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Stresstesting a Consumer Loan Portfolio

Eurobanking 2010

readybank in a Nutshell

- Founded in 1929
- Owned by WestLB AG since March 2006
- About 350 employees (including service company)
- Balance sheet total: 750 mio. EUR
- Headoffice in Berlin, large office in Düsseldorf
- Specialised in consumer lending, main distribution channels:
  – Local savings banks (strategic partnership)
  – Car dealers

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Agenda

- Motivation: Why Stresstesting?
- First Approach
- Second Approach
  - Basic Stress
  - Scenarios
- Results and Reporting
- „Reverse“ Stresstesting

Why stresstesting?

- Financial crisis: economic situations that had been regarded totally irrealistic can become true!

→ What-if-analyses show if a bank could cope with this kind of situations.

- More detailed requirements for stresstesting in the new version of the minimum requirements for risk management (MaRisk), effective from 01.01.2010.

  Stresstesting must

  – be based on the main risk factors,
  – consider risk concentrations,
  – use historical and hypothetic scenarios,
  – considered the results in the risk-bearing capacity.

First Approach

- Determine the sensitivity of default rates or losses of readybank to macro-economic developments!
- Drawbacks:
  - Data history too short (only downturn phase)
  - Drastic changes in target groups and distribution channels
  - Drastic changes in the process of granting loans
  - Drastic changes in collection management

The effects of the changes in policies and portfolios are stronger than the influence of the macro economic factors.

Second Approach

- Direct stress of probabilities of default (PD) and loss given default (LGD)
- Combine historical and hypothetic stress in two steps:

1. Historical	2. Hypothetic
Basic stress Migrate the portfolio with conservative migration matrices derived from historical data => average PDs increase	**Scenarios** Additional hypothetic scenarios that increase PDs and LGDs

Basic Stress

Average rating migrations for behavioural score

Rating class	Rating class next month																
	0a	0b	0c	0d	0e	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	2f	D
0a	99	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0b	5	90	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0
0c	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0d																	
0e																	
1a																	
1b																	
1c																	
1d																	
1e																	
2a																	
2b																	
2c																	
2d																	
2e																	
2f																	
D																	

Downgrade

Upgrade

Behavioural score is only available from 08/2008 onwards

→ Average represents a downturn situation

Scenarios

1) Bankruptcy of Opel

- Unemployment: Opel and supplying industries
- General downturn in the locations concerned

→ Increase of PD

- Decreasing prices of Opel cars

→ Increase of LGD for car loans

2) General crisis of car industry

3) Extreme increase of general unemployment

Scenario	Description	# employees concerned	% of all employees	% car loans concerned
1	Opel bankruptcy	100.000	0,25%	15%
2	Crisis car industry	800.000	2,00%	45%
3	Unemployment increase	4.000.000	10,00%	

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Generic PD Adjustments for Scenarios

- Derive the impact of unemployment on behavioural scores
- Change of employment status, income, payment history

→ Downgrades of 1-7 rating classes

→ Generic distribution of downgrades dependent on scenario impact

Rating	Rating class next month																
	0a	0b	0c	0d	0e	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	2f	D
0a	99	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0b	5	90	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0
0c	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0d																	
0e																	
1a																	
1b																	
1c																	
1d																	
1e																	
2a																	
2b																	
2c																	
2d																	
2e																	
2f																	
D																	

+

Rating	Generic adjustments																
	0a	0b	0c	0d	0e	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	2f	D
0a	-10	0	1	2	4	2	1	0	0	0	0	0	0	0	0	0	0
0b	0	-10	0	1	2	4	2	1	0	0	0	0	0	0	0	0	0
0c	0	0	-10	0	1	2	4	2	1	0	0	0	0	0	0	0	0
0d	0	0	0	-10	0	1	2	4	2	1	0	0	0	0	0	0	0
0e	0	0	0	0	-10	0	1	2	4	2	1	0	0	0	0	0	0
1a	0	0	0	0	0	-10	0	1	2	4	2	1	0	0	0	0	0
1b	0	0	0	0	0	0	-10	0	1	2	4	2	1	0	0	0	0
1c	0	0	0	0	0	0	0	-10	0	1	2	4	2	1	0	0	0
1d	0	0	0	0	0	0	0	0	-10	0	1	2	4	2	1	0	0
1e	0	0	0	0	0	0	0	0	0	-10	0	1	2	4	2	1	0
2a	0	0	0	0	0	0	0	0	0	0	-10	0	1	2	4	2	1
2b	0	0	0	0	0	0	0	0	0	0	0	-10	0	1	2	4	3
2c	0	0	0	0	0	0	0	0	0	0	0	0	-10	0	1	2	7
2d	0	0	0	0	0	0	0	0	0	0	0	0	0	-10	0	1	9
2e	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-10	0	10
2f	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-10	10
D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Stressing LGD for Scenario 1

- Assumptions:
  - 15% of car loans are covered by Opels (historical data)
  - Recovery from selling Opels is reduced by 30% (hypothetic assumption)

→ LGD(other car loans) = 1 – cash recovery – sales recovery

→ LGD(Opel loans) = 1 – cash recovery – 70%*sales recovery

→ LGD(Car loans) = 15% * LGD(Opel loans) + 85% * LGD(other car loans)

Results and Reporting

Use stresstesting in the context of the risk-bearing capacity

- Apply generic migration matrix once (for each scenario)
- Apply basic stress migration matrix till the end of the year
- Calculate expected and unexpected loss based on stressed PDs and LGDs
- Calculate total risk potential by adding stressed losses of other risk types
- Monthly reporting of capital utilisation

	Total risk potential in % of equity
Dark red	>100%
Red	90%-100%
Yellow	75%-90%
Green	<75%

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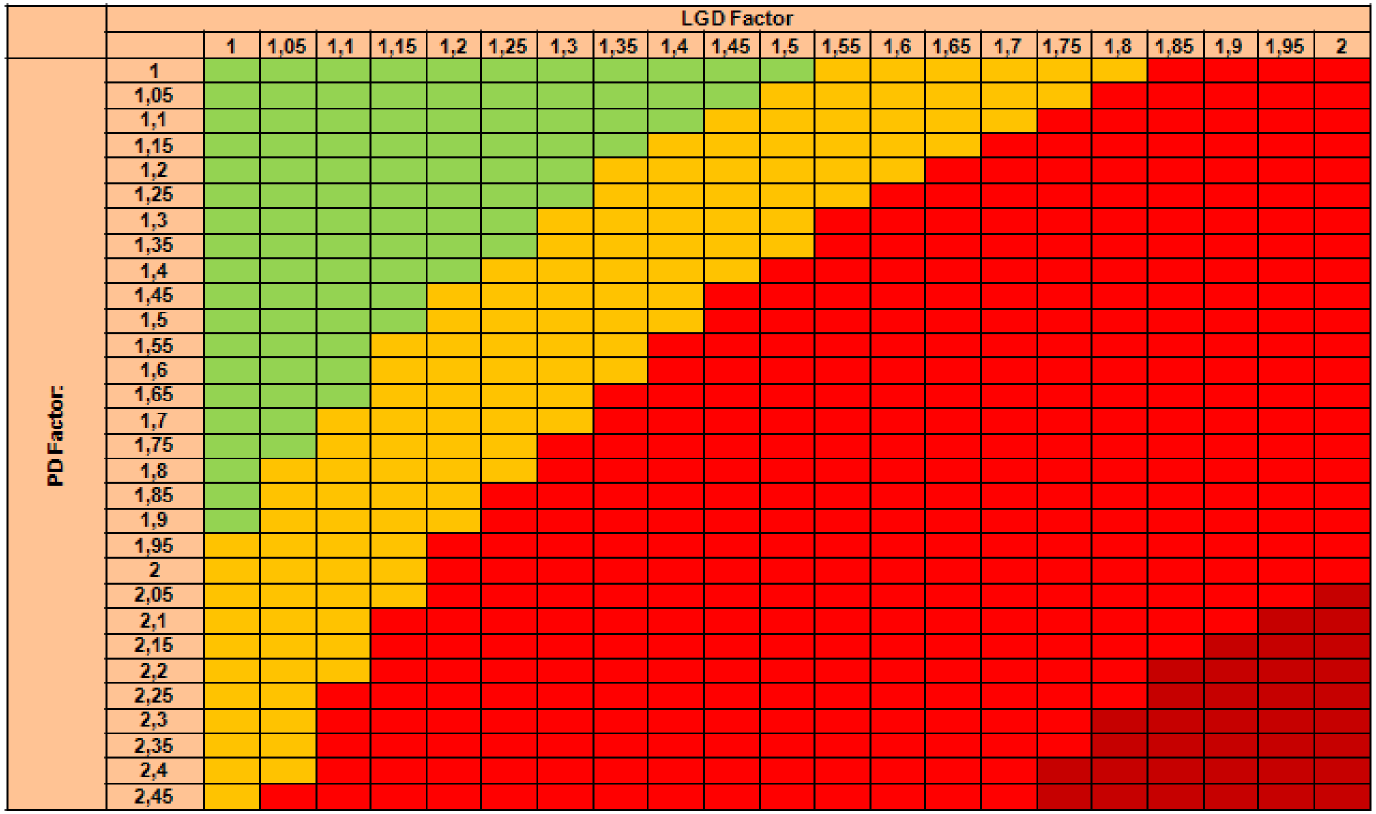
„Reverse“ Stresstesting

- Increase PD and LGD by a range of factors
- Calculate capital utilisation for each combination of factors



Thank you for your attention!

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