Index Table of Problem Statements and resultant Research Proposals and published articles **Date: 2017-12-11**

Note 1: Each Problem Statement can give rise to zero or more Research Proposals which, in turn, can give rise to zero or more articles. A PS can also directly result in zero or more articles without an intermediate RP.

Note 2: In the case where the Article URL wraps to te next line, take care that the full address is copied to your browser when you click on the URL.

Colour coding legend:

= The same problem statement giving rise to more than on proposal

= The same proposal giving rise to more than on article

Seq	ProbStmt	ProbStmt Title	Org	Proposal	Proposal Title	Univ	Article Title	Author(s)	URL
1	PS15001	Combining internal and scenario loss data in OpRisk quantification	Standard Bank	RP15026	Combining internal and scenario loss data in OpRisk quantification	NWU	Combining scenario and historical data in the loss distribution approach: A new procedure that incorporates measures of agreement between scenarios and historical data	De Jongh, PJ (Riaan); De Wet, T (Tertius) ; Raubenheimer, H (Helgard); Venter, JH (Hennie)	https://ssrn.com/abstract=2802544
2	PS15002	Macro-Economic Stress Testing for OpRisk	Standard Bank	RP15027	Macro-Economic Stress Testing for Operational Risk	NWU			
3	PS15003	Basel III Minimum Capital Requirements	SARB						
4	PS15004	Credit Curve Model	AbCap						
5	PS15005	Alternatives to splice distributions in OpRisk quantification	Standard Bank	RP15028	Alternatives to splice distributions in OpRisk quantification	NWU			
6	PS15006	Embedded Derivatives	PWC	RP15034	Pricing variable annuity guarantees in South Africa	UP	Pricing variable annuity guarantees in South Africa under a Variance-Gamma model	Ngugi, AM (Alvin); Mare, E (Eben); Kufakunesu, R	http://dx.doi.org/10.4314/saaj.v15i1.6
7	PS15006	Embedded Derivatives	PWC	RP15037	Managing inflation-linked embedded derivatives	UP			
8	PS15007	Quantile Approximation	Standard Bank	RP15029	Quantile Approximation for Compound Distributions	NWU	A simulation comparison of quantile approximation techniques for compound distributions popular in operational risk	de Jongh, PJ (Riaan); de Wet, T (Tertius); Panman, K (Kevin); Raubenheimer, H (Helgard)	http://ssrn.com/abstract=2795027
9	PS15008	Estimation techniques for deriving the Basel LGD estimates	Barclays Africa	RP15030	Estimation techniques for deriving the Basel LGD estimates on retail bank portfolios	NWU			
10	PS15009	The use of PECDC data in LGD modelling in South Africa	Barclays Africa						
11	PS15010	Research in predictive modelling: Binning, Variable selection, Income modelling	XDS	RP15031	Research in predictive modelling: Binning, Variable selection, Income modelling	NWU			
12	PS15011	Semi-supervised segmentation within a predictive modelling context in retail credit	Barclays Africa	RP15032	Semi-supervised segmentation within a predictive modelling context in retail credit	NWU			
13	PS15011	Semi-supervised segmentation within a predictive modelling context in retail credit	Barclays Africa	RP15032	Semi-supervised segmentation within a predictive modelling context in retail credit	NWU	The benefits of segmentation: evidence from a South African bank and other studies	Breed, DG (Gerbrand); Verster, T (Tanja)	http://dx.doi.org/10.17159/sajs.2017/20160345
14	PS15012	Low default portfolios – estimation of the probability of default	Barclays Africa						
15	PS15013	Multi-Period Credit Portfolio Optimisation	FNB	RP15033	Multi-Period Credit Portfolio Optimisation	NWU			
16	PS15013	Multi-Period Credit Portfolio Optimisation	FNB	RP15036	Multi-Period Credit Portfolio Model	UP			
17	PS15014	Pricing and risk management of derivatives in dynamic markets	Peregrine	RP15023	Incorporating dynamic volatility surfaces in risk management applications using a principal component analysis (PCA)	UP	Homotopy perturbation transform method for pricing under pure diffusion models with affine coefficients	Moutsinga, CRB (Claude); Pindza, E (Edson); Mare, E (Eben)	http://dx.doi.org/10.1016/j.jksus.2016.09.004

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18	PS15014	Pricing and risk management of derivatives in dynamic markets	Peregrine	RP15025	Improving portfolio allocation through covariance matrix filtering	UP	Implied and Local Volatility Surfaces for South African Index and Foreign Exchange Options	Kotze, A (Antonie); Oosthuizen, R (Rudof); Pindza, E (Edson)	www.mdpi.com/1911-8074/8/1/43
19	PS16001	Solutions for financially stressed borrowers	Barclays Africa						
20	PS16002	Systemic risk network structure model	Barclays Africa	RP16001	Systemic risk network structure model	UP			
21	PS16003	Modelling the effect of banking regulations on the SA economy	Barclays Africa	RP16002	Modelling the effect of banking regulations on the SA economy	UP			
22	PS16004	Early warning systems using dynamic Bayesian Networks	Barclays Africa	RP16003	Early warning systems using dynamic Bayesian Networks	UP	Naïve Bayes Switching Linear Dynamical System: A model for dynamic system modelling,	Dabrowski, J (Joel); De Villiers, JP (Pieter); Beyers, FJC	https://doi.org/10.1016/j.inffus.2017.10.002
23	PS16005	Parameter dependence in collective risk models	MiWay	RP16004	Parameter dependence in collective risk models	UP			
24	PS16006	Sovereign credit ratings: modelling credit ratings and sovereign default rates	FNB	RP16012	Sovereign credit ratings: modelling credit ratings and sovereign default rates	UP			
25	PS16007	Measures of loan delinquency and loan portfolio optimisation	African Bank	RP16005	Measures of loan delinquency and loan portfolio optimisation	UP			
26	PS16008	Fraud detection using generalised Markov random fields	FNB	RP16006	Fraud detection using generalised Markov random fields	UP			
27	PS16009	Quantifying model risk of financial risk models	Standard Bank	RP16014	Emerging best practice in Model Risk Management	NWU	A proposed best practice model validation framework for banks	de Jongh, PJ (Riaan); Larney, J (Janette); Maré, E (Eben); van	http://dx.doi.org/10.4102/sajems.v20i1.1490
28	PS16009	Quantifying model risk of financial risk models	Standard Bank	RP17001	Quantifying model risk of credit risk models	NWU			
29	PS16010	Modelling and pricing political violence risk	SASRIA	RP16013	Modelling and pricing political violence risk	UP			
30	PS16011	Margin of Conservatism for retail credit risk	Barclays Africa	RP16007	Margin of Conservatism for retail credit risk	NWU			
31	PS16014	Investigate the effect of the PD and LGD correlation	Barclays Africa	RP16010	Investigate the effect of the PD and LGD correlation	NWU	The impact of systemic loss given default on economic capital	van Dyk, J (Jenni); Lange, J (Juan); van Vuuren G (Gary)	https://doi.org/10.19030/iber.v16i2.9884
32	PS16014	Investigate the effect of the PD and LGD correlation	Barclays Africa	RP16010	Investigate the effect of the PD and LGD correlation	NWU	The Impact of PD-LGD Correlation on Expected Loss and Economic Capital	van Vuuren, G (Gary); de Jongh, R (Riaan)	https://doi.org/10.19030/iber.v16i3.9975
33	PS16015	Determining an appropriate discount rate in LGD modelling	Barclays Africa	RP16011	Determining an appropriate discount rate in LGD modelling	NWU			
34	PS16017	What additional return premium should Private Equity earn	Indep						
35	PS16018	Incorporate Private Equity into traditional investment strategies	SIM						
36	PS16019	Application of the Actuarial Control Cycle to the role of a PE GP or	Nat Std						
37	PS16020	Stochastic Process for simulation of Managed Currencies	Standard Bank	RP16015	Modelling managed currencies	NWU			
38	PS17001	Pricing Options on Amortizing Swaps	Old Mutual	RP17002	Pricing Options on Amortizing Swaps	UCT			
39	PS17002	Portfolio Diversification Using an Unlisted Asset	Old Mutual	RP17003	Quantifying the Impact of Adding an Unlisted Credit Asset to a Portfolio	UCT			
40	PS17003	Suitability of external agency ratings for rating in-country bank	Barclays Africa	RP17004	Suitability of external agency ratings for rating in-country bank	NWU			
41	PS17004	Profitability optimisation based on group cluster characteristics	FNB						

Seq	ProbStmt	ProbStmt Title	Org	Proposal	Proposal Title	Univ	Article Title	Author(s)	URL
42	PS17005	Artificial Intelligence in Risk Management	Discovery Insure	RP17005	Artificial Intelligence in Risk Management	UP	A method of parameterising a feed forward multi-layered perceptron artificial neural network, with reference to financial markets	Smith, ML (Matthew); Beyers, FJC (Conrad); De Villiers, JP (Pieter)	http://www.actuarialsociety.org.za/ProfessionalResources/SAActuarialJournal.aspx