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

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

Seq	ProbStmt	ProbStmt Title	Org	Proposal	Proposal Title	Univ	Article Title	Author(s)	URL
18	PS15014	Pricing and risk management of	Peregrine	RP15025	Improving portfolio allocation	UP	Implied and Local Volatility Surfaces for South	Kotze, A (Antonie);	www.mdpi.com/1911-8074/8/1/43
		derivatives in dynamic markets	Ŭ		through covariance matrix filtering		African Index and Foreign Exchange Options	Oosthuizen, R (Rudof); Pindza,	
		, , , , , , , , , , , , , , , , , , , ,						E (Edson)	
19	PS16001	Solutions for financially stressed	Barclays						
		borrowers	Africa						
20	PS16002	Systemic risk network structure	Barclays	RP16001	Systemic risk network structure	UP			
		model	Africa		model				
21	PS16003	Modelling the effect of banking	Barclays	RP16002	Modelling the effect of banking	UP			
		regulations on the SA economy	Africa		regulations on the SA economy				
22	PS16004	Early warning systems using	Barclays	RP16003	Early warning systems using	UP	Naïve Bayes Switching Linear Dynamical System:	Dabrowski, J (Joel); De Villiers,	https://doi.org/10.1016/j.inffus.2017.10.002
		dynamic Bayesian Networks	Africa		dynamic Bayesian Networks		A model for dynamic system modelling,	JP (Pieter); Beyers, FJC	
23	PS16005	Parameter dependence in collective	MiWay	RP16004		UP		, , ,	
		risk models	,		risk models				
24	PS16006	Sovereign credit ratings: modelling	FNB	RP16012	Sovereign credit ratings: modelling	UP			
		credit ratings and sovereign default			credit ratings and sovereign default				
		rates			rates				
25	PS16007	Measures of loan delinquency and	African Bank	RP16005	Measures of loan delinquency and	UP			
23	1 310007	loan portfolio optimisation	, an ican bank	10003	loan portfolio optimisation	"			
		· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·				
26	PS16008	Fraud detection using generalised	FNB	RP16006	Fraud detection using generalised	UP			
		Markov random fields			Markov random fields				
27	PS16009	Quantifying model risk of financial	Standard	RP16014	Emerging best practice in Model	NWU	A proposed best practice model validation	de Jongh, PJ (Riaan); Larney, J	http://dx.doi.org/10.4102/sajems.v20i1.1490
		risk models	Bank		Risk Management		framework for banks	(Janette); Maré, E (Eben); van	
28	PS16009	Quantifying model risk of financial	Standard	RP17001	Quantifying model risk of credit risk	NWU			
		risk models	Bank		models				
29	PS16010	Modelling and pricing political	SASRIA	RP16013	Modelling and pricing political	UP			
		violence risk			violence risk				
30	PS16011	Margin of Conservatism for retail	Barclays	RP16007	Margin of Conservatism for retail	NWU			
		credit risk	Africa		credit risk				
31	PS16014	Investigate the effect of the PD and	Barclays	RP16010	Investigate the effect of the PD and	NWU	The impact of systemic loss given default on	van Dyk, J (Jenni); Lange, J	https://doi.org/10.19030/iber.v16i2.9884
		LGD correlation	Africa		LGD correlation		economic capital	(Juan); van Vuuren G (Gary)	
32	PS16014	Investigate the effect of the PD and	Barclays	RP16010	Investigate the effect of the PD and	NWU	The Impact of PD-LGD Correlation on Expected	van Vuuren, G (Gary); de	https://doi.org/10.19030/iber.v16i3.9975
		LGD correlation	Africa		LGD correlation		Loss and Economic Capital	Jongh, R (Riaan)	
33	PS16015	Determining an appropriate	Barclays	RP16011	Determining an appropriate	NWU			
00	. 010015	discount rate in LGD modelling	Africa	10011	discount rate in LGD modelling				
34	PS16017	What additional return premium	Indep						
J .		should Private Equity earn							
35	PS16018	Incorporate Private Equity into	SIM						
33	. 510010	traditional investment strategies							
36	PS16019	Application of the Actuarial Control	Nat Std						
50	. 310013	Cycle to the role of a PE GP or	i vai Jiu						
37	PS16020	Stochastic Process for simulation of	Standard	RP16015	Modelling managed currencies	NWU			
3/	1 310020			VL T0012	ivioucining manageu currencies	14440			
20	PS17001	Managed Currencies	Bank Old Mutual	RP17002	Pricing Options on Amostining Survey	LICT			
38	L31/001	Pricing Options on Amortizing Swaps	Old Mutual	KP1/UU2	Pricing Options on Amortizing Swaps	UCI			
20	DC17000	Df-li- Divifi	Old Marini	DD47000	Overatificate to the CALL	LICT			
39	PS17002	Portfolio Diversification Using an	Old Mutual	RP17003	Quantifying the Impact of Adding an	UCT			
L.,		Unlisted Asset			Unlisted Credit Asset to a Portfolio				
40	PS17003	Suitability of external agency ratings	Barclays	RP17004	Suitability of external agency ratings	NWU			
		for rating in-country bank	Africa		for rating in-country bank				
41	PS17004	Profitability optimisation based on	FNB						
		group cluster characteristics							

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