0.94)
NAIC Avg.	Excess Return	0.35	0.35	0.29	0.30	0.32	0.34	0.35	0.39	0.36	0.51	0.16
		(4.87)	(5.13)	(4.13)	(4.37)	(4.52)	(4.72)	(4.38)	(4.64)	(3.91)	(4.60)	(2.03)
	α	0.06	0.08	0.00	0.02	0.03	0.04	0.02	0.07	−0.03	0.04	−0.02
		(1.59)	(2.16)	(0.07)	(0.69)	(0.91)	(1.52)	(0.64)	(1.93)	(−0.88)	(0.81)	(−0.34)

Table IA-15: Portfolio Alphas - 1978-1992 versus 1993-2014 - $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$

This table presents the alphas of portfolios formed by sorting on systematic risk exposure for the 1978-1992 and the 1993-2014 periods. The methodology is identical to that used to generate Table 7 of the main paper, except that the measures of systematic risk exposure are $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$. $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$ are the estimated exposures to $CBMKT_{Barclays}$ and $DEF_{Barclays}$, respectively. $DEF_{Barclays}$ is the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

Period	Value	$\beta^{CBMKT}_{Barclays}$ 1	$\beta^{CBMKT}_{Barclays}$ 10	$\beta^{CBMKT}_{Barclays}$ 10−1	$\beta^{DEF}_{Barclays}$ 1	$\beta^{DEF}_{Barclays}$ 10	$\beta^{DEF}_{Barclays}$ 10−1
1978-1992	α	0.05	0.00	−0.05	−0.03	0.05	0.08
		(2.04)	(0.03)	(−0.87)	(−0.74)	(1.31)	(1.16)
1993-2014	α	0.20	−0.12	−0.33	0.05	0.03	−0.02
		(7.54)	(−2.61)	(−5.45)	(1.46)	(0.64)	(−0.29)
1978-2014	α	0.05	0.00	−0.05	−0.03	0.05	0.08
		(1.76)	(0.02)	(−0.76)	(−0.70)	(0.95)	(0.98)
	α^{1993}	0.15	−0.13	−0.27	0.08	−0.02	−0.10
		(3.79)	(−1.83)	(−3.10)	(1.49)	(−0.27)	(−0.95)

Table IA-16: Performance of Portfolios Sorted on $\beta^{CBMKT}_{Barclays}$ - 1993-2014 - Barclays Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on $\beta^{CBMKT}_{Barclays}$. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sorting variable is $\beta^{CBMKT}_{Barclays}$ and alphas are from a factor model in which DEF is replaced by $DEF_{Barclays}$. $\beta^{CBMKT}_{Barclays}$ is the estimated exposure to $CBMKT_{Barclays}$, the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return. $DEF_{Barclays}$ is the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$.

	Value	$\beta^{CBMKT}_{Barclays}$ 1	$\beta^{CBMKT}_{Barclays}$ 2	$\beta^{CBMKT}_{Barclays}$ 3	$\beta^{CBMKT}_{Barclays}$ 4	$\beta^{CBMKT}_{Barclays}$ 5	$\beta^{CBMKT}_{Barclays}$ 6	$\beta^{CBMKT}_{Barclays}$ 7	$\beta^{CBMKT}_{Barclays}$ 8	$\beta^{CBMKT}_{Barclays}$ 9	$\beta^{CBMKT}_{Barclays}$ 10	$\beta^{CBMKT}_{Barclays}$ 10 − 1
Unconditional	$\beta^{CBMKT}_{Barclays,Post}$	0.29	0.42	0.48	0.53	0.60	0.75	0.81	0.94	1.11	1.35	1.06
		(16.37)	(18.56)	(22.66)	(19.72)	(25.13)	(27.53)	(30.70)	(33.77)	(39.21)	(43.71)	(29.64)
	Excess Return	0.32	0.26	0.24	0.26	0.28	0.36	0.39	0.43	0.47	0.50	0.17
		(8.29)	(4.76)	(4.25)	(3.89)	(4.07)	(4.23)	(4.44)	(4.24)	(3.99)	(3.54)	(1.45)
	α	0.25	0.12	0.10	0.08	0.10	0.12	0.13	0.12	0.08	0.02	−0.23
		(8.48)	(3.26)	(2.70)	(1.77)	(2.56)	(2.70)	(3.01)	(2.72)	(1.93)	(0.36)	(−4.09)
NAIC 1	$\beta^{CBMKT}_{Barclays,Post}$	0.30	0.41	0.48	0.53	0.64	0.76	0.83	0.99	1.08	1.35	1.05
		(16.65)	(18.62)	(22.35)	(19.59)	(23.80)	(23.69)	(28.95)	(31.64)	(30.97)	(36.60)	(25.97)
	Excess Return	0.28	0.24	0.22	0.24	0.30	0.33	0.39	0.39	0.45	0.46	0.18
		(6.94)	(4.46)	(3.75)	(3.63)	(3.98)	(3.66)	(4.28)	(3.65)	(3.76)	(3.23)	(1.50)
	α	0.21	0.12	0.08	0.08	0.10	0.11	0.14	0.07	0.09	−0.01	−0.21
		(6.94)	(3.15)	(2.16)	(1.88)	(2.24)	(2.06)	(3.10)	(1.42)	(1.64)	(−0.10)	(−3.33)
NAIC 2	$\beta^{CBMKT}_{Barclays,Post}$	0.27	0.44	0.49	0.51	0.59	0.72	0.78	0.91	1.10	1.38	1.11
		(11.30)	(14.06)	(15.02)	(16.41)	(18.22)	(20.14)	(22.16)	(26.85)	(35.74)	(41.19)	(27.89)
	Excess Return	0.39	0.28	0.30	0.29	0.29	0.40	0.38	0.47	0.48	0.57	0.18
		(8.40)	(4.34)	(4.30)	(4.15)	(3.84)	(4.40)	(4.08)	(4.56)	(4.08)	(3.92)	(1.41)
	α	0.33	0.12	0.14	0.12	0.11	0.15	0.11	0.17	0.06	0.06	−0.27
		(8.21)	(2.32)	(2.48)	(2.19)	(1.99)	(2.56)	(1.84)	(2.93)	(1.26)	(1.17)	(−4.19)
NAIC Avg.	$\beta^{CBMKT}_{Barclays,Post}$	0.29	0.43	0.49	0.52	0.61	0.74	0.80	0.95	1.09	1.37	1.08
		(16.76)	(18.67)	(20.62)	(21.07)	(27.55)	(26.61)	(31.21)	(35.62)	(39.05)	(46.36)	(31.31)
	Excess Return	0.34	0.26	0.26	0.27	0.30	0.36	0.39	0.43	0.46	0.51	0.18
		(8.67)	(4.74)	(4.32)	(4.17)	(4.29)	(4.29)	(4.42)	(4.27)	(4.03)	(3.66)	(1.51)
	α	0.27	0.12	0.11	0.10	0.10	0.13	0.13	0.12	0.07	0.03	−0.24
		(9.49)	(3.11)	(2.72)	(2.39)	(2.79)	(2.79)	(2.92)	(2.72)	(1.73)	(0.64)	(−4.47)

Table IA-17: Performance of Portfolios Sorted on $\beta^{DEF}_{Barclays}$ - 1993-2014 - Barclays Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on $\beta^{DEF}_{Barclays}$. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sorting variable is $\beta^{DEF}_{Barclays}$ and alphas are from a factor model in which DEF is replaced by $DEF_{Barclays}$. $\beta^{DEF}_{Barclays}$ is the estimated exposure to $DEF_{Barclays}$. $DEF_{Barclays}$ is the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

	Value	$\beta^{DEF}_{Barclays}$ 1	$\beta^{DEF}_{Barclays}$ 2	$\beta^{DEF}_{Barclays}$ 3	$\beta^{DEF}_{Barclays}$ 4	$\beta^{DEF}_{Barclays}$ 5	$\beta^{DEF}_{Barclays}$ 6	$\beta^{DEF}_{Barclays}$ 7	$\beta^{DEF}_{Barclays}$ 8	$\beta^{DEF}_{Barclays}$ 9	$\beta^{DEF}_{Barclays}$ 10	$\beta^{DEF}_{Barclays}$ 10 − 1
Unconditional	$\beta^{DEF}_{Barclays,Post}$	0.51	0.39	0.46	0.49	0.56	0.61	0.65	0.74	0.85	1.07	0.57
		(15.69)	(10.63)	(13.97)	(16.55)	(18.85)	(21.73)	(23.34)	(24.23)	(30.15)	(29.81)	(11.20)
	Excess Return	0.35	0.31	0.28	0.30	0.30	0.33	0.35	0.36	0.38	0.49	0.14
		(4.89)	(4.44)	(4.01)	(4.39)	(4.09)	(4.57)	(4.52)	(4.21)	(4.16)	(4.46)	(1.81)
	α	0.13	0.10	0.08	0.10	0.08	0.13	0.13	0.13	0.11	0.16	0.04
		(3.13)	(2.10)	(1.81)	(2.74)	(2.07)	(3.68)	(3.71)	(3.28)	(3.20)	(3.49)	(0.55)
NAIC 1	$\beta^{DEF}_{Barclays,Post}$	0.52	0.41	0.45	0.50	0.52	0.61	0.63	0.67	0.86	0.99	0.46
		(15.15)	(10.73)	(12.37)	(16.29)	(16.66)	(19.18)	(17.58)	(17.55)	(23.72)	(24.03)	(8.36)
	Excess Return	0.32	0.30	0.24	0.27	0.28	0.34	0.33	0.34	0.33	0.46	0.14
		(4.16)	(4.14)	(3.41)	(3.82)	(3.81)	(4.40)	(3.98)	(3.84)	(3.44)	(4.13)	(1.77)
	α	0.08	0.09	0.04	0.07	0.08	0.14	0.11	0.13	0.07	0.16	0.08
		(1.78)	(1.88)	(0.90)	(1.79)	(1.87)	(3.43)	(2.42)	(2.81)	(1.45)	(3.00)	(1.11)
NAIC 2	$\beta^{DEF}_{Barclays,Post}$	0.43	0.33	0.49	0.53	0.58	0.57	0.72	0.77	0.93	1.19	0.75
		(9.77)	(8.49)	(12.36)	(14.00)	(16.94)	(16.66)	(18.63)	(16.10)	(24.84)	(29.06)	(12.68)
	Excess Return	0.38	0.40	0.34	0.34	0.36	0.34	0.37	0.44	0.39	0.56	0.18
		(5.06)	(5.79)	(4.51)	(4.58)	(4.88)	(4.65)	(4.20)	(4.64)	(4.02)	(4.75)	(1.93)
	α	0.19	0.20	0.12	0.13	0.14	0.13	0.12	0.21	0.11	0.18	−0.01
		(3.37)	(4.23)	(2.38)	(2.78)	(3.11)	(2.82)	(2.38)	(3.34)	(2.20)	(3.49)	(−0.10)
NAIC Avg.	$\beta^{DEF}_{Barclays,Post}$	0.48	0.37	0.47	0.52	0.55	0.59	0.68	0.72	0.89	1.09	0.61
		(13.97)	(10.52)	(13.80)	(16.98)	(19.27)	(21.28)	(24.14)	(23.01)	(31.78)	(32.15)	(12.02)
	Excess Return	0.35	0.35	0.29	0.30	0.32	0.34	0.35	0.39	0.36	0.51	0.16
		(4.87)	(5.13)	(4.13)	(4.37)	(4.52)	(4.72)	(4.38)	(4.64)	(3.91)	(4.60)	(2.03)
	α	0.13	0.15	0.08	0.10	0.11	0.13	0.11	0.17	0.09	0.17	0.04
		(3.10)	(3.33)	(1.88)	(2.63)	(2.87)	(3.70)	(3.23)	(4.29)	(2.39)	(3.87)	(0.54)

Table IA-18: Portfolio Alphas - 1978-1992 versus 1993-2014 - $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$, Barclays Factor Models

This table presents the alphas of zero-cost long-short portfolios formed by sorting on systematic risk exposure for the 1978-1992 and the 1993-2014 periods. The methodology is identical to that used to generate Table 7 of the main paper, except that the measures of systematic risk exposure are $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$, and alphas are from a factor model in which DEF is replaced by $DEF_{Barclays}$. $\beta^{CBMKT}_{Barclays}$ and $\beta^{DEF}_{Barclays}$ are the estimated exposures to $CBMKT_{Barclays}$ and $DEF_{Barclays}$, respectively. $DEF_{Barclays}$ is the component of $CBMKT_{Barclays}$ that is orthogonal to $TERM$, where $CBMKT_{Barclays}$ is the Barclays U.S. investment-grade corporate bond index return minus the one-month U.S. Treasury return.

Period	Value	$\beta^{CBMKT}_{Barclays}$ 10−1	$\beta^{DEF}_{Barclays}$ 10−1
1978-1992	α	−0.05	0.08
		(−0.86)	(1.16)
1993-2014	α	−0.23	0.04
		(−4.09)	(0.55)
1978-2014	α	−0.05	0.08
		(−0.78)	(1.01)
	α^{1993}	−0.18	−0.04
		(−2.09)	(−0.41)

Table IA-19: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Alternative Factor Models

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that alphas are from either a single-factor model with $CBMKT$ as the only factor (α_{CBMKT}) or a two-factor model with $TERM$ and DEF as the two factors ($\alpha_{TERM+DEF}$).

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB
α_{CBMKT}	−0.02	0.03	−0.00	0.05	0.15	0.17	0.12	0.16	0.10
	(−0.84)	(1.19)	(−0.15)	(1.91)	(3.51)	(3.29)	(3.06)	(3.48)	(2.44)
$\alpha_{TERM+DEF}$	−0.01	0.03	−0.00	0.05	0.15	0.16	0.12	0.15	0.10
	(−0.77)	(1.20)	(−0.07)	(1.89)	(3.51)	(3.32)	(3.07)	(3.52)	(2.41)

Table IA-20: Performance of Portfolios Sorted on β^{CBMKT} - 1993-2014 - Alternative Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that alphas are from either a single-factor model with $CBMKT$ as the only factor (α_{CBMKT}) or a two-factor model with $TERM$ and DEF as the two factors ($\alpha_{TERM+DEF}$).

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	α_{CBMKT}	0.22	0.03	0.04	0.02	−0.03	0.02	0.02	−0.00	−0.02	−0.10	−0.32
		(8.07)	(1.04)	(1.09)	(0.56)	(−0.91)	(0.61)	(0.57)	(−0.07)	(−0.64)	(−2.09)	(−5.04)
	$\alpha_{TERM+DEF}$	0.21	0.03	0.04	0.02	−0.03	0.02	0.02	−0.00	−0.02	−0.09	−0.31
		(8.14)	(0.99)	(1.05)	(0.53)	(−0.92)	(0.61)	(0.59)	(−0.00)	(−0.54)	(−2.08)	(−5.22)
NAIC 1	α_{CBMKT}	0.16	0.04	0.03	−0.00	−0.03	−0.01	−0.02	−0.04	−0.05	−0.12	−0.28
		(6.15)	(1.46)	(0.94)	(−0.13)	(−0.78)	(−0.36)	(−0.60)	(−1.02)	(−1.10)	(−2.15)	(−4.17)
	$\alpha_{TERM+DEF}$	0.16	0.04	0.03	−0.00	−0.03	−0.01	−0.02	−0.04	−0.04	−0.11	−0.27
		(6.17)	(1.44)	(0.90)	(−0.12)	(−0.78)	(−0.32)	(−0.55)	(−0.95)	(−1.02)	(−2.16)	(−4.35)
NAIC 2	α_{CBMKT}	0.27	0.08	0.08	0.04	−0.01	0.05	0.11	0.04	0.00	−0.05	−0.31
		(7.48)	(1.58)	(1.76)	(0.75)	(−0.16)	(1.39)	(1.84)	(0.73)	(0.01)	(−0.82)	(−4.39)
	$\alpha_{TERM+DEF}$	0.26	0.08	0.07	0.04	−0.01	0.05	0.11	0.04	0.00	−0.04	−0.31
		(7.52)	(1.54)	(1.71)	(0.70)	(−0.16)	(1.37)	(1.81)	(0.71)	(0.02)	(−0.76)	(−4.41)
NAIC Avg.	α_{CBMKT}	0.21	0.06	0.06	0.02	−0.02	0.02	0.04	−0.00	−0.02	−0.08	−0.29
		(8.53)	(1.84)	(1.75)	(0.53)	(−0.65)	(0.62)	(1.22)	(−0.02)	(−0.63)	(−1.79)	(−4.94)
	$\alpha_{TERM+DEF}$	0.21	0.06	0.05	0.02	−0.02	0.02	0.04	0.00	−0.02	−0.07	−0.29
		(8.65)	(1.80)	(1.71)	(0.49)	(−0.66)	(0.63)	(1.23)	(0.03)	(−0.55)	(−1.75)	(−5.12)

Table IA-21: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Alternative Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that alphas are from either a single-factor model with $CBMKT$ as the only factor (α_{CBMKT}) or a two-factor model with $TERM$ and DEF as the two factors ($\alpha_{TERM+DEF}$).

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	α_{CBMKT}	0.19	0.11	0.05	0.03	0.01	0.00	−0.02	−0.03	−0.08	−0.13	−0.32
		(4.62)	(3.80)	(1.89)	(0.69)	(0.41)	(0.06)	(−0.53)	(−0.83)	(−1.92)	(−2.22)	(−3.78)
	$\alpha_{TERM+DEF}$	0.18	0.11	0.05	0.02	0.01	0.00	−0.01	−0.03	−0.07	−0.12	−0.30
		(5.12)	(3.89)	(1.84)	(0.63)	(0.38)	(0.08)	(−0.46)	(−0.74)	(−1.95)	(−2.53)	(−4.86)
NAIC 1	α_{CBMKT}	0.14	0.09	0.04	0.00	−0.00	−0.02	−0.06	−0.04	−0.12	−0.18	−0.32
		(3.35)	(2.78)	(1.34)	(0.05)	(−0.09)	(−0.48)	(−1.56)	(−0.82)	(−2.84)	(−2.65)	(−3.58)
	$\alpha_{TERM+DEF}$	0.13	0.08	0.04	0.00	−0.00	−0.02	−0.06	−0.03	−0.11	−0.16	−0.29
		(3.49)	(2.75)	(1.29)	(0.02)	(−0.12)	(−0.44)	(−1.51)	(−0.73)	(−3.01)	(−3.15)	(−4.56)
NAIC 2	α_{CBMKT}	0.22	0.16	0.07	0.06	0.04	0.06	−0.00	0.01	−0.03	−0.03	−0.26
		(4.37)	(3.40)	(1.62)	(1.52)	(1.13)	(1.18)	(−0.09)	(0.20)	(−0.52)	(−0.49)	(−2.68)
	$\alpha_{TERM+DEF}$	0.21	0.15	0.07	0.06	0.04	0.06	−0.00	0.01	−0.02	−0.02	−0.23
		(4.83)	(3.41)	(1.57)	(1.47)	(1.11)	(1.14)	(−0.04)	(0.26)	(−0.42)	(−0.34)	(−3.06)
NAIC Avg.	α_{CBMKT}	0.18	0.12	0.06	0.03	0.02	0.02	−0.03	−0.01	−0.08	−0.11	−0.29
		(4.50)	(4.00)	(1.91)	(0.96)	(0.69)	(0.66)	(−0.94)	(−0.32)	(−1.77)	(−1.78)	(−3.39)
	$\alpha_{TERM+DEF}$	0.17	0.12	0.05	0.03	0.02	0.02	−0.03	−0.01	−0.07	−0.09	−0.26
		(5.06)	(4.05)	(1.87)	(0.91)	(0.66)	(0.65)	(−0.89)	(−0.22)	(−1.77)	(−1.99)	(−4.37)

Table IA-22: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Alternative Factor Models

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that alphas are from either a single-factor model with $CBMKT$ as the only factor (α_{CBMKT}) or a two-factor model with $TERM$ and DEF as the two factors ($\alpha_{TERM+DEF}$).

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	α_{CBMKT}	0.10	0.05	0.00	−0.01	−0.01	−0.01	0.03	0.02	0.04	0.03	−0.07
		(2.51)	(1.32)	(0.12)	(−0.31)	(−0.24)	(−0.46)	(0.88)	(0.48)	(1.20)	(0.68)	(−1.03)
	$\alpha_{TERM+DEF}$	0.10	0.06	0.01	−0.01	−0.00	−0.01	0.03	0.02	0.04	0.03	−0.08
		(2.68)	(1.48)	(0.20)	(−0.25)	(−0.18)	(−0.40)	(0.95)	(0.48)	(1.20)	(0.62)	(−1.16)
NAIC 1	α_{CBMKT}	0.07	−0.01	−0.01	−0.01	−0.03	−0.02	0.00	−0.04	0.03	−0.02	−0.09
		(1.79)	(−0.26)	(−0.34)	(−0.29)	(−0.98)	(−0.47)	(0.05)	(−0.76)	(0.70)	(−0.31)	(−1.20)
	$\alpha_{TERM+DEF}$	0.08	−0.01	−0.01	−0.01	−0.03	−0.01	0.00	−0.03	0.03	−0.02	−0.10
		(1.98)	(−0.15)	(−0.26)	(−0.22)	(−0.93)	(−0.40)	(0.13)	(−0.72)	(0.71)	(−0.31)	(−1.28)
NAIC 2	α_{CBMKT}	0.15	0.09	0.08	0.03	0.06	0.02	0.07	0.07	0.09	0.07	−0.08
		(2.73)	(1.95)	(2.00)	(0.67)	(1.53)	(0.45)	(1.72)	(1.64)	(2.16)	(1.37)	(−0.97)
	$\alpha_{TERM+DEF}$	0.15	0.10	0.08	0.03	0.06	0.02	0.07	0.07	0.09	0.06	−0.09
		(2.81)	(2.11)	(2.06)	(0.71)	(1.56)	(0.46)	(1.73)	(1.63)	(2.12)	(1.31)	(−1.12)
NAIC Avg.	α_{CBMKT}	0.11	0.04	0.04	0.01	0.01	0.00	0.03	0.02	0.06	0.03	−0.09
		(2.68)	(1.02)	(1.03)	(0.26)	(0.53)	(0.01)	(1.38)	(0.57)	(2.00)	(0.65)	(−1.22)
	$\alpha_{TERM+DEF}$	0.12	0.05	0.04	0.01	0.02	0.00	0.04	0.02	0.06	0.02	−0.09
		(2.85)	(1.19)	(1.12)	(0.33)	(0.59)	(0.07)	(1.45)	(0.60)	(1.98)	(0.59)	(−1.36)

Table IA-23: Portfolio Alphas - 1978-1992 versus 1993-2014 - Alternative Factor Models

This table presents the alphas of portfolios formed by sorting on NIG proximity or systematic risk exposure for the 1978-1992 and the 1993-2014 periods. The methodology is identical to that used to generate Table 7 of the main paper, except that alphas are from either a single-factor model with $CBMKT$ as the only factor (α_{CBMKT}) or a two-factor model with $TERM$ and DEF as the two factors ($\alpha_{TERM+DEF}$).

Period	Value	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB	β^{CBMKT} 1	β^{CBMKT} 10	β^{CBMKT} 10−1	β^{TERM} 1	β^{TERM} 10	β^{TERM} 10−1	β^{DEF} 1	β^{DEF} 10	β^{DEF} 10−1
1978-1992	α_{CBMKT}	0.03	0.04	−0.04	0.02	−0.05	0.09	0.01	−0.09	0.10	0.00	−0.10	−0.00	0.05	0.05
		(0.67)	(0.64)	(−1.00)	(0.45)	(−1.37)	(3.25)	(0.12)	(−1.21)	(3.45)	(0.01)	(−1.36)	(−0.05)	(1.33)	(0.80)
	$\alpha_{TERM+DEF}$	0.02	0.02	−0.04	0.01	−0.05	0.09	0.02	−0.07	0.09	0.02	−0.08	−0.00	0.04	0.05
		(0.53)	(0.49)	(−1.21)	(0.29)	(−1.54)	(3.42)	(0.49)	(−1.21)	(3.61)	(0.40)	(−1.44)	(−0.06)	(1.26)	(0.74)
1993-2014	α_{CBMKT}	0.15	0.17	0.12	0.16	0.10	0.22	−0.10	−0.32	0.19	−0.13	−0.32	0.10	0.03	−0.07
		(3.51)	(3.29)	(3.06)	(3.48)	(2.44)	(8.07)	(−2.09)	(−5.04)	(4.62)	(−2.22)	(−3.78)	(2.51)	(0.68)	(−1.03)
	$\alpha_{TERM+DEF}$	0.15	0.16	0.12	0.15	0.10	0.21	−0.09	−0.31	0.18	−0.12	−0.30	0.10	0.03	−0.08
		(3.51)	(3.32)	(3.07)	(3.52)	(2.41)	(8.14)	(−2.08)	(−5.22)	(5.12)	(−2.53)	(−4.86)	(2.68)	(0.62)	(−1.16)
1978-2014	α_{CBMKT}	0.03	0.04	−0.04	0.02	−0.05	0.09	0.01	−0.09	0.10	0.00	−0.10	−0.00	0.05	0.05
		(0.65)	(0.60)	(−0.83)	(0.44)	(−1.08)	(3.05)	(0.11)	(−1.19)	(2.43)	(0.01)	(−1.10)	(−0.04)	(1.09)	(0.68)
	α^{1993}_{CBMKT}	0.12	0.13	0.16	0.13	0.15	0.12	−0.10	−0.23	0.09	−0.13	−0.22	0.10	−0.02	−0.12
		(1.83)	(1.75)	(2.80)	(1.95)	(2.60)	(3.11)	(−1.47)	(−2.39)	(1.61)	(−1.60)	(−1.88)	(1.81)	(−0.35)	(−1.24)
	$\alpha_{TERM+DEF}$	0.02	0.02	−0.04	0.01	−0.05	0.09	0.02	−0.07	0.09	0.02	−0.08	−0.00	0.04	0.05
		(0.49)	(0.44)	(−1.00)	(0.27)	(−1.21)	(3.01)	(0.42)	(−1.05)	(2.64)	(0.32)	(−1.20)	(−0.05)	(1.00)	(0.63)
	$\alpha^{1993}_{TERM+DEF}$	0.13	0.14	0.16	0.14	0.15	0.13	−0.11	−0.24	0.08	−0.13	−0.22	0.11	−0.02	−0.12
		(2.02)	(1.96)	(2.95)	(2.17)	(2.67)	(3.35)	(−1.78)	(−2.85)	(1.79)	(−2.08)	(−2.54)	(1.93)	(−0.32)	(−1.29)

Table IA-24: Performance of Portfolios Sorted on NIG Proximity - 2003-2014 - Bond Liquidity Factor

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that alphas are calculated using our baseline factor model augmented with a bond liquidity factor, $BONDLIQ$. We orthogonalize $BONDLIQ$ to $TERM$ and DEF prior to running the regression, similar to our treatment of stock market factors in the main paper. The analysis covers portfolio formation (return) months t ($t+1$) from December 2002 (January 2003) to November (December) 2014, inclusive.

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB
α	0.02	0.05	0.03	0.04	0.12	0.10	0.07	0.09	0.08
	(0.74)	(1.45)	(2.38)	(1.22)	(2.65)	(1.74)	(2.17)	(1.95)	(2.18)
β_{Post}^{TERM}	0.22	0.20	0.21	0.19	0.13	−0.08	−0.07	−0.08	−0.06
	(8.14)	(7.27)	(8.06)	(6.76)	(4.40)	(−4.59)	(−6.73)	(−5.42)	(−5.61)
β_{Post}^{DEF}	0.95	0.96	0.96	1.00	1.01	0.06	0.05	0.05	0.01
	(48.91)	(34.22)	(89.72)	(34.69)	(24.29)	(0.99)	(1.69)	(1.22)	(0.42)
$\beta_{Post}^{STOCKMKT}$	−0.02	0.01	−0.01	0.01	0.02	0.04	0.01	0.03	0.01
	(−3.89)	(0.77)	(−3.75)	(0.82)	(1.21)	(2.27)	(0.88)	(2.10)	(0.75)
β_{Post}^{SMB}	0.00	−0.00	0.00	−0.01	−0.00	−0.00	0.00	−0.00	0.01
	(0.19)	(−0.05)	(0.23)	(−0.65)	(−0.01)	(−0.07)	(0.04)	(−0.07)	(0.59)
β_{Post}^{HML}	−0.00	0.01	0.00	0.01	0.03	0.03	0.02	0.03	0.02
	(−0.17)	(0.70)	(0.60)	(0.39)	(1.41)	(1.12)	(1.23)	(1.20)	(1.40)
β_{Post}^{MOM}	0.00	−0.01	−0.00	−0.01	−0.02	−0.02	−0.01	−0.01	−0.01
	(0.29)	(−1.47)	(−1.10)	(−0.77)	(−1.51)	(−1.24)	(−0.62)	(−1.18)	(−1.17)
β_{Post}^{LIQ}	−0.02	0.02	−0.01	0.02	0.05	0.07	0.03	0.06	0.03
	(−3.78)	(2.68)	(−1.89)	(2.26)	(4.67)	(4.85)	(3.70)	(4.97)	(3.74)
$\beta_{Post}^{BONDLIQ}$	−0.08	0.03	−0.03	0.01	0.18	0.27	0.16	0.21	0.17
	(−1.79)	(0.37)	(−1.17)	(0.18)	(1.80)	(1.99)	(2.06)	(2.03)	(2.08)

Table IA-25: Performance of Portfolios Sorted on β^{CBMKT} - 2003-2014 - Bond Liquidity Factor

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that alphas are calculated using our baseline factor model augmented with a bond liquidity factor, $BONDLIQ$. We orthogonalize $BONDLIQ$ to $TERM$ and DEF prior to running the regression, similar to our treatment of stock market factors in the main paper. The analysis covers portfolio formation (return) months t ($t+1$) from December 2002 (January 2003) to November (December) 2014, inclusive.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	α	0.30	0.06	0.06	0.07	0.03	0.03	0.06	0.01	−0.06	−0.15	−0.45
		(10.36)	(1.50)	(1.38)	(2.25)	(1.02)	(0.98)	(2.01)	(0.46)	(−1.68)	(−2.61)	(−6.01)
	β_{Post}^{TERM}	0.04	0.09	0.10	0.12	0.15	0.18	0.22	0.25	0.34	0.45	0.41
		(3.05)	(4.68)	(4.35)	(5.51)	(5.98)	(6.47)	(7.43)	(7.53)	(9.06)	(9.77)	(10.55)
	β_{Post}^{DEF}	0.39	0.60	0.69	0.76	0.84	0.97	1.05	1.16	1.32	1.57	1.18
		(15.41)	(17.53)	(18.44)	(26.68)	(29.04)	(35.91)	(40.80)	(41.88)	(40.21)	(29.99)	(17.67)
	$\beta_{Post}^{STOCKMKT}$	−0.01	0.01	0.00	−0.02	−0.03	−0.04	−0.04	−0.00	0.00	0.03	0.05
		(−1.66)	(0.67)	(0.03)	(−2.50)	(−3.31)	(−4.44)	(−4.54)	(−0.38)	(0.26)	(1.92)	(2.15)
	β_{Post}^{SMB}	0.01	−0.02	0.00	0.01	−0.01	0.01	0.03	−0.02	0.01	−0.00	−0.01
		(0.49)	(−1.32)	(0.00)	(0.74)	(−0.37)	(1.06)	(2.81)	(−1.07)	(0.50)	(−0.08)	(−0.25)
	β_{Post}^{HML}	−0.01	0.00	−0.01	−0.02	0.00	−0.00	−0.01	0.01	0.02	0.06	0.07
		(−0.70)	(0.17)	(−0.68)	(−1.71)	(0.14)	(−0.37)	(−0.85)	(0.85)	(1.06)	(2.17)	(1.98)
	β_{Post}^{MOM}	−0.01	−0.01	−0.05	−0.02	−0.01	−0.02	−0.02	−0.01	0.02	0.04	0.05
		(−1.25)	(−1.41)	(−4.70)	(−3.28)	(−1.34)	(−2.54)	(−2.77)	(−1.22)	(2.63)	(2.78)	(2.67)
	β_{Post}^{LIQ}	−0.00	0.01	0.03	0.01	0.01	0.01	−0.00	−0.01	−0.02	−0.00	0.00
		(−0.60)	(1.33)	(2.82)	(0.84)	(0.77)	(0.87)	(−0.54)	(−1.69)	(−2.04)	(−0.05)	(0.19)
	$\beta_{Post}^{BONDLIQ}$	0.16	−0.06	−0.11	−0.19	−0.18	−0.13	−0.09	−0.01	0.07	0.14	−0.02
		(2.49)	(−0.62)	(−1.21)	(−2.67)	(−2.49)	(−2.04)	(−1.43)	(−0.19)	(0.88)	(1.02)	(−0.15)
NAIC 1	α	0.22	0.03	0.06	0.05	0.01	0.01	0.01	−0.02	−0.01	−0.16	−0.38
		(6.88)	(0.89)	(1.70)	(1.54)	(0.39)	(0.21)	(0.28)	(−0.47)	(−0.10)	(−2.21)	(−4.18)
	β_{Post}^{TERM}	0.04	0.10	0.10	0.13	0.15	0.20	0.24	0.26	0.37	0.48	0.43
		(2.93)	(5.62)	(4.96)	(5.73)	(6.04)	(6.89)	(7.37)	(7.77)	(9.11)	(10.25)	(11.08)
	β_{Post}^{DEF}	0.44	0.56	0.64	0.75	0.83	0.96	1.09	1.14	1.36	1.53	1.09
		(16.18)	(18.93)	(19.32)	(22.55)	(26.18)	(25.80)	(27.75)	(26.83)	(26.51)	(23.41)	(13.72)
	$\beta_{Post}^{STOCKMKT}$	−0.01	−0.00	−0.04	−0.03	−0.05	−0.06	−0.05	−0.02	−0.04	0.02	0.03
		(−0.90)	(−0.43)	(−3.54)	(−3.22)	(−4.59)	(−4.64)	(−3.80)	(−1.17)	(−2.28)	(0.86)	(1.01)
	β_{Post}^{SMB}	0.01	−0.02	0.01	0.01	0.01	0.00	0.02	−0.00	0.04	0.01	0.00
		(0.37)	(−1.20)	(0.67)	(0.84)	(0.86)	(0.13)	(0.97)	(−0.13)	(1.51)	(0.23)	(0.06)
	β_{Post}^{HML}	−0.01	−0.02	−0.03	−0.05	−0.00	−0.01	0.00	0.02	−0.01	0.06	0.07
		(−0.42)	(−1.28)	(−1.56)	(−2.78)	(−0.30)	(−0.35)	(0.20)	(0.79)	(−0.19)	(1.73)	(1.56)
	β_{Post}^{MOM}	−0.00	−0.01	−0.03	−0.03	−0.01	−0.01	−0.01	−0.00	0.00	0.05	0.05
		(−0.58)	(−1.02)	(−3.17)	(−3.05)	(−1.06)	(−0.83)	(−1.13)	(−0.10)	(0.06)	(2.77)	(2.46)
	β_{Post}^{LIQ}	−0.01	−0.01	−0.00	−0.01	−0.01	−0.01	−0.04	−0.04	−0.04	−0.02	−0.01
		(−1.11)	(−0.68)	(−0.06)	(−1.20)	(−1.52)	(−0.69)	(−4.16)	(−2.87)	(−2.77)	(−1.11)	(−0.53)
	$\beta_{Post}^{BONDLIQ}$	0.11	−0.09	−0.27	−0.30	−0.25	−0.05	−0.14	−0.16	−0.07	0.07	−0.05
		(1.61)	(−1.17)	(−3.44)	(−3.72)	(−3.31)	(−0.51)	(−1.48)	(−1.53)	(−0.50)	(0.39)	(−0.24)

Table IA-25: Performance of Portfolios Sorted on β^{CBMKT} - 2003-2014 - Bond Liquidity Factor - continued

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
NAIC 2	α	0.35	0.16	0.06	0.10	0.04	0.05	0.09	0.04	−0.11	−0.16	−0.51
		(9.94)	(3.04)	(0.97)	(1.78)	(0.69)	(1.17)	(1.83)	(0.60)	(−2.28)	(−2.64)	(−6.94)
	β^{TERM}_{Post}	0.04	0.06	0.10	0.11	0.14	0.17	0.19	0.24	0.29	0.42	0.38
		(2.59)	(3.26)	(3.71)	(4.17)	(5.04)	(5.97)	(6.04)	(6.35)	(7.14)	(8.66)	(9.25)
	β^{DEF}_{Post}	0.38	0.50	0.76	0.83	0.83	0.93	1.02	1.23	1.38	1.64	1.26
		(11.87)	(11.40)	(14.45)	(17.58)	(18.48)	(22.78)	(23.69)	(23.64)	(30.62)	(29.42)	(18.30)
	$\beta^{STOCKMKT}_{Post}$	−0.01	0.00	0.02	−0.01	−0.01	−0.01	−0.01	0.02	0.05	0.07	0.08
		(−1.28)	(0.29)	(1.18)	(−0.55)	(−0.87)	(−0.49)	(−0.70)	(1.37)	(3.45)	(3.93)	(3.82)
	β^{SMB}_{Post}	−0.00	−0.00	−0.01	0.00	−0.00	0.02	0.02	−0.01	−0.03	−0.02	−0.01
		(−0.05)	(−0.20)	(−0.45)	(0.11)	(−0.17)	(0.77)	(1.16)	(−0.52)	(−1.54)	(−0.58)	(−0.45)
	β^{HML}_{Post}	−0.01	0.02	0.02	0.00	0.01	0.00	−0.00	−0.00	0.04	0.05	0.06
		(−0.50)	(0.64)	(0.60)	(0.04)	(0.47)	(0.10)	(−0.04)	(−0.03)	(1.79)	(1.70)	(1.63)
	β^{MOM}_{Post}	−0.01	−0.01	−0.05	−0.03	−0.01	−0.03	−0.03	−0.03	0.02	0.04	0.05
		(−1.70)	(−0.65)	(−3.41)	(−2.31)	(−1.08)	(−2.70)	(−2.27)	(−2.36)	(1.85)	(2.63)	(2.96)
	β^{LIQ}_{Post}	0.00	0.02	0.05	0.03	0.03	0.04	0.05	0.04	0.04	0.03	0.03
		(0.05)	(1.67)	(3.30)	(2.19)	(2.24)	(2.98)	(3.75)	(2.44)	(2.76)	(2.00)	(1.60)
	$\beta^{BONDLIQ}_{Post}$	0.21	−0.03	0.12	−0.13	−0.01	−0.12	−0.10	−0.07	0.05	0.17	−0.04
		(2.63)	(−0.24)	(0.91)	(−1.04)	(−0.07)	(−1.13)	(−0.93)	(−0.53)	(0.48)	(1.24)	(−0.26)
NAIC Avg.	α	0.29	0.09	0.06	0.08	0.02	0.03	0.05	0.01	−0.06	−0.16	−0.45
		(10.31)	(2.89)	(1.58)	(2.18)	(0.75)	(1.06)	(1.82)	(0.21)	(−1.73)	(−2.80)	(−6.08)
	β^{TERM}_{Post}	0.04	0.08	0.10	0.12	0.14	0.18	0.21	0.25	0.33	0.45	0.41
		(2.96)	(4.87)	(4.58)	(5.18)	(5.83)	(6.79)	(7.14)	(7.51)	(8.55)	(9.67)	(10.56)
	β^{DEF}_{Post}	0.41	0.53	0.70	0.79	0.83	0.95	1.05	1.19	1.37	1.58	1.18
		(16.58)	(19.19)	(20.85)	(25.23)	(28.52)	(35.26)	(42.94)	(44.40)	(47.06)	(30.43)	(17.71)
	$\beta^{STOCKMKT}_{Post}$	−0.01	0.00	−0.01	−0.02	−0.03	−0.03	−0.03	0.00	0.01	0.04	0.06
		(−1.33)	(0.00)	(−0.78)	(−2.08)	(−3.07)	(−3.58)	(−3.54)	(0.42)	(0.53)	(2.60)	(2.54)
	β^{SMB}_{Post}	0.00	−0.01	−0.00	0.01	0.00	0.01	0.02	−0.01	0.00	−0.00	−0.01
		(0.18)	(−0.79)	(−0.03)	(0.52)	(0.31)	(0.69)	(1.77)	(−0.61)	(0.18)	(−0.15)	(−0.19)
	β^{HML}_{Post}	−0.01	−0.00	−0.00	−0.02	0.00	−0.00	0.00	0.01	0.02	0.05	0.06
		(−0.56)	(−0.16)	(−0.28)	(−1.39)	(0.22)	(−0.17)	(0.12)	(0.59)	(1.13)	(2.00)	(1.78)
	β^{MOM}_{Post}	−0.01	−0.01	−0.04	−0.03	−0.01	−0.02	−0.02	−0.02	0.01	0.04	0.05
		(−1.42)	(−1.06)	(−4.18)	(−3.36)	(−1.41)	(−2.68)	(−2.86)	(−2.39)	(1.38)	(3.16)	(3.01)
	β^{LIQ}_{Post}	−0.00	0.01	0.02	0.01	0.01	0.01	0.00	0.00	−0.00	0.00	0.01
		(−0.60)	(0.97)	(2.55)	(1.10)	(0.99)	(1.85)	(0.10)	(0.13)	(−0.38)	(0.32)	(0.48)
	$\beta^{BONDLIQ}_{Post}$	0.16	−0.06	−0.08	−0.21	−0.13	−0.08	−0.12	−0.12	−0.01	0.12	−0.05
		(2.61)	(−0.81)	(−0.95)	(−2.71)	(−1.77)	(−1.23)	(−1.96)	(−1.71)	(−0.08)	(0.90)	(−0.28)

Table IA-26: Performance of Portfolios Sorted on β^{TERM} - 2003-2014 - Bond Liquidity Factor

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that alphas are calculated using our baseline factor model augmented with a bond liquidity factor, $BONDLIQ$. We orthogonalize $BONDLIQ$ to $TERM$ and DEF prior to running the regression, similar to our treatment of stock market factors in the main paper. The analysis covers portfolio formation (return) months t ($t+1$) from December 2002 (January 2003) to November (December) 2014, inclusive.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	α	0.18	0.09	0.08	0.01	0.04	0.03	0.02	−0.03	−0.07	−0.21	−0.39
		(4.44)	(3.84)	(3.03)	(0.56)	(1.37)	(0.90)	(0.70)	(−0.86)	(−1.93)	(−3.48)	(−5.25)
	β^{TERM}_{Post}	0.04	0.08	0.11	0.13	0.15	0.20	0.22	0.30	0.41	0.59	0.55
		(1.44)	(3.43)	(4.98)	(5.53)	(6.00)	(7.24)	(7.78)	(8.88)	(10.56)	(13.92)	(20.56)
	β^{DEF}_{Post}	0.93	0.78	0.75	0.85	0.89	0.96	1.02	1.17	1.37	1.42	0.49
		(22.32)	(34.45)	(31.11)	(37.06)	(31.75)	(33.60)	(40.57)	(37.51)	(38.05)	(26.75)	(6.83)
	$\beta^{STOCKMKT}_{Post}$	−0.00	−0.01	−0.01	−0.02	−0.04	−0.02	−0.02	−0.01	0.02	0.02	0.02
		(−0.42)	(−1.76)	(−1.51)	(−2.87)	(−4.88)	(−2.32)	(−2.13)	(−1.24)	(1.83)	(0.85)	(0.92)
	β^{SMB}_{Post}	−0.02	0.00	0.02	0.02	0.02	−0.00	−0.01	0.00	−0.01	0.01	0.02
		(−0.94)	(0.39)	(1.55)	(1.89)	(1.31)	(−0.13)	(−0.43)	(0.22)	(−0.57)	(0.20)	(0.67)
	β^{HML}_{Post}	0.03	−0.01	−0.01	−0.01	−0.02	0.01	0.01	0.02	0.02	0.06	0.03
		(1.56)	(−0.85)	(−0.86)	(−0.46)	(−1.80)	(0.76)	(0.61)	(1.48)	(1.07)	(2.13)	(0.88)
	β^{MOM}_{Post}	0.00	0.01	−0.01	−0.01	−0.01	−0.01	−0.01	−0.01	−0.01	0.03	0.02
		(0.42)	(0.96)	(−2.04)	(−1.60)	(−0.96)	(−1.54)	(−1.16)	(−1.47)	(−0.98)	(1.91)	(1.32)
	β^{LIQ}_{Post}	−0.01	−0.01	0.00	−0.01	−0.01	0.01	−0.00	0.00	0.02	0.03	0.04
		(−1.30)	(−1.72)	(0.60)	(−1.08)	(−1.02)	(1.08)	(−0.21)	(0.24)	(1.80)	(1.96)	(2.30)
	$\beta^{BONDLIQ}_{Post}$	0.70	0.22	−0.06	0.01	−0.18	−0.32	−0.30	−0.28	−0.36	−0.09	−0.79
		(7.77)	(4.00)	(−0.96)	(0.09)	(−2.73)	(−4.60)	(−4.93)	(−3.54)	(−4.14)	(−0.65)	(−4.76)
NAIC 1	α	0.13	0.08	0.02	0.02	0.05	0.02	−0.02	−0.04	−0.13	−0.24	−0.38
		(2.75)	(2.50)	(0.68)	(0.70)	(1.12)	(0.50)	(−0.41)	(−0.72)	(−2.55)	(−3.94)	(−4.64)
	β^{TERM}_{Post}	0.03	0.10	0.11	0.14	0.15	0.21	0.24	0.33	0.44	0.63	0.59
		(1.24)	(4.49)	(4.89)	(5.65)	(5.14)	(7.18)	(7.18)	(8.98)	(10.52)	(15.06)	(20.39)
	β^{DEF}_{Post}	0.86	0.71	0.76	0.80	0.93	0.98	1.10	1.23	1.44	1.39	0.53
		(17.30)	(24.28)	(24.28)	(24.60)	(21.90)	(26.98)	(25.43)	(26.06)	(32.01)	(25.53)	(6.86)
	$\beta^{STOCKMKT}_{Post}$	−0.02	−0.02	−0.03	−0.04	−0.07	−0.03	−0.04	−0.00	0.01	0.01	0.03
		(−1.32)	(−1.60)	(−2.64)	(−3.98)	(−5.47)	(−2.56)	(−2.70)	(−0.29)	(0.65)	(0.70)	(1.33)
	β^{SMB}_{Post}	−0.02	0.02	0.01	0.02	0.03	−0.00	0.01	−0.01	−0.03	0.02	0.03
		(−0.76)	(1.46)	(0.78)	(1.23)	(1.57)	(−0.14)	(0.44)	(−0.40)	(−1.22)	(0.60)	(0.91)
	β^{HML}_{Post}	−0.00	−0.02	−0.01	−0.04	−0.01	0.01	0.01	0.03	0.02	0.06	0.07
		(−0.16)	(−1.33)	(−0.59)	(−2.20)	(−0.71)	(0.28)	(0.28)	(1.29)	(0.78)	(2.22)	(1.78)
	β^{MOM}_{Post}	0.02	−0.01	−0.01	−0.01	0.00	−0.01	−0.01	−0.02	−0.00	0.04	0.01
		(2.01)	(−0.77)	(−0.83)	(−0.72)	(0.31)	(−0.89)	(−0.71)	(−1.90)	(−0.20)	(2.60)	(0.76)
	β^{LIQ}_{Post}	−0.05	−0.03	−0.02	−0.02	−0.03	−0.00	−0.02	−0.02	0.00	0.02	0.07
		(−4.04)	(−3.21)	(−2.11)	(−2.46)	(−2.54)	(−0.46)	(−1.59)	(−1.26)	(0.32)	(1.21)	(3.34)
	$\beta^{BONDLIQ}_{Post}$	0.64	0.05	−0.01	−0.17	−0.19	−0.33	−0.46	−0.32	−0.38	−0.03	−0.67
		(5.87)	(0.71)	(−0.18)	(−2.21)	(−1.94)	(−3.62)	(−4.39)	(−2.76)	(−3.31)	(−0.22)	(−3.70)

Table IA-26: Performance of Portfolios Sorted on β^{TERM} - 2003-2014 - Bond Liquidity Factor - continued

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
NAIC 2	α	0.19	0.15	0.06	0.07	0.02	0.04	0.08	−0.01	−0.07	−0.11	−0.30
		(3.52)	(3.26)	(1.37)	(1.41)	(0.44)	(1.13)	(2.01)	(−0.25)	(−1.07)	(−1.52)	(−3.63)
	β^{TERM}_{Post}	0.03	0.06	0.10	0.12	0.16	0.18	0.21	0.26	0.37	0.53	0.50
		(0.86)	(2.49)	(4.08)	(4.49)	(5.63)	(6.30)	(7.57)	(8.12)	(9.34)	(12.19)	(17.51)
	β^{DEF}_{Post}	1.04	0.82	0.78	0.84	0.91	0.97	0.92	1.11	1.31	1.42	0.38
		(18.84)	(19.82)	(20.62)	(19.26)	(23.45)	(27.47)	(24.90)	(29.32)	(24.07)	(21.91)	(4.49)
	$\beta^{STOCKMKT}_{Post}$	−0.00	0.01	0.02	−0.00	−0.00	0.01	−0.00	−0.00	0.03	0.02	0.03
		(−0.23)	(0.40)	(1.77)	(−0.21)	(−0.23)	(0.57)	(−0.29)	(−0.14)	(1.90)	(1.11)	(1.12)
	β^{SMB}_{Post}	−0.03	0.00	0.01	0.03	0.01	−0.00	−0.02	0.01	−0.02	0.02	0.05
		(−1.16)	(0.10)	(0.34)	(1.35)	(0.49)	(−0.12)	(−0.98)	(0.53)	(−0.63)	(0.75)	(1.41)
	β^{HML}_{Post}	0.04	0.02	0.01	−0.00	0.00	−0.00	0.02	0.02	0.02	0.04	0.00
		(1.71)	(0.81)	(0.49)	(−0.20)	(0.08)	(−0.17)	(0.94)	(1.01)	(0.74)	(1.31)	(0.02)
	β^{MOM}_{Post}	−0.02	0.01	−0.01	−0.03	−0.02	−0.02	−0.01	−0.01	−0.01	0.02	0.04
		(−1.53)	(1.28)	(−0.71)	(−2.75)	(−1.63)	(−1.75)	(−1.33)	(−0.54)	(−0.61)	(0.86)	(1.76)
	β^{LIQ}_{Post}	0.02	0.01	0.03	0.04	0.02	0.02	0.02	0.03	0.05	0.04	0.03
		(1.28)	(0.85)	(2.99)	(3.26)	(2.12)	(2.25)	(2.05)	(3.16)	(3.19)	(2.39)	(1.24)
	$\beta^{BONDLIQ}_{Post}$	0.83	0.32	0.01	−0.08	−0.09	−0.25	−0.24	−0.20	−0.16	−0.25	−1.08
		(6.73)	(3.03)	(0.08)	(−0.70)	(−0.93)	(−2.80)	(−2.58)	(−2.08)	(−1.16)	(−1.53)	(−5.76)
NAIC Avg.	α	0.16	0.12	0.04	0.05	0.03	0.03	0.03	−0.02	−0.10	−0.18	−0.34
		(4.24)	(4.82)	(1.56)	(1.61)	(1.04)	(1.10)	(1.09)	(−0.74)	(−2.25)	(−3.00)	(−4.67)
	β^{TERM}_{Post}	0.03	0.08	0.11	0.13	0.15	0.20	0.22	0.30	0.41	0.58	0.55
		(1.10)	(3.68)	(4.79)	(5.39)	(5.67)	(6.99)	(7.72)	(8.95)	(10.27)	(13.91)	(20.55)
	β^{DEF}_{Post}	0.95	0.77	0.77	0.82	0.92	0.98	1.01	1.17	1.38	1.40	0.45
		(22.65)	(35.06)	(34.12)	(31.45)	(30.68)	(36.07)	(35.89)	(39.71)	(35.23)	(26.69)	(6.20)
	$\beta^{STOCKMKT}_{Post}$	−0.01	−0.01	−0.00	−0.02	−0.04	−0.01	−0.02	−0.00	0.02	0.02	0.03
		(−1.01)	(−0.69)	(−0.33)	(−2.60)	(−3.79)	(−1.36)	(−2.33)	(−0.32)	(1.72)	(1.06)	(1.39)
	β^{SMB}_{Post}	−0.02	0.01	0.01	0.02	0.02	−0.00	−0.00	0.00	−0.02	0.02	0.04
		(−1.31)	(1.08)	(0.80)	(1.88)	(1.38)	(−0.18)	(−0.34)	(0.03)	(−1.16)	(0.78)	(1.32)
	β^{HML}_{Post}	0.02	−0.00	0.00	−0.02	−0.01	0.00	0.01	0.03	0.02	0.05	0.03
		(1.12)	(−0.12)	(0.00)	(−1.51)	(−0.41)	(0.08)	(0.88)	(1.70)	(0.98)	(1.98)	(1.00)
	β^{MOM}_{Post}	0.00	0.00	−0.01	−0.02	−0.01	−0.01	−0.01	−0.01	−0.01	0.03	0.03
		(0.18)	(0.71)	(−1.13)	(−2.74)	(−0.89)	(−1.78)	(−1.49)	(−1.89)	(−0.55)	(1.90)	(1.43)
	β^{LIQ}_{Post}	−0.02	−0.01	0.01	0.01	−0.00	0.01	0.00	0.01	0.03	0.03	0.05
		(−1.65)	(−1.35)	(1.00)	(1.23)	(−0.27)	(1.19)	(0.18)	(1.06)	(2.44)	(2.11)	(2.58)
	$\beta^{BONDLIQ}_{Post}$	0.73	0.19	−0.00	−0.13	−0.14	−0.29	−0.35	−0.26	−0.27	−0.14	−0.87
		(8.51)	(3.39)	(−0.05)	(−1.93)	(−1.92)	(−4.34)	(−5.27)	(−3.59)	(−2.75)	(−1.07)	(−5.37)

Table IA-27: Performance of Portfolios Sorted on β^{DEF} - 2003-2014 - Bond Liquidity Factor

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that alphas are calculated using our baseline factor model augmented with a bond liquidity factor, $BONDLIQ$. We orthogonalize $BONDLIQ$ to $TERM$ and DEF prior to running the regression, similar to our treatment of stock market factors in the main paper. The analysis covers portfolio formation (return) months t ($t+1$) from December 2002 (January 2003) to November (December) 2014, inclusive.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	α	0.20	0.16	0.10	0.04	0.03	0.02	0.11	0.03	−0.00	−0.10	−0.30
		(5.03)	(5.01)	(3.07)	(1.05)	(0.85)	(0.73)	(4.15)	(1.08)	(−0.07)	(−1.75)	(−3.65)
	β^{TERM}_{Post}	0.13	0.13	0.13	0.15	0.16	0.19	0.20	0.23	0.25	0.28	0.14
		(7.80)	(9.30)	(7.05)	(6.99)	(7.43)	(7.43)	(7.93)	(7.88)	(7.07)	(6.10)	(3.82)
	β^{DEF}_{Post}	0.48	0.41	0.59	0.65	0.73	0.88	0.90	1.07	1.29	1.54	1.06
		(14.01)	(14.46)	(18.83)	(18.79)	(24.27)	(34.21)	(36.61)	(50.89)	(53.78)	(27.70)	(13.97)
	$\beta^{STOCKMKT}_{Post}$	−0.02	−0.03	−0.03	−0.03	−0.02	−0.03	−0.02	−0.02	−0.01	0.03	0.05
		(−1.44)	(−2.83)	(−2.72)	(−2.27)	(−2.26)	(−3.14)	(−3.17)	(−3.18)	(−0.73)	(2.03)	(2.08)
	β^{SMB}_{Post}	0.02	0.00	0.00	−0.02	−0.01	0.00	0.01	0.01	0.02	0.00	−0.01
		(0.95)	(0.31)	(0.17)	(−0.94)	(−0.44)	(0.19)	(1.11)	(1.14)	(1.39)	(0.16)	(−0.36)
	β^{HML}_{Post}	0.01	0.00	−0.01	0.00	−0.02	−0.01	−0.02	0.00	0.01	0.04	0.03
		(0.54)	(0.22)	(−0.74)	(0.14)	(−1.54)	(−0.86)	(−1.30)	(0.19)	(0.52)	(1.63)	(0.84)
	β^{MOM}_{Post}	−0.00	−0.00	−0.02	−0.02	−0.01	−0.01	−0.02	−0.01	−0.00	0.04	0.05
		(−0.38)	(−0.55)	(−2.59)	(−1.71)	(−1.51)	(−1.74)	(−3.80)	(−1.68)	(−0.45)	(3.14)	(2.30)
	β^{LIQ}_{Post}	−0.01	−0.00	0.01	0.02	0.01	0.00	−0.01	−0.00	−0.01	−0.02	−0.02
		(−0.60)	(−0.23)	(1.18)	(1.73)	(1.61)	(0.30)	(−0.90)	(−0.68)	(−1.27)	(−1.67)	(−0.83)
	$\beta^{BONDLIQ}_{Post}$	−0.00	−0.19	−0.35	−0.27	−0.26	−0.30	−0.25	−0.06	0.10	0.85	0.86
		(−0.04)	(−2.67)	(−4.64)	(−3.13)	(−3.50)	(−4.89)	(−4.34)	(−1.17)	(1.58)	(6.86)	(4.64)
NAIC 1	α	0.18	0.08	0.07	0.04	0.00	−0.03	0.04	0.03	−0.03	−0.09	−0.26
		(3.53)	(2.46)	(1.74)	(1.04)	(0.02)	(−0.80)	(0.91)	(0.78)	(−0.63)	(−1.15)	(−2.56)
	β^{TERM}_{Post}	0.16	0.15	0.14	0.14	0.16	0.21	0.22	0.26	0.27	0.32	0.16
		(8.00)	(8.95)	(7.05)	(6.63)	(7.31)	(7.92)	(8.33)	(8.09)	(7.31)	(6.75)	(4.01)
	β^{DEF}_{Post}	0.52	0.50	0.59	0.62	0.74	0.87	0.88	1.09	1.23	1.51	0.99
		(12.27)	(17.17)	(16.88)	(16.72)	(23.94)	(26.58)	(25.34)	(28.20)	(26.76)	(21.38)	(10.84)
	$\beta^{STOCKMKT}_{Post}$	−0.02	−0.02	−0.03	−0.03	−0.03	−0.03	−0.04	−0.04	−0.01	−0.00	0.02
		(−1.49)	(−1.58)	(−2.89)	(−2.32)	(−2.62)	(−2.93)	(−3.26)	(−2.91)	(−0.86)	(−0.15)	(0.60)
	β^{SMB}_{Post}	0.04	−0.01	−0.01	−0.01	−0.02	0.01	0.02	0.03	0.02	0.01	−0.03
		(1.68)	(−0.81)	(−0.56)	(−0.56)	(−1.42)	(0.61)	(1.11)	(1.53)	(0.80)	(0.17)	(−0.68)
	β^{HML}_{Post}	−0.00	−0.01	−0.01	−0.03	−0.02	−0.03	−0.00	−0.02	−0.00	0.04	0.04
		(−0.01)	(−0.97)	(−0.65)	(−1.34)	(−1.14)	(−1.56)	(−0.00)	(−0.82)	(−0.09)	(1.24)	(0.93)
	β^{MOM}_{Post}	−0.01	−0.01	−0.02	−0.02	−0.01	−0.01	−0.01	−0.01	0.00	0.06	0.07
		(−0.66)	(−1.56)	(−1.68)	(−1.95)	(−1.67)	(−0.81)	(−0.86)	(−0.92)	(0.04)	(3.10)	(2.64)
	β^{LIQ}_{Post}	−0.01	0.01	0.01	0.01	0.00	−0.02	−0.03	−0.03	−0.04	−0.06	−0.05
		(−0.82)	(0.66)	(0.97)	(0.50)	(0.47)	(−1.62)	(−2.85)	(−3.03)	(−2.66)	(−3.03)	(−1.88)
	$\beta^{BONDLIQ}_{Post}$	−0.13	−0.26	−0.39	−0.32	−0.21	−0.24	−0.09	−0.16	0.12	0.56	0.69
		(−1.18)	(−3.68)	(−4.62)	(−3.50)	(−2.84)	(−2.91)	(−1.07)	(−1.68)	(0.98)	(3.22)	(2.99)

Table IA-27: Performance of Portfolios Sorted on β^{DEF} - 2003-2014 - Bond Liquidity Factor - continued

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
NAIC 2	α	0.25	0.21	0.18	0.12	0.09	0.10	0.09	0.04	−0.01	−0.11	−0.36
		(5.89)	(6.12)	(4.30)	(2.33)	(2.27)	(2.36)	(2.13)	(0.89)	(−0.17)	(−1.83)	(−4.41)
	β^{TERM}_{Post}	0.11	0.13	0.14	0.15	0.15	0.15	0.19	0.22	0.22	0.25	0.14
		(6.78)	(9.87)	(6.91)	(6.41)	(6.36)	(5.78)	(6.67)	(6.52)	(5.45)	(5.15)	(3.40)
	β^{DEF}_{Post}	0.41	0.35	0.58	0.65	0.73	0.82	0.93	1.11	1.37	1.63	1.22
		(11.43)	(12.13)	(16.18)	(14.31)	(19.93)	(20.51)	(24.12)	(26.69)	(29.82)	(26.98)	(15.95)
	$\beta^{STOCKMKT}_{Post}$	−0.01	−0.01	−0.02	−0.02	−0.02	0.00	−0.01	0.01	0.01	0.09	0.10
		(−1.16)	(−1.33)	(−1.84)	(−1.24)	(−1.57)	(0.35)	(−0.69)	(0.40)	(0.57)	(4.77)	(4.15)
	β^{SMB}_{Post}	−0.01	0.01	0.01	0.00	−0.01	−0.00	0.00	−0.00	0.03	−0.03	−0.02
		(−0.50)	(0.88)	(0.57)	(0.11)	(−0.32)	(−0.18)	(0.12)	(−0.02)	(1.48)	(−1.00)	(−0.49)
	β^{HML}_{Post}	0.02	0.02	0.01	0.00	−0.01	−0.03	0.01	0.01	0.01	0.04	0.02
		(1.20)	(1.31)	(0.29)	(0.02)	(−0.39)	(−1.34)	(0.38)	(0.39)	(0.51)	(1.46)	(0.47)
	β^{MOM}_{Post}	−0.00	−0.00	−0.02	−0.03	−0.01	−0.03	−0.02	−0.02	−0.01	0.02	0.02
		(−0.33)	(−0.61)	(−2.40)	(−2.29)	(−0.59)	(−3.04)	(−2.28)	(−2.12)	(−0.92)	(1.37)	(1.19)
	β^{LIQ}_{Post}	−0.00	0.00	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04
		(−0.03)	(0.20)	(2.00)	(2.42)	(2.58)	(3.09)	(2.50)	(3.14)	(2.62)	(2.47)	(1.85)
	$\beta^{BONDLIQ}_{Post}$	0.03	−0.05	−0.15	−0.22	−0.20	−0.31	−0.18	−0.13	0.13	0.78	0.76
		(0.31)	(−0.71)	(−1.67)	(−1.89)	(−2.16)	(−3.19)	(−1.84)	(−1.23)	(1.15)	(5.76)	(4.14)
NAIC Avg.	α	0.21	0.14	0.12	0.08	0.05	0.04	0.06	0.04	−0.02	−0.10	−0.31
		(5.32)	(4.86)	(3.63)	(2.12)	(1.56)	(1.35)	(2.81)	(1.72)	(−0.77)	(−1.91)	(−3.86)
	β^{TERM}_{Post}	0.13	0.14	0.14	0.14	0.15	0.18	0.20	0.24	0.24	0.28	0.15
		(7.97)	(9.83)	(7.32)	(6.91)	(7.11)	(7.25)	(8.00)	(7.77)	(6.72)	(6.20)	(3.94)
	β^{DEF}_{Post}	0.47	0.42	0.59	0.64	0.73	0.85	0.91	1.10	1.30	1.57	1.11
		(13.73)	(16.61)	(19.30)	(18.29)	(26.55)	(33.10)	(43.55)	(55.82)	(54.58)	(31.11)	(15.15)
	$\beta^{STOCKMKT}_{Post}$	−0.02	−0.01	−0.03	−0.02	−0.02	−0.01	−0.02	−0.02	−0.00	0.04	0.06
		(−1.54)	(−1.63)	(−2.77)	(−2.07)	(−2.55)	(−1.66)	(−3.42)	(−2.44)	(−0.29)	(2.65)	(2.48)
	β^{SMB}_{Post}	0.01	0.00	0.00	−0.00	−0.01	0.00	0.01	0.01	0.03	−0.01	−0.02
		(0.78)	(0.06)	(0.04)	(−0.23)	(−1.02)	(0.26)	(1.06)	(1.49)	(2.19)	(−0.45)	(−0.68)
	β^{HML}_{Post}	0.01	0.00	−0.00	−0.01	−0.01	−0.03	0.00	−0.00	0.01	0.04	0.03
		(0.63)	(0.22)	(−0.19)	(−0.70)	(−0.91)	(−2.10)	(0.36)	(−0.39)	(0.40)	(1.76)	(0.83)
	β^{MOM}_{Post}	−0.01	−0.01	−0.02	−0.02	−0.01	−0.02	−0.02	−0.02	−0.01	0.04	0.04
		(−0.59)	(−1.21)	(−2.43)	(−2.58)	(−1.35)	(−2.97)	(−2.91)	(−3.18)	(−0.85)	(3.07)	(2.29)
	β^{LIQ}_{Post}	−0.01	0.00	0.02	0.02	0.02	0.01	−0.00	0.00	−0.00	−0.01	−0.01
		(−0.52)	(0.47)	(1.78)	(1.89)	(2.03)	(1.39)	(−0.03)	(0.40)	(−0.07)	(−0.80)	(−0.26)
	$\beta^{BONDLIQ}_{Post}$	−0.05	−0.16	−0.27	−0.27	−0.21	−0.28	−0.14	−0.15	0.13	0.67	0.72
		(−0.57)	(−2.43)	(−3.65)	(−3.14)	(−3.08)	(−4.47)	(−2.67)	(−2.98)	(2.07)	(5.72)	(4.00)

Table IA-28: Performance of Portfolios Sorted on NIG Proximity - 2004-2014 - Bai, Bali, and Wen (2019) Factors

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that we use a factor model that includes, in addition to $TERM$ and DEF, the downside risk, credit risk, and liquidity risk factors from the Bai et al. (2019) model. The analysis covers portfolio formation months t (return months $t+1$) from June (July) 2004 through November (December) 2014.

Value	NAIC 1	NAIC 2 No BBB–	IG No BBB–	BBB	BBB–	[BBB–]–NAIC 1	[BBB–]–NAIC 2 No BBB–	[BBB–]–IG No BBB–	[BBB–]–BBB
Excess Return	0.39	0.43	0.40	0.44	0.48	0.09	0.06	0.08	0.04
	(3.67)	(4.08)	(3.90)	(4.06)	(4.84)	(1.48)	(1.58)	(1.56)	(1.27)
α	−0.00	0.04	0.01	0.04	0.14	0.15	0.10	0.13	0.11
	(−0.16)	(1.34)	(1.03)	(1.05)	(3.17)	(2.35)	(3.52)	(2.70)	(3.64)
β_{Post}^{TERM}	0.18	0.17	0.18	0.16	0.08	−0.10	−0.09	−0.10	−0.08
	(6.21)	(5.65)	(6.20)	(5.02)	(2.63)	(−5.55)	(−10.40)	(−6.88)	(−8.94)
β_{Post}^{DEF}	0.96	0.95	0.96	1.00	0.94	−0.02	−0.01	−0.01	−0.05
	(46.10)	(34.38)	(87.89)	(30.92)	(23.78)	(−0.33)	(−0.27)	(−0.33)	(−2.02)
β_{Post}^{DRF}	0.01	−0.01	0.00	−0.01	−0.01	−0.02	0.00	−0.01	−0.00
	(0.82)	(−0.95)	(0.14)	(−0.51)	(−0.53)	(−0.69)	(0.19)	(−0.53)	(−0.20)
β_{Post}^{CRF}	−0.04	0.04	−0.01	0.05	0.03	0.07	−0.01	0.04	−0.02
	(−2.94)	(2.12)	(−1.78)	(2.29)	(1.02)	(1.82)	(−0.68)	(1.41)	(−1.23)
β_{Post}^{LRF}	0.00	0.03	0.01	0.05	0.05	0.04	0.01	0.03	−0.00
	(0.13)	(1.37)	(1.46)	(1.83)	(1.37)	(0.94)	(0.68)	(0.91)	(−0.12)

Table IA-29: Performance of Portfolios Sorted on β^{CBMKT} 2004-2014 - Bai, Bali, and Wen (2019) Factors

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we use a factor model that includes, in addition to $TERM$ and DEF, the downside risk, credit risk, and liquidity risk factors from the Bai et al. (2019) model. The analyses cover portfolio formation months t (return months $t+1$) from June (July) 2004 through November (December) 2014.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	β^{CBMKT}_{Post}	0.31	0.49	0.56	0.65	0.75	0.90	1.01	1.17	1.44	1.76	1.45
		(14.26)	(20.52)	(21.61)	(25.94)	(29.54)	(36.21)	(45.35)	(50.46)	(51.18)	(31.95)	(21.48)
	Excess Return	0.43	0.28	0.27	0.28	0.33	0.37	0.43	0.46	0.52	0.59	0.16
		(10.43)	(4.79)	(4.06)	(3.77)	(3.87)	(3.73)	(3.91)	(3.63)	(3.34)	(2.98)	(0.92)
	α	0.28	0.10	0.06	0.04	0.04	0.02	0.02	−0.03	−0.06	−0.13	−0.42
		(12.21)	(3.56)	(1.91)	(1.22)	(1.27)	(0.58)	(0.75)	(−1.18)	(−1.92)	(−2.03)	(−5.34)
NAIC 1	β^{CBMKT}_{Post}	0.36	0.49	0.52	0.67	0.74	0.90	1.08	1.21	1.50	1.76	1.40
		(14.34)	(20.58)	(20.10)	(22.83)	(27.78)	(26.74)	(29.26)	(31.27)	(31.91)	(24.90)	(16.35)
	Excess Return	0.38	0.24	0.23	0.25	0.29	0.37	0.41	0.43	0.53	0.58	0.20
		(7.88)	(4.07)	(3.63)	(3.17)	(3.48)	(3.61)	(3.38)	(3.17)	(3.13)	(2.84)	(1.12)
	α	0.23	0.06	0.04	−0.01	0.01	0.01	−0.04	−0.08	−0.09	−0.13	−0.37
		(8.22)	(2.07)	(1.27)	(−0.18)	(0.23)	(0.25)	(−0.75)	(−1.76)	(−1.49)	(−1.60)	(−3.76)
NAIC 2	β^{CBMKT}_{Post}	0.28	0.39	0.59	0.67	0.75	0.86	0.94	1.16	1.40	1.76	1.49
		(10.22)	(12.91)	(18.01)	(15.94)	(18.89)	(23.22)	(24.11)	(33.14)	(37.09)	(32.57)	(23.29)
	Excess Return	0.46	0.33	0.33	0.34	0.35	0.40	0.45	0.46	0.51	0.60	0.14
		(10.76)	(6.00)	(4.55)	(3.91)	(3.80)	(3.96)	(4.08)	(3.54)	(3.30)	(3.05)	(0.79)
	α	0.31	0.18	0.09	0.07	0.07	0.06	0.08	−0.01	−0.04	−0.12	−0.43
		(10.53)	(4.72)	(2.50)	(1.40)	(1.48)	(1.26)	(1.53)	(−0.24)	(−0.82)	(−1.71)	(−5.48)
NAIC Avg.	β^{CBMKT}_{Post}	0.32	0.44	0.55	0.67	0.75	0.88	1.01	1.18	1.45	1.76	1.44
		(14.64)	(20.32)	(21.79)	(23.24)	(28.43)	(36.26)	(47.39)	(63.57)	(63.77)	(32.50)	(21.43)
	Excess Return	0.42	0.29	0.28	0.29	0.32	0.39	0.43	0.44	0.52	0.59	0.17
		(9.99)	(5.35)	(4.26)	(3.74)	(3.80)	(3.96)	(3.92)	(3.49)	(3.33)	(3.00)	(0.98)
	α	0.27	0.12	0.07	0.03	0.04	0.03	0.02	−0.05	−0.06	−0.13	−0.40
		(11.88)	(4.64)	(2.29)	(0.94)	(1.28)	(1.14)	(0.76)	(−2.05)	(−2.21)	(−1.91)	(−5.09)

Table IA-30: Performance of Portfolios Sorted on β^{TERM} - 2004-2014 - Bai, Bali, and Wen (2019) Factors

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we use a factor model that includes, in addition to $TERM$ and DEF, the downside risk, credit risk, and liquidity risk factors from the Bai et al. (2019) model. The analyses cover portfolio formation months t (return months $t+1$) from June (July) 2004 through November (December) 2014.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	β^{TERM}_{Post}	0.01	0.04	0.06	0.08	0.11	0.15	0.17	0.24	0.35	0.53	0.53
		(0.20)	(1.74)	(2.84)	(3.33)	(4.07)	(5.12)	(5.70)	(6.73)	(8.28)	(11.47)	(17.93)
	Excess Return	0.53	0.37	0.35	0.31	0.31	0.38	0.39	0.43	0.52	0.55	0.02
		(5.45)	(4.94)	(4.84)	(3.90)	(3.61)	(3.83)	(3.62)	(3.25)	(3.15)	(2.63)	(0.12)
	α	0.19	0.13	0.10	0.03	0.02	0.03	−0.00	−0.06	−0.09	−0.19	−0.38
		(4.14)	(4.83)	(4.15)	(1.53)	(0.75)	(1.11)	(−0.00)	(−1.75)	(−2.22)	(−2.85)	(−4.34)
NAIC 1	β^{TERM}_{Post}	0.01	0.06	0.06	0.09	0.10	0.15	0.19	0.26	0.38	0.58	0.57
		(0.17)	(2.59)	(2.66)	(3.58)	(3.47)	(5.04)	(5.29)	(6.78)	(8.30)	(12.52)	(17.80)
	Excess Return	0.46	0.34	0.28	0.28	0.30	0.38	0.35	0.45	0.50	0.54	0.08
		(4.70)	(4.77)	(3.83)	(3.38)	(3.32)	(3.68)	(2.76)	(3.12)	(2.80)	(2.47)	(0.41)
	α	0.17	0.10	0.04	0.02	0.01	0.01	−0.07	−0.09	−0.15	−0.22	−0.39
		(2.96)	(3.08)	(1.28)	(0.43)	(0.32)	(0.25)	(−1.28)	(−1.80)	(−2.92)	(−3.14)	(−3.98)
NAIC 2	β^{TERM}_{Post}	−0.01	0.03	0.06	0.07	0.10	0.13	0.16	0.21	0.30	0.47	0.48
		(−0.36)	(1.18)	(2.36)	(2.56)	(3.52)	(4.26)	(5.62)	(6.04)	(7.19)	(10.06)	(16.28)
	Excess Return	0.58	0.44	0.35	0.36	0.35	0.40	0.43	0.43	0.55	0.58	0.00
		(5.24)	(5.00)	(4.29)	(4.06)	(3.72)	(3.89)	(4.15)	(3.49)	(3.48)	(2.92)	(0.01)
	α	0.19	0.17	0.11	0.10	0.04	0.06	0.06	0.01	−0.02	−0.11	−0.30
		(3.46)	(3.58)	(2.60)	(1.92)	(0.96)	(1.44)	(1.39)	(0.29)	(−0.33)	(−1.48)	(−3.27)
NAIC Avg.	β^{TERM}_{Post}	−0.00	0.05	0.06	0.08	0.10	0.14	0.18	0.24	0.34	0.52	0.53
		(−0.11)	(1.93)	(2.70)	(3.28)	(3.69)	(4.84)	(5.74)	(6.75)	(8.01)	(11.51)	(18.09)
	Excess Return	0.52	0.39	0.32	0.32	0.33	0.39	0.39	0.44	0.52	0.56	0.04
		(5.24)	(5.24)	(4.38)	(4.01)	(3.69)	(3.92)	(3.53)	(3.41)	(3.19)	(2.71)	(0.23)
	α	0.18	0.14	0.08	0.06	0.03	0.03	−0.00	−0.04	−0.08	−0.16	−0.34
		(3.96)	(5.38)	(3.47)	(2.06)	(1.00)	(1.19)	(−0.10)	(−1.30)	(−2.08)	(−2.52)	(−3.88)

Table IA-31: Performance of Portfolios Sorted on β^{DEF} - 2004-2014 - Bai, Bali, and Wen (2019) Factors

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we use a factor model that includes, in addition to $TERM$ and DEF, the downside risk, credit risk, and liquidity risk factors from the Bai et al. (2019) model. The analyses cover portfolio formation months t (return months $t+1$) from June (July) 2004 through November (December) 2014.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	β^{DEF}_{Post}	0.42	0.37	0.56	0.62	0.74	0.87	0.92	1.10	1.33	1.59	1.17
		(12.43)	(14.54)	(16.65)	(18.36)	(24.66)	(33.43)	(37.00)	(58.46)	(56.13)	(27.19)	(15.32)
	Excess Return	0.40	0.32	0.29	0.28	0.31	0.34	0.42	0.45	0.52	0.60	0.20
		(6.76)	(6.10)	(4.22)	(3.81)	(3.76)	(3.63)	(4.06)	(3.78)	(3.71)	(3.47)	(1.43)
	α	0.22	0.15	0.08	0.04	0.03	0.02	0.03	−0.00	−0.01	−0.05	−0.27
		(5.73)	(5.03)	(2.17)	(1.06)	(0.95)	(0.78)	(1.18)	(−0.01)	(−0.37)	(−0.78)	(−3.11)
NAIC 1	β^{DEF}_{Post}	0.47	0.46	0.55	0.63	0.74	0.84	0.89	1.11	1.30	1.58	1.11
		(11.45)	(15.93)	(15.23)	(17.63)	(23.49)	(26.84)	(25.86)	(26.99)	(27.68)	(20.37)	(11.59)
	Excess Return	0.38	0.26	0.25	0.26	0.28	0.32	0.40	0.43	0.48	0.61	0.22
		(5.52)	(4.14)	(3.52)	(3.35)	(3.34)	(3.31)	(3.79)	(3.33)	(3.23)	(3.29)	(1.50)
	α	0.20	0.06	0.05	0.01	−0.00	−0.01	0.01	−0.04	−0.08	−0.04	−0.23
		(4.28)	(1.89)	(1.29)	(0.22)	(−0.13)	(−0.24)	(0.17)	(−0.81)	(−1.44)	(−0.43)	(−2.16)
NAIC 2	β^{DEF}_{Post}	0.36	0.30	0.52	0.59	0.72	0.85	0.93	1.13	1.37	1.68	1.31
		(9.76)	(11.04)	(14.73)	(13.07)	(18.58)	(21.04)	(23.97)	(26.26)	(30.64)	(27.68)	(17.53)
	Excess Return	0.43	0.37	0.38	0.35	0.36	0.36	0.44	0.46	0.52	0.61	0.19
		(7.66)	(7.72)	(5.63)	(4.63)	(4.23)	(3.76)	(4.18)	(3.72)	(3.56)	(3.43)	(1.25)
	α	0.25	0.22	0.16	0.13	0.09	0.05	0.08	0.03	0.02	−0.05	−0.30
		(5.99)	(7.03)	(3.88)	(2.43)	(1.97)	(1.09)	(1.72)	(0.57)	(0.41)	(−0.74)	(−3.52)
NAIC Avg.	β^{DEF}_{Post}	0.42	0.38	0.54	0.61	0.73	0.84	0.91	1.12	1.34	1.63	1.21
		(12.28)	(15.56)	(17.34)	(16.73)	(25.12)	(31.88)	(42.15)	(60.73)	(60.41)	(30.91)	(16.58)
	Excess Return	0.41	0.31	0.31	0.31	0.32	0.34	0.42	0.45	0.50	0.61	0.21
		(6.85)	(5.94)	(4.73)	(4.11)	(3.91)	(3.67)	(4.17)	(3.71)	(3.55)	(3.49)	(1.45)
	α	0.22	0.14	0.11	0.07	0.04	0.02	0.04	−0.01	−0.03	−0.04	−0.27
		(5.82)	(4.98)	(2.96)	(1.60)	(1.25)	(0.66)	(1.67)	(−0.24)	(−1.10)	(−0.73)	(−3.17)

Table IA-32: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Exclude Financial Crisis Period

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that the sample excludes observations during the financial crisis period from December 2007 through June 2009, inclusive.

Value	NAIC 1	NAIC 2 No BBB–	IG No BBB–	BBB	BBB–	[BBB–]–NAIC 1	[BBB–]–NAIC 2 No BBB–	[BBB–]–IG No BBB–	[BBB–]–BBB
Excess Return	0.31	0.37	0.33	0.39	0.48	0.17	0.11	0.15	0.09
	(4.13)	(4.70)	(4.39)	(4.95)	(5.68)	(3.59)	(2.68)	(3.62)	(2.09)
α	−0.02	0.02	−0.01	0.05	0.12	0.14	0.11	0.13	0.07
	(−0.79)	(0.62)	(−0.64)	(2.05)	(2.78)	(2.80)	(2.49)	(2.99)	(1.59)
β_{Post}^{TERM}	0.33	0.34	0.33	0.33	0.29	−0.04	−0.05	−0.04	−0.05
	(17.41)	(16.31)	(17.52)	(16.11)	(11.11)	(−2.32)	(−3.31)	(−2.58)	(−2.90)
β_{Post}^{DEF}	0.89	0.95	0.91	0.96	1.07	0.18	0.12	0.15	0.11
	(39.10)	(33.21)	(54.98)	(34.25)	(21.73)	(3.17)	(2.52)	(3.10)	(2.20)
$\beta_{Post}^{STOCKMKT}$	−0.02	0.01	−0.00	−0.01	0.02	0.04	0.01	0.03	0.04
	(−3.12)	(1.71)	(−0.96)	(−1.81)	(1.90)	(2.93)	(0.93)	(2.21)	(2.87)
β_{Post}^{SMB}	−0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.01
	(−0.09)	(1.34)	(0.87)	(0.63)	(0.80)	(0.75)	(0.01)	(0.50)	(0.43)
β_{Post}^{HML}	−0.01	0.02	0.00	−0.00	−0.00	0.01	−0.02	−0.00	0.00
	(−1.12)	(2.14)	(0.52)	(−0.31)	(−0.13)	(0.33)	(−1.41)	(−0.30)	(0.05)
β_{Post}^{MOM}	0.02	−0.00	0.01	0.01	−0.01	−0.03	−0.01	−0.02	−0.02
	(3.63)	(−0.56)	(2.26)	(1.36)	(−1.08)	(−2.41)	(−0.78)	(−1.84)	(−1.82)
β_{Post}^{LIQ}	−0.00	0.00	0.00	−0.00	0.01	0.01	0.01	0.00	0.01
	(−0.17)	(0.06)	(0.33)	(−0.36)	(0.52)	(0.53)	(0.50)	(0.41)	(0.71)

Table IA-33: Performance of Portfolios Sorted on β^{CBMKT} - 1993-2014 - Exclude Financial Crisis Period

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sample excludes observations during the financial crisis period from December 2007 through June 2009, inclusive.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	β^{CBMKT}_{Post}	0.37	0.54	0.64	0.77	0.80	0.97	1.07	1.19	1.37	1.64	1.27
		(16.84)	(20.37)	(18.74)	(30.57)	(27.85)	(35.36)	(39.48)	(41.94)	(45.32)	(44.61)	(25.94)
	Excess Return	0.32	0.22	0.26	0.27	0.23	0.35	0.38	0.41	0.46	0.50	0.18
		(8.38)	(4.26)	(4.08)	(4.17)	(3.37)	(4.31)	(4.28)	(4.25)	(4.16)	(3.76)	(1.56)
	α	0.21	0.05	0.03	0.02	−0.03	0.01	0.01	−0.02	−0.03	−0.12	−0.32
		(7.35)	(1.49)	(0.58)	(0.50)	(−0.68)	(0.18)	(0.23)	(−0.55)	(−0.73)	(−2.71)	(−5.50)
NAIC 1	β^{CBMKT}_{Post}	0.34	0.51	0.64	0.75	0.81	1.01	1.11	1.19	1.39	1.63	1.29
		(16.56)	(20.09)	(21.27)	(25.97)	(21.54)	(32.11)	(40.19)	(37.69)	(39.96)	(40.85)	(26.53)
	Excess Return	0.27	0.22	0.24	0.25	0.24	0.31	0.35	0.38	0.44	0.48	0.22
		(7.43)	(4.54)	(4.06)	(3.79)	(3.13)	(3.64)	(3.91)	(3.84)	(3.86)	(3.62)	(1.89)
	α	0.16	0.07	0.05	0.01	−0.02	−0.04	−0.01	−0.05	−0.05	−0.12	−0.28
		(6.27)	(2.21)	(1.32)	(0.29)	(−0.48)	(−1.08)	(−0.36)	(−1.18)	(−1.08)	(−2.50)	(−4.78)
NAIC 2	β^{CBMKT}_{Post}	0.40	0.60	0.65	0.76	0.76	0.95	0.99	1.20	1.35	1.66	1.27
		(13.59)	(13.99)	(18.11)	(18.07)	(19.93)	(34.62)	(19.95)	(27.13)	(29.59)	(37.47)	(21.98)
	Excess Return	0.38	0.28	0.30	0.29	0.25	0.38	0.45	0.47	0.49	0.56	0.18
		(8.22)	(4.10)	(4.54)	(3.81)	(3.38)	(4.76)	(4.72)	(4.46)	(4.20)	(4.08)	(1.54)
	α	0.26	0.09	0.06	−0.00	−0.02	0.03	0.08	0.04	0.00	−0.08	−0.34
		(6.84)	(1.59)	(1.30)	(−0.04)	(−0.45)	(0.84)	(1.17)	(0.72)	(0.07)	(−1.47)	(−4.76)
NAIC Avg.	β^{CBMKT}_{Post}	0.37	0.55	0.64	0.75	0.78	0.98	1.05	1.19	1.37	1.65	1.28
		(18.20)	(19.36)	(24.96)	(28.39)	(30.28)	(40.99)	(33.69)	(42.05)	(41.74)	(47.45)	(27.77)
	Excess Return	0.32	0.25	0.27	0.27	0.24	0.34	0.40	0.42	0.46	0.52	0.20
		(8.69)	(4.64)	(4.68)	(4.14)	(3.62)	(4.31)	(4.57)	(4.36)	(4.16)	(3.94)	(1.78)
	α	0.21	0.08	0.06	0.00	−0.02	−0.01	0.03	−0.00	−0.02	−0.10	−0.31
		(8.13)	(2.17)	(1.65)	(0.12)	(−0.69)	(−0.18)	(0.76)	(−0.08)	(−0.50)	(−2.46)	(−5.65)

Table IA-34: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Exclude Financial Crisis Period

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sample excludes observations during the financial crisis period from December 2007 through June 2009, inclusive.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	β^{TERM}_{Post}	0.11	0.16	0.21	0.24	0.29	0.35	0.39	0.46	0.56	0.70	0.59
		(5.81)	(9.33)	(12.33)	(10.99)	(14.32)	(14.78)	(16.42)	(17.92)	(20.59)	(24.56)	(25.33)
	Excess Return	0.34	0.31	0.27	0.28	0.31	0.36	0.37	0.42	0.46	0.48	0.14
		(6.23)	(5.79)	(4.76)	(4.05)	(4.29)	(4.15)	(4.04)	(4.00)	(3.85)	(3.40)	(1.18)
	α	0.16	0.12	0.04	0.02	0.02	−0.00	−0.04	−0.03	−0.05	−0.13	−0.29
		(4.48)	(3.93)	(1.26)	(0.39)	(0.74)	(−0.11)	(−1.13)	(−0.67)	(−1.43)	(−2.75)	(−4.71)
NAIC 1	β^{TERM}_{Post}	0.10	0.16	0.20	0.24	0.30	0.36	0.39	0.48	0.59	0.71	0.61
		(5.27)	(10.15)	(11.74)	(10.10)	(12.82)	(15.07)	(15.18)	(17.35)	(20.62)	(25.03)	(25.62)
	Excess Return	0.28	0.27	0.25	0.25	0.30	0.34	0.35	0.42	0.45	0.43	0.15
		(5.22)	(5.36)	(4.43)	(3.37)	(3.84)	(3.83)	(3.63)	(3.85)	(3.57)	(3.04)	(1.25)
	α	0.13	0.09	0.03	0.01	0.00	−0.04	−0.05	−0.04	−0.08	−0.16	−0.29
		(3.40)	(3.02)	(1.04)	(0.19)	(0.11)	(−1.07)	(−1.20)	(−0.92)	(−2.04)	(−3.12)	(−4.65)
NAIC 2	β^{TERM}_{Post}	0.12	0.17	0.22	0.23	0.28	0.31	0.39	0.44	0.55	0.68	0.56
		(5.40)	(7.48)	(9.94)	(10.80)	(13.39)	(11.18)	(15.77)	(14.79)	(18.46)	(21.28)	(19.54)
	Excess Return	0.39	0.36	0.32	0.32	0.33	0.41	0.36	0.45	0.47	0.58	0.18
		(6.29)	(5.51)	(4.67)	(4.57)	(4.60)	(4.53)	(3.90)	(4.12)	(3.89)	(4.02)	(1.52)
	α	0.21	0.12	0.06	0.04	0.04	0.07	−0.03	0.02	−0.06	−0.02	−0.23
		(4.62)	(2.49)	(1.31)	(0.90)	(1.09)	(1.22)	(−0.71)	(0.37)	(−1.02)	(−0.37)	(−2.87)
NAIC Avg.	β^{TERM}_{Post}	0.11	0.17	0.21	0.24	0.29	0.33	0.39	0.46	0.57	0.69	0.58
		(5.80)	(9.53)	(11.74)	(11.76)	(14.24)	(14.32)	(16.31)	(17.53)	(20.65)	(24.97)	(26.05)
	Excess Return	0.34	0.32	0.29	0.28	0.32	0.37	0.35	0.43	0.46	0.50	0.17
		(6.23)	(5.89)	(4.85)	(4.27)	(4.41)	(4.44)	(3.86)	(4.15)	(3.81)	(3.62)	(1.45)
	α	0.17	0.11	0.05	0.02	0.02	0.01	−0.04	−0.01	−0.07	−0.09	−0.26
		(4.81)	(3.37)	(1.51)	(0.65)	(0.80)	(0.40)	(−1.11)	(−0.24)	(−1.73)	(−2.05)	(−4.38)

Table IA-35: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Exclude Financial Crisis Period

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that the sample excludes observations during the financial crisis period from December 2007 through June 2009, inclusive.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	β^{DEF}_{Post}	0.74	0.74	0.76	0.73	0.70	0.79	0.77	0.87	0.97	1.27	0.52
		(17.46)	(18.04)	(19.57)	(21.37)	(21.67)	(23.95)	(19.30)	(21.47)	(27.59)	(30.61)	(7.56)
	Excess Return	0.38	0.33	0.29	0.26	0.26	0.29	0.33	0.33	0.40	0.45	0.07
		(5.00)	(4.42)	(3.90)	(3.74)	(3.94)	(4.04)	(4.43)	(4.36)	(4.89)	(4.65)	(1.13)
	α	0.05	0.01	−0.01	−0.03	−0.01	0.01	0.04	0.05	0.05	0.00	−0.05
		(1.31)	(0.29)	(−0.24)	(−0.97)	(−0.44)	(0.32)	(1.15)	(1.23)	(1.45)	(0.06)	(−0.75)
NAIC 1	β^{DEF}_{Post}	0.71	0.75	0.78	0.67	0.71	0.74	0.79	0.83	0.94	1.18	0.47
		(15.45)	(16.35)	(18.97)	(15.88)	(20.69)	(18.16)	(20.62)	(15.25)	(21.41)	(24.30)	(6.28)
	Excess Return	0.37	0.29	0.28	0.25	0.24	0.28	0.29	0.29	0.39	0.40	0.04
		(4.72)	(3.71)	(3.65)	(3.57)	(3.54)	(3.77)	(3.99)	(3.49)	(4.71)	(4.15)	(0.53)
	α	0.06	−0.04	−0.03	−0.01	−0.03	−0.01	0.01	0.01	0.05	−0.02	−0.08
		(1.47)	(−0.85)	(−0.80)	(−0.35)	(−1.09)	(−0.21)	(0.31)	(0.23)	(1.36)	(−0.41)	(−1.15)
NAIC 2	β^{DEF}_{Post}	0.75	0.71	0.77	0.72	0.76	0.75	0.87	0.94	1.02	1.36	0.61
		(12.27)	(13.83)	(16.79)	(15.57)	(18.00)	(18.63)	(18.95)	(19.41)	(21.18)	(25.36)	(6.92)
	Excess Return	0.42	0.35	0.36	0.29	0.34	0.30	0.38	0.42	0.47	0.52	0.10
		(5.01)	(4.55)	(4.79)	(3.91)	(4.71)	(4.33)	(4.86)	(4.92)	(5.33)	(4.96)	(1.31)
	α	0.07	0.02	0.06	−0.01	0.06	0.04	0.06	0.11	0.09	0.03	−0.04
		(1.26)	(0.51)	(1.55)	(−0.34)	(1.63)	(0.99)	(1.56)	(2.54)	(2.19)	(0.71)	(−0.46)
NAIC Avg.	β^{DEF}_{Post}	0.73	0.73	0.77	0.70	0.74	0.75	0.83	0.88	0.98	1.27	0.54
		(16.19)	(17.33)	(21.22)	(19.08)	(23.49)	(22.68)	(27.43)	(23.32)	(28.16)	(31.68)	(7.62)
	Excess Return	0.39	0.32	0.32	0.27	0.29	0.29	0.34	0.36	0.43	0.46	0.07
		(5.11)	(4.27)	(4.36)	(3.91)	(4.29)	(4.20)	(4.67)	(4.48)	(5.25)	(4.73)	(1.07)
	α	0.06	−0.01	0.02	−0.01	0.02	0.01	0.04	0.06	0.07	0.01	−0.06
		(1.61)	(−0.16)	(0.53)	(−0.41)	(0.59)	(0.48)	(1.40)	(1.81)	(2.39)	(0.21)	(−0.89)

Table IA-36: Performance of Portfolios Sorted on NIG Proximity - 2003-2014 - BBB− Bonds With an NIG Rating

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that BBB− bonds are further split into two portfolios, BBB$-_{NIG}$ and BBB$-_{NoNIG}$, based on whether or not they carry an NIG rating by one credit rating provider. The analysis covers portfolio formation (return) months t ($t+1$) from December 2002 (January 2003) to November (December) 2014, inclusive.

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB$-_{NoNIG}$	BBB$-_{NIG}$	[BBB$-_{NoNIG}$]−NAIC 1	[BBB$-_{NoNIG}$]−NAIC 2 No BBB−	[BBB$-_{NoNIG}$]−IG No BBB−	[BBB$-_{NoNIG}$]−BBB	[BBB$-_{NIG}$]−NAIC 1	[BBB$-_{NIG}$]−NAIC 2 No BBB−	[BBB$-_{NIG}$]−IG No BBB−	[BBB$-_{NIG}$]−BBB	[BBB$-_{NIG}$] − [BBB$-_{NoNIG}$]
Excess Return	0.38	0.44	0.40	0.44	0.50	0.66	0.12	0.06	0.10	0.06	0.28	0.22	0.26	0.22	0.16
	(3.67)	(4.33)	(4.01)	(4.23)	(4.90)	(5.70)	(2.16)	(1.80)	(2.15)	(1.73)	(3.31)	(3.33)	(3.37)	(3.36)	(2.83)
α	0.00	0.05	0.02	0.04	0.12	0.25	0.11	0.07	0.09	0.07	0.25	0.20	0.23	0.21	0.14
	(0.23)	(1.63)	(2.13)	(1.34)	(2.71)	(3.92)	(1.96)	(2.09)	(2.08)	(2.12)	(3.27)	(3.59)	(3.46)	(3.62)	(2.51)
β^{TERM}_{Post}	0.22	0.20	0.21	0.19	0.15	0.07	−0.06	−0.05	−0.06	−0.04	−0.14	−0.13	−0.14	−0.12	−0.08
	(8.14)	(7.27)	(8.06)	(6.76)	(5.26)	(2.07)	(−3.61)	(−4.96)	(−4.21)	(−3.80)	(−5.91)	(−7.21)	(−6.51)	(−6.68)	(−4.90)
β^{DEF}_{Post}	0.95	0.96	0.96	1.00	0.97	1.10	0.02	0.01	0.02	−0.02	0.14	0.14	0.14	0.10	0.13
	(48.91)	(34.22)	(89.72)	(34.69)	(24.38)	(17.76)	(0.36)	(0.52)	(0.42)	(−0.71)	(1.95)	(2.65)	(2.22)	(1.88)	(2.51)
$\beta^{STOCKMKT}_{Post}$	−0.02	0.01	−0.01	0.01	0.01	0.04	0.03	−0.00	0.02	−0.00	0.06	0.03	0.05	0.03	0.03
	(−3.66)	(0.73)	(−3.63)	(0.80)	(0.41)	(1.79)	(1.61)	(−0.16)	(1.32)	(−0.24)	(2.50)	(1.64)	(2.37)	(1.54)	(1.80)
β^{SMB}_{Post}	0.00	−0.00	0.00	−0.01	−0.00	0.01	−0.00	−0.00	−0.00	0.01	0.01	0.01	0.01	0.02	0.01
	(0.09)	(−0.03)	(0.17)	(−0.65)	(−0.08)	(0.30)	(−0.09)	(−0.08)	(−0.12)	(0.50)	(0.23)	(0.36)	(0.26)	(0.69)	(0.42)
β^{HML}_{Post}	0.00	0.01	0.00	0.01	0.03	−0.00	0.03	0.02	0.02	0.02	−0.00	−0.01	−0.01	−0.01	−0.03
	(0.21)	(0.63)	(0.86)	(0.36)	(1.46)	(−0.07)	(1.02)	(1.36)	(1.19)	(1.48)	(−0.11)	(−0.43)	(−0.22)	(−0.27)	(−1.24)
β^{MOM}_{Post}	0.00	−0.01	−0.00	−0.01	−0.02	−0.03	−0.02	−0.01	−0.02	−0.01	−0.03	−0.02	−0.03	−0.02	−0.01
	(0.72)	(−1.61)	(−0.85)	(−0.84)	(−1.85)	(−1.90)	(−1.65)	(−0.94)	(−1.57)	(−1.51)	(−1.81)	(−1.29)	(−1.71)	(−1.65)	(−0.79)
β^{LIQ}_{Post}	−0.02	0.02	−0.01	0.02	0.04	0.08	0.06	0.02	0.05	0.02	0.10	0.06	0.09	0.06	0.04
	(−3.62)	(2.67)	(−1.80)	(2.26)	(3.76)	(4.82)	(4.12)	(2.50)	(4.10)	(2.56)	(5.06)	(4.04)	(5.02)	(4.10)	(2.73)

Table IA-37: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Recently Downgraded BBB− Bonds

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that BBB− bonds are further split into two portfolios, BBB$-_{Down}$ and BBB$-_{NotDown}$, based on whether or not they were recently downgraded to BBB−. We define a BBB− bond as having been recently downgraded (BBB$-_{Down}$) if its most recent prior rating, observed in the last 12 months, is better than BBB−. We denote all BBB− bonds that do not meet this criteria as BBB$-_{NotDown}$.

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB$-_{NotDown}$	BBB$-_{Down}$	[BBB$-_{NotDown}$]−NAIC 1	[BBB$-_{NotDown}$]−NAIC 2 No BBB−	[BBB$-_{NotDown}$]−IG No BBB−	[BBB$-_{NotDown}$]−BBB	[BBB$-_{Down}$]−NAIC 1	[BBB$-_{Down}$]−NAIC 2 No BBB−	[BBB$-_{Down}$]−IG No BBB−	[BBB$-_{Down}$]−BBB	[BBB$-_{Down}$] − [BBB$-_{NotDown}$]
Excess Return	0.41	0.46	0.43	0.51	0.57	0.67	0.16	0.11	0.14	0.07	0.26	0.21	0.24	0.17	0.10
	(4.32)	(4.84)	(4.62)	(5.08)	(6.03)	(3.98)	(3.01)	(2.37)	(3.10)	(1.78)	(1.72)	(1.57)	(1.71)	(1.18)	(0.73)
α	−0.00	0.03	0.01	0.05	0.14	0.19	0.14	0.12	0.14	0.09	0.20	0.17	0.19	0.14	0.05
	(−0.08)	(0.80)	(0.39)	(1.48)	(3.14)	(1.36)	(2.70)	(2.45)	(2.89)	(2.43)	(1.31)	(1.23)	(1.32)	(1.01)	(0.36)
β^{TERM}_{Post}	0.24	0.21	0.23	0.22	0.17	0.09	−0.07	−0.04	−0.06	−0.05	−0.15	−0.13	−0.14	−0.14	−0.09
	(9.83)	(8.18)	(9.54)	(8.23)	(6.27)	(1.58)	(−4.24)	(−2.88)	(−4.08)	(−4.49)	(−3.28)	(−3.05)	(−3.23)	(−3.08)	(−1.96)
β^{DEF}_{Post}	0.93	0.97	0.95	1.01	0.96	1.29	0.03	−0.01	0.01	−0.05	0.36	0.32	0.34	0.28	0.34
	(39.50)	(31.86)	(71.17)	(32.83)	(22.72)	(9.54)	(0.50)	(−0.26)	(0.19)	(−1.47)	(2.49)	(2.53)	(2.52)	(2.08)	(2.47)
$\beta^{STOCKMKT}_{Post}$	−0.02	0.02	−0.01	−0.01	−0.01	0.07	0.01	−0.03	−0.01	−0.00	0.09	0.05	0.07	0.08	0.08
	(−4.06)	(1.94)	(−2.06)	(−1.28)	(−1.16)	(1.75)	(0.78)	(−2.43)	(−0.50)	(−0.26)	(2.31)	(1.37)	(1.96)	(2.04)	(2.14)
β^{SMB}_{Post}	0.00	−0.02	−0.01	0.00	0.01	−0.05	0.01	0.03	0.02	0.01	−0.05	−0.03	−0.04	−0.05	−0.06
	(0.21)	(−1.50)	(−1.33)	(0.31)	(0.75)	(−0.92)	(0.55)	(1.74)	(1.11)	(0.62)	(−0.91)	(−0.61)	(−0.79)	(−0.99)	(−1.17)
β^{HML}_{Post}	0.01	0.02	0.01	0.01	0.01	0.05	0.01	−0.00	0.00	−0.00	0.04	0.03	0.04	0.04	0.04
	(0.82)	(1.41)	(2.39)	(1.20)	(0.77)	(1.01)	(0.30)	(−0.23)	(0.03)	(−0.14)	(0.84)	(0.72)	(0.78)	(0.73)	(0.77)
β^{MOM}_{Post}	0.01	−0.01	0.00	0.00	0.01	−0.09	−0.00	0.02	0.00	0.00	−0.10	−0.08	−0.09	−0.09	−0.10
	(2.25)	(−1.47)	(0.80)	(0.51)	(0.76)	(−3.17)	(−0.33)	(1.73)	(0.49)	(0.45)	(−3.38)	(−2.96)	(−3.25)	(−3.28)	(−3.44)
β^{LIQ}_{Post}	−0.02	0.03	−0.00	0.01	0.03	0.09	0.05	0.00	0.03	0.01	0.12	0.07	0.10	0.08	0.07
	(−3.81)	(3.31)	(−0.94)	(1.48)	(2.37)	(2.63)	(3.67)	(0.01)	(2.55)	(1.52)	(3.11)	(1.96)	(2.73)	(2.27)	(1.89)

Table IA-38: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - BBB Bonds

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that zero-cost long-short portfolios are long the BBB portfolio, rather than the BBB− portfolio, and short portfolios of better rated bonds.

Value	NAIC 1	BBB+	BBB	[BBB]−NAIC 1	[BBB]−BBB+
Excess Return	0.32	0.38	0.40	0.08	0.02
	(4.14)	(4.56)	(4.88)	(2.37)	(0.55)
α	−0.01	0.01	0.05	0.05	0.03
	(−0.45)	(0.43)	(1.67)	(1.58)	(0.87)
β_{Post}^{TERM}	0.30	0.31	0.29	−0.01	−0.02
	(15.34)	(13.99)	(13.07)	(−1.11)	(−1.49)
β_{Post}^{DEF}	0.90	0.93	0.99	0.08	0.06
	(47.21)	(28.59)	(37.64)	(2.54)	(1.71)
$\beta_{Post}^{STOCKMKT}$	−0.02	0.01	−0.01	0.01	−0.02
	(−3.49)	(1.51)	(−1.39)	(0.84)	(−2.45)
β_{Post}^{SMB}	0.00	0.01	0.00	−0.00	−0.01
	(0.80)	(0.81)	(0.23)	(−0.27)	(−0.58)
β_{Post}^{HML}	−0.00	0.02	−0.00	0.00	−0.03
	(−0.33)	(2.32)	(−0.17)	(0.05)	(−2.27)
β_{Post}^{MOM}	0.01	−0.00	0.00	−0.00	0.01
	(2.25)	(−0.05)	(0.88)	(−0.56)	(0.71)
β_{Post}^{LIQ}	−0.01	0.02	0.01	0.02	−0.01
	(−2.09)	(1.88)	(1.04)	(1.99)	(−0.95)

Table IA-39: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - A− Bonds

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that zero-cost long-short portfolios, rather than being long the BBB− portfolio, are long the A− portfolio and short portfolios of better rated bonds, or long the BBB+ portfolio and short the A− portfolio.

Value	AAA+ through AA−	NAIC 1 No A−	A−	BBB+	[A−]−AAA+ through AA−	[A−]−NAIC 1 No A−	[BBB+]−A−
Excess Return	0.30	0.31	0.37	0.38	0.07	0.05	0.01
	(4.06)	(4.06)	(4.46)	(4.56)	(1.70)	(1.64)	(0.29)
α	−0.00	−0.02	0.04	0.01	0.04	0.05	−0.02
	(−0.05)	(−0.78)	(1.17)	(0.43)	(0.89)	(1.52)	(−0.51)
β_{Post}^{TERM}	0.29	0.30	0.31	0.31	0.02	0.01	0.00
	(15.45)	(15.27)	(14.13)	(13.99)	(1.29)	(0.51)	(0.05)
β_{Post}^{DEF}	0.80	0.89	0.94	0.93	0.13	0.04	−0.01
	(30.58)	(42.36)	(31.23)	(28.59)	(3.29)	(1.25)	(−0.16)
$\beta_{Post}^{STOCKMKT}$	−0.02	−0.02	−0.02	0.01	0.00	−0.00	0.03
	(−2.69)	(−3.25)	(−2.31)	(1.51)	(0.00)	(−0.08)	(2.84)
β_{Post}^{SMB}	−0.01	0.01	−0.01	0.01	−0.00	−0.02	0.02
	(−0.86)	(1.31)	(−0.85)	(0.81)	(−0.08)	(−1.54)	(1.24)
β_{Post}^{HML}	0.00	−0.00	0.00	0.02	0.00	0.01	0.02
	(0.12)	(−0.12)	(0.49)	(2.32)	(0.28)	(0.50)	(1.46)
β_{Post}^{MOM}	0.01	0.01	−0.00	−0.00	−0.01	−0.01	0.00
	(2.28)	(2.73)	(−0.51)	(−0.05)	(−1.81)	(−2.11)	(0.32)
β_{Post}^{LIQ}	−0.01	−0.01	−0.01	0.02	0.00	0.00	0.02
	(−1.66)	(−1.64)	(−0.96)	(1.88)	(0.35)	(0.15)	(2.16)

Table IA-40: Performance of Portfolios Sorted on β^{CBMKT} - 1993-2014 - Full Results
This table presents the full set of results of the unconditional and conditional portfolio analyses, part of which are summarized in Table 3 of the main paper, that examine the performance of portfolios formed by sorting on β^{CBMKT}.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	Excess Return	0.34	0.22	0.27	0.28	0.25	0.36	0.39	0.41	0.47	0.48	0.14
		(8.97)	(4.27)	(4.23)	(4.28)	(3.51)	(4.39)	(4.41)	(4.21)	(4.06)	(3.52)	(1.19)
	α	0.23	0.04	0.04	0.02	−0.02	0.02	0.03	−0.00	−0.03	−0.13	−0.36
		(8.57)	(1.13)	(0.88)	(0.56)	(−0.51)	(0.49)	(0.92)	(−0.11)	(−0.77)	(−3.00)	(−6.14)
	β^{TERM}_{Post}	0.09	0.14	0.17	0.22	0.23	0.29	0.32	0.38	0.47	0.56	0.48
		(6.87)	(8.75)	(8.72)	(11.35)	(11.38)	(12.59)	(13.49)	(14.58)	(16.25)	(16.52)	(16.11)
	β^{DEF}_{Post}	0.42	0.59	0.69	0.78	0.80	0.96	1.04	1.12	1.26	1.47	1.05
		(15.71)	(18.64)	(16.76)	(25.29)	(22.95)	(29.31)	(32.16)	(33.38)	(35.45)	(32.82)	(17.68)
	$\beta^{STOCKMKT}_{Post}$	−0.03	−0.02	−0.01	−0.03	−0.02	−0.02	−0.01	0.01	0.01	0.04	0.07
		(−4.19)	(−2.07)	(−0.48)	(−3.30)	(−2.39)	(−2.19)	(−0.72)	(1.53)	(1.16)	(3.36)	(4.43)
	β^{SMB}_{Post}	0.01	0.01	−0.01	0.02	−0.01	−0.01	−0.01	−0.02	0.00	0.02	0.01
		(1.39)	(1.46)	(−0.61)	(1.93)	(−1.23)	(−0.71)	(−0.68)	(−1.81)	(0.28)	(1.68)	(0.65)
	β^{HML}_{Post}	0.00	−0.00	0.01	−0.01	−0.01	−0.01	−0.01	0.02	0.01	0.04	0.04
		(0.19)	(−0.47)	(0.62)	(−0.97)	(−0.73)	(−1.07)	(−1.23)	(1.92)	(1.01)	(2.57)	(1.87)
	β^{MOM}_{Post}	−0.00	−0.00	−0.00	0.01	0.00	0.01	−0.01	0.01	0.01	0.01	0.02
		(−0.26)	(−0.68)	(−0.26)	(1.23)	(0.63)	(1.78)	(−1.00)	(0.75)	(1.32)	(1.59)	(1.32)
	β^{LIQ}_{Post}	−0.01	0.00	0.01	0.00	−0.01	0.01	−0.00	−0.01	−0.01	0.01	0.02
		(−1.10)	(0.28)	(1.31)	(0.32)	(−0.81)	(1.21)	(−0.19)	(−0.98)	(−0.70)	(0.95)	(1.22)
NAIC 1	Excess Return	0.29	0.23	0.26	0.26	0.25	0.34	0.37	0.38	0.46	0.46	0.18
		(7.60)	(4.54)	(4.24)	(3.86)	(3.29)	(3.90)	(3.96)	(3.77)	(3.78)	(3.34)	(1.49)
	α	0.17	0.05	0.05	0.00	−0.01	−0.01	0.00	−0.04	−0.04	−0.14	−0.31
		(6.70)	(1.79)	(1.39)	(0.13)	(−0.30)	(−0.18)	(0.12)	(−0.98)	(−0.91)	(−2.79)	(−5.04)
	β^{TERM}_{Post}	0.09	0.15	0.17	0.23	0.24	0.31	0.35	0.40	0.49	0.58	0.49
		(7.21)	(10.16)	(9.43)	(11.92)	(10.70)	(13.37)	(14.18)	(15.33)	(16.62)	(17.20)	(16.78)
	β^{DEF}_{Post}	0.41	0.54	0.67	0.74	0.81	0.95	1.05	1.09	1.25	1.41	1.00
		(15.71)	(17.45)	(18.66)	(21.57)	(18.24)	(24.82)	(30.18)	(28.44)	(29.44)	(28.20)	(16.18)
	$\beta^{STOCKMKT}_{Post}$	−0.03	−0.04	−0.04	−0.04	−0.02	−0.04	−0.02	0.00	−0.01	0.03	0.05
		(−4.05)	(−4.55)	(−3.86)	(−4.12)	(−1.67)	(−4.11)	(−1.91)	(0.43)	(−0.73)	(2.09)	(3.38)
	β^{SMB}_{Post}	0.01	0.01	−0.00	0.02	−0.02	−0.02	−0.01	−0.01	0.02	0.02	0.02
		(0.96)	(1.20)	(−0.39)	(1.68)	(−1.66)	(−1.48)	(−0.59)	(−1.08)	(1.42)	(1.49)	(0.82)
	β^{HML}_{Post}	−0.00	0.00	−0.01	−0.01	−0.02	−0.01	0.00	0.03	0.01	0.04	0.04
		(−0.42)	(0.20)	(−1.22)	(−1.30)	(−1.47)	(−1.03)	(0.23)	(2.60)	(0.46)	(2.21)	(1.97)
	β^{MOM}_{Post}	0.01	0.01	0.00	0.01	0.01	0.03	−0.01	0.01	0.00	0.02	0.01
		(1.23)	(0.84)	(0.68)	(1.10)	(0.92)	(3.45)	(−1.04)	(1.17)	(0.52)	(1.77)	(0.93)
	β^{LIQ}_{Post}	−0.01	−0.01	−0.01	−0.00	−0.02	−0.00	−0.02	−0.02	−0.01	0.00	0.02
		(−2.21)	(−0.82)	(−0.83)	(−0.27)	(−1.46)	(−0.41)	(−2.16)	(−1.72)	(−1.24)	(0.10)	(1.00)

Table IA-40: Performance of Portfolios Sorted on β^{CBMKT} - 1993-2014 - Full Results - continued

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
NAIC 2	Excess Return	0.40	0.27	0.31	0.30	0.26	0.38	0.45	0.46	0.48	0.55	0.15
		(8.83)	(4.19)	(4.61)	(3.92)	(3.45)	(4.67)	(4.74)	(4.30)	(4.03)	(3.84)	(1.20)
	α	0.28	0.07	0.07	0.02	−0.02	0.03	0.09	0.03	−0.02	−0.10	−0.38
		(7.84)	(1.41)	(1.52)	(0.29)	(−0.39)	(0.78)	(1.42)	(0.47)	(−0.34)	(−1.83)	(−5.57)
	β_{Post}^{TERM}	0.08	0.13	0.17	0.19	0.23	0.27	0.28	0.35	0.42	0.54	0.46
		(5.56)	(6.23)	(7.96)	(7.88)	(10.05)	(11.77)	(9.63)	(11.40)	(12.51)	(14.56)	(13.88)
	β_{Post}^{DEF}	0.44	0.63	0.72	0.82	0.75	0.94	1.01	1.21	1.34	1.57	1.12
		(12.35)	(12.17)	(16.22)	(15.85)	(15.56)	(26.10)	(16.68)	(22.52)	(24.03)	(28.41)	(16.01)
	$\beta_{Post}^{STOCKMKT}$	−0.03	−0.02	−0.00	0.01	−0.02	−0.00	0.03	0.02	0.03	0.07	0.09
		(−3.08)	(−1.70)	(−0.29)	(0.83)	(−1.82)	(−0.36)	(1.65)	(1.22)	(2.32)	(4.67)	(5.32)
	β_{Post}^{SMB}	0.02	0.01	0.01	−0.00	0.00	0.01	−0.02	0.01	−0.03	0.01	−0.01
		(1.53)	(0.92)	(0.53)	(−0.15)	(0.15)	(0.81)	(−0.95)	(0.35)	(−1.49)	(0.64)	(−0.30)
	β_{Post}^{HML}	0.00	0.01	0.02	0.00	0.02	0.01	−0.01	0.01	0.00	0.04	0.04
		(0.01)	(0.56)	(1.12)	(0.24)	(1.58)	(0.89)	(−0.62)	(0.75)	(0.10)	(2.12)	(1.67)
	β_{Post}^{MOM}	−0.01	0.00	−0.01	0.01	0.02	−0.00	0.01	−0.01	0.01	0.01	0.03
		(−1.74)	(0.11)	(−1.43)	(0.81)	(1.73)	(−0.39)	(0.43)	(−1.36)	(0.80)	(1.21)	(1.87)
	β_{Post}^{LIQ}	−0.00	0.01	0.02	0.02	0.00	0.03	0.02	0.02	0.01	0.03	0.03
		(−0.51)	(0.73)	(1.51)	(1.30)	(0.35)	(3.36)	(1.52)	(1.33)	(0.87)	(1.92)	(1.79)
NAIC Avg.	Excess Return	0.34	0.25	0.28	0.28	0.25	0.36	0.41	0.42	0.47	0.51	0.16
		(9.15)	(4.72)	(4.78)	(4.22)	(3.71)	(4.43)	(4.62)	(4.24)	(4.04)	(3.67)	(1.39)
	α	0.23	0.06	0.06	0.01	−0.02	0.01	0.05	−0.01	−0.03	−0.12	−0.35
		(9.26)	(1.86)	(1.83)	(0.30)	(−0.50)	(0.38)	(1.21)	(−0.17)	(−0.75)	(−2.85)	(−6.30)
	β_{Post}^{TERM}	0.09	0.14	0.17	0.21	0.23	0.29	0.31	0.37	0.46	0.56	0.48
		(7.08)	(8.66)	(9.52)	(10.75)	(11.96)	(13.33)	(12.78)	(14.24)	(15.30)	(16.51)	(16.38)
	β_{Post}^{DEF}	0.42	0.58	0.69	0.78	0.78	0.94	1.03	1.15	1.30	1.49	1.06
		(17.15)	(16.97)	(21.90)	(23.88)	(24.17)	(32.31)	(27.90)	(34.41)	(33.80)	(34.73)	(18.80)
	$\beta_{Post}^{STOCKMKT}$	−0.03	−0.03	−0.02	−0.01	−0.02	−0.02	0.00	0.01	0.01	0.05	0.07
		(−4.38)	(−3.30)	(−2.34)	(−1.43)	(−2.53)	(−2.81)	(0.46)	(1.23)	(1.26)	(4.25)	(5.20)
	β_{Post}^{SMB}	0.01	0.01	0.00	0.01	−0.01	−0.00	−0.01	−0.00	−0.00	0.02	0.00
		(1.62)	(1.23)	(0.15)	(0.73)	(−1.04)	(−0.42)	(−1.04)	(−0.32)	(−0.29)	(1.30)	(0.28)
	β_{Post}^{HML}	−0.00	0.01	0.00	−0.01	0.00	−0.00	−0.00	0.02	0.00	0.04	0.04
		(−0.21)	(0.51)	(0.11)	(−0.47)	(0.17)	(−0.09)	(−0.40)	(2.07)	(0.33)	(2.69)	(2.15)
	β_{Post}^{MOM}	−0.00	0.00	−0.00	0.01	0.01	0.01	−0.00	−0.00	0.01	0.02	0.02
		(−0.64)	(0.45)	(−0.63)	(1.20)	(1.94)	(1.93)	(−0.13)	(−0.44)	(0.86)	(1.83)	(1.69)
	β_{Post}^{LIQ}	−0.01	0.00	0.00	0.01	−0.01	0.01	0.00	0.00	−0.00	0.01	0.02
		(−1.53)	(0.20)	(0.60)	(0.90)	(−0.75)	(1.85)	(0.23)	(0.10)	(−0.06)	(1.29)	(1.67)

Table IA-41: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Full Results
This table presents the full set of results of the unconditional and conditional portfolio analyses, part of which are summarized in Table 3 of the main paper, that examine the performance of portfolios formed by sorting on β^{TERM}.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	Excess Return	0.38	0.32	0.29	0.30	0.32	0.36	0.37	0.41	0.45	0.47	0.09
		(6.54)	(5.88)	(4.88)	(4.24)	(4.33)	(4.18)	(4.08)	(3.93)	(3.62)	(3.19)	(0.71)
	α	0.21	0.12	0.05	0.03	0.02	−0.01	−0.03	−0.04	−0.09	−0.16	−0.37
		(5.91)	(4.42)	(1.65)	(0.91)	(0.72)	(−0.18)	(−0.87)	(−1.00)	(−2.55)	(−3.30)	(−5.99)
	β^{TERM}_{Post}	0.08	0.14	0.18	0.21	0.25	0.31	0.35	0.43	0.52	0.67	0.59
		(4.09)	(7.90)	(10.43)	(9.74)	(12.35)	(13.11)	(14.81)	(16.27)	(17.92)	(21.59)	(25.30)
	β^{DEF}_{Post}	0.77	0.71	0.70	0.83	0.88	1.00	1.03	1.13	1.28	1.28	0.51
		(22.01)	(25.23)	(24.04)	(22.66)	(31.64)	(29.13)	(34.62)	(31.47)	(34.90)	(26.89)	(8.21)
	$\beta^{STOCKMKT}_{Post}$	−0.02	−0.03	−0.03	−0.01	−0.04	−0.02	0.00	−0.01	0.01	0.03	0.05
		(−2.68)	(−4.45)	(−3.48)	(−0.65)	(−5.86)	(−2.68)	(0.08)	(−0.58)	(1.19)	(2.40)	(3.43)
	β^{SMB}_{Post}	0.00	0.00	0.01	−0.00	−0.00	0.02	−0.01	0.01	0.04	0.03	0.02
		(0.27)	(0.43)	(1.39)	(−0.37)	(−0.01)	(1.55)	(−0.86)	(0.92)	(3.43)	(1.78)	(1.24)
	β^{HML}_{Post}	−0.01	−0.01	0.02	−0.02	−0.00	0.00	0.01	0.02	0.02	0.03	0.03
		(−0.65)	(−1.31)	(1.66)	(−1.62)	(−0.03)	(0.40)	(1.21)	(1.57)	(1.51)	(1.63)	(1.65)
	β^{MOM}_{Post}	−0.02	0.01	0.01	0.00	0.01	0.02	0.02	0.00	−0.01	0.00	0.02
		(−2.29)	(1.84)	(1.06)	(0.21)	(1.39)	(2.72)	(2.85)	(0.56)	(−0.87)	(0.12)	(1.41)
	β^{LIQ}_{Post}	−0.02	−0.01	0.01	−0.01	0.00	0.00	0.00	0.01	0.02	0.03	0.04
		(−2.00)	(−1.69)	(1.05)	(−0.82)	(0.16)	(0.13)	(0.08)	(0.65)	(1.96)	(2.24)	(2.91)
NAIC 1	Excess Return	0.32	0.29	0.27	0.27	0.31	0.35	0.35	0.42	0.43	0.42	0.10
		(5.63)	(5.34)	(4.60)	(3.59)	(3.97)	(3.92)	(3.58)	(3.82)	(3.31)	(2.84)	(0.81)
	α	0.17	0.10	0.05	0.03	0.01	−0.03	−0.06	−0.04	−0.13	−0.19	−0.37
		(4.62)	(3.30)	(1.66)	(0.53)	(0.28)	(−0.80)	(−1.53)	(−0.92)	(−3.28)	(−3.66)	(−5.75)
	β^{TERM}_{Post}	0.08	0.15	0.18	0.22	0.26	0.33	0.37	0.45	0.55	0.69	0.61
		(4.24)	(9.07)	(10.27)	(9.51)	(11.39)	(13.70)	(14.31)	(16.32)	(18.14)	(22.61)	(25.03)
	β^{DEF}_{Post}	0.69	0.62	0.69	0.78	0.93	0.98	1.08	1.14	1.33	1.21	0.52
		(18.01)	(20.27)	(23.74)	(16.29)	(25.05)	(26.89)	(29.23)	(27.16)	(34.88)	(23.53)	(7.98)
	$\beta^{STOCKMKT}_{Post}$	−0.04	−0.03	−0.04	−0.02	−0.05	−0.03	−0.02	0.00	0.00	0.02	0.06
		(−4.12)	(−3.59)	(−5.09)	(−1.93)	(−5.33)	(−3.00)	(−2.27)	(0.36)	(0.12)	(1.80)	(3.93)
	β^{SMB}_{Post}	−0.00	0.01	0.01	−0.02	0.01	0.01	0.00	0.02	0.03	0.03	0.03
		(−0.38)	(1.10)	(1.62)	(−1.64)	(0.55)	(1.05)	(0.03)	(1.43)	(2.66)	(1.71)	(1.63)
	β^{HML}_{Post}	−0.02	−0.00	0.01	−0.03	−0.01	0.02	0.01	0.03	0.01	0.02	0.04
		(−1.66)	(−0.13)	(1.35)	(−2.09)	(−0.70)	(1.39)	(1.16)	(2.08)	(1.10)	(1.16)	(1.94)
	β^{MOM}_{Post}	0.00	0.01	0.00	0.02	0.01	0.02	0.02	0.00	−0.01	0.00	0.00
		(0.01)	(1.11)	(0.34)	(1.78)	(1.51)	(3.27)	(2.28)	(0.48)	(−1.71)	(0.31)	(0.26)
	β^{LIQ}_{Post}	−0.03	−0.02	−0.01	−0.02	−0.01	0.00	−0.01	−0.01	0.02	0.02	0.05
		(−3.73)	(−2.78)	(−0.86)	(−1.99)	(−0.66)	(0.29)	(−0.85)	(−0.73)	(1.94)	(1.35)	(3.32)

Table IA-41: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Full Results - continued

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
NAIC 2	Excess Return	0.43	0.38	0.32	0.33	0.33	0.41	0.36	0.43	0.48	0.55	0.12
		(6.39)	(5.70)	(4.58)	(4.59)	(4.50)	(4.43)	(3.96)	(4.01)	(3.81)	(3.78)	(0.98)
	α	0.25	0.14	0.05	0.05	0.03	0.05	−0.02	0.01	−0.07	−0.06	−0.32
		(5.71)	(3.02)	(1.02)	(1.14)	(0.82)	(0.85)	(−0.41)	(0.13)	(−1.24)	(−1.07)	(−4.16)
	β^{TERM}_{Post}	0.07	0.14	0.18	0.19	0.24	0.27	0.33	0.39	0.50	0.63	0.56
		(3.04)	(6.23)	(8.22)	(8.79)	(11.00)	(9.80)	(13.59)	(13.09)	(15.72)	(18.71)	(20.54)
	β^{DEF}_{Post}	0.87	0.76	0.78	0.82	0.85	1.04	0.96	1.11	1.24	1.30	0.43
		(19.52)	(16.89)	(17.64)	(19.74)	(22.88)	(19.88)	(22.46)	(20.03)	(22.75)	(21.44)	(5.61)
	$\beta^{STOCKMKT}_{Post}$	−0.02	−0.01	−0.01	0.01	−0.02	−0.01	0.01	0.02	0.02	0.05	0.07
		(−2.13)	(−0.68)	(−0.78)	(0.51)	(−1.93)	(−0.64)	(0.79)	(1.17)	(1.45)	(3.00)	(3.63)
	β^{SMB}_{Post}	0.01	−0.02	0.01	0.01	0.01	0.03	−0.01	−0.01	0.02	0.02	0.01
		(0.45)	(−1.08)	(0.75)	(0.83)	(0.61)	(1.58)	(−0.44)	(−0.76)	(1.15)	(1.07)	(0.59)
	β^{HML}_{Post}	−0.02	0.01	0.02	−0.00	0.02	−0.00	0.01	−0.01	0.04	0.02	0.04
		(−1.07)	(0.43)	(1.33)	(−0.09)	(1.85)	(−0.21)	(1.02)	(−0.77)	(2.43)	(1.01)	(1.43)
	β^{MOM}_{Post}	−0.04	0.02	0.01	−0.01	0.01	−0.00	0.01	0.01	0.00	−0.00	0.04
		(−4.27)	(1.81)	(1.62)	(−1.35)	(0.93)	(−0.28)	(1.09)	(0.90)	(0.40)	(−0.06)	(2.43)
	β^{LIQ}_{Post}	−0.01	0.01	0.02	0.02	0.01	0.02	0.01	−0.00	0.04	0.03	0.04
		(−0.75)	(0.96)	(1.45)	(2.35)	(0.96)	(1.70)	(0.74)	(−0.02)	(2.64)	(2.14)	(2.14)
NAIC Avg.	Excess Return	0.37	0.33	0.29	0.30	0.32	0.38	0.35	0.43	0.45	0.49	0.11
		(6.47)	(6.00)	(4.90)	(4.41)	(4.44)	(4.41)	(3.88)	(4.08)	(3.63)	(3.38)	(0.93)
	α	0.21	0.12	0.05	0.04	0.02	0.01	−0.04	−0.02	−0.10	−0.13	−0.34
		(6.26)	(4.02)	(1.63)	(1.05)	(0.75)	(0.25)	(−1.13)	(−0.42)	(−2.51)	(−2.79)	(−5.77)
	β^{TERM}_{Post}	0.08	0.14	0.18	0.20	0.25	0.30	0.35	0.42	0.52	0.66	0.58
		(3.85)	(8.21)	(9.94)	(10.18)	(12.05)	(12.55)	(14.71)	(15.79)	(17.68)	(21.82)	(25.78)
	β^{DEF}_{Post}	0.78	0.69	0.74	0.80	0.89	1.01	1.02	1.13	1.29	1.26	0.47
		(22.67)	(23.52)	(25.67)	(23.51)	(31.85)	(29.89)	(31.48)	(30.10)	(33.28)	(27.30)	(7.80)
	$\beta^{STOCKMKT}_{Post}$	−0.03	−0.02	−0.02	−0.01	−0.03	−0.02	−0.01	0.01	0.01	0.04	0.07
		(−3.66)	(−2.36)	(−3.14)	(−1.02)	(−4.86)	(−2.08)	(−0.75)	(1.07)	(1.09)	(3.01)	(4.44)
	β^{SMB}_{Post}	0.00	−0.00	0.01	−0.01	0.01	0.02	−0.00	0.00	0.03	0.02	0.02
		(0.08)	(−0.27)	(1.39)	(−0.62)	(0.79)	(1.79)	(−0.28)	(0.23)	(2.14)	(1.68)	(1.26)
	β^{HML}_{Post}	−0.02	0.00	0.02	−0.02	0.01	0.01	0.01	0.01	0.03	0.02	0.04
		(−1.61)	(0.27)	(1.72)	(−1.49)	(0.83)	(0.57)	(1.33)	(0.59)	(2.27)	(1.33)	(1.96)
	β^{MOM}_{Post}	−0.02	0.01	0.01	0.00	0.01	0.01	0.01	0.01	−0.00	0.00	0.02
		(−2.77)	(1.97)	(1.45)	(0.40)	(1.65)	(1.50)	(2.01)	(0.93)	(−0.57)	(0.14)	(1.70)
	β^{LIQ}_{Post}	−0.02	−0.00	0.01	0.00	0.00	0.01	0.00	−0.00	0.03	0.02	0.05
		(−2.55)	(−0.68)	(0.72)	(0.06)	(0.23)	(1.48)	(0.02)	(−0.42)	(2.84)	(2.18)	(3.16)

Table IA-42: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Full Results
This table presents the full set of results of the unconditional and conditional portfolio analyses, part of which are summarized in Table 3 of the main paper, that examine the performance of portfolios formed by sorting on β^{DEF}.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	Excess Return	0.38	0.32	0.29	0.27	0.27	0.30	0.34	0.35	0.42	0.48	0.10
		(5.19)	(4.54)	(4.00)	(3.87)	(4.01)	(4.01)	(4.46)	(4.32)	(4.65)	(4.42)	(1.31)
	α	0.08	0.03	0.00	−0.02	−0.01	−0.00	0.03	0.04	0.04	0.02	−0.06
		(2.10)	(0.88)	(0.01)	(−0.50)	(−0.39)	(−0.16)	(1.08)	(1.21)	(1.25)	(0.53)	(−0.85)
	β_{Post}^{TERM}	0.28	0.27	0.27	0.25	0.26	0.28	0.28	0.28	0.32	0.35	0.08
		(14.35)	(14.76)	(13.95)	(13.86)	(14.28)	(14.27)	(13.94)	(12.69)	(13.11)	(11.32)	(2.94)
	β_{Post}^{DEF}	0.68	0.65	0.72	0.72	0.74	0.83	0.82	0.94	1.07	1.34	0.67
		(17.39)	(17.12)	(20.51)	(22.84)	(25.99)	(29.62)	(25.06)	(27.97)	(34.89)	(31.95)	(9.79)
	$\beta_{Post}^{STOCKMKT}$	0.01	0.00	−0.01	−0.01	−0.02	−0.03	−0.03	−0.01	−0.01	0.01	0.01
		(0.74)	(0.08)	(−1.33)	(−1.30)	(−3.02)	(−3.59)	(−3.91)	(−1.67)	(−1.27)	(1.32)	(0.40)
	β_{Post}^{SMB}	−0.01	−0.01	−0.01	−0.01	−0.01	−0.00	0.01	−0.00	0.02	0.02	0.03
		(−0.84)	(−0.99)	(−0.69)	(−0.84)	(−1.02)	(−0.13)	(1.43)	(−0.37)	(2.19)	(1.68)	(1.52)
	β_{Post}^{HML}	0.02	0.02	0.01	0.01	0.00	0.00	0.02	−0.02	0.01	0.00	−0.02
		(1.62)	(1.79)	(0.98)	(0.57)	(0.45)	(0.11)	(2.10)	(−1.77)	(1.13)	(0.36)	(−0.69)
	β_{Post}^{MOM}	0.03	0.02	0.01	0.01	0.01	0.00	0.00	−0.01	−0.01	−0.00	−0.03
		(4.15)	(2.77)	(1.69)	(0.79)	(2.21)	(0.56)	(0.51)	(−2.07)	(−1.81)	(−0.23)	(−2.48)
	β_{Post}^{LIQ}	−0.01	0.01	0.00	0.01	0.01	0.00	−0.00	−0.01	0.00	−0.01	−0.00
		(−0.66)	(0.93)	(0.37)	(1.83)	(1.48)	(0.08)	(−0.56)	(−1.11)	(0.29)	(−0.98)	(−0.24)
NAIC 1	Excess Return	0.36	0.28	0.28	0.26	0.26	0.29	0.31	0.31	0.40	0.43	0.07
		(4.78)	(3.68)	(3.76)	(3.71)	(3.69)	(3.84)	(4.11)	(3.48)	(4.36)	(3.86)	(0.82)
	α	0.07	−0.03	−0.02	−0.01	−0.03	−0.01	0.02	0.00	0.04	−0.01	−0.08
		(1.65)	(−0.71)	(−0.51)	(−0.14)	(−0.99)	(−0.22)	(0.74)	(0.09)	(1.05)	(−0.14)	(−0.97)
	β_{Post}^{TERM}	0.29	0.29	0.28	0.26	0.26	0.28	0.29	0.31	0.32	0.38	0.09
		(14.86)	(14.97)	(14.14)	(13.71)	(14.30)	(14.42)	(14.46)	(12.91)	(12.60)	(12.04)	(3.04)
	β_{Post}^{DEF}	0.68	0.69	0.74	0.68	0.75	0.78	0.81	0.91	1.04	1.25	0.57
		(16.60)	(17.18)	(20.18)	(18.74)	(25.77)	(23.49)	(25.12)	(19.53)	(24.73)	(24.04)	(7.57)
	$\beta_{Post}^{STOCKMKT}$	−0.00	0.00	−0.02	−0.02	−0.04	−0.02	−0.04	−0.03	−0.02	−0.01	−0.01
		(−0.12)	(0.02)	(−1.87)	(−2.19)	(−5.15)	(−2.64)	(−4.65)	(−2.44)	(−1.39)	(−0.61)	(−0.35)
	β_{Post}^{SMB}	−0.01	−0.01	−0.02	−0.02	−0.00	−0.01	0.01	−0.00	0.03	0.03	0.03
		(−0.47)	(−0.95)	(−1.88)	(−1.81)	(−0.46)	(−0.50)	(1.45)	(−0.24)	(1.97)	(1.76)	(1.45)
	β_{Post}^{HML}	0.02	0.02	0.01	−0.01	0.00	0.00	0.01	−0.02	0.01	−0.00	−0.02
		(1.19)	(1.40)	(0.70)	(−0.73)	(0.56)	(0.23)	(0.84)	(−1.10)	(0.49)	(−0.08)	(−0.69)
	β_{Post}^{MOM}	0.02	0.02	0.02	0.01	0.02	0.00	0.00	−0.00	−0.02	0.01	−0.02
		(2.93)	(2.55)	(3.47)	(1.91)	(3.14)	(0.39)	(0.56)	(−0.49)	(−1.91)	(0.75)	(−1.04)
	β_{Post}^{LIQ}	−0.01	0.01	0.00	0.00	0.00	0.00	−0.02	−0.03	−0.01	−0.03	−0.02
		(−0.96)	(1.26)	(0.20)	(0.24)	(0.47)	(0.24)	(−2.67)	(−2.70)	(−0.92)	(−2.02)	(−0.86)

Table IA-42: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Full Results - continued

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
NAIC 2	Excess Return	0.41	0.35	0.36	0.30	0.34	0.30	0.38	0.43	0.48	0.54	0.12
		(5.24)	(4.78)	(4.90)	(4.09)	(4.68)	(4.16)	(4.80)	(4.77)	(5.01)	(4.67)	(1.36)
	α	0.12	0.07	0.08	0.01	0.05	0.01	0.05	0.08	0.07	0.04	−0.08
		(2.12)	(1.40)	(1.78)	(0.26)	(1.38)	(0.39)	(1.35)	(1.81)	(1.56)	(0.77)	(−0.99)
	β^{TERM}_{Post}	0.26	0.27	0.25	0.25	0.25	0.25	0.27	0.30	0.31	0.34	0.08
		(11.24)	(13.55)	(12.42)	(11.95)	(12.31)	(11.98)	(12.04)	(11.59)	(11.04)	(9.74)	(2.58)
	β^{DEF}_{Post}	0.66	0.60	0.72	0.71	0.77	0.80	0.89	1.02	1.15	1.48	0.82
		(12.24)	(13.04)	(17.39)	(16.51)	(20.04)	(21.60)	(22.68)	(23.47)	(26.75)	(30.78)	(10.23)
	$\beta^{STOCKMKT}_{Post}$	0.01	0.01	−0.01	−0.01	−0.02	−0.01	−0.01	−0.03	−0.01	0.05	0.04
		(0.95)	(1.07)	(−0.97)	(−0.47)	(−2.31)	(−1.43)	(−0.99)	(−2.26)	(−0.87)	(4.15)	(1.81)
	β^{SMB}_{Post}	−0.00	−0.00	−0.00	0.01	−0.01	−0.01	0.02	0.01	0.03	0.01	0.01
		(−0.23)	(−0.01)	(−0.22)	(0.87)	(−0.58)	(−1.16)	(1.70)	(0.54)	(2.31)	(0.35)	(0.36)
	β^{HML}_{Post}	0.02	0.03	0.03	0.02	0.01	0.00	0.03	−0.01	0.02	0.01	−0.01
		(1.29)	(1.96)	(2.05)	(1.36)	(1.10)	(0.11)	(2.30)	(−0.92)	(1.53)	(0.81)	(−0.40)
	β^{MOM}_{Post}	0.03	0.03	−0.00	0.00	0.00	0.00	−0.01	−0.01	0.00	−0.01	−0.04
		(2.88)	(2.79)	(−0.01)	(0.29)	(0.51)	(0.39)	(−1.51)	(−1.66)	(0.06)	(−0.70)	(−2.38)
	β^{LIQ}_{Post}	0.01	0.00	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01
		(0.54)	(0.41)	(1.18)	(1.82)	(1.59)	(1.27)	(2.37)	(1.42)	(2.06)	(1.13)	(0.30)
NAIC Avg.	Excess Return	0.39	0.31	0.32	0.28	0.30	0.30	0.35	0.37	0.44	0.48	0.09
		(5.28)	(4.37)	(4.47)	(4.07)	(4.34)	(4.15)	(4.71)	(4.40)	(4.92)	(4.44)	(1.21)
	α	0.09	0.02	0.03	0.00	0.01	0.00	0.04	0.04	0.06	0.01	−0.08
		(2.24)	(0.47)	(0.83)	(0.09)	(0.48)	(0.13)	(1.56)	(1.33)	(1.83)	(0.36)	(−1.11)
	β^{TERM}_{Post}	0.27	0.28	0.27	0.25	0.26	0.27	0.28	0.31	0.32	0.36	0.08
		(14.02)	(15.18)	(14.03)	(13.68)	(14.01)	(14.04)	(14.42)	(13.56)	(12.69)	(11.42)	(3.08)
	β^{DEF}_{Post}	0.67	0.64	0.73	0.70	0.76	0.79	0.85	0.96	1.10	1.37	0.70
		(16.41)	(16.85)	(21.52)	(20.56)	(26.98)	(27.93)	(34.29)	(30.67)	(35.78)	(34.49)	(10.13)
	$\beta^{STOCKMKT}_{Post}$	0.01	0.01	−0.01	−0.01	−0.03	−0.02	−0.02	−0.03	−0.01	0.02	0.02
		(0.57)	(0.66)	(−1.59)	(−1.46)	(−4.23)	(−2.50)	(−3.79)	(−3.38)	(−1.58)	(2.06)	(0.85)
	β^{SMB}_{Post}	−0.00	−0.01	−0.01	−0.00	−0.01	−0.01	0.02	0.00	0.03	0.02	0.02
		(−0.39)	(−0.51)	(−1.13)	(−0.41)	(−0.64)	(−1.06)	(2.30)	(0.20)	(2.99)	(1.36)	(1.01)
	β^{HML}_{Post}	0.02	0.02	0.02	0.01	0.01	0.00	0.02	−0.01	0.01	0.01	−0.01
		(1.46)	(1.92)	(1.64)	(0.47)	(1.06)	(0.21)	(2.39)	(−1.45)	(1.42)	(0.43)	(−0.61)
	β^{MOM}_{Post}	0.03	0.02	0.01	0.01	0.01	0.00	−0.00	−0.01	−0.01	0.00	−0.03
		(3.39)	(3.03)	(1.83)	(1.20)	(1.95)	(0.48)	(−0.86)	(−1.52)	(−1.28)	(0.08)	(−1.95)
	β^{LIQ}_{Post}	−0.00	0.01	0.01	0.01	0.01	0.01	0.00	−0.01	0.01	−0.01	−0.01
		(−0.12)	(0.91)	(0.84)	(1.28)	(1.37)	(0.98)	(0.19)	(−1.01)	(0.82)	(−0.66)	(−0.31)

Table IA-43: Alphas and Insurer Holdings of Independently Sorted Portfolios - 2003-2014

This table presents the alphas (Panel A) and insurer holdings (Panel B) of portfolios formed by sorting on NIG proximity and term factor exposure. At the end of each month t we sort all NAIC designation 2 bonds into deciles based on an ascending ordering of β^{TERM}. We also separate the NAIC designation 2 bonds into those rated BBB− and those with any other rating. We use the intersections of the 10 β^{TERM} groups and the two rating-based (BBB− and NAIC 2 No BBB−) groups to form 20 portfolios. We then calculate the market value-weighted month $t+1$ excess return of each of the 20 portfolios. Within each β^{TERM} group, we calculate the excess return of the portfolio that is long the BBB− portfolio and short the NAIC 2 No BBB− portfolio ([BBB−]− NAIC 2 No BBB−). Within each NIG proximity group, we calculate the excess return of the portfolio that is long the β^{TERM} 10 portfolio and short the β^{TERM} 1 portfolio (β^{TERM} $10-1$). Finally, for each β^{TERM} group we calculate the average excess return across the two rating-based portfolios, and refer to this as the Avg. portfolio. Also, for each rating-based group, we calculate the average excess return across the 10 β^{TERM} portfolios, and refer to this as the β^{TERM} Avg. portfolio. Panel A presents the monthly alphas (in percent per month) and Panel B presents the time-series average of the monthly portfolio-level $\%InsHeld$ (in percent) for each of these portfolios. t-statistics, adjusted following Newey and West (1987) using three lags and testing the null hypothesis of a zero mean alpha or difference in $\%InsHeld$, are shown in parentheses. The analysis covers portfolio formation (return) months t ($t+1$) from December 2002 (January 2003) to November (December) 2014, inclusive.

Panel A: Portfolio Alphas

	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} Avg.	β^{TERM} 10 − 1	
NAIC 2 No BBB−	0.37	0.18	0.04	0.05	−0.00	−0.01	0.05	−0.06	−0.11	−0.16	0.03	−0.53	(−5.24)
BBB−	0.25	0.18	0.16	0.08	0.02	0.08	0.08	0.09	0.04	−0.08	0.09	−0.34	(−2.99)
Avg.	0.31	0.18	0.10	0.06	0.01	0.04	0.06	0.01	−0.04	−0.12	0.06	−0.44	(−5.06)
[BBB−]−NAIC 2 No BBB−	−0.12	0.01	0.12	0.03	0.02	0.09	0.03	0.14	0.15	0.07	0.06		
	(−1.57)	(0.09)	(2.02)	(0.61)	(0.38)	(1.51)	(0.53)	(1.87)	(1.91)	(0.75)	(2.14)		

Panel B: Percent of Portfolio Held By Insurers

	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} Avg.	β^{TERM} 10 − 1	
NAIC 2 No BBB−	24.50	27.76	30.64	32.69	38.44	42.10	43.72	44.68	48.35	47.97	38.09	23.47	(26.95)
BBB−	18.97	22.83	23.53	28.55	34.36	37.11	40.92	40.31	44.95	43.74	33.53	24.77	(24.60)
Avg.	21.73	25.30	27.08	30.62	36.40	39.60	42.32	42.50	46.65	45.86	35.81	24.12	(38.66)
[BBB−]−NAIC 2 No BBB−	−5.54	−4.92	−7.12	−4.13	−4.08	−5.00	−2.81	−4.37	−3.40	−4.23	−4.56		
	(−7.78)	(−9.53)	(−10.41)	(−8.96)	(−8.57)	(−11.04)	(−3.52)	(−6.47)	(−4.63)	(−4.46)	(−19.20)		

Table IA-44: Insurer Holdings and Portfolio Alphas - 2003-2014 - Robustness

This table presents the results from single and Fama and MacBeth (1973, FM) regressions of portfolio alphas on insurer holdings for portfolios of varying NIG proximity and systematic risk exposure. The methodology is identical to that used to generate Table 6 of the main paper, except that we use different sets of bonds or a different systematic risk exposure measure. In the columns labeled IG Single/FM we use all bonds in the sample, instead of only NAIC designation 2 bonds, to form 30 portfolios from the intersection of β^{TERM} deciles and three NIG proximity groups: NAIC designation 1, NAIC designation 2 but not BBB−, and BBB−. In the columns labeled BBB and BBB− Single/FM we use only BBB and BBB− bonds, instead of all NAIC designation 2 bonds, to form 20 portfolios from the intersection of β^{TERM} deciles and two NIG proximity groups: BBB and BBB−. Finally, in the columns labeled β^{CBMKT} Single/FM we use NAIC designation 2 bonds to form 20 portfolios from the intersection of β^{CBMKT} deciles, not β^{TERM}deciles, and two NIG proximity groups: NAIC designation 2 but not BBB−, and BBB−.

	IG Single	IG FM	BBB and BBB− Single	BBB and BBB− FM	β^{CBMKT} Single	β^{CBMKT} FM
$\%InsHeld$	−0.010	−0.007	−0.012	−0.006	−0.014	−0.009
	(−6.10)	(−3.73)	(−4.68)	(−3.43)	(−7.99)	(−7.03)
Intercept	0.380	0.255	0.474	0.268	0.552	0.375
	(6.38)	(4.71)	(5.29)	(4.54)	(9.09)	(6.85)
Adj. R^2	55.50%	8.51%	52.44%	8.65%	76.79%	6.10%

Table IA-45: Insurer Holdings Regressions - 2003-2014 - Constrained and Unconstrained Insurers

This table presents the results of WLS regressions of insurer holdings on bond variables using MV as the weight. The methodology is identical to that used to generate Table 5 of the main paper, except that the dependent variable is either the proportion of a bond's market value held by unconstrained insurers (columns (1)-(4)) or the proportion of a bond's market value held by constrained insurers, adjusted for comparability (columns (5)-(8)).

	Unconstrained				Constrained			
	FM (1)	FM (2)	Panel (3)	Panel (4)	FM (5)	FM (6)	Panel (7)	Panel (8)
$BBB-$	−5.64	−3.59	−6.09	−3.75	−5.85	−3.99	−6.61	−4.37
	(−12.57)	(−7.91)	(−36.71)	(−11.34)	(−12.98)	(−11.41)	(−8.51)	(−6.56)
β^{CBMKT}	6.70		5.84		8.91		6.97	
	(13.27)		(8.35)		(11.56)		(10.51)	
β^{TERM}		26.19		26.51		27.92		27.11
		(17.42)		(16.18)		(29.83)		(12.66)
$NAIC2$	4.72	5.86	5.11	6.28	2.40	3.62	2.74	3.93
	(11.42)	(13.53)	(3.48)	(3.79)	(6.21)	(8.27)	(1.93)	(2.64)
Intercept	15.97	15.08			14.41	14.61		
	(28.71)	(25.49)			(18.10)	(17.29)		
Year FE			Y	Y			Y	Y

Table IA-46: Composition of Insurers' Portfolios - 2003-2014

This table describes the composition of the aggregate IG corporate bond market portfolio (Corporate Bond Market), the aggregate IG corporate bond portfolio of unconstrained insurers (Unconstrained Insurers), and the aggregate IG corporate bond portfolio of constrained insurers (Constrained Insurers). Each month t, we identify the subsets of IG bonds with ratings other than BBB− (IG No BBB−), bonds rated BBB−, as well as bonds in the bottom and top decile of β^{CBMKT} and β^{TERM} (β^{f} 1 and β^{f} 10, respectively, for $f \in \{CBMKT,TERM\}$). Then, for each portfolio $p \in$ {Corporate Bond Market, Unconstrained Insurers, Constrained Insurers}, we calculate the percentage of the portfolio's total value that falls within each subset of bonds. This percentage is calculated as the total market value held by the portfolio p in the given subset of bonds, divided by the total market value of the portfolio. The rows with "Weight in Portfolio" in the "Value" column present the time-series averages of these monthly portfolio weights. For the Unconstrained Insurers and Constrained Insurers portfolios, we then calculate the percentage by which the given portfolio overweights different subsets of bonds relative to the Corporate Bond Market portfolio by dividing the weight of the subset of bonds in the given portfolio by the weight of the subset in the market portfolio, and subtracting one. These values are reported in the rows with "% Overweight" in the "Value" column. All values in the table are shown in percent.

Portfolio	Value	IG No BBB−	BBB−	β^{CBMKT} 1	β^{CBMKT} 10	β^{TERM} 1	β^{TERM} 10
Corporate Bond Market	Weight in Portfolio	89.48	10.52	8.86	14.49	13.73	8.67
Unconstrained Insurers	Weight in Portfolio	90.70	9.30	4.38	16.26	8.65	12.25
	% Overweight	+1.37	−11.61	−50.55	+12.20	−37.04	+41.39
Constrained Insurers	Weight in Portfolio	91.39	8.61	4.22	18.26	8.61	13.41
	% Overweight	+2.14	−18.21	−52.34	+26.02	−37.31	+54.67

Table IA-47: Performance of Portfolios Sorted on NIG Proximity - 1978-1992 - Full Results

This table presents the full set of results from the portfolio analysis, summarized in Table 7 of the main paper, that examines the performance of portfolios formed by sorting on NIG proximity.

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB
Excess Return	0.20	0.26	0.21	0.27	0.23	0.03	−0.03	0.02	−0.03
	(1.01)	(1.38)	(1.08)	(1.45)	(1.16)	(0.59)	(−0.69)	(0.44)	(−0.90)
α	−0.00	0.05	0.01	0.06	0.01	0.01	−0.04	−0.00	−0.05
	(−0.00)	(1.54)	(0.85)	(1.69)	(0.15)	(0.14)	(−1.06)	(−0.02)	(−1.32)
β_{Post}^{TERM}	0.71	0.64	0.70	0.63	0.66	−0.05	0.02	−0.03	0.04
	(37.71)	(28.54)	(36.41)	(27.01)	(23.55)	(−2.98)	(1.82)	(−2.46)	(3.59)
β_{Post}^{DEF}	0.97	1.10	0.99	1.12	1.32	0.36	0.22	0.33	0.21
	(77.49)	(34.37)	(99.43)	(31.90)	(27.27)	(6.59)	(5.86)	(6.63)	(5.41)
$\beta_{Post}^{STOCKMKT}$	−0.00	0.02	0.00	0.02	0.02	0.02	0.00	0.02	0.00
	(−0.44)	(2.42)	(0.75)	(2.32)	(1.72)	(1.66)	(0.19)	(1.52)	(0.09)
β_{Post}^{SMB}	−0.01	0.02	−0.00	0.02	0.02	0.03	0.00	0.03	−0.00
	(−1.90)	(1.87)	(−1.07)	(1.86)	(1.23)	(1.56)	(0.02)	(1.42)	(−0.12)
β_{Post}^{HML}	−0.00	0.02	0.00	0.02	0.01	0.01	−0.01	0.01	−0.01
	(−0.17)	(1.15)	(0.44)	(1.20)	(0.36)	(0.36)	(−0.48)	(0.26)	(−0.62)
β_{Post}^{MOM}	0.00	−0.00	0.00	−0.00	−0.00	−0.00	0.00	−0.00	0.00
	(0.36)	(−0.13)	(0.25)	(−0.08)	(−0.01)	(−0.10)	(0.09)	(−0.07)	(0.06)
β_{Post}^{LIQ}	0.00	−0.00	0.00	−0.00	−0.00	−0.01	−0.00	−0.01	−0.00
	(0.63)	(−0.08)	(0.55)	(−0.19)	(−0.25)	(−0.37)	(−0.25)	(−0.35)	(−0.14)

Table IA-48: Performance of Portfolios Sorted on β^{CBMKT} - 1978-1992 - Full Results
This table presents the full set of results of unconditional and conditional portfolio analyses, part of which are summarized in Table 7 of the main paper, that examine the performance of portfolios formed by sorting on β^{CBMKT}.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	Excess Return	0.17	0.16	0.16	0.18	0.21	0.21	0.23	0.24	0.26	0.27	0.10
		(2.11)	(1.27)	(1.01)	(0.96)	(1.02)	(0.95)	(0.98)	(0.98)	(1.03)	(1.03)	(0.52)
	α	0.05	0.01	0.00	−0.00	0.01	−0.01	0.00	0.00	0.00	0.00	−0.05
		(2.01)	(0.45)	(0.01)	(−0.17)	(0.37)	(−0.30)	(0.02)	(0.08)	(0.12)	(0.05)	(−0.84)
	β^{TERM}_{Post}	0.25	0.40	0.52	0.63	0.72	0.79	0.85	0.89	0.91	0.97	0.72
		(19.26)	(21.43)	(23.55)	(26.96)	(31.36)	(33.66)	(37.01)	(38.84)	(41.54)	(46.87)	(42.58)
	β^{DEF}_{Post}	0.57	0.87	1.09	1.18	1.17	1.18	1.14	1.11	1.05	0.89	0.32
		(19.93)	(27.35)	(35.95)	(49.56)	(56.42)	(47.70)	(41.44)	(34.70)	(30.68)	(19.47)	(5.26)
	$\beta^{STOCKMKT}_{Post}$	0.02	0.01	0.00	−0.00	−0.01	−0.01	−0.01	−0.01	0.00	0.02	−0.00
		(3.16)	(0.98)	(0.52)	(−0.71)	(−1.77)	(−2.33)	(−1.45)	(−0.78)	(0.25)	(1.87)	(−0.00)
	β^{SMB}_{Post}	0.02	0.02	0.02	0.01	0.00	−0.00	−0.01	−0.02	−0.02	−0.02	−0.04
		(1.72)	(1.44)	(1.34)	(0.95)	(0.42)	(−0.10)	(−0.85)	(−1.59)	(−1.41)	(−1.02)	(−1.51)
	β^{HML}_{Post}	0.04	0.02	−0.00	−0.02	−0.02	−0.02	−0.02	−0.01	0.01	0.03	−0.01
		(3.64)	(1.67)	(−0.27)	(−1.49)	(−2.19)	(−2.22)	(−1.25)	(−0.65)	(0.66)	(1.74)	(−0.31)
	β^{MOM}_{Post}	0.00	−0.00	−0.02	−0.01	−0.00	0.01	0.01	0.00	0.01	−0.00	−0.00
		(0.56)	(−0.50)	(−2.02)	(−1.61)	(−0.29)	(0.75)	(0.63)	(0.52)	(0.66)	(−0.03)	(−0.27)
	β^{LIQ}_{Post}	0.00	0.01	0.02	0.01	0.00	−0.00	−0.01	−0.01	−0.01	−0.00	−0.01
		(0.45)	(0.68)	(1.65)	(1.28)	(0.22)	(−0.04)	(−0.91)	(−1.08)	(−0.64)	(−0.30)	(−0.42)
NAIC 1	Excess Return	0.14	0.13	0.14	0.17	0.21	0.21	0.22	0.23	0.26	0.25	0.11
		(1.82)	(1.06)	(0.87)	(0.91)	(1.01)	(0.92)	(0.93)	(0.93)	(1.01)	(0.92)	(0.52)
	α	0.03	−0.01	−0.02	−0.01	0.02	−0.01	−0.01	−0.00	0.01	−0.02	−0.05
		(1.05)	(−0.29)	(−0.51)	(−0.56)	(0.73)	(−0.30)	(−0.21)	(−0.09)	(0.30)	(−0.38)	(−0.75)
	β^{TERM}_{Post}	0.24	0.40	0.53	0.65	0.74	0.80	0.86	0.90	0.92	0.98	0.74
		(18.64)	(21.47)	(24.48)	(29.25)	(32.87)	(35.04)	(38.42)	(40.68)	(43.57)	(49.84)	(43.79)
	β^{DEF}_{Post}	0.56	0.86	1.05	1.12	1.13	1.14	1.10	1.06	1.00	0.83	0.28
		(18.72)	(24.63)	(31.95)	(45.70)	(49.37)	(43.80)	(37.58)	(31.52)	(27.58)	(18.34)	(4.41)
	$\beta^{STOCKMKT}_{Post}$	0.02	0.01	−0.00	−0.01	−0.02	−0.02	−0.01	−0.01	−0.00	0.02	0.00
		(2.56)	(0.60)	(−0.54)	(−2.16)	(−3.32)	(−2.98)	(−1.71)	(−1.08)	(−0.32)	(1.68)	(0.04)
	β^{SMB}_{Post}	0.01	0.01	0.01	0.01	−0.01	−0.01	−0.01	−0.02	−0.03	−0.03	−0.04
		(1.20)	(0.88)	(0.78)	(0.96)	(−0.69)	(−0.68)	(−1.09)	(−1.88)	(−1.93)	(−1.70)	(−1.77)
	β^{HML}_{Post}	0.04	0.02	−0.00	−0.02	−0.03	−0.03	−0.02	−0.01	−0.00	0.03	−0.01
		(3.24)	(1.41)	(−0.22)	(−2.10)	(−2.87)	(−2.38)	(−1.50)	(−0.91)	(−0.07)	(1.59)	(−0.34)
	β^{MOM}_{Post}	0.01	−0.00	−0.02	−0.00	−0.00	0.01	0.01	0.00	0.00	−0.00	−0.01
		(0.86)	(−0.34)	(−1.73)	(−0.67)	(−0.20)	(0.72)	(0.66)	(0.50)	(0.45)	(−0.35)	(−0.64)
	β^{LIQ}_{Post}	0.00	0.01	0.02	0.01	0.00	−0.00	−0.01	−0.01	−0.01	0.00	−0.00
		(0.30)	(0.74)	(1.55)	(1.76)	(0.51)	(−0.15)	(−0.77)	(−0.80)	(−0.45)	(0.06)	(−0.10)

Table IA-48: Performance of Portfolios Sorted on β^{CBMKT} - 1978-1992 - Full Results - continued

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
NAIC 2	Excess Return	0.23	0.22	0.21	0.23	0.22	0.24	0.26	0.31	0.32	0.31	0.08
		(2.65)	(1.84)	(1.30)	(1.25)	(1.09)	(1.09)	(1.10)	(1.21)	(1.22)	(1.23)	(0.44)
	α	0.11	0.07	0.03	0.03	−0.01	−0.00	0.00	0.02	0.03	0.04	−0.07
		(3.62)	(2.24)	(0.78)	(0.94)	(−0.14)	(−0.07)	(0.02)	(0.31)	(0.43)	(0.54)	(−0.98)
	β^{TERM}_{Post}	0.28	0.38	0.51	0.59	0.65	0.74	0.82	0.87	0.90	0.88	0.60
		(19.50)	(19.88)	(21.16)	(22.58)	(22.76)	(26.95)	(28.30)	(28.84)	(29.62)	(30.12)	(26.57)
	β^{DEF}_{Post}	0.59	0.88	1.14	1.26	1.37	1.26	1.33	1.30	1.29	1.19	0.59
		(17.84)	(25.07)	(26.88)	(32.03)	(31.88)	(24.82)	(23.57)	(19.48)	(18.62)	(16.35)	(7.61)
	$\beta^{STOCKMKT}_{Post}$	0.03	0.02	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.05	0.02
		(3.39)	(2.85)	(2.29)	(1.66)	(1.89)	(1.24)	(0.29)	(1.16)	(0.97)	(2.56)	(0.98)
	β^{SMB}_{Post}	0.03	0.04	0.04	0.04	0.03	0.02	0.03	0.02	0.01	−0.01	−0.04
		(2.17)	(2.87)	(2.22)	(2.67)	(1.53)	(1.20)	(1.56)	(0.79)	(0.23)	(−0.35)	(−1.20)
	β^{HML}_{Post}	0.04	0.05	0.00	−0.00	−0.00	0.00	0.01	0.03	0.02	0.05	0.00
		(3.23)	(3.11)	(0.04)	(−0.29)	(−0.01)	(0.07)	(0.38)	(1.17)	(0.78)	(1.54)	(0.11)
	β^{MOM}_{Post}	−0.00	−0.01	−0.02	−0.02	−0.00	0.01	0.01	0.01	0.02	−0.01	−0.01
		(−0.34)	(−1.46)	(−1.35)	(−1.76)	(−0.24)	(0.56)	(0.75)	(0.64)	(0.80)	(−0.46)	(−0.28)
	β^{LIQ}_{Post}	0.01	0.01	0.02	0.02	−0.00	−0.01	−0.01	−0.01	−0.02	−0.02	−0.02
		(0.83)	(0.76)	(1.18)	(1.43)	(−0.13)	(−0.79)	(−0.79)	(−0.61)	(−0.70)	(−0.69)	(−0.97)
NAIC Avg.	Excess Return	0.19	0.18	0.17	0.20	0.21	0.22	0.24	0.27	0.29	0.28	0.09
		(2.28)	(1.45)	(1.09)	(1.08)	(1.06)	(1.01)	(1.02)	(1.08)	(1.12)	(1.08)	(0.49)
	α	0.07	0.03	0.01	0.01	0.00	−0.01	−0.00	0.01	0.02	0.01	−0.06
		(2.67)	(1.10)	(0.24)	(0.46)	(0.21)	(−0.19)	(−0.08)	(0.22)	(0.49)	(0.22)	(−1.01)
	β^{TERM}_{Post}	0.26	0.39	0.52	0.62	0.69	0.77	0.84	0.88	0.91	0.93	0.67
		(19.71)	(21.31)	(23.35)	(26.27)	(27.97)	(31.79)	(34.04)	(35.57)	(37.49)	(40.67)	(38.14)
	β^{DEF}_{Post}	0.58	0.87	1.09	1.19	1.25	1.20	1.21	1.18	1.14	1.01	0.44
		(20.15)	(29.08)	(34.79)	(47.70)	(51.53)	(40.69)	(36.42)	(29.39)	(27.61)	(20.91)	(7.11)
	$\beta^{STOCKMKT}_{Post}$	0.02	0.01	0.01	0.00	0.00	−0.00	−0.00	0.01	0.01	0.03	0.01
		(3.34)	(1.98)	(1.23)	(0.24)	(0.13)	(−0.24)	(−0.51)	(0.52)	(0.67)	(2.73)	(0.64)
	β^{SMB}_{Post}	0.02	0.02	0.02	0.02	0.01	0.01	0.01	−0.00	−0.01	−0.02	−0.04
		(1.91)	(2.17)	(1.88)	(2.56)	(1.02)	(0.73)	(0.83)	(−0.12)	(−0.65)	(−1.07)	(−1.67)
	β^{HML}_{Post}	0.04	0.03	−0.00	−0.01	−0.01	−0.01	−0.00	0.01	0.01	0.04	−0.00
		(3.60)	(2.62)	(−0.09)	(−1.26)	(−1.32)	(−0.98)	(−0.34)	(0.59)	(0.62)	(1.92)	(−0.10)
	β^{MOM}_{Post}	0.00	−0.01	−0.02	−0.01	−0.00	0.01	0.01	0.01	0.01	−0.01	−0.01
		(0.26)	(−1.03)	(−1.81)	(−1.71)	(−0.30)	(0.79)	(0.92)	(0.74)	(0.86)	(−0.51)	(−0.51)
	β^{LIQ}_{Post}	0.01	0.01	0.02	0.02	0.00	−0.01	−0.01	−0.01	−0.01	−0.01	−0.01
		(0.64)	(0.88)	(1.60)	(1.99)	(0.12)	(−0.74)	(−1.00)	(−0.83)	(−0.78)	(−0.49)	(−0.66)

Table IA-49: Performance of Portfolios Sorted on β^{TERM} - 1978-1992 - Full Results
This table presents the full set of results of the unconditional and conditional portfolio analyses, part of which are summarized in Table 7 of the main paper, that examine the performance of portfolios formed by sorting on β^{TERM}.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	Excess Return	0.18	0.17	0.17	0.18	0.22	0.22	0.23	0.25	0.24	0.27	0.09
		(2.17)	(1.35)	(1.08)	(0.99)	(1.05)	(0.98)	(0.97)	(1.00)	(0.95)	(1.01)	(0.46)
	α	0.06	0.02	0.01	−0.01	0.01	−0.00	−0.00	0.01	−0.01	0.01	−0.05
		(2.17)	(0.75)	(0.30)	(−0.39)	(0.74)	(−0.18)	(−0.04)	(0.42)	(−0.33)	(0.15)	(−0.88)
	β^{TERM}_{Post}	0.26	0.40	0.52	0.63	0.72	0.79	0.84	0.88	0.91	0.97	0.72
		(19.51)	(21.84)	(23.80)	(27.45)	(31.52)	(34.18)	(36.87)	(39.16)	(41.99)	(49.31)	(43.99)
	β^{DEF}_{Post}	0.57	0.85	1.08	1.16	1.16	1.16	1.14	1.11	1.04	0.86	0.29
		(19.81)	(27.90)	(36.69)	(52.75)	(55.88)	(46.44)	(41.91)	(36.27)	(31.00)	(19.98)	(4.73)
	$\beta^{STOCKMKT}_{Post}$	0.02	0.01	0.00	−0.00	−0.01	−0.01	−0.01	−0.00	0.00	0.02	−0.01
		(3.53)	(1.54)	(0.06)	(−0.22)	(−2.01)	(−1.97)	(−1.49)	(−0.62)	(0.15)	(1.62)	(−0.45)
	β^{SMB}_{Post}	0.02	0.02	0.01	0.01	0.00	0.00	−0.01	−0.02	−0.02	−0.03	−0.05
		(1.84)	(1.58)	(1.25)	(0.77)	(0.35)	(0.06)	(−1.10)	(−1.40)	(−1.72)	(−1.61)	(−1.98)
	β^{HML}_{Post}	0.05	0.02	−0.00	−0.01	−0.02	−0.02	−0.02	−0.01	0.00	0.02	−0.02
		(3.90)	(1.87)	(−0.14)	(−0.61)	(−2.28)	(−1.81)	(−1.27)	(−0.83)	(0.26)	(1.25)	(−0.88)
	β^{MOM}_{Post}	0.00	−0.01	−0.01	−0.00	−0.00	0.00	0.00	−0.00	0.00	−0.00	−0.00
		(0.42)	(−0.64)	(−1.56)	(−0.63)	(−0.21)	(0.67)	(0.62)	(−0.08)	(0.51)	(−0.12)	(−0.27)
	β^{LIQ}_{Post}	0.00	0.01	0.02	0.01	0.00	0.01	−0.01	−0.01	−0.00	−0.00	−0.01
		(0.56)	(0.71)	(1.71)	(1.04)	(0.18)	(0.66)	(−0.85)	(−1.05)	(−0.45)	(−0.24)	(−0.43)
NAIC 1	Excess Return	0.15	0.14	0.14	0.17	0.21	0.21	0.22	0.24	0.24	0.25	0.10
		(1.91)	(1.10)	(0.90)	(0.90)	(1.01)	(0.95)	(0.93)	(0.97)	(0.95)	(0.92)	(0.47)
	α	0.03	−0.00	−0.02	−0.01	0.01	−0.00	−0.00	0.01	−0.00	−0.01	−0.05
		(1.23)	(−0.10)	(−0.50)	(−0.61)	(0.53)	(−0.11)	(−0.08)	(0.27)	(−0.10)	(−0.27)	(−0.75)
	β^{TERM}_{Post}	0.25	0.40	0.53	0.65	0.74	0.80	0.85	0.90	0.92	0.99	0.74
		(19.26)	(21.68)	(24.76)	(29.22)	(33.28)	(35.34)	(38.20)	(41.25)	(43.93)	(51.03)	(44.05)
	β^{DEF}_{Post}	0.55	0.86	1.04	1.12	1.12	1.12	1.10	1.05	0.99	0.82	0.27
		(18.62)	(24.71)	(33.02)	(46.82)	(51.92)	(41.71)	(38.54)	(32.43)	(27.59)	(18.01)	(4.19)
	$\beta^{STOCKMKT}_{Post}$	0.02	0.01	−0.01	−0.01	−0.02	−0.02	−0.02	−0.01	−0.00	0.02	−0.00
		(2.89)	(0.60)	(−0.62)	(−1.95)	(−3.26)	(−2.38)	(−2.14)	(−1.18)	(−0.23)	(1.47)	(−0.26)
	β^{SMB}_{Post}	0.02	0.01	0.01	0.00	−0.00	−0.01	−0.01	−0.02	−0.03	−0.04	−0.05
		(1.44)	(0.81)	(0.86)	(0.14)	(−0.26)	(−0.49)	(−1.33)	(−1.89)	(−1.96)	(−2.11)	(−2.16)
	β^{HML}_{Post}	0.05	0.02	−0.00	−0.02	−0.03	−0.02	−0.02	−0.02	−0.00	0.02	−0.02
		(3.66)	(1.24)	(−0.13)	(−1.85)	(−2.72)	(−1.98)	(−1.76)	(−1.07)	(−0.15)	(1.21)	(−0.78)
	β^{MOM}_{Post}	0.01	−0.00	−0.01	−0.00	0.00	0.00	0.00	0.00	0.01	−0.00	−0.01
		(0.95)	(−0.37)	(−1.39)	(−0.71)	(0.17)	(0.47)	(0.40)	(0.24)	(0.49)	(−0.37)	(−0.70)
	β^{LIQ}_{Post}	0.00	0.01	0.02	0.01	0.01	0.00	−0.01	−0.01	−0.01	0.00	−0.00
		(0.43)	(0.67)	(1.54)	(1.46)	(0.75)	(0.40)	(−0.60)	(−0.74)	(−0.51)	(0.12)	(−0.11)

Table IA-49: Performance of Portfolios Sorted on β^{TERM} - 1978-1992 - Full Results - continued

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
NAIC 2	Excess Return	0.24	0.24	0.22	0.23	0.24	0.25	0.28	0.30	0.29	0.30	0.06
		(2.64)	(2.02)	(1.35)	(1.25)	(1.20)	(1.13)	(1.19)	(1.18)	(1.11)	(1.16)	(0.32)
	α	0.12	0.09	0.04	0.03	0.02	−0.00	0.01	0.01	0.00	0.03	−0.09
		(3.58)	(2.80)	(1.08)	(0.73)	(0.50)	(−0.02)	(0.20)	(0.20)	(0.07)	(0.43)	(−1.17)
	β^{TERM}_{Post}	0.29	0.37	0.52	0.58	0.66	0.73	0.81	0.88	0.89	0.90	0.61
		(19.36)	(20.39)	(21.52)	(21.64)	(24.47)	(26.15)	(28.40)	(29.56)	(29.88)	(31.15)	(27.66)
	β^{DEF}_{Post}	0.62	0.84	1.14	1.30	1.30	1.29	1.30	1.28	1.26	1.19	0.57
		(17.77)	(23.53)	(28.58)	(31.31)	(30.56)	(24.94)	(23.00)	(19.68)	(18.48)	(16.94)	(7.48)
	$\beta^{STOCKMKT}_{Post}$	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.03	0.01
		(3.21)	(3.21)	(2.08)	(1.78)	(2.00)	(1.11)	(0.83)	(0.98)	(1.39)	(1.92)	(0.35)
	β^{SMB}_{Post}	0.03	0.03	0.04	0.04	0.01	0.03	0.03	0.02	0.01	−0.01	−0.03
		(2.17)	(2.50)	(2.51)	(2.27)	(0.90)	(1.42)	(1.21)	(0.59)	(0.52)	(−0.24)	(−1.17)
	β^{HML}_{Post}	0.04	0.05	−0.01	0.01	0.01	0.00	0.01	0.03	0.03	0.04	−0.01
		(2.88)	(3.55)	(−0.33)	(0.31)	(0.47)	(0.11)	(0.56)	(1.17)	(0.93)	(1.15)	(−0.21)
	β^{MOM}_{Post}	−0.00	−0.01	−0.01	−0.02	−0.00	0.01	0.02	0.02	0.00	−0.01	−0.00
		(−0.25)	(−1.46)	(−1.24)	(−1.57)	(−0.36)	(0.82)	(1.34)	(0.81)	(0.25)	(−0.26)	(−0.12)
	β^{LIQ}_{Post}	0.01	0.00	0.02	0.02	−0.01	−0.01	−0.02	−0.01	−0.01	−0.02	−0.03
		(0.69)	(0.29)	(1.39)	(1.52)	(−0.43)	(−0.43)	(−0.86)	(−0.51)	(−0.59)	(−0.97)	(−1.19)
NAIC Avg.	Excess Return	0.20	0.19	0.18	0.20	0.23	0.23	0.25	0.27	0.26	0.27	0.08
		(2.32)	(1.56)	(1.14)	(1.08)	(1.11)	(1.05)	(1.07)	(1.09)	(1.04)	(1.05)	(0.41)
	α	0.08	0.04	0.01	0.01	0.02	−0.00	0.00	0.01	0.00	0.01	−0.07
		(2.79)	(1.55)	(0.46)	(0.30)	(0.66)	(−0.06)	(0.13)	(0.27)	(0.01)	(0.20)	(−1.14)
	β^{TERM}_{Post}	0.27	0.39	0.53	0.62	0.70	0.76	0.83	0.89	0.91	0.95	0.68
		(19.93)	(21.76)	(23.68)	(25.72)	(29.22)	(31.32)	(34.01)	(36.17)	(37.90)	(42.13)	(39.44)
	β^{DEF}_{Post}	0.58	0.85	1.09	1.21	1.21	1.21	1.20	1.17	1.13	1.00	0.42
		(20.01)	(28.44)	(37.33)	(48.20)	(50.09)	(38.98)	(35.78)	(29.52)	(27.72)	(21.90)	(6.97)
	$\beta^{STOCKMKT}_{Post}$	0.02	0.02	0.01	0.00	0.00	−0.00	−0.00	0.00	0.01	0.03	0.00
		(3.41)	(2.22)	(1.06)	(0.53)	(0.32)	(−0.10)	(−0.21)	(0.33)	(1.06)	(2.20)	(0.09)
	β^{SMB}_{Post}	0.02	0.02	0.02	0.02	0.01	0.01	0.01	−0.00	−0.01	−0.02	−0.04
		(2.04)	(1.93)	(2.15)	(1.93)	(0.66)	(0.96)	(0.44)	(−0.28)	(−0.42)	(−1.23)	(−1.88)
	β^{HML}_{Post}	0.04	0.04	−0.00	−0.01	−0.01	−0.01	−0.00	0.01	0.01	0.03	−0.01
		(3.61)	(2.80)	(−0.29)	(−0.63)	(−0.77)	(−0.76)	(−0.27)	(0.52)	(0.71)	(1.48)	(−0.54)
	β^{MOM}_{Post}	0.00	−0.01	−0.01	−0.01	−0.00	0.01	0.01	0.01	0.00	−0.00	−0.01
		(0.34)	(−1.07)	(−1.59)	(−1.62)	(−0.24)	(0.88)	(1.29)	(0.76)	(0.42)	(−0.38)	(−0.44)
	β^{LIQ}_{Post}	0.01	0.01	0.02	0.02	−0.00	−0.00	−0.01	−0.01	−0.01	−0.01	−0.02
		(0.64)	(0.58)	(1.77)	(1.94)	(−0.04)	(−0.19)	(−0.97)	(−0.72)	(−0.72)	(−0.69)	(−0.81)

Table IA-50: Performance of Portfolios Sorted on β^{DEF} - 1978-1992 - Full Results
This table presents the full set of results of the unconditional and conditional portfolio analyses, part of which are summarized in Table 7 of the main paper, that examine the performance of portfolios formed by sorting on β^{DEF}.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	Excess Return	0.18	0.19	0.20	0.21	0.21	0.20	0.22	0.22	0.22	0.26	0.07
		(1.00)	(1.01)	(1.05)	(1.07)	(1.04)	(0.99)	(1.06)	(1.07)	(1.02)	(1.25)	(1.11)
	α	−0.03	−0.01	−0.00	0.01	0.01	−0.01	0.01	0.01	0.01	0.04	0.07
		(−0.67)	(−0.20)	(−0.06)	(0.35)	(0.54)	(−0.48)	(0.45)	(0.66)	(0.28)	(1.17)	(1.03)
	β^{TERM}_{Post}	0.63	0.67	0.68	0.69	0.73	0.73	0.73	0.73	0.74	0.70	0.07
		(30.54)	(33.54)	(35.80)	(36.18)	(35.63)	(35.23)	(35.83)	(33.49)	(31.03)	(27.79)	(3.60)
	β^{DEF}_{Post}	0.94	0.95	0.92	0.97	1.03	1.05	1.03	1.10	1.19	1.20	0.26
		(23.51)	(29.01)	(34.22)	(49.14)	(56.48)	(54.42)	(51.63)	(48.91)	(41.29)	(30.95)	(3.79)
	$\beta^{STOCKMKT}_{Post}$	−0.01	−0.01	−0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02
		(−0.57)	(−1.05)	(−0.17)	(0.98)	(0.83)	(0.76)	(1.65)	(1.87)	(0.93)	(1.84)	(1.35)
	β^{SMB}_{Post}	−0.01	−0.01	0.00	−0.00	−0.00	−0.00	0.00	0.00	−0.00	0.03	0.04
		(−0.52)	(−0.95)	(0.08)	(−0.43)	(−0.36)	(−0.28)	(0.10)	(0.18)	(−0.36)	(2.23)	(1.53)
	β^{HML}_{Post}	0.00	0.00	0.01	0.01	−0.00	−0.00	−0.00	0.00	0.01	0.02	0.02
		(0.17)	(0.16)	(0.62)	(1.18)	(−0.60)	(−0.39)	(−0.43)	(0.50)	(0.68)	(1.49)	(0.73)
	β^{MOM}_{Post}	0.03	0.01	0.01	−0.00	−0.01	−0.00	−0.01	−0.01	−0.02	−0.02	−0.06
		(2.83)	(1.58)	(0.87)	(−0.63)	(−1.37)	(−0.07)	(−0.97)	(−2.17)	(−1.95)	(−2.21)	(−2.86)
	β^{LIQ}_{Post}	−0.01	−0.01	0.00	0.01	0.01	0.01	0.01	0.00	−0.00	0.00	0.01
		(−0.97)	(−0.74)	(0.24)	(1.31)	(1.00)	(1.03)	(1.15)	(0.20)	(−0.25)	(0.14)	(0.64)
NAIC 1	Excess Return	0.18	0.19	0.20	0.19	0.22	0.19	0.18	0.22	0.21	0.20	0.03
		(0.96)	(0.98)	(1.03)	(0.98)	(1.07)	(0.93)	(0.87)	(1.05)	(0.99)	(0.98)	(0.42)
	α	−0.03	−0.01	−0.00	−0.01	0.02	−0.01	−0.02	0.01	0.01	0.01	0.04
		(−0.80)	(−0.42)	(−0.11)	(−0.40)	(0.86)	(−0.46)	(−1.05)	(0.45)	(0.29)	(0.32)	(0.66)
	β^{TERM}_{Post}	0.64	0.69	0.70	0.71	0.73	0.74	0.75	0.74	0.74	0.72	0.08
		(31.45)	(35.43)	(37.20)	(37.78)	(37.50)	(36.09)	(36.64)	(35.57)	(33.06)	(30.14)	(4.19)
	β^{DEF}_{Post}	0.91	0.90	0.90	0.92	0.97	1.04	1.03	1.04	1.10	1.14	0.22
		(21.99)	(26.62)	(30.91)	(38.77)	(39.64)	(50.53)	(47.22)	(45.15)	(36.79)	(30.20)	(3.27)
	$\beta^{STOCKMKT}_{Post}$	−0.01	−0.01	−0.01	0.00	0.00	−0.00	−0.00	0.01	0.00	0.00	0.01
		(−0.99)	(−0.73)	(−0.93)	(0.48)	(0.23)	(−0.02)	(−0.32)	(1.40)	(0.56)	(0.11)	(0.66)
	β^{SMB}_{Post}	−0.01	−0.02	−0.00	−0.00	−0.01	−0.01	−0.00	−0.01	−0.01	0.01	0.02
		(−0.78)	(−1.43)	(−0.40)	(−0.51)	(−0.85)	(−1.08)	(−0.23)	(−1.06)	(−0.43)	(0.74)	(0.88)
	β^{HML}_{Post}	−0.00	0.01	0.00	0.01	0.00	−0.01	−0.01	0.00	−0.00	0.00	0.00
		(−0.00)	(0.43)	(0.15)	(0.95)	(0.22)	(−1.02)	(−1.03)	(0.19)	(−0.35)	(0.19)	(0.11)
	β^{MOM}_{Post}	0.04	0.02	0.01	−0.00	−0.01	−0.01	−0.00	−0.01	−0.02	−0.03	−0.06
		(3.14)	(1.89)	(1.45)	(−0.63)	(−1.85)	(−1.02)	(−0.76)	(−1.30)	(−2.07)	(−2.47)	(−3.27)
	β^{LIQ}_{Post}	−0.02	−0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.02
		(−1.23)	(−0.86)	(0.35)	(1.40)	(1.75)	(0.62)	(0.63)	(0.97)	(0.48)	(0.27)	(0.89)

Table IA-50: Performance of Portfolios Sorted on β^{DEF} - 1978-1992 - Full Results - continued

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
NAIC 2	Excess Return	0.25	0.22	0.27	0.26	0.22	0.23	0.24	0.27	0.32	0.29	0.04
		(1.67)	(1.32)	(1.45)	(1.33)	(1.08)	(1.07)	(1.14)	(1.22)	(1.52)	(1.41)	(0.40)
	α	0.06	0.02	0.06	0.03	−0.01	−0.01	0.02	0.03	0.08	0.07	0.00
		(1.31)	(0.40)	(1.42)	(0.82)	(−0.24)	(−0.21)	(0.55)	(0.53)	(1.66)	(1.05)	(0.04)
	β^{TERM}_{Post}	0.51	0.55	0.61	0.66	0.69	0.72	0.73	0.74	0.70	0.67	0.17
		(24.55)	(24.64)	(25.23)	(26.78)	(26.97)	(26.49)	(27.33)	(26.97)	(25.70)	(22.26)	(7.09)
	β^{DEF}_{Post}	0.84	0.97	1.13	1.16	1.20	1.27	1.24	1.26	1.25	1.31	0.47
		(16.55)	(20.44)	(26.28)	(28.02)	(28.48)	(26.97)	(26.38)	(25.15)	(24.45)	(19.64)	(5.45)
	$\beta^{STOCKMKT}_{Post}$	0.03	0.02	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.00
		(2.32)	(1.59)	(0.95)	(0.47)	(1.43)	(1.35)	(1.66)	(2.41)	(2.62)	(1.97)	(0.15)
	β^{SMB}_{Post}	0.03	0.02	0.02	0.01	0.02	0.03	0.00	0.01	0.03	0.05	0.02
		(1.33)	(1.02)	(1.49)	(0.69)	(1.48)	(1.44)	(0.16)	(0.47)	(1.42)	(1.86)	(0.64)
	β^{HML}_{Post}	0.02	0.01	0.01	0.00	0.02	0.02	0.01	0.02	0.05	0.04	0.02
		(1.00)	(0.37)	(0.34)	(0.09)	(1.18)	(0.93)	(0.69)	(1.07)	(2.22)	(1.50)	(0.56)
	β^{MOM}_{Post}	0.01	0.02	0.01	0.02	0.00	0.00	−0.01	−0.01	−0.02	−0.03	−0.04
		(0.51)	(1.11)	(0.41)	(1.78)	(0.19)	(0.19)	(−0.85)	(−0.61)	(−1.04)	(−1.55)	(−1.47)
	β^{LIQ}_{Post}	0.02	0.00	0.00	−0.00	−0.01	−0.01	−0.02	−0.00	−0.01	0.00	−0.01
		(1.02)	(0.32)	(0.02)	(−0.33)	(−0.89)	(−0.94)	(−1.16)	(−0.00)	(−0.46)	(0.18)	(−0.45)
NAIC Avg.	Excess Return	0.22	0.20	0.23	0.22	0.22	0.21	0.21	0.24	0.26	0.25	0.03
		(1.29)	(1.15)	(1.25)	(1.16)	(1.08)	(1.01)	(1.02)	(1.15)	(1.26)	(1.21)	(0.45)
	α	0.02	0.00	0.03	0.01	0.01	−0.01	0.00	0.02	0.04	0.04	0.02
		(0.43)	(0.08)	(1.12)	(0.56)	(0.24)	(−0.39)	(0.05)	(0.60)	(1.45)	(0.96)	(0.35)
	β^{TERM}_{Post}	0.57	0.62	0.66	0.68	0.71	0.73	0.74	0.74	0.72	0.70	0.12
		(29.50)	(31.14)	(31.93)	(32.95)	(32.96)	(31.76)	(32.42)	(31.56)	(30.08)	(26.92)	(6.49)
	β^{DEF}_{Post}	0.88	0.94	1.02	1.04	1.08	1.15	1.14	1.15	1.18	1.22	0.35
		(22.62)	(28.82)	(39.47)	(48.09)	(49.83)	(46.48)	(42.36)	(37.66)	(36.61)	(28.61)	(5.03)
	$\beta^{STOCKMKT}_{Post}$	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.01
		(0.98)	(0.77)	(0.26)	(0.71)	(1.50)	(1.26)	(1.32)	(2.51)	(2.34)	(1.59)	(0.42)
	β^{SMB}_{Post}	0.01	−0.00	0.01	0.00	0.01	0.01	0.00	−0.00	0.01	0.03	0.02
		(0.45)	(−0.00)	(1.01)	(0.37)	(0.96)	(0.90)	(0.04)	(−0.02)	(0.92)	(1.78)	(0.84)
	β^{HML}_{Post}	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.02	0.01
		(0.65)	(0.50)	(0.37)	(0.60)	(1.25)	(0.45)	(0.18)	(0.95)	(1.59)	(1.25)	(0.40)
	β^{MOM}_{Post}	0.02	0.02	0.01	0.01	−0.01	−0.00	−0.01	−0.01	−0.02	−0.03	−0.05
		(1.99)	(1.78)	(1.16)	(1.34)	(−0.84)	(−0.25)	(−1.05)	(−0.99)	(−1.81)	(−2.32)	(−2.54)
	β^{LIQ}_{Post}	0.00	−0.00	0.00	0.00	0.00	−0.00	−0.01	0.00	−0.00	0.00	0.00
		(0.01)	(−0.21)	(0.21)	(0.45)	(0.11)	(−0.62)	(−0.76)	(0.37)	(−0.13)	(0.26)	(0.15)

Table IA-51: Zero-Cost Portfolios - 1978-1992 versus 1993-2014 - Full Results

This table presents the full set of results of the portfolio analyses, summarized in Table 7 of the main paper, that examine the performance of portfolios formed by sorting on NIG proximity or systematic risk exposure for the 1978-2014 period.

Value	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB	β^{CBMKT} 1	β^{CBMKT} 10	β^{CBMKT} 10−1	β^{TERM} 1	β^{TERM} 10	β^{TERM} 10−1	β^{DEF} 1	β^{DEF} 10	β^{DEF} 10−1
α	0.01	0.01	−0.04	−0.00	−0.05	0.05	0.00	−0.05	0.06	0.01	−0.05	−0.03	0.04	0.07
	(0.14)	(0.13)	(−0.88)	(−0.02)	(−1.05)	(1.76)	(0.05)	(−0.75)	(1.54)	(0.12)	(−0.75)	(−0.58)	(0.91)	(0.88)
α^{1993}	0.13	0.14	0.16	0.14	0.14	0.17	−0.14	−0.31	0.15	−0.16	−0.31	0.11	−0.02	−0.13
	(1.93)	(1.82)	(2.70)	(2.08)	(2.29)	(4.46)	(−2.08)	(−3.55)	(3.11)	(−2.41)	(−3.53)	(1.88)	(−0.33)	(−1.27)
β^{TERM}_{Post}	0.66	−0.05	0.02	−0.03	0.04	0.25	0.97	0.72	0.26	0.97	0.72	0.63	0.70	0.07
	(24.87)	(−2.82)	(1.60)	(−2.44)	(2.97)	(19.98)	(33.44)	(28.85)	(14.96)	(36.63)	(35.13)	(32.17)	(24.39)	(2.83)
β^{DEF}_{Post}	1.32	0.36	0.22	0.33	0.21	0.57	0.89	0.32	0.57	0.86	0.29	0.94	1.20	0.26
	(25.00)	(5.87)	(4.85)	(6.17)	(4.24)	(17.58)	(16.66)	(4.55)	(14.47)	(15.66)	(3.94)	(20.14)	(24.61)	(3.24)
$\beta^{STOCKMKT}_{Post}$	0.02	0.02	0.00	0.02	0.00	0.02	0.02	−0.00	0.02	0.02	−0.01	−0.01	0.02	0.02
	(1.58)	(1.49)	(0.16)	(1.42)	(0.07)	(2.76)	(1.63)	(−0.00)	(2.50)	(1.28)	(−0.38)	(−0.49)	(1.43)	(1.14)
β^{SMB}_{Post}	0.02	0.03	0.00	0.03	−0.00	0.02	−0.02	−0.04	0.02	−0.03	−0.05	−0.01	0.03	0.04
	(1.13)	(1.40)	(0.02)	(1.32)	(−0.09)	(1.50)	(−0.89)	(−1.34)	(1.30)	(−1.28)	(−1.68)	(−0.45)	(1.74)	(1.30)
β^{HML}_{Post}	0.01	0.01	−0.01	0.01	−0.01	0.04	0.03	−0.01	0.05	0.02	−0.02	0.00	0.02	0.02
	(0.33)	(0.32)	(−0.40)	(0.24)	(−0.49)	(3.17)	(1.52)	(−0.27)	(2.76)	(0.99)	(−0.75)	(0.14)	(1.16)	(0.62)
β^{MOM}_{Post}	−0.00	−0.00	0.00	−0.00	0.00	0.00	−0.00	−0.00	0.00	−0.00	−0.00	0.03	−0.02	−0.06
	(−0.01)	(−0.09)	(0.07)	(−0.06)	(0.04)	(0.49)	(−0.03)	(−0.24)	(0.30)	(−0.09)	(−0.23)	(2.45)	(−1.72)	(−2.43)
β^{LIQ}_{Post}	−0.00	−0.01	−0.00	−0.01	−0.00	0.00	−0.00	−0.01	0.00	−0.00	−0.01	−0.01	0.00	0.01
	(−0.23)	(−0.34)	(−0.21)	(−0.33)	(−0.11)	(0.40)	(−0.26)	(−0.37)	(0.39)	(−0.19)	(−0.36)	(−0.84)	(0.11)	(0.54)
$\beta^{TERM,1993}_{Post}$	−0.43	−0.03	−0.08	−0.03	−0.10	−0.17	−0.41	−0.24	−0.18	−0.31	−0.13	−0.35	−0.34	0.01
	(−11.31)	(−1.13)	(−4.83)	(−1.53)	(−5.36)	(−9.23)	(−9.85)	(−6.81)	(−7.19)	(−8.11)	(−4.50)	(−12.70)	(−8.42)	(0.36)
$\beta^{DEF,1993}_{Post}$	−0.27	−0.21	−0.14	−0.21	−0.15	−0.15	0.58	0.73	0.20	0.42	0.22	−0.26	0.14	0.40
	(−4.09)	(−2.77)	(−2.44)	(−3.10)	(−2.39)	(−3.64)	(8.56)	(8.07)	(3.94)	(6.01)	(2.39)	(−4.43)	(2.29)	(3.92)
$\beta^{STOCKMKT,1993}_{Post}$	−0.01	0.01	0.01	0.00	0.02	−0.05	0.02	0.07	−0.05	0.01	0.06	0.01	−0.00	−0.02
	(−0.33)	(0.51)	(0.45)	(0.16)	(1.54)	(−4.97)	(0.98)	(2.95)	(−3.88)	(0.67)	(2.62)	(0.88)	(−0.20)	(−0.62)
$\beta^{SMB,1993}_{Post}$	−0.02	−0.03	−0.00	−0.03	0.00	−0.01	0.04	0.05	−0.02	0.05	0.07	−0.00	−0.01	−0.01
	(−0.83)	(−1.24)	(−0.11)	(−1.21)	(0.14)	(−0.49)	(1.71)	(1.51)	(−0.95)	(2.13)	(2.14)	(−0.09)	(−0.48)	(−0.24)
$\beta^{HML,1993}_{Post}$	−0.02	−0.01	−0.01	−0.02	0.00	−0.04	0.00	0.04	−0.05	0.00	0.06	0.02	−0.02	−0.04
	(−0.60)	(−0.49)	(−0.56)	(−0.65)	(0.14)	(−2.64)	(0.08)	(1.24)	(−2.77)	(0.06)	(1.55)	(0.75)	(−0.80)	(−0.91)
$\beta^{MOM,1993}_{Post}$	−0.01	−0.01	−0.01	−0.01	−0.01	−0.01	0.01	0.02	−0.02	0.00	0.02	−0.00	0.02	0.02
	(−0.34)	(−0.67)	(−0.35)	(−0.51)	(−0.72)	(−0.57)	(0.84)	(0.89)	(−1.53)	(0.14)	(0.94)	(−0.00)	(1.39)	(0.84)
$\beta^{LIQ,1993}_{Post}$	0.03	0.04	0.01	0.03	0.02	−0.01	0.01	0.03	−0.02	0.03	0.05	0.01	−0.01	−0.02
	(1.37)	(1.76)	(0.82)	(1.48)	(1.00)	(−0.95)	(0.75)	(0.98)	(−1.52)	(1.44)	(1.93)	(0.36)	(−0.65)	(−0.60)

Table IA-52: Portfolio Alphas - 1978-2014 - Subperiods

This table presents the alphas of portfolios formed by sorting on NIG proximity or systematic risk exposure for the 1978-1992, 1993-1997, 1998-2002, 2003-2008, and 2009-2014 periods. The methodology is identical to that used to generate the 1978-2014 results in Table 7 of the main paper, except that the post-1993 period is broken down into subperiods. The alphas reported in the table are the means of monthly alphas over all months in the given subperiod. The alpha for each portfolio in each month is the portfolio's excess return minus the sum of the portfolio's risk factor exposures times the corresponding factor excess returns.

Subperiod	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB	β^{CBMKT} 1	β^{CBMKT} 10	β^{CBMKT} 10−1	β^{TERM} 1	β^{TERM} 10	β^{TERM} 10−1	β^{DEF} 1	β^{DEF} 10	β^{DEF} 10−1
1978-1992	0.01	0.01	−0.04	−0.00	−0.05	0.07	0.01	−0.06	0.08	0.01	−0.07	0.02	0.04	0.02
1993-1997	0.06	0.07	−0.01	0.05	0.03	0.09	0.01	−0.08	0.05	0.04	−0.02	0.06	0.01	−0.05
1998-2002	0.20	0.24	0.28	0.27	0.14	0.20	−0.29	−0.48	0.13	−0.31	−0.43	0.13	−0.12	−0.25
2003-2008	0.10	0.10	0.13	0.10	0.14	0.20	−0.12	−0.31	0.21	−0.14	−0.34	−0.00	0.05	0.05
2009-2014	0.17	0.16	0.07	0.13	0.04	0.40	−0.10	−0.49	0.42	−0.11	−0.53	0.18	0.09	−0.09

Table IA-53: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Financial Intermediary Risk Factor

This table presents the results of a portfolio analysis examining the performance of portfolios formed by sorting on NIG proximity. The methodology is identical to that used to generate Table 2 of the main paper, except that we add the intermediary value weighted investment return factor, $IVWIR$, of He et al. (2017) to our focal factor model.

Value	NAIC 1	NAIC 2 No BBB–	IG No BBB–	BBB	BBB–	[BBB–]–NAIC 1	[BBB–]–NAIC 2 No BBB–	[BBB–]–IG No BBB–	[BBB–]–BBB
Excess Return	0.32	0.38	0.34	0.40	0.48	0.16	0.11	0.14	0.08
	(4.14)	(4.65)	(4.39)	(4.88)	(5.71)	(3.24)	(2.71)	(3.35)	(2.06)
α	−0.01	0.02	−0.00	0.04	0.13	0.14	0.12	0.14	0.09
	(−0.45)	(0.67)	(−0.17)	(1.67)	(3.06)	(2.85)	(2.91)	(3.13)	(2.10)
β_{Post}^{TERM}	0.30	0.30	0.30	0.29	0.23	−0.07	−0.06	−0.07	−0.06
	(15.34)	(13.58)	(15.11)	(13.07)	(8.94)	(−4.21)	(−4.84)	(−4.51)	(−4.18)
β_{Post}^{DEF}	0.90	0.97	0.93	0.99	1.05	0.14	0.08	0.12	0.06
	(47.21)	(37.55)	(67.76)	(37.64)	(24.45)	(2.89)	(2.08)	(2.80)	(1.42)
$\beta_{Post}^{STOCKMKT}$	−0.02	0.00	−0.01	−0.01	0.01	0.03	0.01	0.02	0.02
	(−2.12)	(0.36)	(−1.03)	(−0.88)	(0.49)	(1.24)	(0.30)	(0.83)	(1.07)
β_{Post}^{SMB}	0.00	0.01	0.01	0.00	0.00	−0.00	−0.00	−0.00	0.00
	(0.81)	(0.67)	(1.19)	(0.23)	(0.30)	(−0.04)	(−0.12)	(−0.08)	(0.16)
β_{Post}^{HML}	−0.00	0.01	0.00	−0.00	−0.01	−0.01	−0.02	−0.01	−0.01
	(−0.34)	(1.25)	(0.69)	(−0.18)	(−0.71)	(−0.49)	(−1.60)	(−0.93)	(−0.61)
β_{Post}^{MOM}	0.01	−0.00	0.00	0.00	−0.01	−0.01	−0.00	−0.01	−0.01
	(2.22)	(−0.27)	(1.27)	(0.87)	(−0.60)	(−1.37)	(−0.48)	(−1.02)	(−1.18)
β_{Post}^{LIQ}	−0.01	0.01	−0.00	0.01	0.02	0.03	0.01	0.02	0.02
	(−2.07)	(1.90)	(−0.20)	(1.04)	(2.20)	(2.72)	(1.15)	(2.27)	(1.61)
β_{Post}^{IVWIR}	0.00	0.00	−0.00	0.00	0.00	0.00	0.00	0.01	0.00
	(0.08)	(0.27)	(−0.06)	(0.07)	(0.39)	(0.31)	(0.25)	(0.41)	(0.35)

Table IA-54: Performance of Portfolios Sorted on β^{CBMKT} 1993-2014 - Financial Intermediary Risk Factor

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{CBMKT}. The methodology is identical to that used to generate Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we add the intermediary value weighted investment return factor, $IVWIR$, of He et al. (2017) to our focal factor model.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	β^{CBMKT}_{Post}	0.36	0.54	0.64	0.75	0.79	0.96	1.06	1.18	1.39	1.65	1.29
		(17.74)	(22.55)	(20.75)	(32.84)	(30.30)	(39.28)	(43.98)	(46.65)	(49.84)	(46.45)	(27.34)
	Excess Return	0.34	0.22	0.27	0.28	0.25	0.36	0.39	0.41	0.47	0.48	0.14
		(8.97)	(4.27)	(4.23)	(4.28)	(3.51)	(4.39)	(4.41)	(4.21)	(4.06)	(3.52)	(1.19)
	α	0.23	0.04	0.04	0.02	−0.02	0.02	0.03	−0.00	−0.03	−0.13	−0.36
		(8.58)	(1.14)	(0.91)	(0.58)	(−0.52)	(0.51)	(0.94)	(−0.12)	(−0.78)	(−3.02)	(−6.17)
	β^{IVWIR}_{Post}	−0.01	−0.01	−0.02	−0.01	0.01	−0.01	−0.01	0.00	0.01	0.02	0.03
		(−1.05)	(−1.02)	(−1.76)	(−1.17)	(0.80)	(−0.99)	(−1.25)	(0.48)	(0.56)	(1.33)	(1.48)
NAIC 1	β^{CBMKT}_{Post}	0.36	0.53	0.63	0.75	0.81	0.99	1.10	1.19	1.43	1.64	1.28
		(18.12)	(22.99)	(23.40)	(29.36)	(24.38)	(34.69)	(42.19)	(40.65)	(42.18)	(40.59)	(25.71)
	Excess Return	0.29	0.23	0.26	0.26	0.25	0.34	0.37	0.38	0.46	0.46	0.18
		(7.60)	(4.54)	(4.24)	(3.86)	(3.29)	(3.90)	(3.96)	(3.77)	(3.78)	(3.34)	(1.49)
	α	0.17	0.05	0.05	0.00	−0.01	−0.01	0.00	−0.04	−0.04	−0.14	−0.32
		(6.75)	(1.81)	(1.44)	(0.13)	(−0.27)	(−0.17)	(0.12)	(−0.98)	(−0.91)	(−2.83)	(−5.11)
	β^{IVWIR}_{Post}	−0.01	−0.01	−0.03	0.00	−0.03	−0.01	−0.00	0.01	−0.00	0.03	0.04
		(−1.75)	(−1.37)	(−2.54)	(0.18)	(−2.63)	(−0.49)	(−0.17)	(0.59)	(−0.21)	(1.79)	(2.19)
NAIC 2	β^{CBMKT}_{Post}	0.37	0.55	0.64	0.74	0.75	0.92	0.97	1.19	1.36	1.67	1.30
		(13.65)	(14.13)	(19.41)	(18.99)	(20.92)	(34.35)	(21.66)	(29.85)	(32.87)	(40.19)	(24.31)
	Excess Return	0.40	0.27	0.31	0.30	0.26	0.38	0.45	0.46	0.48	0.55	0.15
		(8.83)	(4.19)	(4.61)	(3.92)	(3.45)	(4.67)	(4.74)	(4.30)	(4.03)	(3.84)	(1.20)
	α	0.28	0.07	0.07	0.02	−0.02	0.03	0.09	0.03	−0.02	−0.10	−0.38
		(7.82)	(1.42)	(1.55)	(0.29)	(−0.45)	(0.79)	(1.43)	(0.47)	(−0.32)	(−1.84)	(−5.57)
	β^{IVWIR}_{Post}	0.00	−0.01	−0.02	−0.00	0.05	−0.01	−0.01	0.00	−0.02	0.02	0.01
		(0.24)	(−0.62)	(−1.88)	(−0.23)	(3.63)	(−0.76)	(−0.64)	(0.09)	(−1.19)	(1.00)	(0.66)
NAIC Avg.	β^{CBMKT}_{Post}	0.36	0.54	0.64	0.74	0.78	0.96	1.03	1.19	1.39	1.66	1.29
		(19.17)	(20.89)	(26.68)	(30.45)	(32.40)	(43.97)	(37.84)	(47.69)	(47.59)	(48.87)	(28.79)
	Excess Return	0.34	0.25	0.28	0.28	0.25	0.36	0.41	0.42	0.47	0.51	0.16
		(9.15)	(4.72)	(4.78)	(4.22)	(3.71)	(4.43)	(4.62)	(4.24)	(4.04)	(3.67)	(1.39)
	α	0.23	0.06	0.06	0.01	−0.02	0.01	0.05	−0.01	−0.03	−0.12	−0.35
		(9.26)	(1.88)	(1.89)	(0.30)	(−0.51)	(0.39)	(1.22)	(−0.17)	(−0.73)	(−2.88)	(−6.34)
	β^{IVWIR}_{Post}	−0.01	−0.01	−0.03	−0.00	0.01	−0.01	−0.01	0.00	−0.01	0.02	0.03
		(−0.74)	(−1.08)	(−2.74)	(−0.09)	(0.86)	(−0.78)	(−0.60)	(0.40)	(−0.97)	(1.71)	(1.64)

Table IA-55: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Financial Intermediary Risk Factor

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{TERM}. The methodology is identical to that used to generate Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we add the intermediary value weighted investment return factor, $IVWIR$, of He et al. (2017) to our focal factor model.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	β^{TERM}_{Post}	0.08	0.14	0.18	0.21	0.25	0.31	0.35	0.43	0.52	0.67	0.59
		(4.09)	(7.90)	(10.43)	(9.74)	(12.35)	(13.11)	(14.81)	(16.27)	(17.92)	(21.59)	(25.30)
	Excess Return	0.38	0.32	0.29	0.30	0.32	0.36	0.37	0.41	0.45	0.47	0.09
		(6.54)	(5.88)	(4.88)	(4.24)	(4.33)	(4.18)	(4.08)	(3.93)	(3.62)	(3.19)	(0.71)
	α	0.21	0.12	0.05	0.04	0.02	−0.01	−0.03	−0.04	−0.09	−0.16	−0.37
		(5.90)	(4.46)	(1.65)	(0.96)	(0.71)	(−0.15)	(−0.88)	(−1.00)	(−2.57)	(−3.33)	(−6.03)
	β^{IVWIR}_{Post}	−0.00	−0.01	−0.00	−0.03	0.01	−0.02	0.01	0.00	0.01	0.02	0.03
		(−0.46)	(−1.66)	(−0.46)	(−2.86)	(0.97)	(−2.45)	(0.65)	(0.03)	(1.31)	(1.65)	(1.56)
NAIC 1	β^{TERM}_{Post}	0.08	0.15	0.18	0.22	0.26	0.33	0.37	0.45	0.55	0.69	0.61
		(4.24)	(9.07)	(10.27)	(9.51)	(11.39)	(13.70)	(14.31)	(16.32)	(18.14)	(22.61)	(25.03)
	Excess Return	0.32	0.29	0.27	0.27	0.31	0.35	0.35	0.42	0.43	0.42	0.10
		(5.63)	(5.34)	(4.60)	(3.59)	(3.97)	(3.92)	(3.58)	(3.82)	(3.31)	(2.84)	(0.81)
	α	0.17	0.10	0.05	0.03	0.01	−0.03	−0.06	−0.04	−0.13	−0.19	−0.37
		(4.61)	(3.31)	(1.66)	(0.57)	(0.28)	(−0.79)	(−1.54)	(−0.94)	(−3.28)	(−3.68)	(−5.76)
	β^{IVWIR}_{Post}	−0.00	−0.01	−0.00	−0.04	−0.01	−0.01	0.01	0.01	0.00	0.02	0.02
		(−0.17)	(−1.18)	(−0.11)	(−2.78)	(−0.49)	(−1.09)	(0.48)	(1.04)	(0.33)	(1.11)	(1.01)
NAIC 2	β^{TERM}_{Post}	0.07	0.14	0.18	0.19	0.24	0.27	0.33	0.39	0.50	0.63	0.56
		(3.04)	(6.23)	(8.22)	(8.79)	(11.00)	(9.80)	(13.59)	(13.09)	(15.72)	(18.71)	(20.54)
	Excess Return	0.43	0.38	0.32	0.33	0.33	0.41	0.36	0.43	0.48	0.55	0.12
		(6.39)	(5.70)	(4.58)	(4.59)	(4.50)	(4.43)	(3.96)	(4.01)	(3.81)	(3.78)	(0.98)
	α	0.25	0.14	0.05	0.05	0.03	0.05	−0.02	0.01	−0.07	−0.07	−0.32
		(5.70)	(3.03)	(1.04)	(1.17)	(0.80)	(0.88)	(−0.41)	(0.14)	(−1.23)	(−1.09)	(−4.19)
	β^{IVWIR}_{Post}	−0.00	−0.01	−0.02	−0.02	0.02	−0.03	0.01	−0.01	−0.01	0.03	0.03
		(−0.33)	(−0.99)	(−1.25)	(−1.60)	(1.56)	(−1.72)	(0.41)	(−0.48)	(−0.43)	(1.77)	(1.60)
NAIC Avg.	β^{TERM}_{Post}	0.08	0.14	0.18	0.20	0.25	0.30	0.35	0.42	0.52	0.66	0.58
		(3.85)	(8.21)	(9.94)	(10.18)	(12.05)	(12.55)	(14.71)	(15.79)	(17.68)	(21.82)	(25.78)
	Excess Return	0.37	0.33	0.29	0.30	0.32	0.38	0.35	0.43	0.45	0.49	0.11
		(6.47)	(6.00)	(4.90)	(4.41)	(4.44)	(4.41)	(3.88)	(4.08)	(3.63)	(3.38)	(0.93)
	α	0.21	0.12	0.05	0.04	0.02	0.01	−0.04	−0.02	−0.10	−0.13	−0.34
		(6.25)	(4.05)	(1.64)	(1.11)	(0.74)	(0.27)	(−1.14)	(−0.42)	(−2.50)	(−2.83)	(−5.81)
	β^{IVWIR}_{Post}	−0.00	−0.01	−0.01	−0.03	0.01	−0.02	0.01	0.00	−0.00	0.02	0.03
		(−0.31)	(−1.37)	(−1.04)	(−2.88)	(0.76)	(−1.93)	(0.55)	(0.22)	(−0.14)	(1.80)	(1.58)

Table IA-56: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Financial Intermediary Risk Factor

This table presents the results of unconditional and conditional portfolio analyses examining the performance of portfolios formed by sorting on β^{DEF}. The methodology is identical to that used to generate Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, except that we add the intermediary value weighted investment return factor, $IVWIR$, of He et al. (2017) to our focal factor model.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	β^{DEF}_{Post}	0.68	0.65	0.72	0.72	0.74	0.83	0.82	0.94	1.07	1.34	0.67
		(17.39)	(17.12)	(20.51)	(22.84)	(25.99)	(29.62)	(25.06)	(27.97)	(34.89)	(31.95)	(9.79)
	Excess Return	0.38	0.32	0.29	0.27	0.27	0.30	0.34	0.35	0.42	0.48	0.10
		(5.19)	(4.54)	(4.00)	(3.87)	(4.01)	(4.01)	(4.46)	(4.32)	(4.65)	(4.42)	(1.31)
	α	0.08	0.03	−0.00	−0.02	−0.01	−0.00	0.03	0.04	0.04	0.02	−0.06
		(2.09)	(0.86)	(−0.01)	(−0.49)	(−0.40)	(−0.15)	(1.07)	(1.25)	(1.24)	(0.54)	(−0.84)
	β^{IVWIR}_{Post}	0.00	0.02	0.01	−0.01	0.01	−0.01	0.01	−0.02	0.01	−0.01	−0.01
		(0.38)	(1.92)	(1.44)	(−0.64)	(0.68)	(−0.67)	(1.42)	(−2.29)	(0.57)	(−0.81)	(−0.72)
NAIC 1	β^{DEF}_{Post}	0.68	0.69	0.74	0.68	0.75	0.78	0.81	0.91	1.04	1.25	0.57
		(16.60)	(17.18)	(20.18)	(18.74)	(25.77)	(23.49)	(25.12)	(19.53)	(24.73)	(24.04)	(7.57)
	Excess Return	0.36	0.28	0.28	0.26	0.26	0.29	0.31	0.31	0.40	0.43	0.07
		(4.78)	(3.68)	(3.76)	(3.71)	(3.69)	(3.84)	(4.11)	(3.48)	(4.36)	(3.86)	(0.82)
	α	0.07	−0.03	−0.02	−0.01	−0.03	−0.01	0.02	0.01	0.05	−0.01	−0.08
		(1.66)	(−0.74)	(−0.52)	(−0.14)	(−0.99)	(−0.22)	(0.75)	(0.12)	(1.06)	(−0.14)	(−0.98)
	β^{IVWIR}_{Post}	−0.00	0.02	0.01	−0.00	−0.00	0.00	−0.00	−0.03	−0.01	0.00	0.01
		(−0.37)	(1.64)	(0.92)	(−0.03)	(−0.15)	(0.37)	(−0.28)	(−2.15)	(−1.18)	(0.07)	(0.24)
NAIC 2	β^{DEF}_{Post}	0.66	0.60	0.72	0.71	0.77	0.80	0.89	1.02	1.15	1.48	0.82
		(12.24)	(13.04)	(17.39)	(16.51)	(20.04)	(21.60)	(22.68)	(23.47)	(26.75)	(30.78)	(10.23)
	Excess Return	0.41	0.35	0.36	0.30	0.34	0.30	0.38	0.43	0.48	0.54	0.12
		(5.24)	(4.78)	(4.90)	(4.09)	(4.68)	(4.16)	(4.80)	(4.77)	(5.01)	(4.67)	(1.36)
	α	0.12	0.06	0.07	0.01	0.05	0.01	0.05	0.08	0.07	0.04	−0.08
		(2.10)	(1.39)	(1.76)	(0.27)	(1.38)	(0.39)	(1.33)	(1.81)	(1.55)	(0.78)	(−0.97)
	β^{IVWIR}_{Post}	0.02	0.01	0.03	−0.00	0.00	−0.00	0.02	−0.00	0.02	−0.02	−0.04
		(1.46)	(0.88)	(2.71)	(−0.30)	(0.07)	(−0.08)	(1.99)	(−0.18)	(1.90)	(−1.41)	(−1.83)
NAIC Avg.	β^{DEF}_{Post}	0.67	0.64	0.73	0.70	0.76	0.79	0.85	0.96	1.10	1.37	0.70
		(16.41)	(16.85)	(21.52)	(20.56)	(26.98)	(27.93)	(34.29)	(30.67)	(35.78)	(34.49)	(10.13)
	Excess Return	0.39	0.31	0.32	0.28	0.30	0.30	0.35	0.37	0.44	0.48	0.09
		(5.28)	(4.37)	(4.47)	(4.07)	(4.34)	(4.15)	(4.71)	(4.40)	(4.92)	(4.44)	(1.21)
	α	0.09	0.02	0.03	0.00	0.01	0.00	0.04	0.04	0.06	0.02	−0.08
		(2.23)	(0.46)	(0.81)	(0.10)	(0.48)	(0.13)	(1.55)	(1.36)	(1.82)	(0.37)	(−1.10)
	β^{IVWIR}_{Post}	0.01	0.02	0.02	−0.00	−0.00	0.00	0.01	−0.02	0.00	−0.01	−0.02
		(0.79)	(1.39)	(2.16)	(−0.21)	(−0.03)	(0.17)	(1.41)	(−1.71)	(0.52)	(−0.79)	(−0.92)

Table IA-57: Performance of Portfolios Sorted on NIG Proximity - 1993-2014 - Broker-Dealer Leverage Risk Factor

This table presents the average monthly excess returns and exposures to the Adrian et al. (2014) broker-dealer leverage risk factor $LevFac$ for portfolios formed by sorting on NIG proximity. The portfolios are identical to those examined in Table 2 of the main paper. The post-formation exposures to $LevFac$ (β_{Post}^{LevFac}) are calculated from a time-series regression of excess portfolio returns on $LevFac$.

Value	NAIC 1	NAIC 2 No BBB−	IG No BBB−	BBB	BBB−	[BBB−]−NAIC 1	[BBB−]−NAIC 2 No BBB−	[BBB−]−IG No BBB−	[BBB−]−BBB
Excess Return	0.32	0.38	0.34	0.40	0.48	0.16	0.11	0.14	0.08
	(4.14)	(4.65)	(4.39)	(4.88)	(5.71)	(3.24)	(2.71)	(3.35)	(2.06)
β_{Post}^{LevFac}	−1.63	−0.27	−1.39	−0.51	−0.96	0.67	−0.69	0.42	−0.45
	(−0.47)	(−0.08)	(−0.41)	(−0.14)	(−0.26)	(0.30)	(−0.40)	(0.22)	(−0.25)

Table IA-58: Performance of Portfolios Sorted on β^{CBMKT} - 1993-2014 - Broker-Dealer Leverage Risk Factor

This table presents the average monthly excess returns and exposures to the Adrian et al. (2014) broker-dealer leverage risk factor $LevFac$ for portfolios formed by sorting on β^{CBMKT}. The portfolios are identical to those examined in Table IA-40 of this Internet Appendix, part of which is summarized in Table 3 of the main paper. The post-formation exposures to $LevFac$ (β^{LevFac}_{Post}) are calculated from a time-series regression of excess portfolio returns on $LevFac$.

	Value	β^{CBMKT} 1	β^{CBMKT} 2	β^{CBMKT} 3	β^{CBMKT} 4	β^{CBMKT} 5	β^{CBMKT} 6	β^{CBMKT} 7	β^{CBMKT} 8	β^{CBMKT} 9	β^{CBMKT} 10	β^{CBMKT} 10 − 1
Unconditional	Excess Return	0.34	0.22	0.27	0.28	0.25	0.36	0.39	0.41	0.47	0.48	0.14
		(8.97)	(4.27)	(4.23)	(4.28)	(3.51)	(4.39)	(4.41)	(4.21)	(4.06)	(3.52)	(1.19)
	β^{LevFac}_{Post}	−0.96	3.35	1.83	1.25	2.30	−0.54	−1.28	−4.38	−7.71	−7.76	−6.81
		(−0.56)	(1.45)	(0.64)	(0.43)	(0.73)	(−0.15)	(−0.32)	(−1.00)	(−1.51)	(−1.27)	(−1.30)
NAIC 1	Excess Return	0.29	0.23	0.26	0.26	0.25	0.34	0.37	0.38	0.46	0.46	0.18
		(7.60)	(4.54)	(4.24)	(3.86)	(3.29)	(3.90)	(3.96)	(3.77)	(3.78)	(3.34)	(1.49)
	β^{LevFac}_{Post}	−0.02	0.69	0.42	0.56	1.41	−1.18	−3.20	−4.12	−8.18	−7.77	−7.74
		(−0.01)	(0.31)	(0.16)	(0.19)	(0.42)	(−0.31)	(−0.78)	(−0.92)	(−1.53)	(−1.26)	(−1.46)
NAIC 2	Excess Return	0.40	0.27	0.31	0.30	0.26	0.38	0.45	0.46	0.48	0.55	0.15
		(8.83)	(4.19)	(4.61)	(3.92)	(3.45)	(4.67)	(4.74)	(4.30)	(4.03)	(3.84)	(1.20)
	β^{LevFac}_{Post}	−1.01	6.39	2.17	3.98	2.33	1.26	0.14	−0.57	−6.15	−7.97	−6.96
		(−0.51)	(2.21)	(0.74)	(1.17)	(0.70)	(0.35)	(0.03)	(−0.12)	(−1.16)	(−1.26)	(−1.27)
NAIC Avg.	Excess Return	0.34	0.25	0.28	0.28	0.25	0.36	0.41	0.42	0.47	0.51	0.16
		(9.15)	(4.72)	(4.78)	(4.22)	(3.71)	(4.43)	(4.62)	(4.24)	(4.04)	(3.67)	(1.39)
	β^{LevFac}_{Post}	−0.52	3.54	1.30	2.27	1.87	0.04	−1.53	−2.34	−7.16	−7.87	−7.35
		(−0.31)	(1.50)	(0.50)	(0.77)	(0.61)	(0.01)	(−0.39)	(−0.53)	(−1.39)	(−1.29)	(−1.42)

Table IA-59: Performance of Portfolios Sorted on β^{TERM} - 1993-2014 - Broker-Dealer Leverage Risk Factor

This table presents the average monthly excess returns and exposures to the Adrian et al. (2014) broker-dealer leverage risk factor $LevFac$ for portfolios formed by sorting on β^{TERM}. The portfolios are identical to those examined in Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper. The post-formation exposures to $LevFac$ (β^{LevFac}_{Post}) are calculated from a time-series regression of excess portfolio returns on $LevFac$.

	Value	β^{TERM} 1	β^{TERM} 2	β^{TERM} 3	β^{TERM} 4	β^{TERM} 5	β^{TERM} 6	β^{TERM} 7	β^{TERM} 8	β^{TERM} 9	β^{TERM} 10	β^{TERM} 10 − 1
Unconditional	Excess Return	0.38	0.32	0.29	0.30	0.32	0.36	0.37	0.41	0.45	0.47	0.09
		(6.54)	(5.88)	(4.88)	(4.24)	(4.33)	(4.18)	(4.08)	(3.93)	(3.62)	(3.19)	(0.71)
	β^{LevFac}_{Post}	−3.79	−1.23	1.46	−1.50	0.85	1.83	−0.31	−2.11	−4.25	−5.66	−1.86
		(−1.48)	(−0.50)	(0.56)	(−0.48)	(0.26)	(0.48)	(−0.08)	(−0.45)	(−0.77)	(−0.87)	(−0.34)
NAIC 1	Excess Return	0.32	0.29	0.27	0.27	0.31	0.35	0.35	0.42	0.43	0.42	0.10
		(5.63)	(5.34)	(4.60)	(3.59)	(3.97)	(3.92)	(3.58)	(3.82)	(3.31)	(2.84)	(0.81)
	β^{LevFac}_{Post}	−4.07	−1.95	−1.06	−1.87	0.38	1.23	−0.27	−3.06	−4.86	−6.27	−2.20
		(−1.62)	(−0.81)	(−0.41)	(−0.56)	(0.11)	(0.31)	(−0.06)	(−0.62)	(−0.85)	(−0.95)	(−0.39)
NAIC 2	Excess Return	0.43	0.38	0.32	0.33	0.33	0.41	0.36	0.43	0.48	0.55	0.12
		(6.39)	(5.70)	(4.58)	(4.59)	(4.50)	(4.43)	(3.96)	(4.01)	(3.81)	(3.78)	(0.98)
	β^{LevFac}_{Post}	−3.63	0.42	4.47	1.79	0.32	2.96	0.66	−2.13	−3.22	−3.86	−0.23
		(−1.21)	(0.14)	(1.45)	(0.57)	(0.10)	(0.73)	(0.16)	(−0.45)	(−0.58)	(−0.59)	(−0.04)
NAIC Avg.	Excess Return	0.37	0.33	0.29	0.30	0.32	0.38	0.35	0.43	0.45	0.49	0.11
		(6.47)	(6.00)	(4.90)	(4.41)	(4.44)	(4.41)	(3.88)	(4.08)	(3.63)	(3.38)	(0.93)
	β^{LevFac}_{Post}	−3.85	−0.76	1.70	−0.04	0.35	2.10	0.19	−2.59	−4.04	−5.06	−1.21
		(−1.50)	(−0.31)	(0.64)	(−0.01)	(0.11)	(0.55)	(0.05)	(−0.56)	(−0.73)	(−0.79)	(−0.23)

Table IA-60: Performance of Portfolios Sorted on β^{DEF} - 1993-2014 - Broker-Dealer Leverage Risk Factor

This table presents the average monthly excess returns and exposures to the Adrian et al. (2014) broker-dealer leverage risk factor $LevFac$ for portfolios formed by sorting on β^{DEF}. The portfolios are identical to those examined in Table IA-42 of this Internet Appendix, part of which is summarized in Table 3 of the main paper. The post-formation exposures to $LevFac$ (β^{LevFac}_{Post}) are calculated from a time-series regression of excess portfolio returns on $LevFac$.

	Value	β^{DEF} 1	β^{DEF} 2	β^{DEF} 3	β^{DEF} 4	β^{DEF} 5	β^{DEF} 6	β^{DEF} 7	β^{DEF} 8	β^{DEF} 9	β^{DEF} 10	β^{DEF} 10 − 1
Unconditional	Excess Return	0.38	0.32	0.29	0.27	0.27	0.30	0.34	0.35	0.42	0.48	0.10
		(5.19)	(4.54)	(4.00)	(3.87)	(4.01)	(4.01)	(4.46)	(4.32)	(4.65)	(4.42)	(1.31)
	β^{LevFac}_{Post}	−1.59	1.16	2.27	1.29	1.91	1.44	1.83	−2.84	−4.84	−9.66	−8.07
		(−0.49)	(0.37)	(0.72)	(0.42)	(0.63)	(0.44)	(0.54)	(−0.79)	(−1.22)	(−2.03)	(−2.39)
NAIC 1	Excess Return	0.36	0.28	0.28	0.26	0.26	0.29	0.31	0.31	0.40	0.43	0.07
		(4.78)	(3.68)	(3.76)	(3.71)	(3.69)	(3.84)	(4.11)	(3.48)	(4.36)	(3.86)	(0.82)
	β^{LevFac}_{Post}	−0.75	0.95	1.66	1.76	0.63	−0.03	−1.27	−2.55	−7.85	−8.71	−7.96
		(−0.22)	(0.28)	(0.51)	(0.57)	(0.20)	(−0.01)	(−0.37)	(−0.65)	(−1.92)	(−1.78)	(−2.24)
NAIC 2	Excess Return	0.41	0.35	0.36	0.30	0.34	0.30	0.38	0.43	0.48	0.54	0.12
		(5.24)	(4.78)	(4.90)	(4.09)	(4.68)	(4.16)	(4.80)	(4.77)	(5.01)	(4.67)	(1.36)
	β^{LevFac}_{Post}	−1.36	0.22	2.32	2.66	3.36	4.17	2.93	−0.22	0.30	−8.31	−6.96
		(−0.39)	(0.07)	(0.72)	(0.83)	(1.04)	(1.28)	(0.83)	(−0.05)	(0.07)	(−1.64)	(−1.73)
NAIC Avg.	Excess Return	0.39	0.31	0.32	0.28	0.30	0.30	0.35	0.37	0.44	0.48	0.09
		(5.28)	(4.37)	(4.47)	(4.07)	(4.34)	(4.15)	(4.71)	(4.40)	(4.92)	(4.44)	(1.21)
	β^{LevFac}_{Post}	−1.05	0.59	1.99	2.21	1.99	2.07	0.83	−1.39	−3.77	−8.51	−7.46
		(−0.32)	(0.18)	(0.63)	(0.73)	(0.65)	(0.65)	(0.25)	(−0.37)	(−0.95)	(−1.77)	(−2.16)

Table IA-61: Insurer Holdings Regressions - 2003-2014 - MAT

This table presents the results of WLS regressions of insurer holdings on bond variables using MV as the weight. The methodology is identical to that used to generate Table 5 of the main paper, except that MAT is added to the set of independent variables and βs are orthogonalized to MAT. $\beta^{TERM}_{\perp}$ is the component of β^{TERM} that is orthogonal to MAT, calculated as the intercept plus the residual from a cross-sectional regression of β^{TERM} on MAT.

	FM (1)	FM (2)	Panel (3)	Panel (4)
$BBB-$	−8.04	−4.18	−8.46	−4.13
	(−13.58)	(−7.97)	(−36.98)	(−9.92)
$\beta^{TERM}_{\perp}$		40.51		38.01
		(21.95)		(14.38)
$NAIC2$	5.43	7.44	5.57	7.64
	(12.49)	(18.65)	(23.20)	(3.55)
MAT	0.34	0.28	0.32	0.26
	(19.56)	(11.00)	(6.30)	(3.60)
Intercept	29.05	29.11		
	(51.27)	(40.80)		
Year FE			Y	Y

Table IA-62: Performance of Portfolios Sorted on MAT

This table presents the results of unconditional portfolio analyses examining the performance of portfolios formed by sorting on MAT. With the exception of the use of MAT instead of β^{TERM} as the sort variable, the methodology used to generate the results in Panels A and B is identical to that used to generate the β^{TERM}-sorted portfolio results in Table IA-41 of this Internet Appendix, part of which is summarized in Table 3 of the main paper, and that in Panel C is identical to the methodology used to generate the β^{TERM}-sorted portfolio results shown in Table 7 of the main paper.

Panel A: 1993-2014

Value	MAT 1	MAT 2	MAT 3	MAT 4	MAT 5	MAT 6	MAT 7	MAT 8	MAT 9	MAT 10	MAT 10 − 1
β^{TERM}_{Post}	0.07	0.13	0.18	0.23	0.26	0.32	0.38	0.46	0.51	0.59	0.52
	(6.03)	(8.23)	(9.66)	(10.75)	(10.73)	(13.09)	(15.41)	(19.51)	(19.58)	(18.09)	(18.38)
Excess Return	0.22	0.25	0.31	0.35	0.39	0.40	0.40	0.46	0.52	0.44	0.22
	(6.14)	(5.03)	(5.12)	(4.90)	(4.72)	(4.51)	(4.11)	(4.47)	(4.51)	(3.17)	(1.85)
α	0.11	0.09	0.08	0.07	0.04	0.02	−0.03	0.02	0.02	−0.15	−0.26
	(5.58)	(3.24)	(2.57)	(2.31)	(1.46)	(0.64)	(−1.05)	(0.54)	(0.55)	(−2.78)	(−4.14)

Panel B: 1978-1992

Value	MAT 1	MAT 2	MAT 3	MAT 4	MAT 5	MAT 6	MAT 7	MAT 8	MAT 9	MAT 10	MAT 10 − 1
β^{TERM}_{Post}	0.25	0.40	0.52	0.62	0.74	0.79	0.85	0.84	0.88	0.85	0.61
	(18.98)	(20.99)	(23.48)	(27.82)	(35.73)	(35.45)	(40.85)	(37.40)	(39.31)	(37.60)	(36.00)
Excess Return	0.18	0.18	0.19	0.19	0.22	0.25	0.24	0.26	0.24	0.23	0.04
	(2.32)	(1.39)	(1.19)	(1.02)	(1.04)	(1.11)	(1.01)	(1.11)	(0.96)	(0.94)	(0.25)
α	0.07	0.02	0.01	−0.00	0.01	0.03	0.01	0.03	−0.01	−0.00	−0.08
	(2.75)	(0.59)	(0.37)	(−0.15)	(0.26)	(1.00)	(0.25)	(1.10)	(−0.17)	(−0.04)	(−1.52)

Panel C: 1978-1992 versus 1993-2014

Period	Value	MAT 1	MAT 10	MAT 10−1
1978-1992	α	0.07	−0.00	−0.08
		(2.75)	(−0.04)	(−1.52)
1993-2014	α	0.11	−0.15	−0.26
		(5.58)	(−2.78)	(−4.14)
1978-2014	α	0.07	−0.00	−0.08
		(2.89)	(−0.02)	(−1.12)
	α^{1993}	0.04	−0.15	−0.18
		(1.17)	(−2.10)	(−2.12)

Table IA-63: Performance of Bivariate Portfolios Sorted on MAT and β^{TERM} - 1993-2014

This table presents the results of portfolio analyses examining the performance of bivariate portfolios formed by sorting on MAT and then β^{TERM}. At the end of each month t, all bonds are sorted into decile portfolios based on an ascending ordering of MAT. All bonds in each decile are then sorted into decile portfolios based on an ascending ordering of β^{TERM}. We then calculate the market value-weighted month $t+1$ excess return of each β^{TERM} portfolio, as well as that of a zero-cost long-short β^{TERM} portfolio that is long the decile 10 portfolio and short the decile 1 portfolio in each MAT decile. Finally, for each decile portfolio as well as the long-short portfolio, we calculate the average excess return across the MAT deciles. With the exception of the dependent bivariate sorting, the methodology is identical to that used to generate Table 3 of the main paper.

	Value	MAT 1	MAT 2	MAT 3	MAT 4	MAT 5	MAT 6	MAT 7	MAT 8	MAT 9	MAT 10	MAT Avg.
β^{TERM} 1	β^{TERM}_{Post}	0.04	0.08	0.12	0.11	0.13	0.16	0.13	0.17	0.24	0.27	0.15
		(2.39)	(3.65)	(5.00)	(4.44)	(4.39)	(5.18)	(4.43)	(6.17)	(7.96)	(6.71)	(6.76)
	α	0.20	0.17	0.19	0.20	0.24	0.22	0.22	0.31	0.25	0.05	0.20
		(5.04)	(3.14)	(3.98)	(3.72)	(4.23)	(3.27)	(3.11)	(4.51)	(3.15)	(0.49)	(5.56)
β^{TERM} 2	β^{TERM}_{Post}	0.04	0.11	0.15	0.18	0.18	0.28	0.31	0.23	0.28	0.45	0.22
		(3.14)	(6.53)	(7.45)	(7.18)	(6.96)	(9.45)	(9.67)	(7.41)	(8.17)	(12.57)	(10.81)
	α	0.18	0.07	0.08	0.05	0.09	0.06	−0.02	0.08	0.17	−0.10	0.06
		(5.49)	(1.80)	(1.87)	(0.97)	(1.88)	(1.02)	(−0.23)	(1.07)	(1.88)	(−1.58)	(2.41)
β^{TERM} 3	β^{TERM}_{Post}	0.05	0.18	0.17	0.22	0.25	0.29	0.32	0.34	0.35	0.51	0.27
		(2.94)	(8.41)	(8.78)	(10.61)	(9.81)	(10.67)	(10.80)	(12.72)	(11.01)	(11.90)	(13.23)
	α	0.09	0.08	0.04	0.09	0.09	0.07	0.05	−0.05	0.12	−0.13	0.04
		(1.82)	(1.46)	(0.97)	(2.48)	(1.93)	(1.43)	(0.82)	(−0.94)	(1.57)	(−1.37)	(1.73)
β^{TERM} 4	β^{TERM}_{Post}	0.10	0.13	0.19	0.22	0.30	0.32	0.38	0.42	0.53	0.61	0.32
		(6.48)	(7.99)	(10.31)	(9.76)	(11.88)	(11.13)	(12.44)	(14.11)	(16.71)	(15.55)	(15.12)
	α	0.12	0.11	0.07	0.06	−0.03	−0.01	0.00	0.08	−0.05	−0.19	0.02
		(3.44)	(3.33)	(1.95)	(1.46)	(−0.68)	(−0.19)	(0.00)	(1.27)	(−0.65)	(−2.66)	(0.65)
β^{TERM} 5	β^{TERM}_{Post}	0.09	0.13	0.18	0.24	0.32	0.41	0.36	0.47	0.53	0.64	0.34
		(6.55)	(8.14)	(8.56)	(9.45)	(11.62)	(13.17)	(10.03)	(15.20)	(14.01)	(17.09)	(15.32)
	α	0.07	0.06	0.06	0.09	−0.03	−0.02	−0.04	0.06	−0.03	−0.12	0.01
		(1.93)	(1.87)	(1.40)	(1.80)	(−0.62)	(−0.22)	(−0.57)	(0.94)	(−0.34)	(−1.65)	(0.40)
β^{TERM} 6	β^{TERM}_{Post}	0.07	0.12	0.20	0.25	0.31	0.37	0.43	0.49	0.52	0.70	0.35
		(4.22)	(6.42)	(9.33)	(11.80)	(12.08)	(13.49)	(15.48)	(15.75)	(16.86)	(17.00)	(16.60)
	α	0.15	0.06	0.06	−0.00	0.08	−0.01	−0.06	0.03	−0.02	−0.24	0.01
		(3.35)	(1.50)	(1.38)	(−0.04)	(1.68)	(−0.16)	(−1.02)	(0.48)	(−0.32)	(−2.73)	(0.20)
β^{TERM} 7	β^{TERM}_{Post}	0.10	0.13	0.20	0.25	0.29	0.35	0.44	0.56	0.59	0.66	0.36
		(4.68)	(7.28)	(9.25)	(11.22)	(11.30)	(12.54)	(14.07)	(19.46)	(20.66)	(18.92)	(17.53)
	α	0.07	0.06	0.10	0.05	0.01	0.02	0.04	0.02	0.01	−0.13	0.02
		(1.29)	(1.40)	(1.88)	(1.17)	(0.13)	(0.25)	(0.62)	(0.35)	(0.23)	(−1.94)	(0.90)
β^{TERM} 8	β^{TERM}_{Post}	0.10	0.13	0.18	0.25	0.30	0.39	0.46	0.57	0.65	0.70	0.37
		(6.13)	(7.12)	(9.27)	(11.33)	(11.21)	(14.80)	(14.53)	(19.21)	(19.77)	(20.00)	(17.88)
	α	0.12	0.09	0.05	0.07	0.03	−0.01	0.06	−0.07	0.04	−0.10	0.03
		(3.24)	(2.20)	(1.20)	(1.56)	(0.64)	(−0.15)	(0.94)	(−1.13)	(0.60)	(−1.41)	(1.04)
β^{TERM} 9	β^{TERM}_{Post}	0.10	0.16	0.21	0.27	0.33	0.41	0.51	0.59	0.63	0.74	0.39
		(6.23)	(9.18)	(10.68)	(11.10)	(12.18)	(15.74)	(19.78)	(21.40)	(21.04)	(21.37)	(19.99)
	α	0.10	0.06	0.04	0.03	0.06	−0.00	0.01	0.00	−0.10	−0.19	0.00
		(2.57)	(1.62)	(0.95)	(0.73)	(1.11)	(−0.03)	(0.24)	(0.06)	(−1.67)	(−2.64)	(0.06)
β^{TERM} 10	β^{TERM}_{Post}	0.11	0.14	0.18	0.25	0.31	0.42	0.50	0.69	0.70	0.81	0.41
		(6.24)	(6.86)	(7.85)	(9.84)	(11.49)	(16.63)	(15.57)	(21.81)	(20.32)	(25.19)	(20.05)
	α	0.09	0.15	0.13	0.09	0.04	0.03	−0.11	−0.03	−0.08	−0.17	0.01
		(2.27)	(2.93)	(2.57)	(1.76)	(0.68)	(0.47)	(−1.50)	(−0.37)	(−1.17)	(−2.52)	(0.46)
β^{TERM} 10 − 1	β^{TERM}_{Post}	0.07	0.06	0.06	0.13	0.18	0.26	0.37	0.52	0.45	0.53	0.26
		(3.92)	(2.58)	(3.62)	(6.65)	(7.09)	(9.12)	(11.14)	(15.52)	(12.86)	(13.95)	(18.02)
	α	−0.11	−0.02	−0.06	−0.11	−0.20	−0.19	−0.33	−0.34	−0.32	−0.22	−0.19
		(−1.97)	(−0.27)	(−1.14)	(−1.82)	(−2.65)	(−2.24)	(−3.31)	(−3.33)	(−3.17)	(−1.88)	(−4.26)

Table IA-64: GRS Tests - 1978-1992

This table presents the results of Gibbons et al. (1989) tests examining whether our factor model correctly prices the portfolios we analyze. The table presents the Gibbons et al. (1989) test statistic, along with the associated p-value (in square brackets), produced by running the tests on various portfolio subsets. The column labeled NIG Proximity presents results of the test using the NAIC 1, NAIC 2 No BBB−, IG No BBB−, BBB, and BBB− portfolios examined in Table 2 of the main paper. The column labeled βs presents the results of the test using the 30 β-sorted (10 β^{CBMKT}, 10 β^{TERM}, and 10 β^{DEF}) portfolios examined in Table 3 of the main paper. The column labeled All presents the results of the test using the five NIG proximity-based and 30 β-sorted portfolios. The analysis covers portfolio formation (return) months t ($t+1$) from December 1977 (January 1978) to November (December) 1992, inclusive.

Value	NIG Proximity	βs	All
GRS statistic	1.38	1.00	1.31
p-value	[0.24]	[0.48]	[0.14]