

## DIRECTED RISK RESEARCH PROPOSAL

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

<b>Problem Title</b>	Margin of Conservatism for retail credit risk				
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<b>University</b>		<b>Classification</b>	
<b>Problem Nr.</b>	PS16011	<b>Type</b>	Technology-Pull
<b>Proposal Nr.</b>	RP16007	<b>Date</b>	September 2016

**PROJECT TITLE:** Margin of Conservatism for retail credit risk.

**PROJECT GOAL:**

We will investigate how the margin of conservatism should be determined for retail credit risk models.

**PROJECT SCOPE**

Basel II is the second of the Basel Accords and contains recommendations on banking laws and regulations issued by the Basel Committee on Banking Supervision (BCBS). Of particular importance is the establishment of international standards that assist regulators in determining the capital that banks need to hold to guard against financial and operational risks. Basel II provides risk and capital management requirements in order to ensure that a bank has adequate capital for the risks it is exposed to as a result of its lending, investment and trading activities. In a retail credit risk context, Basel II recommends that regulatory capital be calculated by following either a standardised approach or an Internal Ratings Based (IRB) approach. Under the IRB approach, the formula suggested for calculating RC is based on the Asymptotic Risk Factor (ASRF) model which assumes that a borrower will default if the borrower's assets fall below the value of its debts. The ASRF model is based on the Merton (1974) model that was initially developed for the pricing of corporate debt. Vasicek (1977) showed that, under certain conditions, Merton's single asset model can be extended to model a portfolio of assets. The portfolio model used in the IRB approach (see e.g. Gordy (2003)) bears a strong resemblance to Vasicek's model. The primary inputs needed in this Regulatory Capital (RC) formula are estimates of probability of default (PD), loss given default (LGD) and exposure at default (EAD). Banks who have obtained approval to use the advanced IRB approach usually obtain these estimates from complex models developed in-house. Basel II recognises that estimates of PDs, LGDs, and EADs are likely to involve unpredictable errors. It then states that, in order to avoid over-optimism, a bank must add to its estimates a margin of conservatism (MoC) that is related to the likely range of errors. Basel II further requires that several other measures of conservatism have to be incorporated. These conservatism requirements lead to confusion among banks and regulators as to what exactly is required as far as margin of conservatism is required. In this project we will research the various

conservatism requirements, investigate the MoC concept, and suggest possible approaches for its implementation.

**PROJECT OBJECTIVES**

Overall our objective will be to bring certain shortcomings of pervasively used ASFR models to the attention of bank practitioners and regulators, in an attempt to clear up the confusion surrounding the MoC.

**RESEARCH OUTPUTS / DELIVERABLES**

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

**APPROACH TO BE FOLLOWED**

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

1. Literature search to find relevant papers on the margin of conservatism
2. Review available approaches
3. Recommend possible approaches
4. Documentation.

**STRATEGIC VALUE TO DIRECTED RISK RESEARCH**

The research will sensitise bank practitioners and regulators about the issues involved and clear up the confusion around the MoC concept.