《人文及社會科學集刊》
第十三卷第五期 (90/12), pp. 515-540

九零年代台灣的景氣循環：馬可夫轉換模型與紀卜斯抽樣法的應用

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由於近年許多研究都無法辨認 1990 年以後台灣的景氣循環狀態，本文主要的目的就是希望能藉由適當的計量方法來克服此一困難。我們首先考慮了經濟變數可能的結構性轉變，並以最小平方法估計轉變的時點，然後利用雙變量馬可夫轉換模型來分析結構性轉變時點後的資料。為了避免估計結果的抽樣變動程度過大，我們採用紀卜斯抽樣法做為模型的估計方法。藉由上述的方法，我們可以認定台灣在 1990 年後已經歷了兩次完整的景氣循環，其中第一個循環和經建會所公佈的第八波景氣循環相去不遠，而第二個循環則和經建會所公佈的第九波景氣循環完全一致。我們的研究也顯示，雙變量模型的確較單變量模型更能捕捉景氣循環的特性，而 1990 年之後台灣的景氣循環現象也和過去大不相同。

關鍵詞：景氣循環、紀卜斯抽樣法、馬可夫轉換模型、結構性轉變

Identifying Taiwan's Business Cycles in 90's: An Application of the Bivariate Markov Switching Model and Gibbs Sampling

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ABSTRACT

In this paper Taiwan's business cycles in 1990's are jointly determined from GDP and employment growth rate data. We first test the existence of a structural change and estimate the change point using the least-squares method. A bivariate Markov switching model, estimated via Gibbs sampling, was then applied to the after-change data. In contrast with previous studies, we are now able to identify two complete cycles in 1990's. Our results also show that, comparing with the univariate model, the bivariate model is more suitable for describing business cycles. Moreover, the characteristics of the business cycles after 1990 are quite different from those of earlier cycles.

Key Words: business cycles, Gibbs sampling, Markov switching model, structural change

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