

主要金融指標季節調整之編製說明

貨幣總計數統計為「金融統計月報」登載之重要資料，其所蘊含之資訊內容與一國之物價及產出息息相關。惟貨幣總計數的時間數列易受節日、納稅期限、開學日期及年終等因素之影響而呈季節性變動，因此，在引用參考時，實有必要明瞭其季節型態及季節因子之大小，以釐清其所蘊含之資訊內容。

為處理貨幣總計數季節調整問題，本行參酌主要國家央行季節調整之經驗，並引用美國普查局所開發的 X-12 ARIMA 程式來處理資料。惟我國農曆春節係移動節日，無法直接套用歐、美的固定節日調整方法，因此，本行嘗試結合農曆春節期間之日資料數據，先設算出「春節前」、「春節期間」及「春節後」三個春節因子解釋變數，再運用 X-12 ARIMA 新增的 RegARIMA 功能來處理農曆春節移動節日之影響效果，然後計算出貨幣總計數季節調整數列。

為增加金融統計資訊之實用性與透明度，本行特於「金融統計月報」新增專頁「季節調整後重要金融指標」表，列示季調後之通貨淨額、準備貨幣(已經調整存款準備率變動因素)、M1A、M1B、M2、主要金融機構總存款、放款與投資等 7 項主要數列之水準值及年增率，並追溯至 1992 年 1 月。另外，亦在本行中、英文網站的「金融統計月報」電子書中呈現，以提供國內、外人士使用。

由於季節調整數列會隨每月滾進新資料而有所更動，為避免數列每月變動引發資料使用者之不便，本行參考主要國家央行之作法，不逐月修正季節調整數列之歷史資料，使原發布之歷史資料不致因每月滾進新資料而變動。惟為避免季節因子固定過久，而使資料失真，本行固定於每年 6 月及 12 月修正季節調整數列之歷史資料。

Seasonal Adjustment of Key Financial Indicators in Taiwan

Monetary aggregates play an important role as an information variable for the Bank's monetary policy. The Bank has regularly published data on monetary aggregates in its *Financial Statistics Monthly*. However, monetary aggregates time series exhibit seasonal movements that recur during public holidays, tax payment days, the start of a new school year, and the calendar year-ends. It is therefore important to understand the nature and the effects of the seasonal factors when analyzing monetary aggregates.

To seasonally adjust time series data on monetary aggregates, the Bank generally adopts the X-12-ARIMA adjustment method, which has been developed by the US Census Bureau and is used by major central banks around the world. Because the Chinese New Year, the most important holiday in Taiwan, is determined by a lunar calendar, its exact timing each year shifts on the Gregorian calendar. The holiday effect adjustment procedure developed for fixed holidays cannot be applied to the Bank's model. To improve the accuracy of seasonal decomposition, the Bank uses daily data to construct three monthly factors to capture effects before, during, and after the Chinese New Year.

To facilitate greater use of the financial statistics data as well as to improve transparency, the Bank starts to publish the seasonally adjusted data in the appendix to the *Financial Statistics Monthly* in 2007. The Seasonally Adjusted Key Financial Indicators Table presents the statistics for currency held by the public, reserve money, M1A, M1B, M2, deposits, and loans and investments of major financial institutions. All series are traced back to January 1992. The data will also be available on the Bank's website.

To avoid the confusion caused by model changing and recalculation, seasonal adjustment model and past seasonal factors remain fixed every month, which is the same treatment used by major central banks. The Bank follows this approach and revises the seasonally adjusted series in each June and December to ensure a better quality of seasonal adjustment.