

G5 高等準備金，價值評估與企業風險管理

題型/ 時間	參考用書	考試範圍
計算、 申論題 20-30 題 /3 小時	<ul style="list-style-type: none"> ●Brehm, P.; Gluck, S.; Kreps, R.; Major, J.; Mango, D.; Shaw, R.; Venter, G.; White, S.; and Witcraft, S., Guy Carpenter, “Enterprise Risk Analysis for Property & Liability Insurance Companies,” Chapter 1, 2 (excluding Section 2.6), 3 (excluding Section 3.4), 4, and 5 (Section 5.4 only). ●Brosius, E., “Loss Development Using Credibility,” CAS Study Note, March 1993. ●Clark, D.R., “LDF Curve Fitting and Stochastic Reserving: A Maximum Likelihood Approach,” Casualty Actuarial Society Forum, Fall 2003. ●Goldfarb, R. “P&C Insurance Company Valuation,” CAS Study Note, October 2010. ●Hürlimann, W., “Credible Loss Ratio Claims Reserves: The Benktander, Neuhaus and Mack Methods Revisited,” Astin Bulletin 39(1), pp. 81-99, 2009. Candidates are not responsible for mathematical proofs. ●Mack, T., “Measuring the Variability of Chain Ladder Reserve Estimates,” Casualty Actuarial Society Forum, Spring 1994. ●Mack, T. “Credible Claims Reserve: The Benktander Method,” ASTIN Bulletin, 2000, pp. 333-337. ●Marshall, K.; Collings, S.; Hodson, M.; and O’Dowd, C., “A Framework for Assessing Risk Margins,” Institute of Actuaries of Australia 16th General Insurance Seminar, 9-12 November 2008, Coolum, Australia. 	<p>A. 準備金估計(45-55%)</p> <ol style="list-style-type: none"> 1. 採可信度模型估列未付賠款準備金。 2. 採下列損失發展方法估列未付賠款準備金及其參數如： <ul style="list-style-type: none"> ● Chain ladder ● Cape Cod ● Chain ladder plus calendar-year effects ● Bornhuetter-Ferguson 3. 估列模型內含之動差及百分比。 4. 估列不同超額層(claim layer)之未付賠款準備金。 5. 描述準備金各種風險(risk)、不確定性(uncertainty)及估列其之邊際(margins)。 6. 在給定之模型下，估列準備金之平均值及預估誤差。 7. 用拔靴法跟模擬法推導出預測分配。 8. 資料的議題及相對之調整。 9. 準備金模型假設之測試。 10. 採加權及動態模型發展準備金分配。 11. 比較和對照再保險和原保單準備金提存。 12. 調整原保單方法和數據用於再保險準備金。 13. 用適合的方法計算分出再保賠款準備金。 14. 預測保費準備金。 <p>B. 保險公司評價(8-12%)</p> <ol style="list-style-type: none"> 1. 估列監理對準備金之要求及信評公司對資產之要求所造成的影響。 2. 根據預期未來現流、盈餘轉業主權益及未來可預期之額外收入來評估產險公司價值(equity)。

題型/ 時間	參考用書	考試範圍
	<ul style="list-style-type: none"> ●Patrik, G.S., “Reinsurance,” Foundations of Casualty Actuarial Science (Fourth Edition), Casualty Actuarial Society, 2001, Chapter 7, pp. 434-464 (section on Reinsurance Loss Reserving). ●Sahasrabudde, R., “Claims Development by Layer: The Relationship between Claims Development Patterns, Trend and Claim Size Models” Casualty Actuarial Society E-Forum, Fall 2010, Volume 1 (revised January 2, 2013). Including errata. ●Shapland, M.; and Leong, J.W.K., “Bootstrap Modeling: Beyond the Basics,” Casualty Actuarial Society E-Forum, Fall 2010. Including errata. ●Shapland, M., “Using the ODP Bootstrap Model: A Practitioner’s Guide” CAS Monograph Series, Number 4. ●Siewert, J.J., “A Model for Reserving Workers Compensation High Deductibles,” Casualty Actuarial Society Forum, Summer 1996, pp. 217-244. ●Teng, M.T.S.; and Perkins, M.E., “Estimating the Premium Asset on Retrospectively Rated Policies,” PCAS LXXXIII, 1996, pp. 611-647, excluding Section 5. Including discussion of paper: Feldblum, S., PCAS LXXXV, 1998, pp. 274-315, Sections 1 and 2 only. Candidates will not be held responsible for specific Annual Statement notation but will be responsible for concepts presented. ●Venter, G.G., “Testing the Assumptions of Age-to-Age Factors,” PCAS LXXXV, 1998, pp. 807-847. 	<p>3. 用比較或相對評價的方法，估列其業主權益價值。此評估方法採用同行之財務變數或基本面資訊。</p> <p>C. 企業風險管理(35-45%)</p> <ol style="list-style-type: none"> 1. 說明保險和財務風險可以被量化分析。 2. 描述整個企業風險模型化的使用和整合方法。 3. 評估和選擇適合的模型來處理不同的風險。 4. 表示不同性質的風險測度和限制。 5. 描述如何測量風險及建模。 6. 描述保險和財務風險的基本原理、方法和管理的效果。 7. 描述作業風險可能降低的風險內容和量化方法。 8. 評估在風險管理最佳實務、風險量化模型及各種財務和非財務風險管理。

題型/ 時間	參考用書	考試範圍
	<ul style="list-style-type: none"> ●Verrall, R.J., “Obtaining Predictive Distributions for Reserves Which Incorporate Expert Opinion,” Variance, Vol. 1, Issue 1, 2007, Casualty Actuarial Society. Including errata. ●Meyers, G., “Stochastic Loss Reserving Using Bayesian MCMC Models,” CAS Monograph #1. 	