

Positive inflation shocks increase Treasury yields and **widen credit spreads** on corporate bonds across all maturities and credit-rating classes.

Positive real output growth shocks also increase Treasury yields, but they suppress the credit spreads at low credit-rating classes, thus generating **negative correlations between interest rates and credit spreads**.

The financial market volatility factor has a small and transient effect on the Treasury yield curve, but it exerts a **strongly positive and persistent effect on the credit spread term structure**.

The **CPI** measures the average change in the prices of a basket of goods and services bought by a typical urban household. The **PPI** measures the change in the selling prices received by domestic producers for all finished goods. The **PCE deflator** measures the average change in the prices of a basket of goods and services purchased by the typical consumer. The **GDP deflator** measures the average change in the prices of all goods and services produced by the domestic economy.

include them all in our estimation and extract one common factor that captures the systematic movements.

The **real GDP growth** is the broadest measure of the output growth. **Industrial production** measures the production of goods. Although less comprehensive, it is more timely because the industrial production numbers are released monthly, whereas the GDP numbers are released quarterly. **Nonfarm payrolls** measure the number of employees on firms' payrolls. Farms are excluded because of their seasonal nature, which can skew total employment figures. This number is a key indicator of the employment scenario of the economy, one that has far-reaching implications for both inflation and output growth. On the demand side of the economy, we include **real personal consumption expenditure**, which often registers changes in the state of the economy before changes in production. We first convert the four series into year-over-year growth rates and then standardize them before we extract the real growth factor.

The **VXO** measures the one-month at-the-money Black and Scholes (1973) implied volatility on the S&P 100 index options, and the **VIX** is a specific portfolio of option prices that approximate the one-month variance swap rate on the S&P 500 index (Carr and Wu 2006). To reduce noise, we compute the yearly moving average of the daily volatility series. Then we sample the moving averages at the end of each month and extract the volatility factor in monthly frequency. We first take logs on the two series and then standardize them before we extract the volatility factor.