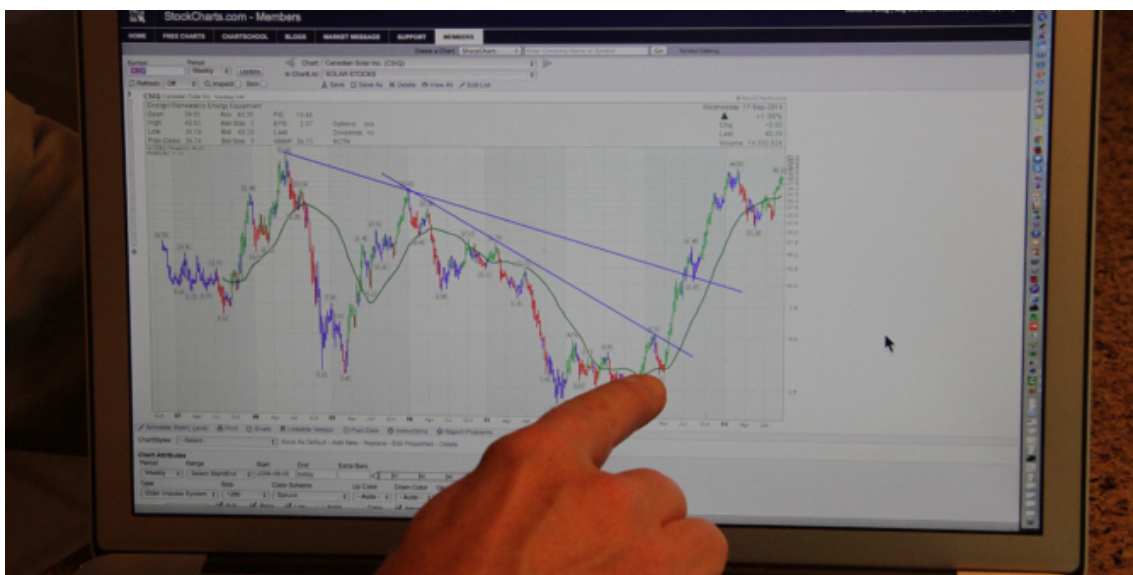


Credit market investors may not be paying enough attention to fundamental asset volatility



Fixed income markets are very large. As of 31 December, 2016 there were over \$12 trillion of outstanding corporate debt from companies in developed markets. Yet, despite the size of this asset class, little research has explored the role of fundamental analysis in the context of credit markets.

Default risk, i.e., the risk that a debt issuer will not make all the required contractual payments, is a key risk in credit markets. A workhorse model in understanding default risk and how it links to the pricing of corporate debt is the work of [Robert Merton](#). A common theme in the Merton model, and in its many subsequent variations, is that a firm will default if it has an insufficient asset value to satisfy its debt commitments. A firm's closeness to default is a function of both the expected difference between asset values and debt commitments and volatility. For a given asset value and capital structure today, higher expected volatility implies a higher probability that future asset values will not cover debt commitments (i.e., a greater chance of default). Asset volatility is thus an important primitive for determining default risk.

In a recently [published paper](#), we conduct a comprehensive empirical analysis of the usefulness of market-based and fundamental-based measures of volatility from the perspective of a credit investor. The U.S. Financial Accounting Standards Board (FASB) recognises the potential usefulness of fundamental information contained in general purpose financial reports for both equity *and* debt investors. The information contained in the historical volatility of fundamentals differs from market-based measures. Financial statements are, in fact, prepared under modified historical cost accounting (not full mark to market) and a recent study by [Stephen Penman](#) suggests that the unconditional conservatism built into financial reporting creates the possibility of risk to be reflected in the outputs of that system.

We source our market-based measures of asset volatility from traded security prices in both secondary equity and bond markets. We also consider forward-looking market information, and, specifically, the implied volatility from at-the-money put and call options. Our fundamental-based measures of volatility are obtained from primary financial statements and are designed to capture fundamental volatility in unlevered profitability. We use a wide range of fundamental volatility measures, including (i) historical volatility in profitability, margins, turnover, operating income growth and sales growth; (ii) dispersion in analyst forecasts of future earnings; and (iii) quantile regression forecasts of the interquartile range of the distribution of profitability (this last measure follows the approach of a [recent paper](#) by Sonia Konstantinidi and Peter Pope).

Our empirical analysis is based on a comprehensive panel of U.S. corporate bond data, which includes all the constituents of the Barclays U.S. Corporate Investment Grade Index and the Barclays U.S. High Yield Index. It comprises three main steps. First, we examine the relative importance of market- and fundamental-based measures of asset volatility to forecast (out-of-sample) bankruptcy and default, using both traditional discrete-hazard modelling and classification and regression trees (CART). Second, we assess the relative importance of market- and fundamental-based measures of asset volatility to explain variation in credit spreads. We incorporate asset volatility in this analysis using both an unconstrained approach and a constrained approach based on the Merton structural model. Third, we explore the relative importance of market- and fundamental-based measures of asset volatility to forecast future credit excess returns.

We find that combining information about volatility from market and fundamental sources improves forecasts of corporate bankruptcy. Furthermore, combining market- and fundamental-based volatility estimates improves the explanatory power of cross-sectional credit spreads. In addition, we document that the constrained use of asset volatility significantly improves our ability to explain cross-sectional variation in credit spreads. This is because the relation between leverage and asset volatility and default risk and hence credit spreads is inherently nonlinear.

Most importantly, the combined evidence of our default and credit spreads analyses suggests that the importance of fundamental-based measures is relatively higher for predicting default than it is for explaining credit spreads. This raises the possibility that credit markets are not paying enough attention to fundamental-based measures of volatility and motivates us to examine the relative importance of market- and fundamental-based measures to forecast future credit excess returns. Consistently, we find that measures of credit risk mispricing that incorporate fundamental asset volatility better predict credit excess returns. Our results suggest that the market is not fully appreciating the information content of financial statement information when forming views on expected default.

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Notes:

- This blog post is based on the paper [Asset Volatility](#), *Review of Accounting Studies*, 2018, Volume 23, Issue 1, pages 37-94.
- The post gives the views of its authors, not the position of LSE Business Review or the London School of Economics.
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