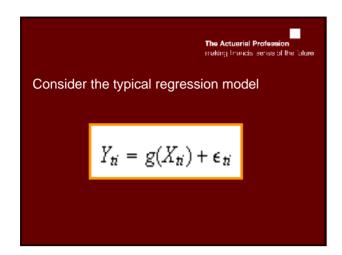
The Actuerial Profession making Inancia, sense of the future	
33 rd ANNUAL GIRO CONVENTION Hilton Vienna Hotel, Am Stadtpark	
The Actuarial Profession making francia sense of the future	
Can one use the same model for pricing, budgetting and reserving? Jens Perch Nielsen	
Festina Lente and Royal&SunAlliance	
The Actuarial Profession making Inaucia sense of the future	
Pricing The price is estimated from modern regression theory using GLM models and GAM models.	

The Actuerial Professi making francia sense a			
Pricing 2			
An increasing number of covariates are being used e.g. GIS and credit scoring.			
The Actuarial Professi making francia sense s			
Reserving	i dis tildie		
Rerving is primarily based on triangle			
data: aggregated data grouped according to calendar year and duration.			
The Actuarial Professi making Imanda sensa a			
Can one use the same model for pricing budgetting and reserving?	,		
Both are regression models and based the same data.	on ·		

The Actuarial Profession	
making trancia sense of the future	
Capital and volatility	
The level of volatility determines the level of capital.	
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Capital and volatility 2	
Pricing has so far not been taking volatility into account. Capital considerations on policy level is therefore difficult.	
therefore difficult.	
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Capital and volatility 3	
Volatility considerations have started big time when it comes to reserving	

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Capital and volatility 4	
Capital allocation is therefore typically	
based on aggregated data.	
<u>_</u>	
The Actuerial Profession making Irancia, sense of the foliore	
The Question!	-
ls it possible to combine the	
sophisticated regression techniques known from pricing with the volatility	
considerations known from reserving?	
_	
The Actuerial Profession making Imancia, sense of the future	
Answer to the question.	
Yes, this is indeed possible!	
Literature combining regression models with	-
a time series is beginning to appear.	
(See paper with Bent Nielsen on his web page at Nuffield College, Oxford).	



The Actuerial Profession traking Iranda sense of the future ... and with latent time series $Y_{tt}=g(X_{tt})+f_t+\epsilon_{tt}$

Organisational conse	The Actuarial Profession making Irranda, sense of the future
Reserving Department	Pricing Department
Reserving parameters	Pricing parameters
Modelling de	partment

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) Inancia, sense of the future		
Answer to the question.			
It is possible to combine reserving a	and		
pricing.			
It will cut costs and provide a consiste framework for decisions.	ent		
It does require further research!			
it door require farther recountry.			
	ctuerial Profession		
	ctuarial Profession Inancia sense of the future		
making	Irrancial sense of the future		
Can one use the same model	Irrancial sense of the future		
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Can one use the same model	Irrancial sense of the future		
Can one use the same model budgetting and reserving?	Irrancial sense of the future		
Can one use the same model budgetting and reserving? Yes, in the near future!	Irrancial sense of the future		
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