Indicators of fragility in the UK corporate sector

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This paper investigates the determinants of corporate failures in the United Kingdom using aggregate time series data. It is part of a continuing programme of empirical research being undertaken in the Bank of England's Domestic Finance Division on the causes and consequences of financial health or distress in the UK corporate sector (see, for example, Benito and Vlieghe (2000) using micro-data).

Corporate failures are important in several respects. A high *ex post* corporate failure rate might be evidence of a financially fragile corporate sector, which may have important macroeconomic consequences. When firms are financially fragile, problems of asymmetric information between firms and their lenders are likely to become worse. This could result in an inefficiently high rate of corporate failure. Corporate failures may also affect bank capital: if realised losses on the corporate loan book are unanticipated, bank capital is eroded, thereby weakening the banking system. For these reasons, it is important to understand what drives corporate liquidations, and this is the objective of this paper.

A stylised model of the firm is derived. This model suggests that the corporate failure rate should be determined by profits, by the level of indebtedness, and, if firms face borrowing constraints, by the level of inflation. As there is no single perfect measure for profits or indebtedness, a range of variables that may proxy for these determinants is explored.

The main findings are the following. Capital gearing ratios based on the market value of the company's assets are found to be marginally less satisfactory in explaining corporate failures than are ratios that measure debt relative to the replacement cost of assets or relative to GDP. Furthermore, the determinants of profits (real wages, aggregate demand, real interest rates) have better explanatory power than aggregate profits. This may be because aggregate profit levels mask important differences in profitability between firms.

Property prices are found to have a significant short-run effect on company failures, which is consistent with the important role property plays as collateral for corporate borrowing. The birth rate of new companies is also found to have a significant short-run effect on company failures. This is consistent with other evidence that new companies are more likely to fail than more experienced ones.

Real interest rates, rather than nominal interest rates, are found to be a significant long-run determinant of corporate failures. This is consistent with the debt-deflation theory. The additional short-run effect of nominal interest rates is consistent with the adverse effect of higher inflation on company cash flows in the presence of borrowing constraints or non-neutralities in the tax system.

The spread of corporate bond yields over government bond yields does not predict corporate failures well. This may be due to the fact that corporate bond spreads are determined more by liquidity factors, especially during periods of low bond market issuance, than by investors' assessment of default risk. Moreover, bond-issuing corporates may not be a representative sample of the corporate sector as a whole.

The empirical relationship between the liquidation rate, debt levels, the interest rate and profitability has been surprisingly stable over time. But variation in the liquidation rate has been driven by variation in different explanatory factors over the sample period. Whereas the rise in the liquidation rate in the early 1990s is attributed primarily to rapidly increasing levels of indebtedness, the decline after 1992 is explained largely by falling real wages, the cyclical recovery of GDP relative to trend and falling real interest rates.