

Economic Capital – Retail Portfolios ABN AMRO Correlations Update

Challenge of the correlations calculation

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Preface

I did my internship in ABN AMRO B.V. in the headquarters building in Amsterdam, the Netherlands for 7 months as the final step of my Master project of the Msc in Business Mathematics & Informatics in the Vrije University of Amsterdam.

ABN AMRO is an international bank with headquarters in Amsterdam, the Netherlands. It has a clear focus on consumer and commercial clients, having also multinational corporations as well as private clients all around the world.

As of the 31 December 2006 ABN AMRO ranked 8th in Europe and 13th in the world based on total assets, having more than 4,500 branches in a total of 53 countries. Totalling EUR 987 billion in total assets by end of 2006, the bank was employing more than 105,000 full-time staff equivalents.

During these 7 months internship I worked in the Group Risk Management (GRM) in the department Consumer & Programme Lending (C&PL).

At the time of my internship the bank was going through an extensive restructuring of 2 of its divisions, one of them being the Risk Management group, which implied several changes in the organization.

Also in the last months of my internship the bank went through a take-over process, which added even more uncertainty, situation that had a direct impact on the final step of one of my proposals as its official approval was set in stand-by until a new decision would be taken.

All of these changes and challenges just made the internship even more interesting.

I want to thank my supervisor from ABN AMRO Consumer & Programme Lending Rafael Liberman, who helped me and supported me during the entire project in every possible way, besides he contributed to make of it a very interesting experience.

I also want to thank my supervisor in the Vrije University professor Harry van Zanten for his input during the entire process, his comments and guidance definitely helped to shape this thesis.

Also especial thanks to Professor Sandjai Bhulai from the Vrije University for accepting to be the second reader of my thesis and from ABN AMRO to Jorg Stensinski for giving me the opportunity to work on this project.

Executive summary

This report is about my project in the GRM - Consumer & Programme Lending department where the subject of it was to work with one of the inputs to the Economic Capital calculation of the retail portfolios in ABN AMRO, the Correlations.

The main goal was actually to understand, challenge, raise and evaluate new proposals for the methodology of the calculation of this input already mentioned, the Correlations.

This required working closely with the Quantitative Risk Modelling department (QRM) within GRM, since they were the ones making the maintenance, and modifications to the main and only tool for the calculation of the Economic Capital of the Retail portfolios, the so called RAROC Engine.

The first chapter contains the introduction with the main guidelines of the project.

In the second chapter it is described the Economic Capital concept and the Credit Risk models, which will become essential knowledge for understanding the project.

In the third chapter the theory and requirements of the Retail business in ABN AMRO are defined with their main characteristics and constraints.

The Consumer RAROC Engine will be explained in the fourth chapter. For this it is important to understand the assumptions of the model as well as the inputs and correspondent outputs. This RAROC engine has as output the Economic Capital figure that should be allocated.

The fifth chapter shows the methodology of the correlations' calculation.

In the chapters 6 and 7 it is shown the particular work done with two of the main countries in terms of retail businesses: Brazil and United States.

The final chapter shows the conclusions, comments and recommendations for further study.

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