

Comments on:
A Directional Multiplicative Intensity for Credit Migrations
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Main Results and Contributions

- A new approach for modeling / investigating credit rating migrations in continuous-time is introduced.
- The model uses the intensity process of an upgrade or downgrades (directional migration) from an issuer's current credit rating and then the subsequent probability of entering a particular credit rating.
- Thus, the traditional migration intensity is split into a directional and a categorical component.
- The approach is designed to overcome the 'sparse data problem' for far migrations that has often prevented previous studies from conclusions on Markov behavior, momentum, etc. for far migrations.

Main Results and Contributions

- The usefulness of the approach is examined by fitting covariates for momentum and excitability to a multiplicative intensity process.
- The model seems to outperform the 'rating drift' model by Lando and Skodeberg on the considered data set.
- Other empirical findings confirm results of previous studies on the topic:
 - the model is significant for downgrades but not for upgrades.
 - the (conditional) distribution of the distance downgraded is dependent on the current rating class.

⇒ **Important and interesting contributions!**

What I liked (a lot)

Unique and Inventive study on Credit Migration Behavior

Considering directional migrations enables us to investigate issues that are generally assumed but have rarely been examined in the literature:

- Very well-written and motivated paper that develops a new approach to overcome existing problems in the investigation of credit migration behavior.
- One of the few empirical studies that is able to consider individual ratings AAA+,AAA,AAA- etc.
- Differences between migration behavior of different industry sectors / rating classes can be investigated (an interesting bootstrapping approach is applied here).
- The study proves that the inclusion of both momentum and excitability within the same framework yields a better explanation of credit migrations.

What I didn't like that much

Aggregation / Parts of the Empirical Investigation

- The aggregation of rating classes is replaced by an aggregation in terms of migrations.
- The better performance of the model is only examined by providing log-likelihood statistics. What about out-of-sample results?
- For conditional migrations, the model tested considers rather the distance downgraded j^* than the conditional destination probability of the individual rating categories.
- Findings are that individual rating classes differ in terms of their conditional migrations. This is not really surprising (see e.g. Bangia et al., 2002; Kim, 1999; Wei, 2003).
- Maybe it would have been more interesting to see how the results using 'directional migrations' differ from conventional approaches.

Suggestions for further Empirical Work

Comparison to other Approaches

Further empirical studies that compare the 'directional migration' approach to conventional models are recommendable:

- forecasting credit migration behavior / out-of-sample performance of the model
- are conditional destination probabilities significantly different from estimates using other approaches?
- how does the estimation technique change the loss distribution or value-at-risk estimates for exemplary credit portfolios?

Suggestions for further Empirical Work

Internal and External Loan Portfolio

Recently, a couple of publications also focus on internal loan portfolios. In terms of credit migration behavior, For example, Krüger et al. (2005) find some quite different results for an internal loan portfolio based on financial ratios:

- substantially higher migration mobility than reported by the the major rating agencies
- rating equalization (higher probability of being upgraded again after a downgrade) instead of a rating drift

⇒ It would be interesting to see how the method works on alternative (internal) data sets.