

風險傳遞 CoVaR 模型- 以歐美國家間信用風險為例

Credit Risk Contagion Between United States and

European Countries - CoVaR Model

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中文摘要

以往的風險測量(VaR)主要著重於單獨的個體。而有別於早期許多風險傳遞效果的研究，皆甚少著墨於信用風險於國家之間蔓延。本文將焦點放在國家間資金流動性問題之擴散。本研究採用隨時間變動之風險評估模型 CoVaR 進行分析，CoVaR 與 VaR 的最大差別在於考慮到個體與個體間的外溢效果，因此更能將極端事件下的真實風險值給充分地揭露出來。為了測量出 CoVaR 和 VaR，我們包含了一系列的狀態變數像是：股票市場的波動率指數、匯率、股票市場指數、金價與油價。利率為傳遞信用風險的主要機制之一，藉由利率差的分量迴歸來測量出本篇論文的兩組模型。模型一、二皆得出類似的結果。其研究結果顯示：(1)當一個國家陷入金融危機時，它可以傳遞信用風險至別的國家。(2)我們更進一步發現，當一金融市場有了流動性問題時，投資人極有可能會尋找更安全的投資。舉例來說，當美國金融體系陷入危機時，信用風險的擴散並未影響英國。而英國此時對投資人而言就像是"安全的避風港"。

關鍵字：系統風險、國家風險傳遞、風險傳遞模型、CoVaR 模型、信用風險、資金流動性問題

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Abstract

There is plenty of literature on contagion effects, but earlier studies on credit risk contagion and spillovers to other countries are rare. In this paper, we focus our attention on the liquidity problem spreads across countries. We use time-varying CoVaR model conditions on state variables such as the volatility index of stock market, exchange rates, stock market index, gold and oil prices. We get time variation of the risk measures by running quantile regressions of interest rates on the lagged state variables since credit spread is one of mechanisms for the liquidity problem. The preliminary findings are: (1) When one country falls into distress, it can cause credit risk spillovers onto other countries. (2) Moreover, when liquidity problem occurs in one financial market, the investors may look for more safe investment. For instance, as what we show in this paper, when the United States financial system falls into distress, the contagion of credit risk did not infect to UK. Moreover, UK acts like a 'safe haven' or 'safe harbor' for investors.

Keywords: systemic risk, country-risk spillover, risk contagion model, CoVaR, credit risk, liquidity problem

誌 謝

在寫論文的期間經歷了像是實習或是出國交換學生的事情，因此這篇論文能夠順利地把最初的想法給完整的呈現出來，要感謝非常多人。我的指導教授周雨田老師，給了我許多的建議，讓我在寫論文時能更加流暢。除此之外，新風學長幫助我在資料的蒐集、處理和軟體上的應用；志良學長給了我許多想法及內容上的建議；家銘學長提供了他寫論文的經驗。

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