

DIRECTED RISK RESEARCH PROPOSAL

Risk Theme	Credit Risk
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Client Info: *(only applicable if proposal is in response to a client problem statement)*

Problem Title	Determining an Appropriate discount rate in LGD modelling				
Client Name	Frederik van der Walt	Client Org.	BAG		
Designation	Senior Corporate Credit Modeller				
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University		Classification	
Problem Nr.	PS16015	Type	Technology-Pull
Proposal Nr.	RP16011	Date	September 2016

PROJECT TITLE: Determining an Appropriate discount rate in LGD modelling

PROJECT GOAL:

The goal of the project is to determine an appropriate discount rate at which cash flows are discounted in the quantification of the loss given default (LGD).

PROJECT SCOPE

For the determination of an appropriate risk discount the Basel Committee on Banking Supervision (2005a) gives some principles which should be adhered to:

“When recovery streams are uncertain and involve risk that cannot be diversified away, net present value calculations must reflect the time value of money and a risk premium appropriate to the undiversifiable risk. In establishing appropriate risk premiums for the estimation of LGDs consistent with economic downturn conditions, the bank should focus on the uncertainties in recovery cash flows associated with defaults that arise during the economic downturn conditions”

It is therefore clear that the required risk premium (in excess of the risk-free rate) must allow for the uncertainty associated with the post default recoveries and that the risk premium must also reflect the uncertainty of the post default recoveries during economic downturn conditions. The risk premium must reflect the non-diversifiable risk of recovery cash flows, i.e. both the systematic and bank idiosyncratic risks must be captured.

Banks internationally have various ways of determining or selecting the discount rate used in LGD modeling for regulatory capital, for example the contractual rate, cost of equity or the risk adjusted risk free rate (risk free rate with a risk premium or spread) are some of the rates that are commonly used. There is a great deal of uncertainty in the industry around when is it appropriate to use a specific rate such as the contractual rate and also when using a risk adjusted risk free rate, what risk free rate to use and what methodology to follow to calculate the risk premium which should also be in line with the Basel requirements. The project will aim to propose a methodology for the determination of an

appropriate risk discount rate (incorporating a risk premium reflecting the non-diversifiable risk of recovery cash flows) than can be used in the quantification of the loss given default (LGD).

PROJECT OBJECTIVES

The objectives of this project are:

- To determine the appropriateness of the various rates that can be used as the discount rate for cash flows in LGD modelling in line with the Basel requirements (for example the contractual rate, cost of capital or risk adjusted risk free rate).
- When using a risk adjusted risk free rate:
 - What risk free rate is appropriate which also takes the Basel requirements into account for example, is it necessary to take the downturn period into account when selecting the risk free rate
 - Determine a methodology to calculate or derive the risk premium or spread
 - The methodology used to calculate the risk premium should be adaptable to a wide range of loan portfolios.

RESEARCH OUTPUTS / DELIVERABLES

PUBLICATIONS:	Name(s) / Title(s)
Article	1
STUDENTS:	Name(s) of Student(s)
OTHER:	

APPROACH TO BE FOLLOWED

In order to achieve the objectives of this project, the following approach is suggested:

1. Literature study on methodologies employed to determine the LGD Discount Rate.
2. Review available approaches
3. Recommend possible approaches
4. Documentation.

STRATEGIC VALUE TO DIRECTED RISK RESEARCH

This research will contribute conceptually and possibly also materially in many of BMI’s fields of competency, namely credit risk analysis in the banking industry.

