Internet Appendix to Inflation Risk in Corporate Bonds

JOHNNY KANG and CAROLIN E. PFLUEGER*

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A. Generating Contingent Claim Payoff Profiles

Figure 2 shows real payoffs of nominal default-free and nominal corporate bonds. We generate the figures as follows.

For $i = gov, corp$, let $C^i(V)$ denote the conditional expected bond payoff, where we condition with respect to the asset value of the representative firm V. We consider bonds with nominal face values normalized to one. We denote the price level by Π. The conditional expected payoffs on government and corporate bonds are:

$$P^{gov}(V) = E\left[\Pi^{-1}|V\right], \tag{1}$$

$$P^{corp}(V) = E\left[\mathbf{1}_{V\Pi>1}\Pi^{-1} + \mathbf{1}_{V\Pi<=1}V\middle|V\right]. \tag{2}$$

We plot conditional expected payoffs for $V \in [0.2, 5]$. Panel A uses constant $\Pi = 1$, Panel C uses $\Pi = V^{0.2}$, and Panel D uses $\Pi = V^{-0.2}$.

Panel B assumes that $log(\Pi)$ is normally distributed with standard deviation $\sigma = 0.6$ and mean $0.5 \times \sigma^2$ so the expected payout of the government bond is 1 for any V. For this choice of functional forms, the conditional expected corporate bond payoff can then be computed as $C^{corp}(V) = \Phi\left(\frac{log(V)-0.5\sigma^2}{\sigma}\right) + V\left(1 - \Phi\left(\frac{log(V)+0.5\sigma^2}{\sigma}\right)\right)$. We show real payoffs for realized price levels $\Pi = 1.5$ and $\Pi = 0.75$ in dashed.

B. Model Solution

B.1. Optimal Choice of Labor

Firm i chooses labor optimally to maximize single period operating revenue, while taking the aggregate wage W_t as given:

$$N_t^i = \arg\max_{N_t^i} \left\{ \underbrace{Y_t^i - W_t N_t^i}_{\text{Operating Revenue}} \right\}. \tag{3}$$

From the firm's single period optimization we obtain the first-order condition with respect to labor:

$$(1-\alpha)\, z_t^{1-\alpha} \left(\frac{K_t^i}{N_t^i} \right)^{\alpha} = W_t. \tag{4}$$

The capital to labor ratio is constant across firms and equal to K_t. Substituting back into operating revenue gives firm $i's$ one-period equilibrium revenue as $\alpha K_t^i \left(\frac{z_t}{K_t}\right)^{1-\alpha}$. The expression for the equilibrium return on capital follows as:

$$R_{t+1}^K = \left[\alpha \left(\frac{z_{t+1}}{K_{t+1}} \right)^{1-\alpha} + (1-\delta) \right]. \tag{5}$$

B.2. First-Order Conditions

The time $t+2$ real cash flow of a corporate bond issued by firm i at time t is:

$$\frac{\left(1 - \mathbb{I}\left\{a_{t+2}^{i,id} < a_{t+2}^*\right\}\right)}{\exp\left(2\pi_t + 2\varepsilon_{t+1}^{\pi} + \varepsilon_{t+2}^{\pi}\right)} + \theta \frac{K_{t+1}^y}{B_t^\$} R_{t+1}^K R_{t+2}^K \exp\left(a_{t+2}^{i,id}\right) \mathbb{I}\left\{a_{t+2}^{i,id} < a_{t+2}^*\right\}. \tag{6}$$

The time t price of the bond is given by the expected stochastic discounted value of real cash flows:

$$\begin{aligned} q_t^{corp,new} &= \mathbb{E}_t\left[M_{t,t+2}^{\$}\left(1-H\left(a_{t+2}^{*}\right)\right)\right], \\ &+\theta\mathbb{E}_t\left[M_{t,t+2}\frac{K_{t+1}^{y}}{B_t^{\$}}R_{t+1}^{K}R_{t+2}^{K}\Omega\left(a_{t+2}^{*}\right)\right]. \end{aligned} \tag{7}$$

The expression for the survival threshold then implies:

$$q_t^{corp,new}=\mathbb{E}_t\left[M_{t,t+2}^{\$}\left(1-\underbrace{H\left(a_{t+2}^{*}\right)}_{\text{Default Rate}}+\underbrace{\theta\frac{\Omega\left(a_{t+2}^{*}\right)}{\exp\left(a_{t+2}^{*}\right)}}_{\text{Recovery}}\right)\right]. \tag{8}$$

Equity holders maximize:

$$\mathbb{E}_t\left[M_{t,t+2}\max\left(V_{t+2}^{i,old}-B_t^{\$}\exp\left(-2\pi_t-2\varepsilon_{t+1}^{\pi}-\varepsilon_{t+2}^{\pi}\right),0\right)\right]-S_t \tag{9}$$

subject to:

$$v_{t+2}^{i,old} = k_{t+1}^{y}+r_{t+1}^{K}+r_{t+2}^{K}+a_{t+2}^{i,id}, \tag{10}$$

$$K_{t+1}^{y} = S_t+\chi q_t^{corp,new}B_t^{\$}. \tag{11}$$

Given constant returns to scale and no equity issuance costs, the net equity value (9) will equal zero in equilibrium, reflecting free entry. Substituting (10), (11), and (8) into (9) we can rewrite the firm's problem as maximizing:

$$\exp\left(2\pi_t\right)K_{t+1}^{y}L_t\mathbb{E}_t\left[M_{t,t+2}^{\$}\left(\begin{array}{c}\exp\left(-a_{t+2}^{*}\right)+\left(\chi-1\right)\left(1-H\left(a_{t+2}^{*}\right)\right), \\ +\left(\chi\theta-1\right)\Omega\left(a_{t+2}^{*}\right)\exp\left(-a_{t+2}^{*}\right)\end{array}\right)\right]-K_{t+1}^{y}. \tag{12}$$

Differentiating (12) with respect to K^y_{t+1} while holding constant the initial leverage ratio L_t gives:

$$0 = \exp\left(2\pi_t\right) L_t \mathbb{E}_t \left[M^{\$}_{t,t+2} \left(\begin{array}{c} \exp\left(-a^*_{t+2}\right) + (\chi - 1)\left(1 - H\left(a^*_{t+2}\right)\right) \\ + (\chi\theta - 1)\,\Omega\left(a^*_{t+2}\right)\exp\left(-a^*_{t+2}\right) \end{array} \right) \right] - 1. \tag{13}$$

Using $a^*_{t+2} = l_t - 2\varepsilon^{\pi}_{t+1} - \varepsilon^{\pi}_{t+2} - r^K_{t+1} - r^K_{t+2}$ for the survival threshold gives the first-order condition for capital with F_{t+2} as in the main text:

$$1 = \mathbb{E}_t \left[M_{t,t+2} R^K_{t+1} R^K_{t+2} F_{t+2} \right]. \tag{14}$$

Differentiating (12) with respect to L_t while holding constant the level of capital K^y_{t+1} gives:

$$0 = \left(1 + \frac{\partial}{\partial a^*_{t+2}}\right) \mathbb{E}_t \left[\left(M^{\$}_{t,t+2} \left(\begin{array}{c} \exp\left(-a^*_{t+2}\right) + (\chi - 1)\left(1 - H\left(a^*_{t+2}\right)\right) \\ + (\chi\theta - 1)\,\Omega\left(a^*_{t+2}\right)\exp\left(-a^*_{t+2}\right) \end{array} \right) \right) \right]. \tag{15}$$

Using $\frac{\partial}{\partial a^*_{t+2}} \Omega\left(a^*_{t+2}\right) = \exp\left(a^*_{t+2}\right) h\left(a^*_{t+2}\right)$ gives the first-order condition with respect to leverage:

$$0 = -\chi(1-\theta)\,\mathbb{E}_t\left(M^{\$}_{t,t+2} h\left(a^*_{t+2}\right)\right) + (\chi - 1)\,\mathbb{E}_t\left(M^{\$}_{t,t+2}\left(1 - H\left(a^*_{t+2}\right)\right)\right). \tag{16}$$

B.3. Numerical Solution Method

Define rescaled variables relative to trend productivity $\exp(\mu t)$:

$$\tilde{K}_t = \frac{K_t}{\exp(\mu t)}, \tilde{C}_t = \frac{C_t}{\exp(\mu t)}, \tilde{Y}_t = \frac{Y_t}{\exp(\mu t)}, \tilde{z}_t = \frac{z_t}{\exp(\mu t)}.$$

We denote logs by lower case letters. Since $\tilde{z}_t$ is identically and independently distributed, our only state variable is end of period total wealth $\tilde{W} = \tilde{Y} + (1-\delta)\tilde{K}$. We use projection methods to solve for the two policy functions for leverage and consumption (Aruoba, Fernandez-Villaverde, and Rubio-Ramirez (2006)). A recursive equilibrium has to satisfy the two first-order conditions (14) and (16) with the additional dynamics $\tilde{K}_{t+1} = \left(\tilde{W}_t - \tilde{C}_t\right)\exp(-\mu)$. We define $ER(\tilde{w})$ as the expected two-period return on capital in a model with zero inflation volatility. We then solve for both log detrended consumption $\tilde{c}$ and scaled leverage L/ER as polynomials of degree two in log detrended wealth $\tilde{w}$ by minimizing the errors of the first-order conditions along a grid of 19 nodes for $\tilde{w}$. Intuitively, the survival threshold is related to the ratio of leverage over the two-period return on capital and the scaling makes the survival threshold well-behaved.

C. Data Construction

C.1. Survey Inflation Uncertainty

This section describes in detail the construction of survey inflation uncertainty shown in Figure 1 in the main paper. Starting in 1968.Q4 the *Survey of Professional Forecasters* has provided forecasters' average probabilities that annual-average over annual-average GDP index inflation will fall into a particular range. The probability ranges vary over time and the number of categories has varied between six and 15. The highest probability category considered in any sub period is 16+ and the lowest probability category considered is < -3, both in annualized percentage units.

We use the mean probability inflation forecasts to construct points on the corresponding cumulative density function (cdf) for annual-average over annual-average GDP price index inflation π^a. For instance, for 1982.Q1 the SPF reports that $P(\pi^a < 4) = 2.18\%$, $P(4 \leq \pi^a < 6) = 11.85\%$, $P(6 \leq \pi^a < 8) = 57.73\%$, $P(8 \leq \pi^a < 10) = 24.55\%$, $P(10 \leq \pi^a < 12) = 3.39\%$, and $P(12 \leq \pi^a) = 0.30\%$. Denoting the corresponding cdf by F^π, we can then infer that $F^\pi(4) = 2.18\%$,

$F^{\pi}(6) = 14.03\%$, $F^{\pi}(8) = 71.76\%$, $F^{\pi}(10) = 96.30\%$, and $F^{\pi}(12) = 99.70\%$. The highest probability range always receives a weight of less than 10%. When the lowest probability range also receives a weight of less than 10%, we interpolate the survey cdf linearly to obtain 10th, 50th, and 90th percentiles.

When the lowest probability range receives a weight of more than 10%, we fit a generalized beta distribution with support $[-5, 18]$ to the known points on the F^{π} following Engelberg, Manski, and Williams (2009). Let $Beta(t; a, b, l, r)$ denote the cdf of the generalized beta distribution with shape parameters a and b and support $[l, r]$. We consider a support of $[-5, 18]$ covering the highest and lowest survey probability ranges for all sub periods. Small variations in the choice of the support do not affect the results displayed in Figure 1. We require that $a > 1$ and $b > 1$ to ensure that the beta distribution is unimodal. If there are I known points t_i on the cdf F^{π}, we minimize:

$$min_{a>1,b>1} \sum_{i=1}^{I} [Beta(t_i; a, b, -5, 18) - F^{\pi}(t_i)]^2. \tag{17}$$

Federal Reserve Bank of Philadephia (2013) lists 14 quarters when the survey should have asked about GDP price index growth for the current year but instead asked about GDP price index growth for the following year. Eleven of these quarters are fourth quarters. Due to this change in how the survey was conducted, we drop all fourth quarter observations. We then use the 10th, 50th, and 90th percentiles of the fitted beta distribution. We report the difference between the 90th and the 10th percentiles, the difference between the 50th and the 10th percentiles, and the difference between the 90th and 50th percentiles, all smoothed over the past eight quarters.

Dropping all fourth quarter observations does not materially change our results, but it reduces noise in our measure of survey inflation uncertainty. When we include all fourth quarter observations instead, the correlation between the Baa-Aaa log yield spread and the smoothed 90-10 inflation quantile spread is 38%, the correlation with the smoothed 50-10 inflation quantile spread is 48%, and the correlation with the smoothed 90-50 inflation quantile spread is 22%.

C.2. Off-the-Run Spread

We use the Gurkaynak, Sack, and Wright (2007) off-the-run yield curves to price the cash flows of the 10 year on-the-run Treasury bond. The corresponding yield serves as our off-the-run yield.

We use the monthly *CRSP* Treasury master file to obtain end-of-quarter yields and issue characteristics for Treasury notes and bonds. We exclude all flower bonds and all bonds that are not fully taxable. We use the most recently issued bond with an original maturity of 10 years as the on-the-run bond. We obtain the on-the-run bond's yield, issue date, maturity date, and coupon from the *CRSP* Treasury master file.

We can replicate the on-the-run bond cash flows with a par bond and a zero coupon bond with the same maturity. Consider an on-the-run bond at time t with face value 100, maturity date mat_t, and yield $y_t^{on-the-run}$. The yield $y_t^{on-the-run}$ is semi-annually compounded in percent per annum. The on-the-run bond has semi-annual coupon payments of $c_t^{on-the-run}/2$, where $c_t^{on-the-run}$ is the bond coupon rate in percent per annum. At maturity mat_t, the on-the-run bond provides a cash flow of 100.

A zero-coupon bond with face value 100, maturity mat_t, and price P_t^{zero} provides a cash flow of 100 at mat_t and zero at all other times. A par-bond with the same maturity and face value and semi-annually compounded percent per annum yield y_t^{par} provides semi-annual coupon payments of $y_t^{par}/2$ and a cash flow of 100 at maturity. Hence, we can replicate the cash flows of the on-the-run bond using a portfolio with weight $\frac{c_t^{on-the-run}}{y_t^{par}}$ on the par bond and weight $\left(1-\frac{c_t^{on-the-run}}{y_t^{par}}\right)$ on the zero coupon bond.

We obtain the price of the on-the-run cash flows discounted at the off-the-run yield curve by pricing the replicating portfolio with the Gurkaynak, Sack, and Wright (2007) smoothed off-the-run curves. Since Gurkaynak, Sack, and Wright (2007) provide par yields and zero coupon yields with integer maturities, we interpolate linearly to obtain the off-the-run par yield y_t^{par} and the off-the-run zero coupon bond price P_t^{zero} with the same maturity as the on-the-run bond. The price of the on-the-run cash flows discounted at the off-the-run yield curve is then given by:

$$P_t^{curve} = \frac{c_t^{on-the-run}}{y_t^{par}} \times 100 + \left(1 - \frac{c_t^{on-the-run}}{y_t^{par}}\right) \times P_t^{zero}. \tag{18}$$

We use the YIELD function in Excel to compute the semi-annually compounded percent per annum yield y_t^{curve} for a bond with price P_t^{curve}, coupon rate $c_t^{on-the-run}$ and maturity m_t. The off-the-run spread obtains as the difference between the curve yield and the on-the-run yield in continuously compounded units:

$$\text{off-the-run}_t = 200 \times log(1 + y_t^{curve}/200) - 200 \times log(1 + y_t^{on-the-run}/200). \tag{19}$$

C.3. Credit Loss Rates

The *Moody's Corporate Default Risk* database provides default and recovery information for Moody's rated bond issuers. Bond recovery rates are based on the market value of defaulted debt as a percentage of par one month after default. Defaulting issuers usually have multiple bonds outstanding at default and we calculate each issuer's recovery rate as the face-value weighted average across bonds with recovery information. We only keep firms domiciled in the U.S. We keep firms in the public utility and industrial categories, but we drop firms in the banking, finance, insurance, other non-bank, real-estate finance, securities, sovereign, and thrift categories.

The default rate $def_{US,t \to t+n}$ is the ratio of defaults during years $t+1$ through $t+n$ of firms rated Baa in year t over the number of firms rated Baa in year t. To obtain the credit loss rate $loss_{US,t\to t+n}$, we multiply the number of defaults of firms that were rated Baa in year t and defaulted in year $t+k$ with the issuer weighted loss given default. We then sum over years $t+1$ through $t+n$ and divide by the number of Baa rated firms in year t.

C.4. Israeli Corporate Bond Spreads

We construct an investment grade inflation-indexed Israeli corporate bond index from individual corporate bond issuances with five to eleven years to maturity. We download daily corporate bond yields from *Bloomberg* for all available, non-convertible, inflation-indexed corporate bonds issued by non-financial firms and with an initial maturity of at least 5 years. *Bloomberg* provides yields on such bonds starting in June 2002.

We complement the *Bloomberg* data with proprietary data allowing us to extend our data series back to March 2000. This additional data is consistent with *Bloomberg* data for overlapping time periods and also provides spreads relative to matched government bond yields. While inflation-indexed bond yields can take negative values, we exclude yields smaller than -2% and yields greater than 90% because these are likely to be errors or outliers.

We focus on highly rated corporate bond issuances to ensure that the Israeli corporate bond index is as comparable as possible to international investment grade corporate bond indexes. Most Israeli companies are rated by national, rather than global, rating agencies. The major national rating agencies are Midroog and S&P Maalot. The ratings scale comparison in Midroog (2009) shows that a Midroog A3 rating corresponds approximately to B1 on the Moody's global ratings scale. S&P Maalot provides a similar comparison at
http://www.maalot.co.il/Content/Ratings/ratingScale.aspx showing that A on the S&P Maalot national ratings scale corresponds to BB to B on the global S&P ratings scale.

Bonds with a single A rating by one of the Israeli national rating agencies are generally regarded as easily tradable (Bank Hapoalim (2013)). Only very few Israeli corporate bonds achieve a rating of AA/Aa or higher. We therefore consider bonds with a rating of at least A- by S&P Maalot or at least A3 by Midroog.

We benchmark corporate bond yields against government bond yield indexes with the same remaining time to maturity, rounded to integer values. If such a government bond yield index is not available, we consider a yield index with a maturity differential of less than one year. The Bank of Israel provides fixed maturity inflation-indexed government bond yield indexes for five through eleven years to maturity at http://www.boi.org.il/en/DataAndStatistics/Pages/Series.aspx.

The corporate bond index includes corporate bonds with a remaining time to maturity between five and eleven years. Our earliest corporate bond data is for a bond with eleven years, so including bonds with eleven years to maturity maximizes our sample size. We drop bonds with less than five years to maturity in order to maintain a stable average time to maturity throughout the sample. In order to ensure that corporate bond spread movements are not driven by frequent entry and exit of individual corporate bond issuances, we require that each corporate bond issuance has at least eight quarterly consecutive observations. The index spread is an equally weighted average of the constituent spreads.

Appendix Table B.XI shows details for the constituent bonds including entry and exit dates from the index. We obtain a corporate bond index with an average maturity of 7.7 years. The average bond index maturity varies between 6.2 and 10.9 years over our sample. The average approximate duration is slightly at 6.5 years, where we approximate the duration assuming that the bond sells at par.

D. Additional Empirical Results

Table B.I shows details of the corporate bond data.

Table B.II shows cross-country correlations of credit spreads, inflation volatility and the inflation-stock correlation and the cross-correlation between inflation volatility and the inflation-stock correlation.

Table B.III shows that the benchmark empirical results are remarkably consistent across countries.

Table B.IV shows that the benchmark empirical results hold up when controlling for market leverage excluding cash, and when using smoothed inflation volatility and the smoothed inflation-stock correlation. Table B.IV also shows that our benchmark results become even stronger when we compute the U.S. credit spread as the difference in the Baa log yield and a duration-matched log Treasury yield.

Table B.V shows that our benchmark results are robust to a variety of reasonable inflation forecasting models. We construct measures of inflation volatility and the inflation-stock return correlation using a rolling three year window of quarterly surprises. Our baseline inflation forecasting regression is similar to those employed by Campbell, Sunderam, and Viceira (2013) and by Campbell and Shiller (1996). We regress quarterly inflation onto its own four lags and the lagged three month T-bill rate.

A number of different models have been proposed in the literature. However, as noted by Stock and Watson (2007), most popular inflation forecasting models cannot outperform consistently simple models that use only lagged inflation to forecast future inflation.

The forecasting relations are given by:

$$
\begin{array}{lrl}
Baseline & \pi_t = & a_0 + a_1\pi_{t-1} + ... + a_4\pi_{t-4} + b_1 Tbill_{t-1} + \varepsilon_t \\
Baseline \text{ w/o T-bill} & \pi_t = & a_0 + a_1\pi_{t-1} + ... + a_4\pi_{t-4} + \varepsilon_t \\
Baseline + Stock & \pi_t = & a_0 + a_1\pi_{t-1} + ... + a_4\pi_{t-4} + b_1 Tbill_{t-1} + c_1 r^e_{t-1} + \varepsilon_t \\
AR(AIC) & \Delta\pi_t = & a_0 + a_1\Delta\pi_{t-1} + ... + a_4\Delta\pi_{t-4} + \varepsilon_t \\
AO & \pi_t = & \frac{1}{4}(\pi_{t-1} + \pi_{t-2} + \pi_{t-3} + \pi_{t-4}) + \varepsilon_t \\
PC - u & \Delta\pi_t = & a_0 + a_1\Delta\pi_{t-1} + ... + a_4\Delta\pi_{t-4} + b_1 u_{t-1} + ... + b_4 u_{t-4} + \varepsilon_t \\
PC - \Delta u & \Delta\pi_t = & a_0 + a_1\Delta\pi_{t-1} + ... + a_4\Delta\pi_{t-4} + b_1\Delta u_{t-1} + ... + b_4\Delta u_{t-4} + \varepsilon_t \\
PC - \Delta y & \Delta\pi_t = & a_0 + a_1\Delta\pi_{t-1} + ... + a_4\Delta\pi_{t-4} + b_1\Delta y_{t-1} + ... + b_4\Delta y_{t-4} + \varepsilon_t .
\end{array}
$$

We denote the quarterly change in inflation from time $t-1$ to t by $\Delta\pi_t$, unemployment by u_t, the change in unemployment by Δu_t and real GDP growth by Δy_t. All our forecasting relations, except for the AO forecast, also include seasonal dummies to account for seasonal variation in inflation.

Column (2) removes the lagged T-bill from the set of forecasting variables and shows that results are unchanged. Column (3) adds lagged stock returns to the predictive variables as in Campbell, Sunderam, and Viceira (2013), which leaves our results unchanged. Columns (4) through (8) replace our baseline inflation forecasting relation with a range of standard forecasting models as described in Stock and Watson (2007). These forecasts include an autoregression in inflation changes (AR(AIC)), the Atkeson-Ohanian forecasting relation (AO), and backward looking Phillips curves with the level of unemployment (PC-u), the change in unemployment (PC-Δu), and GDP growth (PC-Δy).

Column (5) uses the extremely simple Atkeson and Ohanian (2001) model, which forecasts inflation as the average inflation over the past four quarters. This model requires no estimation and therefore it imposes minimal information requirements on agents. Atkeson and Ohanian (2001) argued that since 1984 in the U.S. this extremely simple model outperformed Phillips curve-based forecasts.

Columns (9) and (10) show that our benchmark results are robust to using Producer Price Index (PPI) inflation instead of CPI inflation and to using a rolling estimate of our baseline inflation forecasting model.

Table B.VI adds additional controls to the U.S. regression reported in Table VI in the main text. We control for the percent of zero daily corporate bond returns from *Datastream* as in Chen, Lesmond, and Wei (2007) and we use separate corporate bond log yield spreads for callable and non-callable bonds.[1] Figure B.6 shows the time series of the percent zero returns. Unfortunately, these additional data series are only available starting in 1993.Q1. Due to the short sample period, these regressions are subject to severe over-fitting, as illustrated by the R-squareds of over 90%, and we regard these short sample results as less reliable than the results in Tables V and VI in the main text. The percent of zero daily returns does not enter significantly into the regression.

A firm entirely financed with callable debt can call its debt at the nominal face value when expected inflation and nominal interest rates fall, and it may therefore be less subject to the risk of debt deflation. Inflation risk should therefore be more relevant for non-callable corporate bonds. The last two columns of Table B.VI show that inflation volatility and the inflation-stock correlation enter more positively for non-callable bonds than for callable bonds, consistent with this hypothesis. If the relation between inflation risk and corporate bond spreads is weaker for callable bonds, then using broad corporate bond indexes of both callable and non-callable bonds might only create a bias against finding a relation between corporate bond spreads and inflation risk in Tables V and VI in the main text.

Table B.VII runs our main regressions in Table V in changes. Denoting the change from quarter

t to $t+n$ by $\Delta_n(\cdot)_{t\rightarrow t+n}$, we show regressions:

$$\Delta_n spread_{i,t\rightarrow t+n} = \lambda^0 + \lambda^{\sigma^{eq}}\Delta_n\sigma^{eq}_{i,t\rightarrow t+n} + \lambda^{\sigma^{\pi}}\Delta_n\sigma^{\pi}_{i,t\rightarrow t+n} + \lambda^{\rho^{\pi}}\Delta_n\rho^{\pi}_{i,t\rightarrow t+n} + \Lambda \times X_{i,t} + \eta_{i,t+n}. \quad (20)$$

The vector of control variables includes n-quarter real GDP growth, the sum of inflation shocks over the past n quarters, the change in unemployment over the past n quarters, quarterly real GDP growth, the contemporaneous quarterly inflation shock, and the contemporaneous quarterly real stock return.

Inflation volatility and the inflation-stock correlation change slowly and short-term movements may be measured with noise. It is therefore intuitive that the relation between changes in credit spreads and changes in inflation volatility and changes in the inflation-stock correlation is strongest and most statistically significant at three to five year horizons.

To better understand the contribution of the changing composition of the credit spread index, we would ideally like to run similar regressions using credit returns. In Table B.XII Panel B we find that U.S. nominal corporate bond excess returns are negatively related to changes in inflation volatility and to changes in the inflation-stock correlation at a three year horizon. Table B.XII also shows analogous regressions for inflation-indexed Israeli corporate bond returns, for which we do not find a relation between corporate bond excess returns and changes in inflation risk, as expected.

Comparing empirical results for credit loss rates in Table VII and empirical results for default rates in Supplementary Appendix Table B.VIII shows that the slope coefficients in Table VII are about 45% smaller, positive, and strongly statistically significant. The relative magnitudes of regression coefficients in Table VII and Supplementary Appendix Table B.VIII are broadly consistent with a 40% recovery rate estimated by Altman (2006).

Tables B.IX and B.X show that the regressions in Table VII in the main text are robust to an alternative measures of default rates and credit losses, extracted from Moody's (2011). Our n-year credit loss rate in Table VII counts all companies that were rated Baa at time t and that defaulted at least once in years $t+1$ through $t+n$. The n-year credit loss rate in Table VII therefore includes firms that were downgraded prior to defaulting. In contrast, the default rate in Table B.IX captures the five year default rate of firms that were rated Baa immediately prior to defaulting and it also includes non-U.S. companies rated by Moody's.

Table B.X predicts global Baa credit losses from Moody's (2011) instead of default rates again using inflation volatility, the inflation-stock correlation and control variables. Global Baa credit losses are constructed exactly analogously to the global Baa default rates in Table B.IX. Unfortunately, global Baa credit losses are only available starting in 1981. Over this shorter sample period, the inflation-stock correlation no longer predicts credit losses significantly, but inflation volatility still does. Hence, these results again confirm our finding in Table VII in the main text that inflation volatility affects credit spreads largely through its impact on expected defaults, whereas the inflation-stock correlation also acts through the default premium in corporate bond spreads.

Supplementary Appendix Table B.XII shows additional evidence for the findings in Section III.E in the main paper using price index data instead of yield data. When debt is nominal, such as in the U.S., log corporate bond returns in excess of log government bond returns should be negatively related to changes in inflation volatility and to changes in the inflation-stock correlation, since bond prices are inversely related to yields. On the other hand, in a financial markets environment where liabilities are conventionally inflation-indexed, such as in Israel, corporate bond excess returns should not be related to changes in inflation risk.

Supplementary Appendix Table B.XII shows empirical evidence consistent with this hypothesis, using Israeli inflation-indexed corporate bond log excess returns and U.S. nominal corporate bond log excess returns over identical time periods 1989.Q3 to 2009.Q4. We find that three-year U.S. nominal corporate bond excess returns are negatively related to both contemporaneous changes in inflation volatility and to contemporaneous changes in the inflation-stock correlation.

In contrast, the relations between Israeli inflation-indexed corporate bond excess returns and changes in either inflation risk variable are indistinguishable from zero. We interpret the empirical results in Table B.XII as supportive of the hypothesis that the nominal as opposed to indexed nature of corporate bonds in the U.S. is responsible for the main empirical finding. Since real risk should be priced into both inflation and nominal corporate bonds in excess of government bonds, this placebo test helps us alleviate concerns that inflation volatility or the inflation-stock correlation might proxy for real risk rather than nominal risk.

Denoting the change from quarter t to $t+n$ by $\Delta_n(\cdot)_{t\rightarrow t+n}$, we estimate the following relation for country $i \in \{IL, US\}$:

$$
\begin{aligned}
ret^{corp}_{i,t\rightarrow t+n} - ret^{gov}_{i,t\rightarrow t+n} &= \lambda^0_i + \lambda^{\sigma^\pi}_i \Delta_n \sigma^\pi_{i,t\rightarrow t+n} + \lambda^{\rho^\pi}_i \Delta_n \rho^\pi_{i,t\rightarrow t+n} \\
&+ \lambda^{\sigma^{eq}}_i \Delta_n \sigma^{eq}_{i,t\rightarrow t+n} + \lambda^{gov}_i ret^{gov}_{i,t\rightarrow t+n} + \lambda^{eq}_i ret^{eq}_{i,t\rightarrow t+n} + \eta_{i,t+n}.
\end{aligned}
$$

We estimate this relation using data on Israeli inflation-indexed corporate bond excess returns and U.S. nominal corporate bond excess returns. We run two separate regressions for the two countries. The slope coefficients with respect to contemporaneous government bond and equity returns λ^{gov}_i and λ^{eq}_i can be interpreted as empirical estimates of the corporate bond hedge ratios (Merton (1974), Schaefer and Strebulaev (2008)). Unfortunately, the short Israel sample does not allow us to include a large number of controls without running the risk of overfitting.

For Israel, we would expect to find zero coefficients $\lambda^{\sigma^\pi}_{IL} = 0$ and $\lambda^{\rho^\pi}_{IL} = 0$, so including only a limited number of controls is conservative and biases us against finding zero coefficients. For the U.S. we would expect to find negative coefficients $\lambda_{US}^{\sigma^\pi} < 0$ and $\lambda_{US}^{\rho^\pi} < 0$. Moreover, the U.S. coefficients should be approximately proportional to the slope coefficients estimated in Table V in the main text. The proportionality factor should be approximately the bond duration.

Our equity volatility variables require a three-year lag, so our Israel regressions start in 1989.Q2.[2] Unfortunately, Israel nominal T-bill data is only available for an even more limited sample size and our baseline measure of inflation surprises requires a short-term nominal T-bill. For the purpose of the analysis in Table B.XII Panels A and B, we therefore construct inflation surprises as the residual of regressing quarterly inflation onto its own four lags and seasonal dummies in order to preserve our sample size. The results in Table B.V column (2) show that our benchmark results in the main text are unchanged if we use this "Baseline w/o T-bill" inflation forecasting model.

Table B.XII Panel A shows that the slope coefficients $\lambda_{IL}^{\sigma^\pi}$ and λ_{IL}^{ρ} are indistinguishable from zero either for the full sample period 1989.Q3 to 2009.Q4 or for the pre-crisis sub-sample 1989.Q3 to 2007.Q4. We cannot reject the null hypothesis that Israeli inflation-indexed corporate bond excess returns are unrelated to changes in inflation risk at one, four, and twelve quarter horizons. Columns (4) through (6) report results for the sub-period 1989.Q2 to 2007.Q4. This sub-sample excludes the financial crisis, which was a period of especially sharp movements in financial markets and might therefore disproportionately affect the empirical results. This shorter sub-period also focuses on those years when inflation-indexing was most dominant in the Israel economy and it therefore provides the most relevant laboratory for our placebo test. Indeed, we find that for this earlier sub-period the estimates of λ^{σ^π} and λ^{ρ} are even closer to zero and that they are more precisely estimated.

In contrast, Panel B shows that both $\lambda_{US}^{\sigma^\pi}$ and λ_{US}^{ρ} are negative and statistically significant at the twelve quarter horizon. We would expect the twelve quarter horizon to be the most relevant, if inflation risk moves slowly over time and if our measures of inflation risk contain short-term noise.

The first six columns in Panel B use the same sample periods as Panel A to facilitate comparison between U.S. and Israel results. Columns (7) through (9) show results for the full U.S. sample 1969.Q4 to 2009.Q4, which are more precisely estimated.

Figure B.3 shows the close comovement between the bond-stock correlation and the breakeven-stock correlation in the U.S. and in the U.K. Figure B.4 shows the inverse relationship between quarterly inflation shocks and credit spreads in the U.S.

Figure B.7 shows the one- through five-year credit loss rates used in Table VII in the main text.

E. Computing Model Moments

Our simulations require the computation of asset prices along a three-dimensional grid for $\tilde{w}$, the leverage ratio of seasoned firms, and the inflation risk regime. We compute asset prices along a dense grid of size $70 \times 35 \times 2$. This grid covers seasoned leverage ratios from 0.1 to 1.9 and the full solution range for $\tilde{w}$. In our simulations, we compute asset prices by interpolating linearly over this grid.

E.1. Book Leverage and Investment to Capital

We obtain new book leverage by discounting the nominal face value of debt by the long-term nominal risk free rate:

$$L_t^{book} = L_t \exp(2\pi_t)\, q_t^{gov,10}. \tag{21}$$

E.2. Idiosyncratic Equity Volatility

In Table II in the main text we report the idiosyncratic volatility of ten year equity returns conditional on not defaulting. The time t real cash flow to equity holders of firm i in cohort $t-2$ conditional on not defaulting is:

$$K_{t-1}^{y} \underbrace{R_{t-1}^{K} R_t^{K}}_{\text{Return on Capital}} \left(\underbrace{\exp\left(a_t^{id,i}\right)}_{\text{Idiosyncratic Shock}} - \underbrace{\exp\left(a_t^{*}\right)}_{\text{Debt Payment}} \right). \tag{22}$$

The idiosyncratic volatility of log real stock returns conditional on not defaulting is therefore given by:

$$\sigma_t^{Firm} = \frac{1}{\sqrt{10}} Var\left[\log\left(\exp\left(a_t^{id,i}\right) - \exp\left(a_t^{*}\right)\right) \middle| a_t^{id,i} \geq a_t^{*}, a_t^{*} \right]. \tag{23}$$

E.3. Dividend-Price Ratio, Equity Volatility, and Inflation-Stock Correlation

In Table III in the main text we show regressions that include the model dividend-price ratio, model equity volatility and the model inflation-stock correlation. Since the left-hand side of our regression has seasoned credit spreads, we focus on the moments of seasoned equity returns on the right-hand side. The real equity dividend at time $t+1$ averaged over all cohort $t-1$ firms is given by:

$$K_t^y R_t^K R_{t+1}^K \left(1 - \exp\left(a_{t+1}^*\right)\left(1 - H\left(a_{t+1}^*\right)\right) - \Omega\left(a_{t+1}^*\right)\right). \tag{24}$$

The time t price of seasoned equity is therefore equal to:

$$\begin{aligned} S_t^{seas} &= \exp\left(-\left(\beta + \gamma\mu\right)\right) \times K_t^y R_t^K \\ &\quad \times \mathbb{E}_t\left[\left(\frac{\tilde{C}_{t+1}}{\tilde{C}_t}\right)^{-\gamma} R_{t+1}^K \left(1 - \exp\left(a_{t+1}^*\right)\left(1 - H\left(a_{t+1}^*\right)\right) - \Omega\left(a_{t+1}^*\right)\right)\right]. \end{aligned} \tag{25}$$

Log seasoned real equity returns from time t to time $t+1$ are then equal to:

$$r_{t+1}^{eq,seas} = r_{t+1}^K + \log\left(1 - \exp\left(a_{t+1}^*\right)\left(1 - H\left(a_{t+1}^*\right)\right) - \Omega\left(a_{t+1}^*\right)\right) - \left(s_t^{seas} - k_t^y\right). \tag{26}$$

where s_t^{seas} is the log seasoned equity price at time t. We compute the seasoned dividend-price ratio as the expected log return on seasoned equity:

$$DP_t^{seas} = \mathbb{E}_t\left[r_{t+1}^{eq,seas}\right]. \tag{27}$$

Seasoned equity volatility is the backward-looking annualized standard deviation of log real seasoned stock returns conditional on the inflation risk regime:

$$\sigma_t^{eq,seas} = \frac{\sqrt{\mathbb{V}ar\left[r_t^{seas,eq} \middle| \sigma_t^\pi, \rho_t^\pi, \tilde{w}_{t-1}, L_{t-1}^{old}\right]}}{\sqrt{5}}. \tag{28}$$

The inflation-stock correlation is the backward-looking correlation between shocks to log inflation expectations and log seasoned real stock returns conditional on the inflation risk regime:

$$\rho_t^{eq,\pi} = \mathbb{C}orr\left[r_t^{seas,eq}, \varepsilon_t^\pi \middle| \sigma_t^\pi, \rho_t^\pi, \tilde{w}_{t-1}, L_{t-1}^{old}\right]. \tag{29}$$

E.4. Decision to Issue Corporate Inflation-Indexed Bonds

Consider a nominal-only equilibrium and the problem of a firm that decides whether or not to deviate by issuing corporate inflation-indexed bonds. We can use our calibrated model to understand whether an infinitely small firm would find it profitable to deviate from a nominal-only equilibrium for a reasonable liquidity premium. A firm issuing corporate inflation protected securities (CIPS) faces an equilibrium liquidity premium. We model this liquidity by assuming that the tax and other benefits on CIPS are less than those on nominal corporate bonds $\chi^{CIPS} < \chi$.

The survival threshold for a deviating firm that decides to issue CIPS instead of nominal bonds does not depend on surprise inflation and it chooses optimal leverage according to a first-order condition analogous to (16). The deviating firm takes the stochastic discount factor $M_{t,t+2}$ and the aggregate return on capital r^K_{t+1}, r^K_{t+2} as given. Equity investors are unwilling to invest into the deviating firm if and only if the expected discounted return on capital, adjusted for default costs and benefits of debt, is less than that for the aggregate firm:

$$\mathbb{E}_t\left[M_{t+2}R^K_{t+1}R^K_{t+2}F^{CIPS}_{t+2}\right] < E_t\left[M_{t+2}R^K_{t+1}R^K_{t+2}F_{t+2}\right]. \tag{30}$$

where F^{CIPS}_{t+2} is defined analogously to F_{t+2},. When (30) holds, no firm decides to issue inflation-indexed debt in equilibrium as long as ten year CIPS have a log yield liquidity premium of 29 bps.

[TABLES B.I THROUGH B.XII ABOUT HERE]

[FIGURES B.1 THROUGH B.8 ABOUT HERE]

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Notes

[1]Callable corporate bond yields are an equal-weighted average of corporate bond issuances with some callability feature, while non-callable bonds are an equal-weighted average of bond issuances with no callability feature from *Datastream*. We obtain callable and non-callable corporate bond spreads by subtracting the ten-year U.S. Treasury yield, which closely matches the time-varying average duration of callable and non-callable corporate bond issuances.

[2] We obtain price indexes of Israel government and corporate inflation-indexed bonds from the Tel Aviv Stock Exchange. We use the Tel Aviv CPI Linked Corporate Bond index and Tel Aviv CPI Linked Government Bond index available from *Bloomberg* to calculated log excess returns. These are price indexes as opposed to total return indexes, so we can only capture bond returns due to price appreciation but not due to interest payments. We measure stock returns by the TA 200 index. We measure Israeli inflation with the CPI price index.

Table B.I: Corporate Bond Spread Data Sources

Corporate bond maturities are based on data descriptions provided by the listed data sources. Government bond maturities are from Global Financial Data. Time-varying corporate and government bond durations are estimated assuming that bonds sell at par following Campbell, Lo, and MacKinlay (1997). This table reports durations averaged over the sample period.

Country	Corp. Bond Data Source	Corp. Maturity	Corp. Duration	Govt. Maturity	Govt. Duration	Sample
Australia	Economist; Telstra	10	6.9	10	7.3	1983.Q3 - 2010.Q4
Canada	Bank of Canada; Datastream	20	10.1	15	9.6	1969.Q4 - 2010.Q4
Germany	Bundesbank	6	5.1	6	5.2	1969.Q4 - 2010.Q4
Japan	Nikkei Corp. Bond Index	10	8.2	10	8.3	1973.Q1 - 2010.Q4
U.K.	Financial Times; Economist	15	8.5	10	7.2	1969.Q4 - 2010.Q4
U.S.	Moody's Baa, Aaa	25	10.7	NA	NA	1960.Q1 - 2010.Q4

Table B.II: International Correlations (1969.Q4-2010.Q4)

This table reports correlations among credit spreads, inflation volatility, and inflation-stock correlation across countries. Panel D reports correlations between inflation volatility (along the vertical axis) and inflation-stock correlation (along the horizontal axis). Japan credit spreads start in 1973.Q1. Australia data starts in 1983.Q3.

Panel A: Corporate log yield spread

	Australia	Canada	Germany	Japan	U.K.	U.S.
Australia	1.00					
Canada	0.66	1.00				
Germany	0.56	0.70	1.00			
Japan	-0.23	0.02	0.03	1.00		
U.K.	0.72	0.71	0.54	0.10	1.00	
U.S.	0.71	0.60	0.41	-0.17	0.54	1.00

Panel B: Inflation volatility

	Australia	Canada	Germany	Japan	U.K.	U.S.
Australia	1.00					
Canada	0.29	1.00				
Germany	0.17	0.36	1.00			
Japan	0.11	0.10	0.32	1.00		
U.K.	0.54	0.25	0.25	0.52	1.00	
U.S.	0.25	0.50	0.08	-0.05	0.45	1.00

Panel C: Inflation-stock correlation

	Australia	Canada	Germany	Japan	U.K.	U.S.
Australia	1.00					
Canada	0.08	1.00				
Germany	-0.29	0.37	1.00			
Japan	-0.10	0.26	0.15	1.00		
U.K.	-0.06	0.30	0.34	0.16	1.00	
U.S.	0.33	0.38	0.46	0.24	0.14	1.00

Panel D: Inflation volatility vs. Inflation-stock correlation

Inflation vol.\Infl.-stock corr.	Australia	Canada	Germany	Japan	U.K.	U.S.
Australia	-0.22	-0.23	0.06	-0.26	-0.11	-0.20
Canada	-0.31	-0.10	0.43	0.06	0.13	-0.12
Germany	-0.16	0.07	-0.07	-0.13	-0.18	-0.21
Japan	-0.27	-0.28	-0.13	-0.27	0.33	-0.25
U.K.	0.03	-0.17	-0.12	-0.19	0.35	-0.17
U.S.	0.20	0.18	0.15	0.05	0.30	0.17

Table B.III: Individual Country Credit Spreads and Inflation Risk (1969.Q4-2010.Q4)

We report individual country regressions of corporate bond log yield spreads onto inflation volatility, the inflation-stock correlation, and control variables. The regression setup is identical to Table V, except for not being pooled. Newey-West standard errors with 16 lags in parentheses. Japan data starts in 1973.Q1. Australia data starts in 1983.Q3. Variables are constructed as described in Table IV. * and ** denote significance at the 5% and 1% levels, respectively.

	(1) AUS	(2) CAN	(3) GER	(4) JPN	(5) UKI	(6) USA
Inflation risk						
Inflation volatility (Ann.)	26.13	63.17**	1.88	10.93	-1.06	31.36**
	(16.92)	(14.94)	(11.44)	(11.39)	(37.19)	(7.16)
Inflation-stock correlation	-20.67	57.49**	48.93*	36.83**	141.62**	7.81
	(37.25)	(10.01)	(22.72)	(7.66)	(45.48)	(11.80)
Real uncertainty and other control variables						
Equity volatility (Ann.)	-0.59	3.53**	0.21	0.54	1.33	0.10
	(0.77)	(0.63)	(1.26)	(0.66)	(3.08)	(0.51)
Dividend-price ratio (Ann.)	45.20**	10.44*	9.67	-0.25	6.24	11.72**
	(15.81)	(4.73)	(5.91)	(7.71)	(9.83)	(2.63)
Business cycle and inflation shock variables (Logs)						
3-Year inflation shock	13.40**	-2.70	2.04	3.49	-7.03	-1.94
	(3.83)	(2.31)	(3.77)	(2.22)	(6.19)	(2.41)
3-Year real stock return	0.50*	-0.21	-0.13	0.05	-1.24*	-0.10
	(0.21)	(0.18)	(0.24)	(0.07)	(0.61)	(0.21)
3-Year GDP growth	-0.60	0.79	-8.41**	0.39	7.04	1.72
	(3.24)	(1.06)	(1.51)	(0.86)	(4.04)	(1.81)
3-Year change unemployment	9.40	-5.26	-19.18**	12.12	17.07**	4.18
	(6.46)	(3.05)	(5.46)	(6.60)	(5.27)	(4.02)
Quarterly inflation shock	3.64	-4.18	-25.57**	-0.85	-4.82	-15.69**
	(7.30)	(2.66)	(8.03)	(4.39)	(9.16)	(3.70)
Quarterly real stock return	-0.84	-0.25	-0.93*	-0.11	-0.04	-0.00
	(0.48)	(0.30)	(0.40)	(0.21)	(0.60)	(0.39)
Quarterly GDP growth	-7.28	-13.31*	-9.98*	-2.87	-25.56	-12.18*
	(4.49)	(5.60)	(3.90)	(2.00)	(14.43)	(4.89)
R^2	0.45	0.69	0.66	0.39	0.43	0.64
Period	83.Q3-10.Q4	Full	Full	73.Q1 - 10.Q4	Full	Full

Table B.IV: Additional Robustness Controls (1969.Q4-2010.Q4)

This table reports additional robustness checks for the benchmark results in Table V in the main text. We report pooled regressions exactly as in Table V. Column (1) controls for equal-weighted market leverage, excluding cash. Column (2) reports regression results using smoothed inflation volatility and the smoothed inflation-stock correlation instead of the non-smoothed proxies. We use an HP filter with smoothing parameter 500. Column (3) illustrates that if we use the U.S. Baa over government log yield spread instead of the U.S. Baa over Aaa log yield spread, our benchmark results become stronger.

	(1)	(2)	(3)
Additional Control	Mkt. Leverage Excl. Cash	Smoothed Infl. Risk Proxies	U.S. Baa-Treasury Spread
Inflation risk			
Inflation volatility (Ann.)	21.10**	21.32**	26.05**
	(4.56)	(7.99)	(8.10)
Inflation-stock correlation	26.87**	69.40**	49.08**
	(5.86)	(17.88)	(10.78)
Real uncertainty and other control variables			
Equity volatility (Ann.)	0.18	0.78	0.94
	(0.80)	(0.87)	(0.92)
Dividend-price ratio (Ann.)	24.80**	9.30	4.52
	(7.08)	(5.01)	(4.66)
Idiosyncratic volatility (Ann.)	0.77		
	(0.58)		
Leverage excl. cash	-0.44		
	(0.40)		
Bond volatility (Ann.)	46.39**		
	(14.20)		
Bond-stock correlation	75.93**		
	(21.62)		
Business cycle and inflation shock variables (Logs)			
3-Year inflation shock	-2.93	-2.86	-0.90
	(1.51)	(1.54)	(1.84)
3-Year real stock return	0.15	0.01	-0.19
	(0.09)	(0.09)	(0.11)
3-Year GDP growth	0.07	-0.57	-1.19
	(1.76)	(1.06)	(0.69)
3-Year change unemployment	3.92	0.08	-2.34
	(2.55)	(2.42)	(3.35)
Quarterly inflation shock	-6.01**	-5.74*	-6.62
	(2.15)	(2.45)	(4.05)
Quarterly real stock return	-0.57	-0.34	-0.39
	(0.31)	(0.31)	(0.39)
Quarterly GDP growth	-11.64**	-12.39**	-10.98*
	(2.60)	(3.63)	(4.68)
Residual R^2	0.54	0.32	0.41
Period	Full	Full	Full

Table B.V: Robustness to Inflation Model and Inflation Measure (1969.Q4-2010.Q4)

We check that benchmark results in Table V column (5) are robust to various standard inflation forecasting models and to using PPI inflation instead of CPI inflation. Baseline denotes our baseline inflation forecasting model, which regresses quarterly log inflation onto its own four lags, the lagged log T-bill, and seasonal dummies. Column (2) excludes the lagged T-bill. Column (3) includes the lagged real stock return as an additional predictor variable similarly to the inflation forecasting model in Campbell, Sunderam, and Viceira (2012). Columns (4) through (8) use standard inflation forecasting models as listed in Stock and Watson (2007). AO refers to the Atkeson and Ohanian (2001) inflation forecasting model, which forecasts inflation with average inflation over the past four quarters. We describe the different inflation forecasting models in detail in the Supplementary Appendix D. Column (9) uses PPI inflation instead of CPI inflation and our benchmark inflation forecasting model. Column (10) estimates CPI inflation surprises from a rolling regression of our benchmark inflation forecasting model. We report Driscoll and Kraay (1998) standard errors with 16 lags. The residual R^2 reflects explanatory power in excess of fixed effects. * and ** denote significance at the 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Inflation Surprise Measure	Baseline	Baseline w/o T-bill	Baseline+Stock	AR(AIC)	AO	PC-u	PC-Δu	PC-Δy	PPI Infl.	Rolling
Inflation risk										
Inflation volatility (Ann.)	24.61**	23.60**	23.90**	17.19**	12.30**	16.23*	17.38*	19.11**	15.70**	18.33**
	(6.97)	(7.73)	(6.71)	(6.05)	(4.13)	(7.51)	(7.13)	(5.56)	(2.52)	(5.92)
Inflation-stock correlation	42.37**	42.68**	42.94**	43.98**	38.03**	40.47**	40.67**	40.87**	24.42*	37.26**
	(10.22)	(10.22)	(10.01)	(11.05)	(11.04)	(10.11)	(10.78)	(11.02)	(9.56)	(9.40)
Real uncertainty and other control variables										
Equity volatility (Ann.)	0.86	1.00	0.90	0.91	0.80	0.94	0.87	0.78	0.74	0.71
	(0.88)	(0.86)	(0.87)	(0.88)	(0.86)	(0.89)	(0.89)	(0.89)	(0.84)	(0.86)
Dividend-price ratio (Ann.	8.41	9.73*	8.52	7.61	7.71	8.13*	7.52	7.65	11.07**	8.07
	(4.50)	(4.87)	(4.49)	(3.89)	(4.12)	(3.98)	(3.93)	(3.91)	(3.99)	(4.54)
Business cycle and inflation shock variables (Logs)										
3-Year inflation shock	-1.69	-2.65	-1.50	-0.05	0.40	-1.13	0.22	0.09	-0.58	-0.63
	(1.88)	(2.45)	(1.80)	(2.12)	(2.27)	(2.76)	(2.18)	(1.98)	(0.68)	(1.67)
3-Year real stock return	-0.19	-0.18	-0.18	-0.19	-0.20	-0.20*	-0.19	-0.18	-0.10	-0.20
	(0.11)	(0.10)	(0.11)	(0.10)	(0.10)	(0.09)	(0.10)	(0.10)	(0.08)	(0.11)
3-Year GDP growth	-1.66	-1.25	-1.68	-1.80*	-1.98	-2.19*	-2.24*	-2.03*	-0.93	-1.88
	(0.91)	(0.76)	(0.93)	(0.88)	(1.00)	(1.01)	(0.96)	(0.92)	(0.55)	(1.09)
3-Year change unemploym	-3.72	-3.31	-3.69	-2.99	-2.62	-3.39	-3.50	-3.31	-1.04	-3.42
	(3.72)	(3.61)	(3.76)	(3.88)	(4.06)	(3.44)	(3.25)	(3.81)	(2.34)	(4.01)
Quarterly inflation shock	-4.51	-5.77	-4.54	-5.57	-5.29	-4.19	-4.55	-4.72	-2.84**	-4.01
	(3.35)	(3.39)	(3.43)	(3.32)	(3.20)	(2.99)	(3.13)	(2.79)	(0.93)	(3.46)
Quarterly real stock return	-0.48	-0.47	-0.48	-0.49	-0.48	-0.49	-0.49	-0.49	-0.44	-0.46
	(0.43)	(0.41)	(0.43)	(0.42)	(0.43)	(0.43)	(0.44)	(0.42)	(0.43)	(0.44)
Quarterly GDP growth	-10.44*	-10.93*	-10.36*	-10.37*	-10.15*	-10.75*	-10.53*	-10.36*	-10.08*	-10.04*
	(4.40)	(4.42)	(4.38)	(4.66)	(4.74)	(4.58)	(4.71)	(4.57)	(4.00)	(4.48)
Residual R^2	0.30	0.30	0.30	0.30	0.29	0.29	0.29	0.29	0.34	0.28
Period	Full	Full	Full	Full	Full	Full	Full	Full	Full	Full

Table B.VI: Additional U.S. Credit Spread Controls (1993.Q1-2010.Q4)

This table adds additional controls to the regression reported in Table VI in the main text for a much shorter time period. We use the percent of zero daily corporate bond returns from Datastream following Chen, Lesmond, and Wei (2007) as a liquidity control. Callable corporate bond yields are an equal-weighted average of corporate bond issuances with some callability feature, while non-callable bonds are an equal-weighted average of bond issuances with no callability feature from Datastream. We obtain callable and non-callable corporate bond spreads by subtracting the ten-year U.S. Treasury yield, which closely matches the time-varying average duration of callable and non-callable corporate bond issuances. We report Newey-West standard errors with 16 lags in parentheses. * and ** denote significance at the 5% and 1% levels, respectively.

	(10)	(11)	(12)
Inflation risk			
Inflation volatility (Ann.)	49.38**	70.89**	46.55**
	(5.76)	(12.32)	(14.26)
Inflation-stock correlation	-25.01**	-35.53*	-47.51**
	(6.42)	(15.03)	(13.55)
Real uncertainty and other control variables			
Idiosyncratic volatility (Ann.)	1.97**	4.93**	4.24**
	(0.72)	(1.35)	(1.41)
Dividend-price ratio (Ann.)	27.59*	0.25	-1.71
	(12.59)	(20.38)	(19.03)
Liquidity variables			
Percent zero returns	-2.17*		
	(1.03)		
Business cycle and inflation shock variables (Logs)			
3-Year inflation shock	-11.97**	-16.89*	-18.93**
	(3.82)	(6.53)	(6.76)
3-Year real stock return	-0.81**	-1.59**	-1.47**
	(0.10)	(0.19)	(0.18)
3-Year GDP growth	2.66	-0.54	4.68
	(3.05)	(6.57)	(7.05)
3-Year change unemployment	-10.70**	-8.92	0.36
	(3.89)	(9.80)	(8.34)
Quarterly inflation shock	-0.31	9.15	4.09
	(1.93)	(5.28)	(3.34)
Quarterly real stock return	-0.02	-0.18	-0.59
	(0.25)	(0.45)	(0.40)
Quarterly GDP growth	-8.20*	-25.01**	-33.76**
	(3.92)	(6.28)	(6.47)
Residual R^2	0.90	0.94	0.91
Period	93.Q1-10.Q4	93.Q1-10.Q4	93.Q1-10.Q4
Callability	All	Non-call.	Callable

Table B.VII: Changes in in Credit Spreads (1969.Q4-2010.Q4)

This table checks that the benchmark regressions in Table V are robust to an estimation in changes. We report quarterly pooled regressions of changes in corporate log yield spreads against contemporaneous changes in inflation volatility, changes in the inflation stock correlation, and control variables. We report Driscoll and Kraay (1998) standard errors accounting for cross-country correlation and 16 lags. All regressions contain country fixed effects. The residual R^2 reflects explanatory power in excess of fixed effects. Japan data starts in 1973.Q1. Australia data starts in 1983.Q3. * and ** denote significance at the 5% and 1% levels, respectively.

$$\Delta_n spread_{i,t\to t+n} = \lambda^0 + \lambda^{\sigma^\pi}\Delta_n\sigma^\pi_{i,t\to t+n} + \lambda^{\rho^\pi}\Delta_n\rho^\pi_{i,t\to t+n} + \lambda^{\sigma^{eq}}\Delta_n\sigma^{eq}_{i,t\to t+n} + \lambda^{\sigma^{DP}}\Delta_n DP_{i,t\to t+n} + \Lambda X_{i,t} + \eta_{i,t+n}$$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Horizon n (in quarters)	1	4	12	20	20	20	20	20
Change in Inflation Risk								
Δ_n Inflation Volatility (% Ann.)	0.15	0.15	0.20*	0.22**		0.26**	0.29**	
	(0.09)	(0.09)	(0.09)	(0.06)		(0.07)	(0.07)	
Δ_n Inflation-Stock Correlation	0.21**	0.21**	0.33**	0.39**			0.37*	
	(0.08)	(0.08)	(0.12)	(0.08)			(0.15)	
Change in real uncertainty and dividend price ratio								
Δ_n Equity Volatility (% Ann.)	0.01	0.02*	0.02**	0.01*				0.02**
	(0.01)	(0.01)	(0.01)	(0.01)				(0.01)
Δ_n Dividend-price ratio (Ann.)	0.32**	0.45**	0.33*	0.34**				0.34*
	(0.12)	(0.16)	(0.13)	(0.10)				(0.13)
Business cycle and inflation shock variables (Logs)								
n-Quarter inflation shock		-0.04	-0.05	-0.39**	-0.20**	-0.25**	-0.26**	-0.34**
		(0.04)	(0.03)	(0.09)	(0.07)	(0.08)	(0.09)	(0.10)
n-Quarter real stock return		0.00	0.00	0.01	-0.02**	-0.02	-0.01	0.01
		(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
n-Quarter GDP growth		0.01	-0.01	0.00	-0.07	-0.03	0.01	-0.08
		(0.02)	(0.01)	(0.05)	(0.06)	(0.05)	(0.04)	(0.04)
n-Quarter change unemploymen		0.02	0.02	0.06**	-0.01	-0.00	0.03	0.03
		(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
Quarterly inflation shock	-0.06	-0.09*	-0.08*	-0.06	-0.07	-0.05	-0.06	-0.06
	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)	(0.03)
Quarterly real stock return	0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)
Quarterly GDP growth	-0.01	-0.07*	-0.13**	-0.11	-0.16	-0.17	-0.15	-0.13
	(0.02)	(0.03)	(0.04)	(0.06)	(0.10)	(0.10)	(0.08)	(0.07)
Residual R^2	0.12	0.30	0.36	0.36	0.15	0.20	0.24	0.29
Period	Full	Full	Full	Full	Full	Full	Full	Full

Table B.VIII: Predicting U.S. Baa Default Rates (1969-2010)

We regress annual data on annualized issuer-weighted corporate default rates of Baa-rated U.S. issuers in the industrial and public utility sectors onto lagged end-of-year inflation volatility, the inflation-stock correlation, and control variables. The k-year default rate in year t includes all defaults of firms with a senior long-term Baa rating in year t and at least one default during years t+1 through t+k. Our data source is the Moody's default risk database. We report Newey-West standard errors with 6 lags. Variables are constructed as described in Table IV. * and ** denote significance at the 5% and 1% levels, respectively.

$$def_{US,t\to t+n} = \lambda^0_{US} + \lambda^{\sigma^\pi}\sigma^\pi_{US,t} + \lambda^{\rho^\pi}\rho^\pi_{US,t} + \lambda^{\sigma^{eq}}\sigma^{eq}_{US,t} + \lambda^{DP}DP_{US,t} + \Lambda\times X_{US,t} + \eta_{US,t}$$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Horizon n (Years)	1	2	3	4	5	1	2	3	4	5
Inflation risk										
Inflation volatility (Ann.)	4.33	15.98	27.36**	25.32**	31.08**	0.07	-1.23	15.92*	15.19*	23.76
	(9.16)	(10.78)	(4.31)	(5.64)	(7.40)	(8.69)	(9.86)	(6.33)	(6.13)	(12.37)
Inflation-stock correlation	7.55	16.26	34.30**	31.21**	32.19**	-5.69	2.17	21.44*	16.88*	18.91*
	(12.59)	(8.24)	(9.20)	(6.65)	(9.08)	(10.14)	(8.13)	(8.68)	(7.54)	(8.45)
Real uncertainty and other control variables										
Idiosyncratic volatility (Ann.)	0.29	0.97*	1.51**	1.65**	1.19*	-0.60	0.34	0.86	0.43	0.06
	(0.78)	(0.42)	(0.38)	(0.37)	(0.55)	(1.96)	(0.66)	(0.42)	(0.48)	(0.56)
Dividend-price ratio (Ann.)	-0.78	-1.71	-1.00	2.98	0.87	-20.21	-12.18	-10.57	-11.03*	-11.95
	(2.50)	(3.45)	(1.91)	(1.97)	(1.87)	(26.96)	(12.89)	(6.56)	(4.11)	(5.99)
GDP vol.						29.21	38.48*	23.29*	17.46**	10.96
						(18.09)	(14.75)	(9.11)	(5.09)	(9.64)
Equity volatility (Ann.)						2.08	1.39	0.73	0.33	-0.04
						(1.16)	(0.89)	(0.51)	(0.60)	(0.97)
Leverage						-0.60	-0.61	-0.22	1.18*	1.21
						(3.20)	(1.79)	(0.93)	(0.46)	(1.12)
Bond volatility (Ann.)						31.41	6.63	15.53*	32.06**	35.23*
						(43.29)	(16.88)	(6.43)	(10.01)	(15.71)
Bond-stock correlation						-38.98	-2.33	-9.06	-7.22	-8.69
						(41.46)	(22.98)	(8.68)	(17.66)	(19.61)
Business cycle and inflation shock variables (Logs)										
3-Year inflation shock	-1.84	-1.04	0.78	0.29	-0.65	-3.58	-1.87	-0.27	-1.99*	-2.99
	(1.26)	(0.89)	(1.01)	(0.76)	(1.28)	(3.25)	(1.67)	(1.03)	(0.95)	(1.62)
3-Year real stock return	-0.16	0.17	0.33*	0.40**	0.45**	-0.19	0.20	0.30**	0.38*	0.40*
	(0.21)	(0.13)	(0.12)	(0.12)	(0.16)	(0.20)	(0.14)	(0.09)	(0.14)	(0.18)
3-Year GDP growth	5.68*	5.52*	5.40**	5.35**	3.82*	3.55	1.10	3.30	3.16**	2.92
	(2.51)	(2.31)	(1.17)	(0.98)	(1.50)	(3.11)	(3.57)	(2.96)	(0.77)	(2.25)
3-Year change unemployment	5.31	10.09*	10.25**	9.60**	5.65**	-4.04	-3.37	2.71	1.67	0.96
	(5.61)	(4.64)	(2.45)	(1.60)	(2.03)	(7.44)	(8.21)	(6.87)	(2.18)	(3.28)
Quarterly inflation shock	-6.35	2.46	-0.82	-5.00	2.70	4.16	4.97	2.78	-1.57	6.20
	(11.73)	(11.00)	(6.66)	(5.73)	(6.69)	(10.83)	(9.73)	(5.45)	(5.18)	(8.91)
Quarterly real stock return	1.63**	1.13	1.05*	1.03**	0.76*	0.70	0.62	0.62	0.56	0.31
	(0.50)	(0.76)	(0.47)	(0.29)	(0.33)	(0.91)	(0.83)	(0.40)	(0.33)	(0.44)
Quarterly GDP growth	-1.94	0.18	-2.34	-0.74	-3.18	-13.01	-5.47	-6.24	-3.44	-5.47
	(4.68)	(4.18)	(2.77)	(3.85)	(3.49)	(10.21)	(7.35)	(3.68)	(3.61)	(4.59)
R^2	0.26	0.38	0.70	0.74	0.63	0.37	0.51	0.80	0.83	0.72

Table B.IX: Predicting global Default Rates with U.S. Inflation Risk (1969-2010)

We check that the default prediction results in Table VII in the main text are robust to using a measure of global Baa default rates on the left-hand side. Since defaults of Moody's rated firms predominantly have occurred in the U.S., the one-year global Baa-rated default rate is very similar to the one-year U.S. Baa-rated default rate. In this table, we use annual global default rates of Baa-rated firms from Moody's (2011). The n-year default rate at time t is computed as the average default rate in years t+1 through t+n of firms that were rated Baa prior to defaulting. We report Newey-West standard errors with 6 lags. * and ** denote significance at the 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Horizon (Years)	1	2	3	4	5	5	5	5	5	5	5
Inflation risk											
Inflation volatility (Ann.)	10.32	25.50*	30.45**	25.29**	19.95**		8.99	10.47*		16.11**	16.71**
	(8.35)	(11.42)	(6.58)	(4.52)	(4.23)		(4.95)	(5.04)		(3.47)	(5.24)
Inflation-stock correlation	9.86	19.80**	15.45*	12.66**	8.09			6.42		4.98	4.21
	(11.77)	(5.82)	(6.65)	(3.19)	(4.39)			(5.06)		(3.76)	(5.83)
Real uncertainty and other control variables											
Idiosyncratic volatility (Ann.)	0.37	0.82*	0.89*	0.76**	0.43**				0.31	0.26*	0.66*
	(0.79)	(0.34)	(0.32)	(0.16)	(0.13)				(0.15)	(0.12)	(0.29)
Dividend-price ratio (Ann.)	-1.29	-4.71	-4.52**	-2.90*	-2.58				1.28	-6.29**	1.46
	(2.13)	(2.78)	(1.26)	(1.18)	(1.61)				(2.05)	(1.92)	(3.92)
GDP vol.										11.68**	
										(3.72)	
Equity volatility (Ann.)											0.33
											(0.37)
Leverage											-1.14
											(0.65)
Bond volatility (Ann.)											0.64
											(5.68)
Bond-stock correlation											-1.30
											(9.76)
Business cycle and inflation shock variables (Logs)											
3-Year inflation shock	-2.20	-1.51	-1.49	-0.61	-0.23	0.27	-0.17	-0.02	0.10	-0.53	0.31
	(1.47)	(0.90)	(0.73)	(0.62)	(0.49)	(0.61)	(0.48)	(0.49)	(0.68)	(0.54)	(0.46)
3-Year real stock return	-0.11	0.15	0.14	0.18*	0.19*	0.12	0.15	0.18*	0.11	0.19*	0.15
	(0.17)	(0.10)	(0.11)	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.08)	(0.07)	(0.09)
3-Year GDP growth	3.67	1.14	0.98	1.67	1.37	2.12	2.06	2.14	1.92	-0.15	2.92**
	(2.36)	(2.22)	(1.44)	(1.10)	(0.97)	(1.55)	(1.36)	(1.36)	(1.53)	(0.96)	(0.93)
3-Year change unemployment	1.73	1.50	-0.05	1.05	0.63	2.20	1.50	2.09	1.76	-3.35	3.35*
	(6.11)	(3.63)	(2.42)	(1.52)	(1.30)	(2.36)	(2.02)	(2.18)	(2.25)	(1.82)	(1.58)
Quarterly inflation shock	-5.87	10.44	6.37	0.98	-2.02	-11.07*	-8.40	-7.79	-10.75*	-1.26	-1.03
	(9.38)	(11.34)	(5.03)	(4.39)	(4.67)	(4.23)	(4.36)	(4.15)	(4.22)	(3.97)	(4.45)
Quarterly real stock return	0.71	0.22	0.41*	0.63**	0.45**	0.33**	0.40**	0.41**	0.44**	0.35	0.39**
	(0.63)	(0.24)	(0.19)	(0.14)	(0.10)	(0.10)	(0.13)	(0.12)	(0.13)	(0.18)	(0.13)
Quarterly GDP growth	-7.93	-4.65	-5.18	-3.06	-3.76	0.01	-1.08	-1.58	0.33	-4.77*	-4.83
	(5.28)	(3.86)	(3.23)	(3.66)	(2.47)	(2.14)	(2.15)	(2.03)	(2.67)	(2.30)	(2.52)
R^2	0.25	0.39	0.55	0.70	0.64	0.48	0.55	0.56	0.51	0.72	0.70
Period	Full	Full	Full	Full	Full	Full	Full	Full	Full	1972-2010	Full

Table B.X: Global Baa Credit Losses and U.S. Inflation Risk (1981-2010)

We check that the default prediction results in Table VII in the main text are robust to using a measure of global Baa credit loss rates for a shorter time period. Global Baa credit loss rates are computed analogously to global Baa default rates in Table B.IX from credit loss rates reported in Moody's (2011). We report Newey-West standard errors with 6 lags. and ** denote significance at the 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Horizon (Years)	1	2	3	4	5	5	5	5	5	5	5
Inflation risk											
Inflation volatility (Ann.)	10.77	20.54*	21.25**	16.40**	11.78**		4.22	4.43		7.00*	2.16
	(8.20)	(7.95)	(4.11)	(2.60)	(3.83)		(3.69)	(4.36)		(3.16)	(6.65)
Inflation-stock correlation	-1.30	7.36	2.46	5.93	2.33			1.12		-1.70	-2.23
	(10.51)	(8.46)	(7.64)	(3.16)	(4.04)			(4.08)		(2.06)	(4.99)
Real uncertainty and other control variables											
Idiosyncratic volatility (Ann.)	1.01	0.95	1.08**	0.86**	0.45				0.24	-0.01	0.92**
	(1.18)	(0.46)	(0.28)	(0.21)	(0.29)				(0.21)	(0.34)	(0.25)
Dividend-price ratio (Ann.)	1.11	-2.30	-2.79	-1.47	-1.83				0.50	-5.61**	5.49
	(3.28)	(2.71)	(1.88)	(1.10)	(2.46)				(2.08)	(1.68)	(3.71)
GDP vol.										13.22**	
										(4.19)	
Equity volatility (Ann.)											0.55
											(0.39)
Leverage											-1.88*
											(0.81)
Bond volatility (Ann.)											3.11
											(8.03)
Bond-stock correlation											3.86
											(8.40)
Business cycle and inflation shock variables (Logs)											
3-Year inflation shock	0.01	0.81	-0.36	0.61	0.41	0.45	0.76	0.81	0.50	0.82	-0.32
	(2.32)	(0.84)	(1.33)	(0.52)	(1.13)	(0.81)	(0.85)	(0.97)	(1.23)	(0.53)	(0.95)
3-Year real stock return	-0.24	0.02	0.04	0.11	0.12	0.10	0.11	0.12*	0.08	0.15*	0.12
	(0.22)	(0.15)	(0.08)	(0.05)	(0.09)	(0.06)	(0.06)	(0.05)	(0.08)	(0.06)	(0.08)
3-Year GDP growth	2.88	3.06	0.47	0.86	0.95	2.56**	2.82**	2.82**	1.87**	0.97	0.57
	(3.46)	(2.39)	(1.67)	(0.80)	(0.66)	(0.44)	(0.79)	(0.81)	(0.44)	(0.69)	(1.03)
3-Year change unemployment	-0.33	3.38	-2.08	-0.36	0.22	3.62*	3.87	4.00	2.13	-0.87	-1.56
	(8.83)	(5.45)	(2.65)	(1.70)	(1.88)	(1.28)	(2.07)	(2.11)	(1.75)	(1.89)	(2.66)
Quarterly inflation shock	-1.85	8.94	2.21	-2.83	-2.98	-8.60	-6.72	-6.62	-8.80	-1.11	-4.54
	(9.94)	(8.83)	(4.72)	(2.18)	(5.05)	(4.89)	(5.63)	(5.87)	(4.54)	(3.61)	(7.05)
Quarterly real stock return	0.68	0.12	0.39	0.63**	0.37	0.19*	0.20	0.21	0.31	0.03	0.47
	(0.62)	(0.33)	(0.22)	(0.12)	(0.23)	(0.09)	(0.10)	(0.12)	(0.21)	(0.14)	(0.25)
Quarterly GDP growth	-4.38	-4.24	-1.15	2.30	0.06	1.38	1.29	1.29	2.10	-0.71	-2.82
	(8.21)	(4.48)	(3.24)	(2.45)	(3.64)	(1.93)	(2.06)	(2.09)	(3.64)	(1.77)	(5.84)
R^2	0.37	0.55	0.66	0.92	0.71	0.60	0.63	0.63	0.62	0.86	0.82
Period	Full	Full	Full	Full	Full	Full	Full	Full	Full	Full	Full

Table B.XI: Israeli Corporate Bond Index Composition

Yields from Bloomberg and a proprietary source. We consider non-convertible inflation-indexed corporate bonds with a rating of at least A- (S&P Maalot) or A3 (Midroog), five to eleven years to maturity, non-financial issuer, and at least eight quarterly consecutive spread observations.

Issuer Name	Issue Date	Maturity	Cpn	S&P Maalot	Midroog	Enter Index	Leave Index	Bloomberg Data
Israel Electric Corp Ltd	30-May-93	31-Oct-10	2.8	AA		30-Mar-00	29-Sep-05	No
Israel Electric Corp Ltd	2-Jun-02	20-Feb-15	6.5	AA-	Aa3	30-Jun-04	31-Mar-10	No
U Dori Group Ltd	9-Mar-05	10-Aug-12	6.25		A3	31-Mar-05	28-Jun-07	Yes
Azorim-Investment Develop. & Construction	25-May-05	9-Mar-13	4.8	BBB+	A3	30-Jun-05	31-Mar-08	Yes
YH Dimri Construction & Develop. Ltd	2-Jun-05	30-Sep-12	4.15		A2	30-Jun-05	30-Sep-07	Yes
One Software Technologies Ltd	7-Jun-05	5-Jul-13	3.95		A2	30-Jun-05	30-Jun-08	Yes
Alliance Tire Co 1992 Ltd	5-Sep-05	31-Aug-12	6		A3	29-Sep-05	30-Sep-07	Yes
Fox Wizel Ltd	12-Jun-06	7-Jul-13	4.8		A1	29-Jun-06	30-Jun-08	Yes
S Sholomo Holdings Ltd	4-Sep-06	30-Sep-13	5.5	A	A2	28-Sep-06	28-Sep-08	Yes
Paz Oil Co Ltd	7-Dec-06	30-Nov-14	4.7	A+		31-Dec-06	31-Dec-09	Yes
Paz Oil Co Ltd	7-Dec-06	29-Oct-14	5	A+		31-Dec-06	30-Sep-09	Yes
Avgol Industries 1953 Ltd	22-Jan-07	31-Dec-14	5.2	A		29-Mar-07	30-Dec-09	Yes
Amir Marketing & Investments in Agriculture	12-Jun-07	31-May-15	4.6	A-		28-Jun-07	30-Jun-10	Yes
Ashot -Ashkelon Industries Ltd	10-Jun-07	1-Jun-14	6		A3	28-Jun-07	30-Jun-09	Yes
E Schnapp Co Works Ltd	7-May-07	1-May-14	5.35		A2	28-Jun-07	31-Mar-09	Yes
Delek Group Ltd	25-Oct-07	24-Oct-14	4.75	A	A1	31-Dec-07	30-Sep-09	Yes
Strauss Group Ltd	21-May-07	1-Feb-18	4.1	AA+	Aa1	31-Mar-08	30-Dec-10	Yes
YH Dimri Construction & Development Ltd	5-Mar-08	31-Mar-15	6.1		A2	31-Mar-08	31-Mar-10	Yes
Hilan Ltd	6-Mar-08	31-May-15	4.5	A+		31-Mar-08	30-May-10	Yes
Knafaim Holdings Ltd	11-Jun-08	30-Apr-15	6.9	A-	NR	30-Jun-08	31-Mar-10	Yes
Shikun & Binui Ltd	27-May-08	18-Apr-15	5.2		A2	30-Jun-08	31-Mar-10	Yes
Azorim-Investment Develop. & Construction	12-Aug-08	31-Dec-17	5.5	BBB+	A3	28-Sep-08	30-Dec-10	Yes
Hadera Paper Ltd	20-Jul-08	10-Jul-18	4.65	A		28-Sep-08	30-Dec-10	Yes

Table B.XII: Placebo Test - Israel and U.S. Credit Return Regressions

We estimate a regression of corporate bond log returns in excess of government bond log returns onto changes in inflation volatility, changes in the inflation-stock correlation, and control variables:

$$ret^{corp}_{i,t\to t+n} - ret^{gov}_{i,t\to t+n} = \lambda_i^0 + \lambda_i^{\sigma^\pi}\Delta_n\sigma^\pi_{i,t\to t+n} + \lambda_i^{\rho^\pi}\Delta_n\rho^\pi_{i,t\to t+n} + \lambda_i^{\sigma^{eq}}\Delta_n\sigma^{eq}_{i,t\to t+n} + \lambda_i^{gov} ret^{gov}_{i,t\to t+n} + \lambda_i^{eq} ret^{eq}_{i,t\to t+n} + \eta_{i,t+n}$$

Panel A reports the regression estimates for Israel inflation-indexed corporate log excess returns, while Panel B reports the regression estimates for U.S. nominal corporate log excess returns. U.S. corporate and government bond return indices are from Ibbotson. Israel corporate and government CPI-linked bond return indices are from the Tel-Aviv Stock Exchange. Quarterly equity returns are in excess of long-term bond returns. For a lag horizon of n quarters, we report Newey-West standard errors with 16+n lags in parentheses. Variables are constructed as described in Table IV. * and ** denote significance at the 5% and 1% levels, respectively. Inflation surprises are extracted as the residual from a regression of quarterly inflation onto its own four lags and seasonal dummies, as in column (2) of Table B.V.

Panel A: Israel (1989.Q3-2009.Q4)

$ret_{t\to t+n}^{corp} - ret_{t\to t+n}^{gov}$ (%)	(1)	(2)	(3)	(4)	(5)	(6)
Horizon n (in quarters)	1	4	12	1	4	12
Change in Inflation Risk						
Δ_n Inflation Volatility (% Ann.)	-57.05	-47.76	43.35	-45.36	-15.07	-7.70
	(65.95)	(51.58)	(44.69)	(5.48)	(30.42)	(31.19)
Δ_n Inflation-Stock Correlation	-523.66	-315.83	-841.57	-45.36	259.82	92.01
	(334.82)	(241.15)	(444.21)	(39.01)	(202.79)	(79.77)
Change in real uncertainty, stock and government bond returns						
Δ_n Equity Volatility (% Ann.)	-17.73	-2.07	-3.90	7.61	22.91*	18.82**
	(15.69)	(8.51)	(12.57)	(5.48)	(8.89)	(4.99)
$ret_{t,t+n}^{gov}$ (%)	10.35	28.18**	59.13**	5.05	14.27**	34.05**
	(7.03)	(9.81)	(11.66)	(2.95)	(3.40)	(2.59)
$ret_{t,t+n}^{eq}$ (%)	6.80*	11.82**	9.15**	2.88**	6.49**	7.55**
	(3.05)	(4.03)	(1.94)	(0.66)	(1.37)	(0.53)
Constant	-0.14	-2.22	-14.42**	-0.03	-0.70	-6.96**
	(0.33)	(1.12)	(3.13)	(0.16)	(0.36)	(0.65)
R^2	0.30	0.48	0.69	0.13	0.50	0.82
Period	89.Q3-09.Q4	89.Q3-09.Q4	89.Q3-09.Q4	89.Q3-07.Q4	89.Q3-07.Q4	89.Q3-07.Q4

Panel B: U.S. (1969.Q4-2009.Q4)

$ret_{t\to t+n}^{corp} - ret_{t\to t+n}^{gov}$ (%)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Horizon n (in quarters)	1	4	12	1	4	12	1	4	12
Change in Inflation Risk									
Δ_n Inflation Volatility (% Ann.)	629.62*	128.98	-749.85**	629.62*	128.98	-749.85**	170.02	-113.66	-540.03**
	(304.10)	(286.04)	(121.01)	(304.10)	(286.04)	(121.01)	(273.93)	(171.96)	(144.70)
Δ_n Inflation-Stock Correlation	124.92	-136.24	-757.25**	124.92	-136.24	-757.25**	162.78	-63.81	-377.25*
	(173.03)	(184.27)	(172.01)	(173.03)	(184.27)	(172.01)	(116.20)	(126.10)	(157.79)
Change in real uncertainty, stock and government bond returns									
Δ_n Equity Volatility (% Ann.)	8.41	4.03	-5.35	8.41	4.03	-5.35	12.50	0.91	-4.06
	(12.30)	(14.44)	(6.04)	(12.30)	(14.44)	(6.04)	(8.27)	(10.19)	(10.17)
$ret_{t,t+n}^{gov}$ (%)	629.62*	128.98	-749.85**	-12.50	-23.79**	-32.16**	170.02	-113.66	-540.03**
	(304.10)	(286.04)	(121.01)	(11.70)	(8.11)	(6.50)	(273.93)	(171.96)	(144.70)
$ret_{t,t+n}^{eq}$ (%)	124.92	-136.24	-757.25**	14.89	6.70	-9.78*	10.82*	8.36	-3.24
	(173.03)	(184.27)	(172.01)	(11.44)	(11.56)	(3.70)	(5.21)	(5.81)	(3.70)
Constant	-12.50	-23.79**	-32.16**	0.00	1.17	7.96**	0.13	0.54	2.55**
	(11.70)	(8.11)	(6.50)	(0.46)	(1.38)	(2.26)	(0.22)	(0.72)	(0.61)
R^2	0.37	0.30	0.40	0.57	0.42	0.63	0.24	0.22	0.22
Period	89.Q3-09.Q4	89.Q3-09.Q4	89.Q3-09.Q4	89.Q3-07.Q4	89.Q3-07.Q4	89.Q3-07.Q4	Full	Full	Full

Figure B.1: International Credit Spreads and GDP Volatility

This figure shows the comovement of quarterly credit spreads (solid) and the three-year backward-looking standard deviation of real GDP growth surprises (dashed) for Australia, Canada, Germany, Japan, the U.K., and the U.S. Quarterly GDP growth surprises are computed analogously to inflation surprises as the residual of log real GDP growth onto its own four lags, the log T-bill rate, and seasonal dummies. Credit spreads are computed as investment grade corporate bond index log yields in excess of duration-matched nominal government bond log yields, except for the U.S. credit spread, which is the Moody's Baa minus Aaa log yield spread. GDP volatility is computed using a three-year backward-looking window of quarterly GDP surprises.

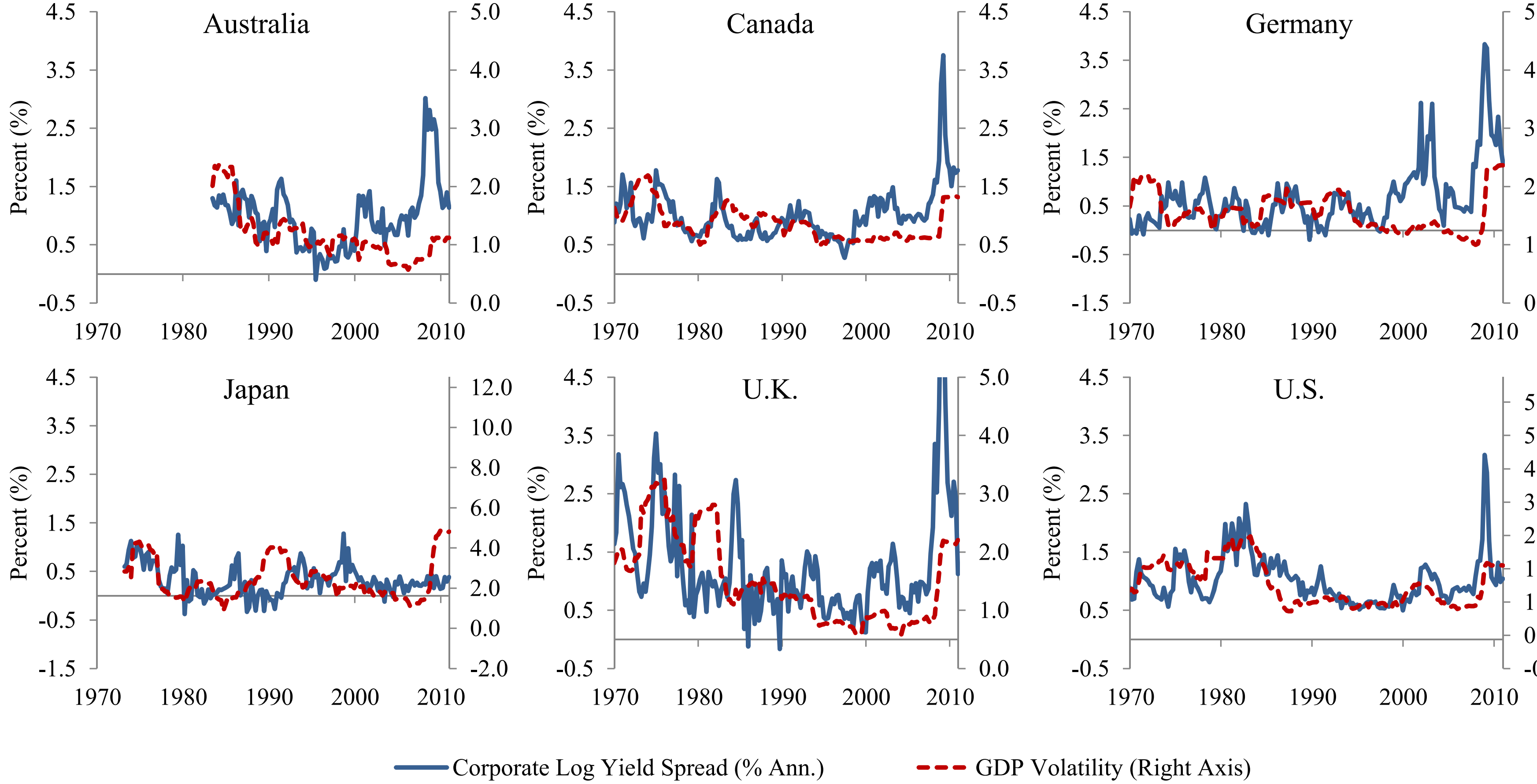


Figure B.2: International Credit Spreads and Bond-Stock Correlation

This figure shows the comovement of quarterly credit spreads (solid) and bond-stock correlation (dashed) for Australia, Canada, Germany, Japan, the U.K., and the U.S. Credit spreads are computed as investment grade corporate bond index log yields in excess of duration-matched nominal government bond log yields, except for the U.S. credit spread, which is the Moody's Baa minus Aaa log yield spread. The bond-stock correlation is the correlation between daily or weekly changes in long-term nominal government bond log yields and contemporaneous real stock log returns over the past quarter as described in Table IV.

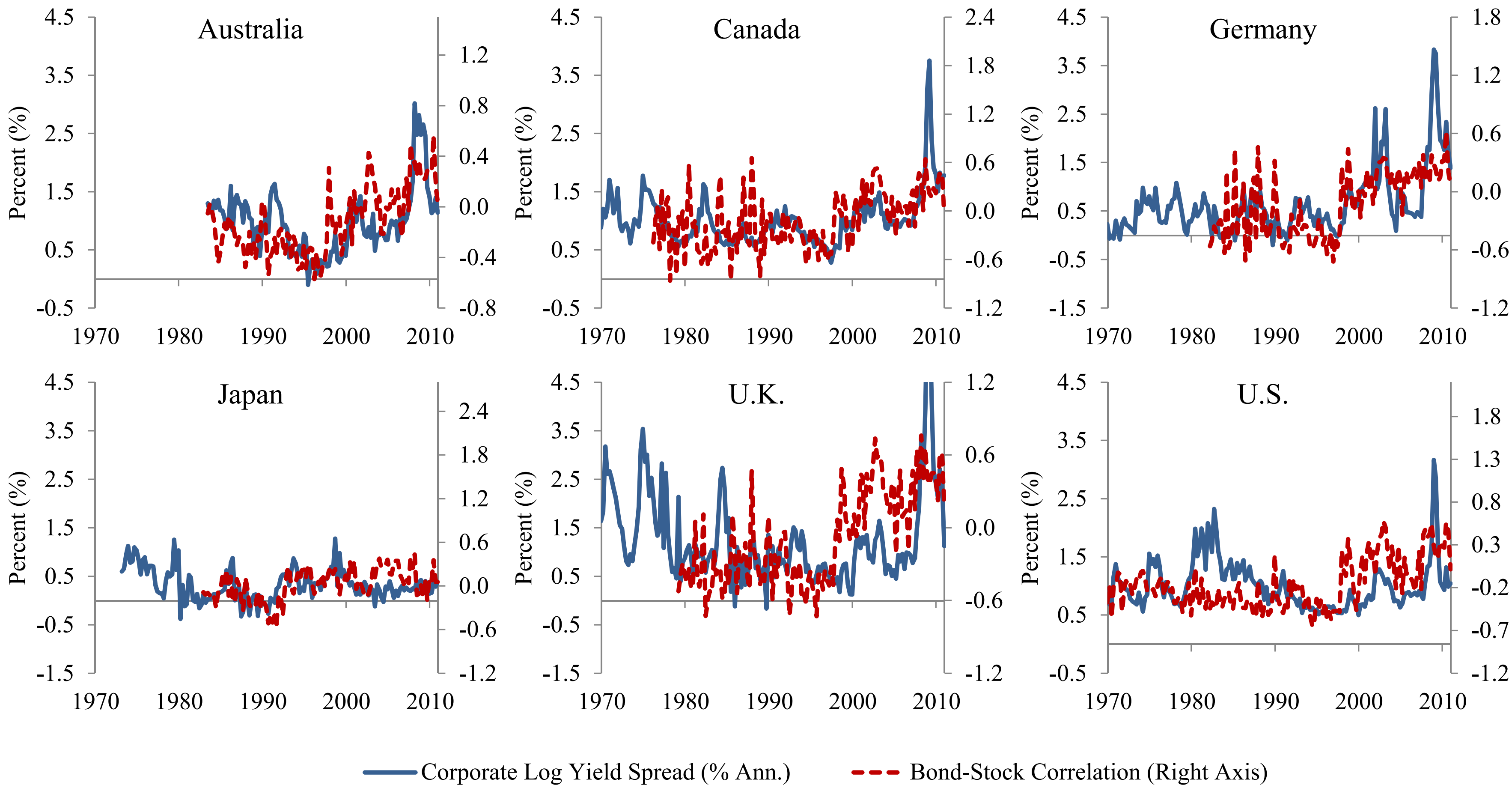
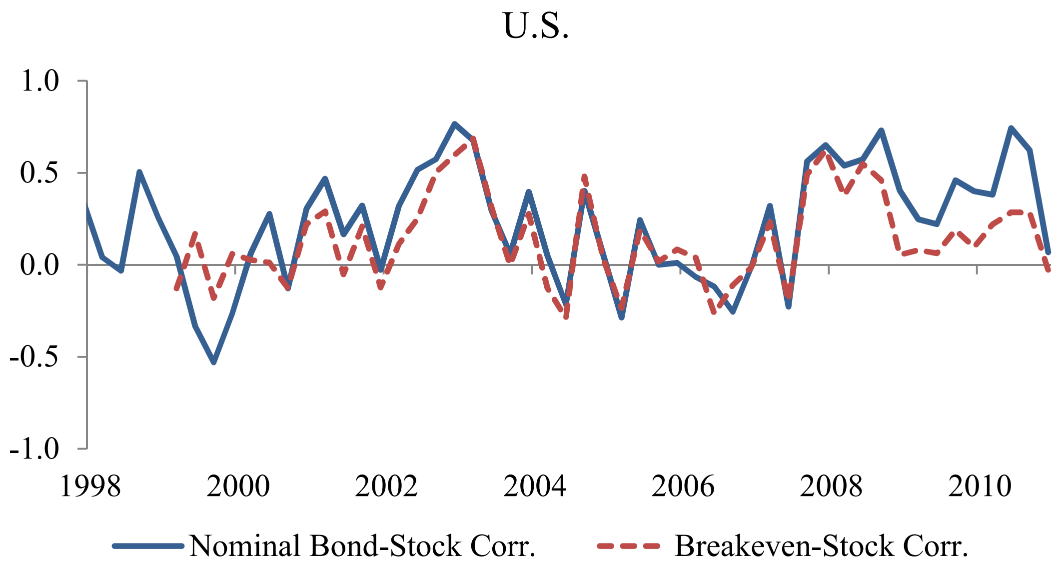


Figure B.3: Breakeven-Stock Correlation

This figure illustrates the close correspondence between the nominal bond-stock correlation and breakeven-stock correlation, when data is available. Breakeven is the difference between continuously compounded zero coupon nominal and inflation-indexed government yields. Ten-year yields are from Gurkaynak, Sack, and Wright (2010) and fifteen-year U.K. yields are from Anderson and Sleath (2001). The breakeven-stock correlation is the correlation between daily changes in breakeven and daily log stock returns over the past quarter.



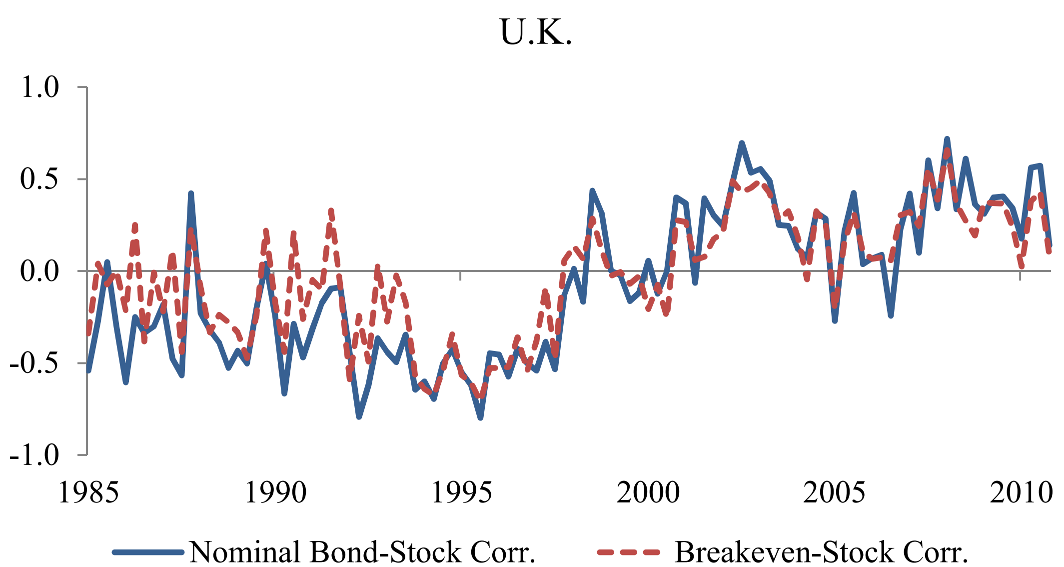


Figure B.4: U.S. Credit Spreads and Inflation Shocks

Moody's Baa over Aaa log yield spread and quarterly U.S. log inflation shocks as described in Table IV.

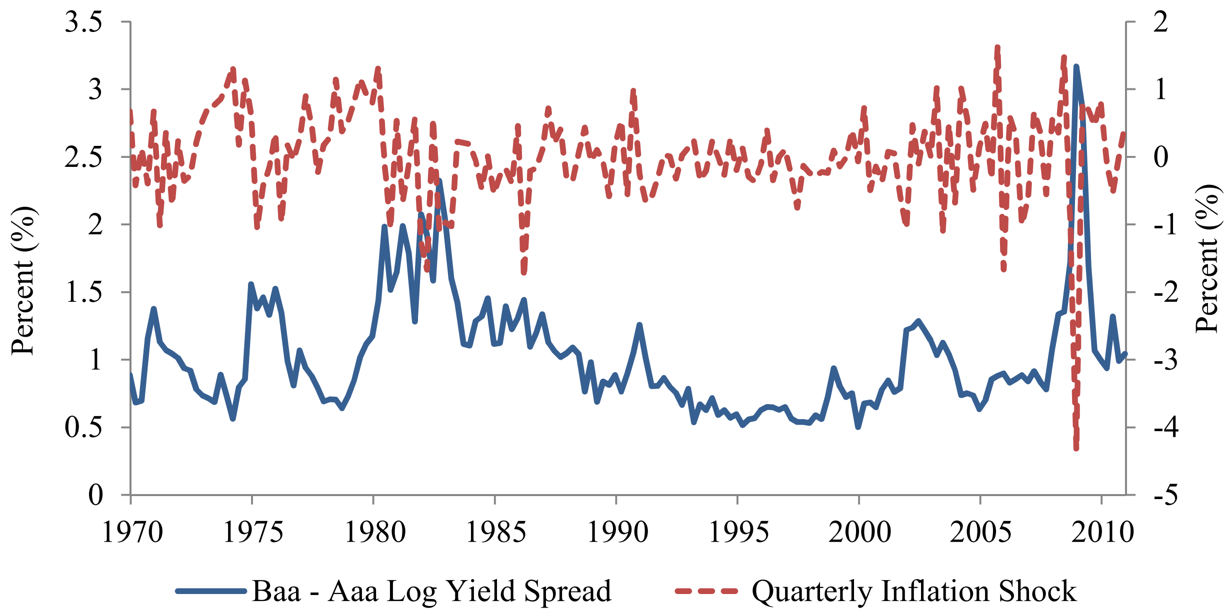


Figure B.5: U.S. Credit Spreads and Upper Tail Survey Inflation Uncertainty

This figure shows the comovement between the U.S. Moody's long-term Baa-Aaa log yield spreads and the upper tail of inflation uncertainty for comparison with Figure 1 in the main text. Data is constructed as in Figure 1.

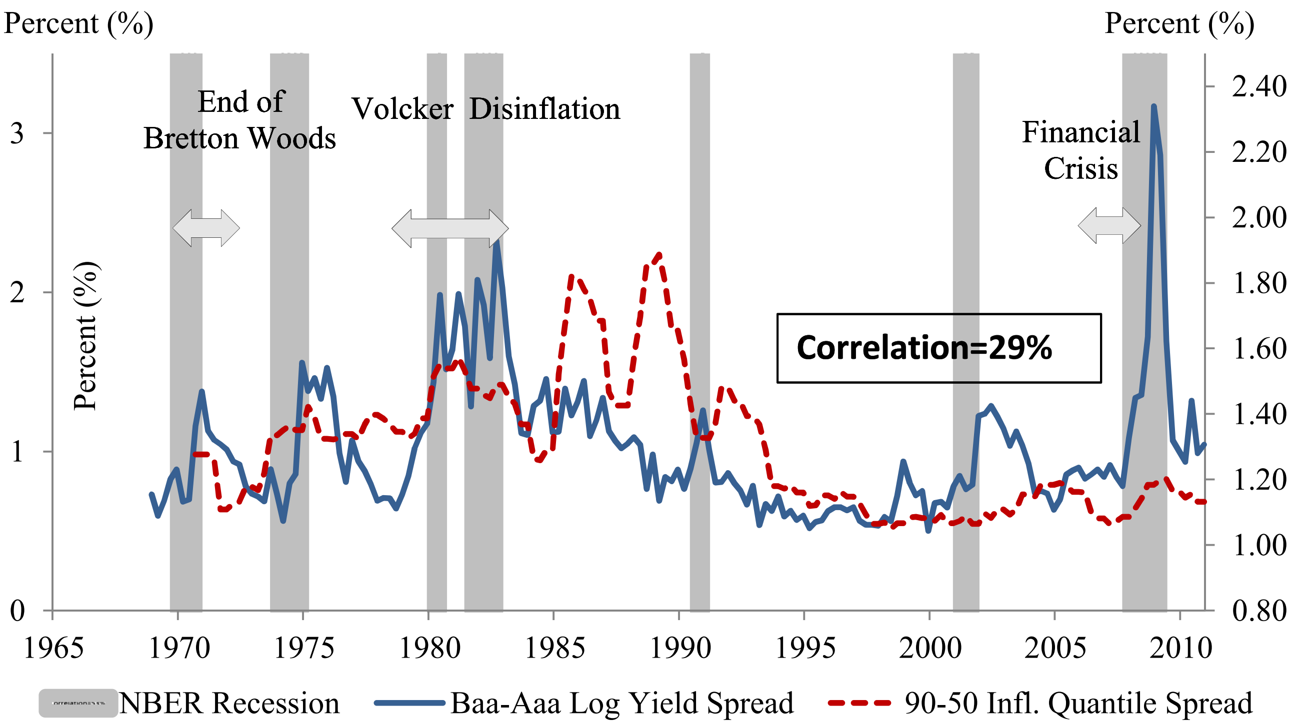


Figure B.6: U.S. Corporate Bond Percent Zero Daily Returns

This figure shows the additional liquidity control variable in Table B.VI. The percent of zero daily returns in U.S. corporate bonds 1993.Q1-2010.Q4 is from Datastream.

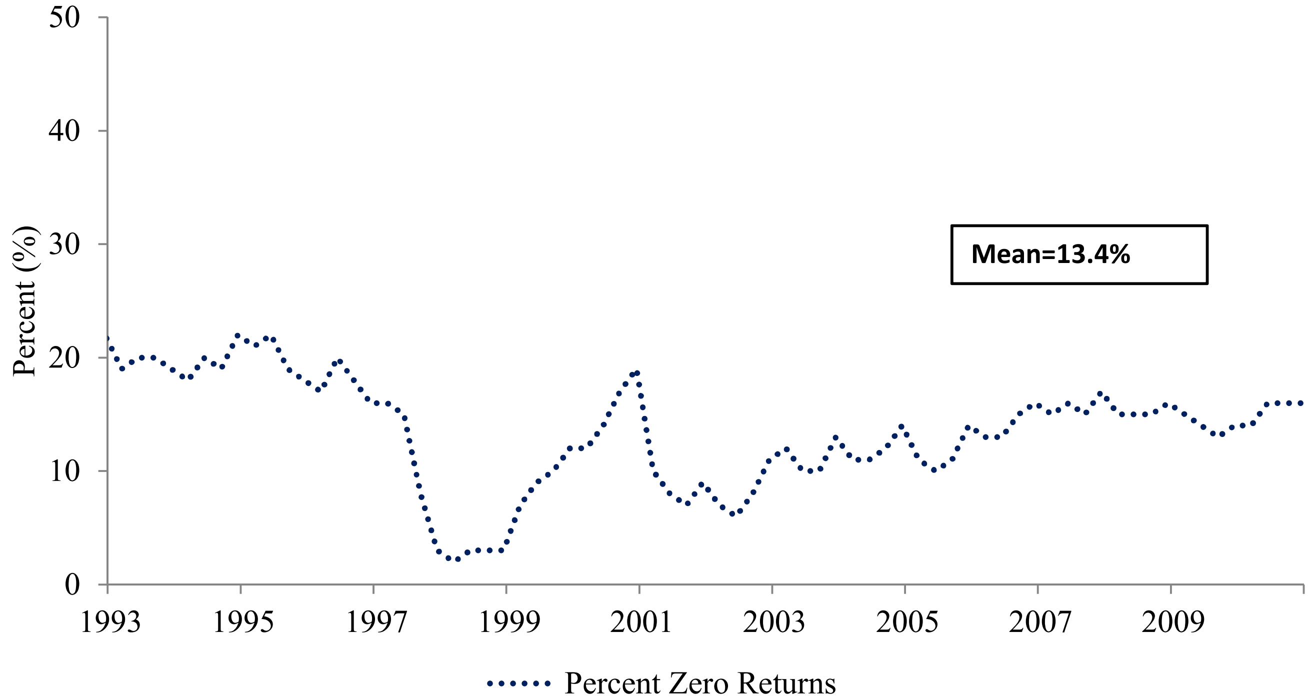


Figure B.7: U.S. Annualized Baa Default Rates and Credit Loss Rates

We show one- through five-year annualized issuer-weighted default and credit loss rates of Baa-rated industrial and public utility U.S. firms. We compute default rates using the Moody's corporate default risk service database. Credit loss rates are calculated as default rates times issuer-weighted loss given default. This subset of firms and the weighting scheme correspond as closely as possible to the Baa corporate bond yield index used in our analysis of corporate long-term credit spreads. In computing the n-year default rate at time t, we include all firms that were rated Baa in year t and defaulted during years t+1 through t+n. For detailed variable descriptions see Supplementary Appendix C.3.

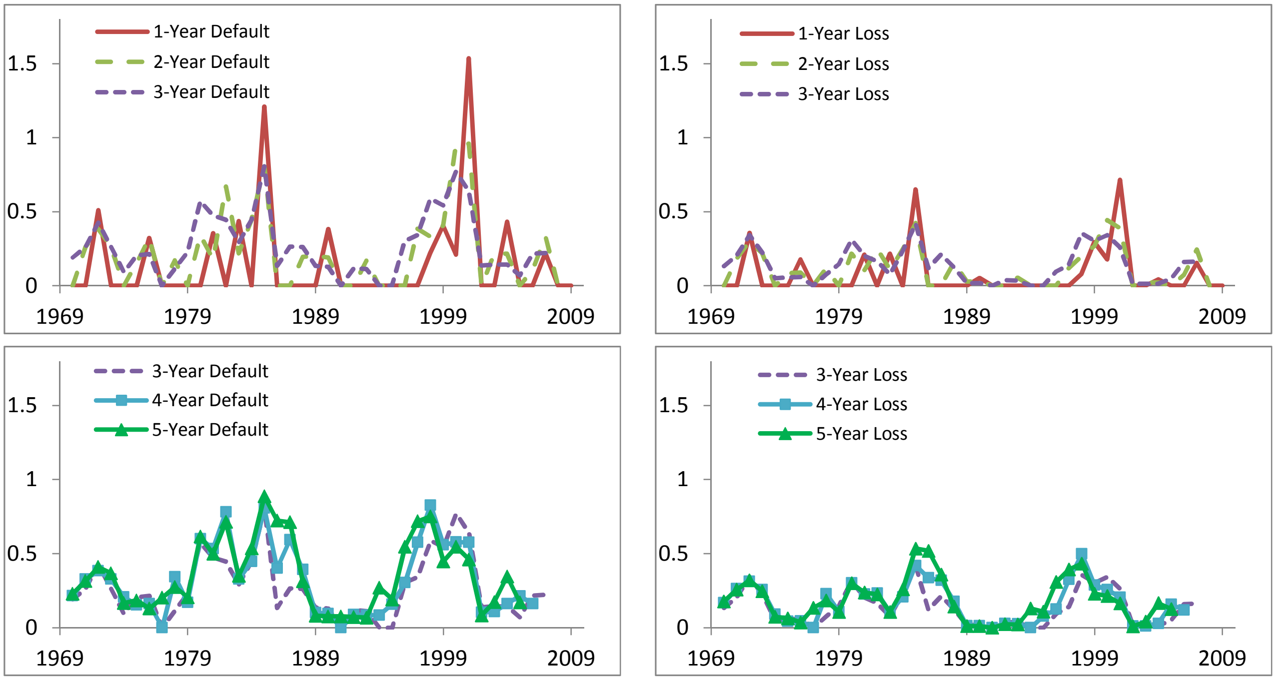


Figure B.8: Israeli Inflation-Indexed Credit Spreads, Inflation Volatility, and Inflation-Stock Correlation

This figure shows the comovement of Israeli quarterly credit spreads (solid), inflation volatility (dashed), and inflation-stock correlation (dashed). Israeli corporate bond yields reflect corporate bonds issued by non-financial firms with five to eleven years remaining to maturity and rated A- or higher by S&P Maalot or A3 or higher by Midroog. Maturity-matched government bond yields are from the Bank of Israel. A detailed data description is available in Supplementary Appendix C.4.