Box 2

RECENT DEVELOPMENTS IN THE COST OF EQUITY FOR EURO AREA FIRMS

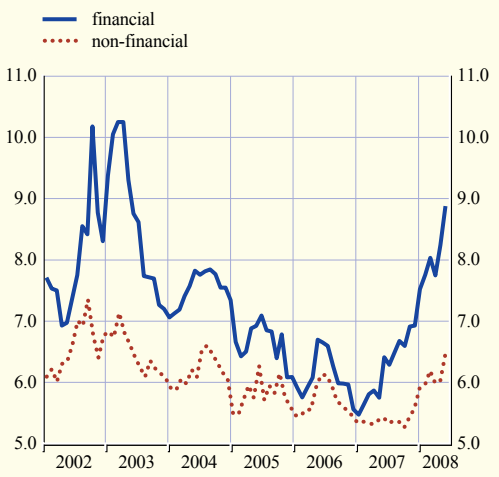
In order to access external finance, firms can, in principle, either issue equity or take on debt. The choice between equity and debt financing is typically influenced by many different factors, such as taxation or the cost of financial distress, with the relative costs of financing through the alternative source also playing a role. This box presents estimates of the cost of equity for both the non-financial and financial sectors in the euro area, which have been affected by the financial turmoil to a significantly different extent.

In contrast to the cost of most forms of debt (in particular the interest rates applying to bank loans and corporate bonds issued), the cost of equity cannot be directly observed and thus has to be measured on the basis of some quantifiable model. The standard method of pricing stocks is the dividend discount model. According to this model, today's stock price for any firm equals expected dividend payouts discounted by the rate of return which investors require for holding the stock. This rate of return measures the cost of equity. To apply the model in practice, the approach

suggested by Fuller and Hsia is used in this box.[1] This application of the dividend discount model assumes that corporate earnings growth is expected to develop in three stages. In the first stage, which is assumed to last for four years, earnings are expected to grow at a real rate which is set equal to I/B/E/S (Institutional Brokers' Estimate System) analysts' three-to-five-year-ahead ("long-term") earnings-per-share growth forecasts minus average five-year-ahead Consensus Economics inflation forecasts. The second stage is an interim period (assumed to last for eight years) when earnings growth is expected to adjust in a linear fashion to a constant long-term steady-state growth rate of corporate earnings, which is assumed to prevail throughout the third infinite stage. The long-term real earnings growth rate is assumed to be identical for both sectors at a constant level of 2.25%, which is within the range of potential growth estimates for the euro area economy.

Chart A Cost of equity for euro area corporations

(percentages per annum; monthly data)



Sources: Thomson Financial Datastream, Reuters, Consensus Economics and ECB calculations.

By using the information on dividend yields and analysts' long-term growth expectations which is available at the sectoral level, it is possible to disentangle the cost of equity for financial and for non-financial corporations. Chart A shows the estimated cost of equity for the two sectors over the sample spanning from January 2002 to June 2008. Two features emerge from the chart. First, developments in the cost of equity for the two sectors have broadly moved in tandem, with peaks reached in late 2002 and early 2003 after the bursting of the IT bubble and a general deterioration in investors' risk appetite. Second, while the cost of equity for the financial sector (mainly banks) has systematically hovered at higher levels than for the non-financial sector, the gap diminished between 2004 and 2007. Conversely, the recent rebound in equity financing costs incurred by firms on account of the financial turmoil has been much more pronounced for financial firms than for non-financial firms.

The reasons for the recent increasing spread between the cost of equity for the financial and the non-financial sectors are probably twofold. The first reason concerns relative earnings performance, as profits in the financial sector have been hit harder by the financial market turmoil than the profits of non-financial firms. This has led to a stronger decline in financial stock prices in the wake of the financial turmoil following a prolonged period of sustained outperformance in the preceding years.[2] Second, lingering uncertainty about the extent of write-downs on bank balance sheets may also have contributed to heightened investor uncertainty about future earnings growth, resulting in higher equity risk premia and therefore a higher cost of equity.[3]

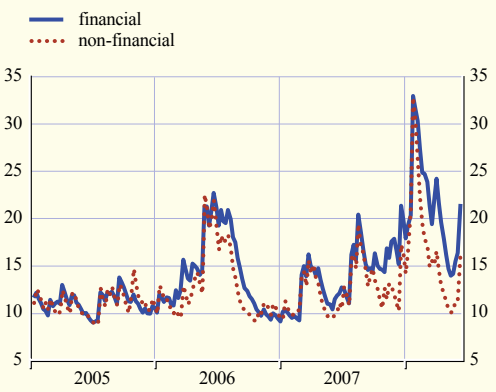
1 See R. J. Fuller and C. C. Hsia (1984), "A simplified common stock valuation model", *Financial Analysts Journal*, September-October, pp. 49-56. See also the box entitled "A three-stage dividend discount model for the euro area" in the article "Extracting information from financial asset prices" in the November 2004 issue of the Monthly Bulletin.
2 See the box entitled "Recent developments in the earnings of euro area firms" in the June 2008 issue of the Monthly Bulletin.
3 The cost of equity can be understood as the sum of the risk-free interest rate and the equity risk premium.

Closely linked to relative earnings performance, it should also be noted that in recent months stock prices in the financial sector fluctuated more than non-financial stock prices (see Chart B). To the extent that these fluctuations were driven by systematic risk factors, it cannot be excluded that investors have required a higher expected return for the more volatile financial firms than for the non-financial firms.

All in all, the evidence presented in this box demonstrates the particular importance of distinguishing between sector-specific cost of equity measures in the context of the present financial market turbulence. The financial turmoil brought about a steep increase in the cost of equity for financial firms, reaching levels rather close to the peaks of 2002-03. However, the increase in the equity financing costs for the non-financial sector has so far been much more moderate, contributing to overall still relatively favourable financing conditions in this sector. In any event, equity issuance by non-financial corporations has remained subdued in recent years, whereas the continued buoyancy of loan financing has boosted leverage levels. By contrast, the financial turmoil has increased pressures to bolster capital levels of financial firms, notwithstanding the presently higher cost of equity for this sector.

Chart B Stock market volatility for euro area corporations

(percentages per annum; weekly data)



Sources: Thomson Financial Datastream and ECB calculations.
Note: The volatility measures are estimated using a GARCH (1,1) procedure.