

題目	外匯投資組合之風險值評估—分量迴歸的應
作者	李沃牆（淡江大學財務金融學系副教授(通訊作者)） 柯中偉（淡江大學財務金融學系碩士）
摘要	本研究將 Koenker 與 Bassett (1978)的分量迴歸 (Quantile Regression) 導入風險值模型。透過人民幣、美元、日圓及港幣的外匯投資組合，並比較多變量 CCC-GARCH 及 DCC-GARCH 在變異數—共變異數法之風險值估計與分量迴歸風險值的差異，最後以 Kupeic 和 Christofferson 二種回溯測試方法檢定風險值模型績效。實證結果發現，分量迴歸結合多變數 GARCH-type 模型所求出的組合平均風險值較多變數的變異—共變數組合風險值低，而動態變異數模型亦較固定相關係數模型為低。投資組合風險值模型的回溯測試結果均顯示風險值模型是可以接受的。
關鍵字	分量迴歸、風險值、投資組合、GARCH、回溯測試
Title	Application of Quantile Regression to Estimating Value at Risk of Foreign Exchange Portfolio
Author(s)	Chiang-Wo Lee, Zhong-Wei Ke**
Abstract	<p>The paper applied quantile regression(QR) proposed by Koenker and Bassett (1978) in Value at Risk(VaR) model. After selecting the best foreign exchange portfolio, the RMB, Janpan Yuan,USD and HKD, we compare multivariate CCC-GARCH and DCC-GARCH model with traditional variance-covariance method based on quantile regression to estimating VaR. And using two kinds of back testing models which includes Kupeic and Christofferson to test the performance of VaR models.</p> <p>Empirical results show that combining quantile regression with GARCH-type to calculate the value at risk of individual foreign exchange is lower than VaR.MGARCH-type. While DCC-GARCH based VaR is lower than CCC-GARCH based VaR. In last, the back testing results can't reject the null hypothesis. Which expresses that all the VaR model are fittable.</p>
Key Words	Quantile Regression, VaR, Portfolio, GARCH, Back testing