Looking Ahead

Difficulties in measuring the seasonal pattern of M1 are likely to persist, because banking and financial institutions, laws, and financial instruments will continue to change. Although existing statutes prohibit commercial banks from paying interest on demand deposits, interest-rate ceilings on time and savings accounts, including negotiable order of withdrawal (NOW) accounts, are scheduled to be eliminated by March 31, 1986. In the immediate term, the minimum deposits on Super- NOW accounts and MMDAs are scheduled for reduction to $5,000 on January 1, 1985. How much such changes might affect M1 seasonality is not known, but uncertainty might continue to plague seasonal adjustment efforts until a more static financial environment emerges, free of the complications that have developed in recent years.

Because seasonally varying patterns of transactions cause movements in raw monetary data that obscure underlying trends and cyclical changes, the Federal Reserve seasonally adjusts raw money-stock data to identify temporary seasonal fluctuations. These variations can then be accommodated as policymakers aim at a desirable level of money growth. While it might be appealing to abandon seasonal adjustment because of its inherent shortcomings in pursuing monetary targets, policymakers find it useful to distinguish seasonal from fundamental variations in money demand. Since a model that explains all of the variations in raw data cannot exist, economists will continue to attempt to perfect techniques for approximating seasonal variations. The Federal Reserve System has maintained an ongoing interest in the area of seasonal adjustment of monetary data and research to improve seasonal factor estimation.

References


Policymakers, academics, and financial professionals recognize that accurate seasonal adjustment of monetary data is an inherently troublesome process. However, because of recent changes in the banking and financial services industry, accurate seasonal adjustment has become even more difficult. This Economic Commentary focuses on financial developments since 1980—the advent of new deposit instruments, the Depository Institutions Deregulation and Monetary Control Act of 1980, and the Garn-St Germain Act of 1982. This new financial environment seems even further to have increased the uncertainty about the meaning of seasonally adjusted monetary data.

Current Estimating Techniques

Ideally, an economic model of money supply and demand would estimate variations in money that are a result of seasonal events. Unfortunately, in our less-than-perfect world, no such model is possible; instead, statistical methods are used to approximate seasonality. These methods identify regular movements in the history of an economic series and produce a set of seasonal factors. Application of seasonal factors to raw data results in a less variable, or smoother, series (see chart 1). A

A Problem of Seasonal Adjustment

by Richard L. Mugel

Typically, the public's demand for money fluctuates with changes in the calendar. As a result, money stock data are highly variable and exhibit regular movements within a given year. For example, the money stock typically expands around the year-end holidays and tax-payment time in April. Economists consider these variations to be seasonal; i.e., the variations do not indicate changes in money demand associated with interest rates or with the underlying pace of economic activity. Since Federal Reserve policymakers wish to concentrate on fundamental movements in money demand that are consistent with longer-run objectives, seasonal variation is eliminated from the money-supply series by a process known as seasonal adjustment. Thus, policymakers state both long- and short-run targets in seasonally adjusted terms. Accurate seasonal adjustment enables policymakers to accommodate the needs of commerce and to make informed decisions about monetary policy. Accurate seasonal adjustment also helps market participants interpret monetary policy.

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Highly volatile monthly (or weekly) adjustments in money demand growth are not usually available as yardsticks of precision. There are other clues, however: because current adjustment was applied to all transactions accounts, the historical variation of the M1 aggregate in April surge in transactions accounts in 1982 and 1983. This pattern is similar to that seen in transactions deposits (see chart 3). With MMDAs accommodating some of the seasonal need, the seasonal bulge in M1 during times of large payments is reduced. 

Unfortunately, techniques for estimating seasonality that consider only the historical variation of the M1 aggregate are unlikely to capture very quickly such changes in M1 behavior. In fact, first revisions indicate that these techniques overestimated the April surge in transactions accounts in 1982 and 1983.

Since 1981, growth of M1 in April that is attributed to seasonal influences declined by more than 3 percent. Furthermore, volatile growth at around April 1984 suggests that 1984 preliminary factors might have overstated the intensity of the seasonal month. However, the seasonal bulge in April is more pronounced as the first reported M1 measure of money, which is based on the X-11 procedure can exercise some discretion in deciding which parameters to use and what weight to give to the provisional seasonality that consider only the historical variation of the M1 aggregate. Because of the limited transactions features of MMMFs, the variability of money balances during April is greatest. Transfers and transactions accounts need to be examined to identify the capture the seasonal pattern.

The growth of interest-bearing transactions accounts at both within and outside M1, probably affected the seasonal pattern of M1 by reducing the intensity of seasonal increases in money balances. In addition, seasonal factors, such as interest taxes, may now find it advantagous to build up balances slowly in NOW accounts and make transactions without transferring any funds. Non-M1 innovations, such as money market deposit accounts (MMDAs), might have also affected the seasonal pattern of the M1 aggregate. Because of the limited transactions features of MMMFs, the variability of money balances during April is greatest. Transfers and transactions accounts need to be examined to identify the capture the seasonal pattern.

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