The Relation Between Treasury Yields and Corporate Bond Yield Spreads
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Additional Information

The body of the paper specified that three items were available on request: A data appendix, some industry-level results, and some VAR estimates for A-rated bonds.

Data appendix

Mean yields, yield spreads, and monthly differenced yield spreads are constructed for a number of sets of corporate bonds. There are four business sectors examined: (1) industrial firms; (2) utilities; (3) financial firms; (4) all of the above. There are also four rating categories examined: Aaa, Aa, A, and Baa. Three ranges of remaining maturity are considered: (1) Short (two to seven years); (2) medium (seven to fifteen years); (3) long (fifteen to thirty years). The time series of corporate bond yields, spreads, and changes in spreads are constructed as follows.

Fix a business sector, a rating category, and a maturity range. For each month t in [January 1985, February 1995], I consider all straight bonds (e.g., not convertible or CMO-like) in the given business sector that have, in month t, the appropriate rating and time-to-maturity. I also require that coupon payments (if any) be made semiannually, instead of, say, monthly. (This latter restriction excludes very few bonds.) I use the Moody's rating if it is available, otherwise I use S&P's rating. I then exclude all bonds that are callable or putable at some point in the bond's life, or that have a sinking fund option. I further exclude all bonds that do not have "quote" prices (instead of "matrix" prices) in both months t and $t+1$. I also exclude bonds that are, in either month t or $t+1$, not in a Lehman Brothers index or are about to leave a Lehman Brothers index. Such bonds tend to have more data errors than other bonds in the Database. To eliminate some obvious errors in the data, I also exclude bonds that have a reported coupon greater than 25%, a price less than 1/100 of par or a price greater than twice par.

The result is a set of N_t bonds with corresponding month-end t yields. (Note that

there will be a different set of N_t bonds for each combination of business sector, rating category, and maturity range.) These yields are quoted on a bond-equivalent basis, not as continually compounded yields. The mean of these yields is my measure of the month t yield for this sector/rating/maturity. I construct yield spreads for each bond by subtracting an appropriate Treasury yield. The Treasury Department constructs constant maturity yields by interpolating bond-equivalent yields on actively-traded Treasury notes and bonds. I use their reported month-end yields on 2, 3, 5, 7, 10, and 30 year coupon bonds. For each corporate bond i, I construct the appropriate Treasury yield by interpolating between the closest constant maturity yields on either side of bond i's remaining time-to-maturity. The month t spread for this business sector, rating, and maturity is the mean (over the N_t bonds) of the individual bond spreads. If $N_t = 0$, the observation is set to a missing value.

These N_t bonds also have month-end $t+1$ yields. I construct month-end $t+1$ spreads for these bonds in the manner described above. I then calculate, for each bond i, the change in the spread from t to $t+1$. Finally, I calculate the mean (over the N_t bonds) change in the spread from t to $t+1$. This mean is my observation of $\Delta SPREAD_{s,i,m,t+1}$ for the given business sector s, rating i, and maturity range m. Again, if $N_t = 0$, this observation is set to a missing value.

Some industry-level results

Consider equation (1) in the text of the paper:

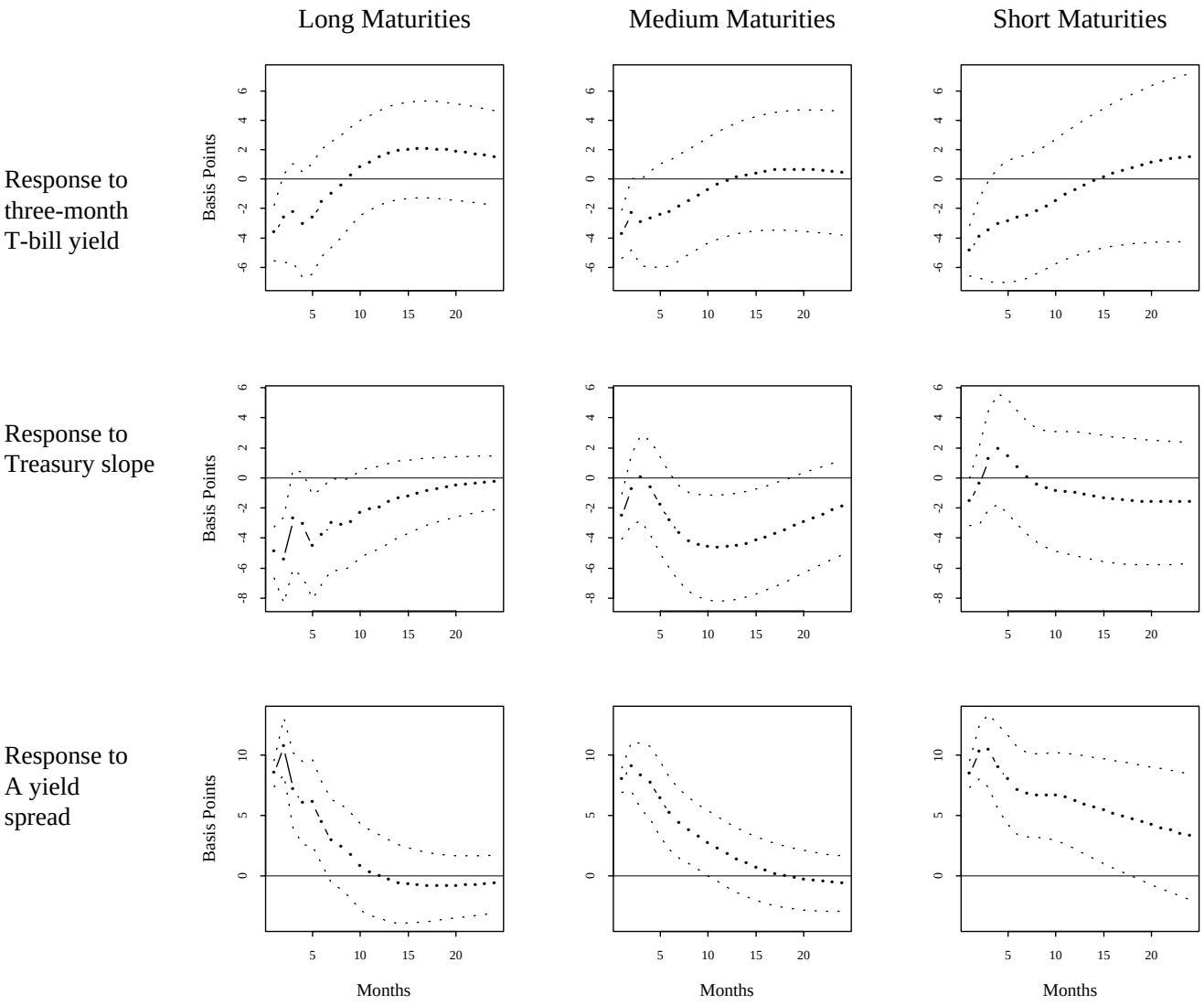
$$\Delta SPREAD_{s,i,m,t+1} = b_{s,i,m,0} + b_{s,i,m,1}\Delta Y_{T,1/4,t+1} + b_{s,i,m,2}\Delta TERM_{t+1} + e_{i,m,t+1}. \quad (1)$$

For a given maturity band and credit rating, I jointly estimated three versions of (1); one for each business sector "finance," "utilities" and "industrial." Instead of reporting all 72 estimated coefficients, I report the mean coefficients across the four credit ratings (Aaa, Aa, A, Baa).

Maturity	Sector	$b_{s,i,m,1}$	$b_{s,i,m,2}$
Long	Finance	−0.152	−0.063
Long	Utility	−0.157	−0.117
Long	Industrial	−0.103	−0.056
Medium	Finance	−0.105	−0.024
Medium	Utility	−0.128	−0.066
Medium	Industrial	−0.097	−0.061
Short	Finance	−0.186	−0.080
Short	Utility	−0.125	−0.053
Short	Industrial	−0.123	−0.056

VAR results for A-rated bonds

Figure 1 in the paper represents impulse responses for Baa-rated bonds. This figure reports the same impulse responses for A-rated bonds.



Alternative Figure 1. Impulse responses of yield spreads on A-rated bonds, 1985—1995. Each column represents the impulse response of yield spreads on A-rated bonds of a given maturity band implied by a VAR with four lags of three-month Treasury bill yields, the slope of the Treasury structure, and the given yield spread, in that order. Two-standard-deviation bounds on the impulse responses are also displayed.