QUANTITATIVE
Consulting

Company Presentation

People, products and services

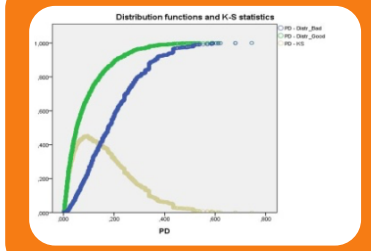
Prague 2017

Introduction of the Company

Quantitative Consulting is an independent consulting company realizing projects for financial institutions in the area of credit, market and operational risk management. Our team composed of specialists in mathematics, statistics, programming and finance brings broad knowledge and experience, a creative approach as well as proven solutions.

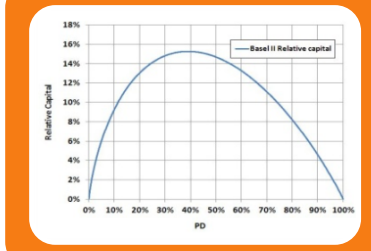
Creative, Reliable, Adaptive

Services Provided
Credit Risk



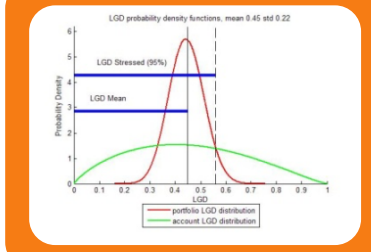
Scoring models

Application and behavioral scoring.
Advanced model development and validation.
Reject Inference approaches.
Cut-off setting using Cost of Error weighting.



Basel II Economic Capital

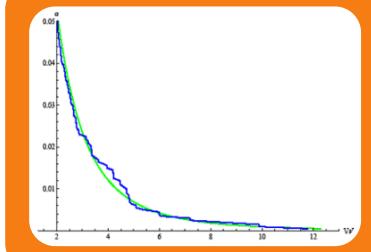
RWA, PD, LGD and EAD modeling methodology.
Time series analysis with economic downturn assessment.
Methods dealing with incomplete observations (LGD).
PIT x TTC rating (variable scalar approach).



Advanced methodology for LGD modeling

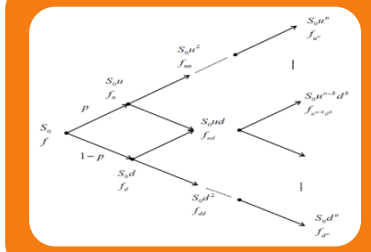
Cost allocation + Data implied Discount rate determination.
Modeling techniques for partial Recovery rate observations.
Downturn portfolio LGD.

Services Provided
Market and Operational Risk



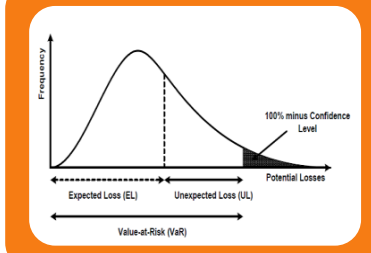
Value at Risk Models

Parametric and nonparametric VaR and CVaR models.
Advanced (e.g. GARCH) correlation and volatility estimations.
EVT (Extreme value theory) VaR implementation.



Valuation of derivatives

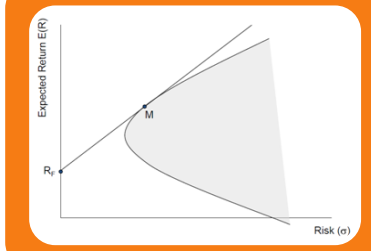
Valuation and risk quantification of portfolio of plain vanilla forwards, options or interest rate swaps.
Advanced stochastic modeling and exotic derivatives valuation.



Basel II Implementation and Capital optimization

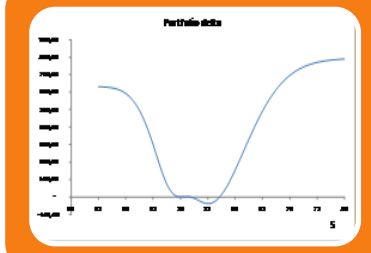
Basel II market and operational risk capital calculation.
Standardized or VaR based approach.
Stress Testing and Economic Capital Allocation.

Services Provided
Financial and Investment Consulting



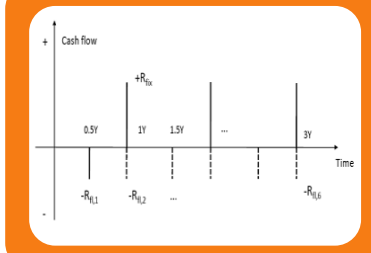
Optimal Portfolio Allocation

Expected return versus risk optimization.
Algorithmic trading strategies analysis, design and implementation.
Bayesian approach to asset allocation.



Performance Measurement and Risk Reporting

Definition of key performance indicators, benchmarks and risk measures.
Implementation of automatic reporting systems and monitoring processes.



Cash Flow Optimization

Proposal of optimal cash flow structure, financing and financial asset management.
Analysis and hedging of balance sheet foreign exchange, interest rate and liquidity risks.

Our Team

Leading Partner | Executive Director

Jiří Witzany

Ph.D., Mathematics, Pennsylvania State University.

Faculty of Mathematics and Physics, Charles University, Prague.

WORK EXPERIENCE

Co-founder of Quantitative Consulting.

Senior Consultant CRA System, a quantitative risk management division of Mediaresearch.

Director of the Credit Risk Management Division in Komerční banka (scoring functions development, credit risk reporting and data management, implementation of Basel II, real estate valuation).

Modern market risk management system development in Komerční banka, implementation of the dealing system Trema, the Middle Office function, and a Management Information System for financial markets trading.

ACADEMIC ACTIVITIES

Professor of Finance, Faculty of Finance and Accounting, University of Economics, Prague and Faculty of Mathematics and Physics, Charles University, Prague.

Guarantor of the Financial Engineering Master degree program.

Lecturer at the Pennsylvania State University and the University of California in Los Angeles in the past.

Our Team

Partner | Methodology and Personal Development

Petr Veselý

PhD., Probability Theory, Faculty of Mathematics and Physics, Charles University, Prague.

WORK EXPERIENCE

Head of Department of Portfolio Management and Reporting in Sberbank CZ.

Head of Department of Credit Portfolio Management in Raiffeisenbank.

Head of Department of Portfolio Management in eBanka.

Head of Department of Scoring and Portfolio Management in Komerční banka.

SUMMARY & SKILLS

IFRS 9 provisioning methodology.

Credit risk statistical modeling.

Scoring functions development.

Early warning systems.

Risk premiums.

Loan loss provisioning.

Basel regulation.

Our Team

Partner | Strategic Development

Pavel Charamza

Ph.D., Stochastic Optimazation, Faculty of Mathematics and Physics, Charles University, Prague.

WORK EXPERIENCE

Research Development Director in Median.

Group CRO of Home Credit International.

CRO of Home Credit in China.

Member of the Board of Directors in Mediaresearch. Established a financial consulting division later transformed to Quantitative Consulting.

Credit Risk Manager in Komerční banka. Responsible for development and implementation of a new scoring system for the bank.

SUMMARY & SKILLS

Lecturer at the Department of Probability and Mathematical Statistics, Charles University, Prague. Lecturer of Credit Risk, University of Economy, Prague.

International experience.

Top management experience.

Analytical and mathematical skills.

Credit risk and scoring.

Antifraud, underwriting, collection processes.

Milan Fičura
Analyst

EDUCATION

Faculty of Finance and Accounting, University of Economics, Prague, Financial Engineering.
Studying Ph.D., Finance, Faculty of Finance and Accounting, University of Economics, Prague.

WORK EXPERIENCES

Survival analysis models development and credit margin calculation.
Scoring function development.
LGD modeling.
Development of quantitative trading strategies.

Matěj Nevrla
Analyst

EDUCATION

Institute of Economic Studies, Charles University, Prague, Economic Theory.
Faculty of Finance and Accounting, University of Economics, Prague, Financial Engineering.
Studying Ph.D., Economic Theory, Institute of Economic Studies, Charles University, Prague.

WORK EXPERIENCES

Financial econometrics.
Development of scoring models, revisions of models for economic capital.

Petra Tomanová
Analyst

EDUCATION

Vrije Universiteit, Amsterdam and University of Economics, Prague, Econometrics and Operations Research.
Studying Ph.D., Faculty of Informatics and Statistics, University of Economics, Prague.

WORK EXPERIENCES

Business data and statistical analyses.
Development of statistical models.
Participation in credit risk and market projects, IFRS 9.

Our Team
Analysts & IT

Michal Kuchta
Analyst

EDUCATION

University of Economics, Prague, Economics and Economic Theory.
Studying Master, Financial Engineering and Economic Analysis, University of Economics, Prague.

WORK EXPERIENCES

Financial and statistical analysis.
Development of statistical models.
Participation in marketing research, credit risk and market risk projects.
Time series analysis, interest rates sensitivity, survival analysis.
Research assistant in behavioural economics.

Michal Levý
Senior SW architect and developer

WORK EXPERIENCES

Head of IT development team in Mediaresearch in the past.

Software architect and developer with 10+ years of experience in software development C#, APS.NET, Castle Windsor, NHibernate, ASP MVC, SOAP web services, MS SQL Server 2008, Ajax, Java Script, Ext.JS, XML.

Tomáš Witzany
SW developer

EDUCATION

Faculty of Mathematics and Physics, Charles University, Prague, Theoretical Computer Science.

WORK EXPERIENCES

C#, SQL, js/ajax, xml, ASP.NET.
JEE/Hibernate/Spring.

Our Team
Analysts & IT

References

LEADING SLOVAK BANK

Scoring functions for the SME segment.

Database and software system for online scoring for the SME and Small Business segments.

LEADER IN CONSUMER LOAN MARKET IN CR, SR, RUSSIA AND OTHER COUNTRIES

Scoring functions for consumer loans.

Credit methodology complex solution.

Credit risk monitoring, strategy, performance indicators.

LEADING BANK OPERATING ON CENTRAL AND EAST EUROPEAN MARKETS

Methodology for LGD – Basel II approach.

Basel II implementation support - PD, LGD, and CF estimation, calibration, and validation.

LEADING CZECH BANK

Complex audit of BASEL II methodology and documentation for ČNB.

Scoring and LGD models development, risk margin determination and calculation.

LEADING HUNGARIAN BANK

Complex audit of BASEL II STD approach, provisions calculation.

TRAINING AND ADVISORY ACTIVITIES

Lecturing in the areas of risk management, financial markets, and derivatives for the Faculty of Finance (VSE), Faculty of Mathematics (UK) Banking Institute, Institute for International Researcch, Marcus Evans, Euromoney, etc.

Contacts

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