Stability of ratings transitions

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Credit ratings published by agencies such as Moody's or Standard and Poor's play an increasingly important role in financial markets. The significance of agency ratings will be even greater if they are used as a basis for calculating bank's regulatory capital as suggested in proposals recently issued by the Basel Committee.

An important question is to what extent ratings correctly summarise the risks involved in holding a particular exposure. In allocating obligors or bond issues to different rating categories, rating agencies endeavour to ensure that similar ratings imply similar credit quality in some broad general sense. Even if they succeed in this, it is not obvious that default probabilities for different horizons will be the same for similarly-rated obligors, however.

To assess the stability of the distribution of rating changes, this paper examines whether probabilities of moving between categories over one-year horizons vary either across different obligor types or across different stages of the business cycle. If these ratings transitions probabilities were stable, then default probabilities at all possible future horizons would be stable so studying the rating transition matrix is a convenient way of examining stability of default probabilities.

Two approaches to estimating rating change probabilities are implemented. The first is a simple non-parametric approach which consists of simply estimating probabilities based on relative frequencies for separate data sets corresponding to obligors of different types or observed at different stages of the business cycle. The second approach employs a parametric ordered probit model. This has the advantage that one may estimate the impact on rating change probabilities of altering a single characteristic of an obligor, holding other characteristics and the stage of the business cycle constant.

Our conclusions are that there is significant variation across different obligor types. Ratings of financials are more volatile than those of industrials although they exhibit a mean reverting tendency in that down (up) grades are relatively likely for highly (lowly) rated financials. In our sample (which pre-dated most of the Asian crisis) Japanese rating transition probabilities were consistent with less volatile ratings than those of United States and United Kingdom. These cross-country differences are especially important for higher credit quality obligors. Business cycle effects are important particularly for low rated borrowers.