Leaning Against the Seasonal Wind: Is There a Case for Seasonal Smoothing of Interest Rates?

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Since it began in 1914, the Federal Reserve System has followed a policy of allowing the supply of money to vary over the seasons. At present, the Fed allows the money supply to grow faster than average in the third and fourth quarters of each year to meet the seasonally high demand for money during summer and the holiday shopping season and forces it to grow slower than average in the first and second quarters. In other words, the Fed injects additional money into the economy during the last two quarters of a year, then withdraws this addition during the first half of the following year.

This seasonal pattern in the growth rate of money supply and the Fed's role in generating it is evident in Figure 1. The two lines show the seasonal deviations in the quarterly growth rate of M1 and the monetary base (the sum of bank reserves and currency in circulation) from their average quarterly growth rates in the post-WWII period. The Federal Reserve, through its open-market operations, increases the growth rate of the monetary base in the

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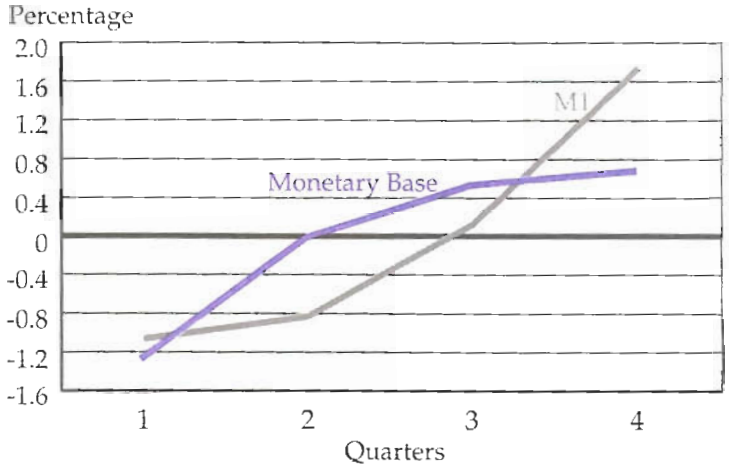
FIGURE 1
Seasonal Pattern in Quarterly Growth Rates of Monetary Base and Money Stock
1948 I - 1980 IV



third and fourth quarters as money demand rises, then reverses this increase in the following two quarters when money demand shrinks. Correspondingly, the seasonal growth rate in M1 is above average in the third and fourth quarters when the quantity of money demanded rises quickly and falls below average in the first two quarters when quantity of money demanded shrinks.

Because it accommodates seasonal variation in the demand for money, the Fed's seasonal monetary policy has the effect of reducing seasonal variation in short-term interest rates. Indeed, by some measures, there does not appear to be any evidence of seasonal movements in short-term interest rates in the post-WWII period.[1] If the Federal Reserve were to stop this seasonal variation in the growth rate of the monetary base, short-term interest rates would rise in the third and fourth quarters in response to the higher demand for money during these times and fall in the first two quarters in response to the lower demand for money.

Economists have questioned the need for a seasonal monetary policy. In his well-known lecture *A Program for Monetary Stability*, Milton Friedman saw no "objection to seasonal fluctuations in short-term interest rates" and recommended that the Fed desist from following such a policy. More recently, Gregory Mankiw and Jeffrey Miron, in an article titled *"Should the Fed Smooth Interest Rates? The Case of Seasonal Monetary Policy,"* have also raised doubts about the wisdom of such a policy. Indeed, why should the Fed accommodate seasonal changes in money demand and stabilize short-term interest rates? After all, the increase in rental rates for vacation properties on the New Jersey shore in August is a natural outcome of market forces and does not call for a program of rent stabilization by the government. By the same token, why shouldn't the Fed tolerate an increase in the rental price of money (interest rates) caused by natural forces in the third and fourth quarters of each year?

In this article I examine this question by looking first at the historical reason underlying the Fed's seasonal monetary policy and determining whether the historical rationale is still valid. In light of the major institutional changes

[1] In a recent article, Robert Barsky and Jeffrey Miron report the absence of seasonal movements in the three-month T-bill rate over the period 1948:2-1985:4. However, there have been periods when short-term interest rates have shown some seasonal fluctuations. Stanley Diller, in an article written in 1971, used measures of seasonality different from the ones employed by Barsky and Miron and documented that T-bill rates showed some seasonality in the 1950s, but this seasonal pattern all but disappeared in the 1960s. Citations may be found in the "References" section at the end of this article.

that have occurred in the banking industry since 1933, I argue that the historical reason for the Fed's seasonal monetary policy is now much less relevant. On the other hand, improvements in economists' understanding of the different ways in which monetary policy could affect the functioning of the economy suggest benefits and costs of a seasonal monetary policy that were not apparent in 1914. In the rest of the article, I discuss the nature of these costs and benefits.

THE HISTORICAL RATIONALE

Throughout the latter part of the 19th century and the early years of the 20th, the U.S. financial system was plagued by recurrent crises. Edwin Kemmerer, a Cornell University scholar who testified before the National Monetary Commission in 1910, listed no less than six major crises and 15 minor crises in financial markets between the years 1890 and 1910. These financial panics were a combination of bank failures, bank runs, and stock-market crashes. Kemmerer, as well as other contemporary scholars, believed that most of these crises had a seasonal connection.[2] The United States, at that time a still heavily agricultural nation, experienced large increases in the demand for currency and short-term loans during early spring and autumn when farmers were planting and harvesting. The increased demand for currency drained cash from country banks precisely at a time when their farming customers clamored for loans. As a result, the country banks would call in their reserves with the city banks and thereby transmit the seasonal pressure on bank reserves to the city banks as well. To try to accommodate having fewer reserves and greater loan demand, many banks tried to make do with reserve-deposit ratios that were precariously low and left them vulnerable to unexpected cash withdrawals. Bankers and depositors were quite aware that during these times the banking system's ability to absorb unexpected adverse shocks was low. Thus, an unexpected loan default or an unexpectedly heavy withdrawal that caused a city or a country bank to fail would generate panic withdrawals from other banks as well. Even if the withdrawal or default did not lead to a bank failure, the episode made banks nervous enough to call in more of their loans, many of which were stock-market call loans, which, in turn, led to sharp drops in stock prices.[3]

The seasonal element in these financial panics is evident in the historical record. Of the 21 financial panics documented by Kemmerer, seven occurred in September and October and another seven between March and May. Thus, fall and spring accounted for all but a third of the total number of panics between 1890 and 1910.

While these panics differed in severity, some were quite serious. For instance, the panics of May 1893 and October 1907 resulted in the suspension of convertibility of deposits into currency. In general, these disturbances were considered disruptive enough to warrant serious attention and led to the creation of the National Monetary Commission to investigate the source of the problem facing the U.S. banking industry.[4] The deliberations of the commis-

[2]In addition to Kemmerer's testimony, see, for example, the testimony of O.M.W. Sprague and the book by Laurence Laughlin.

[3]See Jeffrey Miron's 1986 article for a description of the connection between seasonality and financial panics.

[4]Unfortunately, there is no quantitative estimate of the disruption caused by these financial panics. Jacob Hollander, a professor of political economy at Johns Hopkins University who also testified before the National Monetary Commission, noted the importance of bank loans collateralized by stock certificates in the financing of business activity in the U.S. This suggests that U.S. businesses probably faced considerable difficulty in carrying out their normal operations during times when panic conditions made such collateralized loans unattractive.

sion, published in 1910, identified the seasonal pressure on bank reserves as one of the principal contributory factors in these panics. Three years later, the Federal Reserve Act of 1913 established the Federal Reserve System and charged it with the task of eliminating the seasonal pressure on bank reserves by allowing banks to borrow additional reserves and currency ("to furnish.... an elastic currency") during times of increased seasonal demand for currency.

Thus, a seasonal monetary policy came to be one of the key goals of the Federal Reserve System. The policy was remarkably successful in that in the 15 years following November 1914, there were no financial crises in the U.S.

Aside from eliminating panics triggered by seasonal shortages of liquidity, the Fed's seasonal monetary policy also had another important effect. Because of the seasonal pressures on bank reserves, the period before the founding of the Fed was characterized by prominent seasonal fluctuations in short-term interest rates. As bank reserves tightened in the fall and spring and the commercial banks called in their loans, short-term interest rates rose. Then, as the seasonal pressure on reserves ebbed, short-term interest rates declined in the winter and summer. After the Fed went into operation in 1914 and eliminated the seasonal pressure on bank reserves, it also eliminated the seasonal fluctuation in short-term interest rates. Thus, the seasonal smoothing of short-term interest rates that continues to characterize Federal Reserve policy to this day originated in the battle against financial panics.

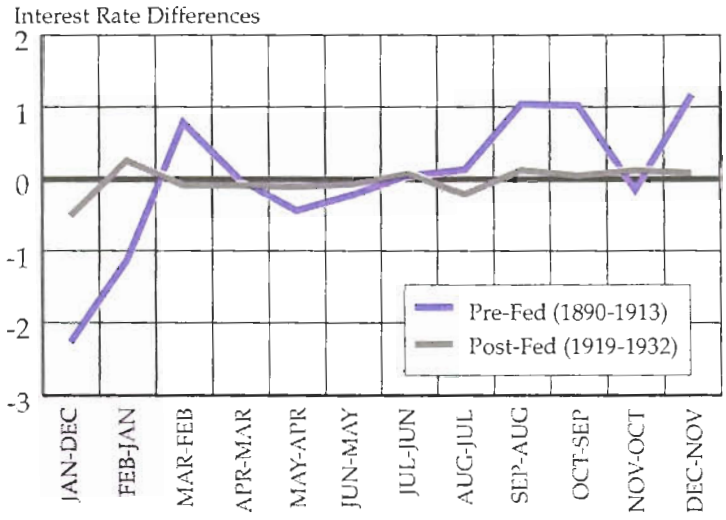
Figures 2 and 3 display the pre- and post-Fed seasonal patterns in the call money rate (an overnight interest rate) and commercial bank reserves, respectively.[5] In Figure 2, the vertical axis measures the average difference in call money rates across adjacent months in the pre-Fed and post-Fed era. For example, in the pre-Fed era, call money rates were, on average, 1.02 percentage points per annum higher in September than in August and 1.15 percentage points per annum higher in December than in November. In contrast, in the post-Fed era, call money rates were only 0.13 percentage points per annum higher in September than in August and only 0.089 percentage points per annum higher in December than in November. More generally, Figure 2 clearly shows that the call money rate was considerably more seasonal in the pre-Fed era than in the post-Fed era.

Figure 3 shows the other side of the same

[5]The information on which these plots are based was obtained from Truman Clark's 1986 article, Table 2 (p. 82) and Table 4 (p. 84).

FIGURE 2

Seasonal Pattern in Call Money Rates Before and After Founding of Federal Reserve System



coin. The vertical axis measures the average difference in bank reserves (in millions of dollars) across adjacent months. In the pre-Fed era, the bank reserves declined by about $10.68 million in September, reflecting the withdrawal of currency for farm expenditures. A decline of similar magnitude is also evident in the month of February. In contrast, bank reserves rose $22.79 million in September in the post-Fed era, fueled by Federal Reserve purchases of Treasury securities from banks. This increase in reserves allowed banks to meet the currency drain and, at the same time, expand the volume of their agricultural loans. In general, the Federal Reserve's seasonal monetary policy made bank reserves much more responsive to the pace of commercial activity and thereby eliminated the pronounced seasonal pattern in short-term interest rates.

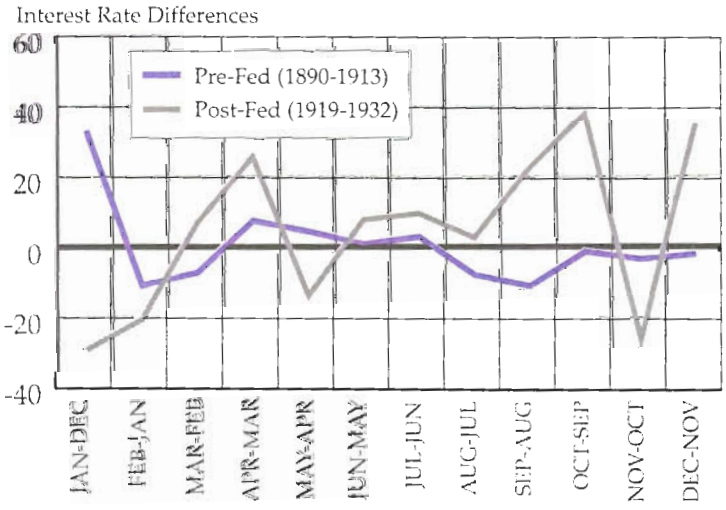
Seasonal pressures on currency and credit demand, alas, are not the only reason for financial disruptions. The 15-year stretch of financial tranquility ended rudely with the stock market crash in October 1929; the terrible years of the Great Depression followed. A seasonal monetary policy notwithstanding, five major banking crises occurred between the years 1929 and 1933.[6]

The experience of the Great Depression convinced American business and legislative communities that monetary policy alone was inadequate to insulate the economy from financial and economic disasters. In a far-reaching institutional change, the Banking Act of 1933 introduced federal insurance of bank deposits, which made bank deposits completely safe for the majority of depositors. While deposit insurance does not cover all commercial bank deposits, the FDIC has acted in the past to protect all deposits, even the so-called uninsured ones. Typically, in the event of a bank failure FDIC policy is to merge the failed institution with an ongoing one. This way, the liabilities of the failed bank become the liabilities of the ongoing institution, and uninsured depositors emerge unscathed as well.

However, what often goes unnoticed is that the existence of deposit insurance greatly reduces the need for a seasonal monetary policy to fight banking panics. Seasonal pressures on bank reserves and short-term interest rates may cause some unlucky or ineptly managed banks to fail, but because of explicit and de facto deposit insurance such failures are unlikely to lead to bank runs or financial panics. Since

FIGURE 3

Seasonal Pattern in Bank Reserves Before and After Founding of Federal Reserve System



[6]Milton Friedman and Anna Schwartz provide in-depth discussions of the origins and dynamics of these panics in their book *A Monetary History of the United States 1867-1960*. Miron's article discusses the seasonal factors that may have contributed to these banking crises.

combating financial panics was the main reason for a seasonal monetary policy in the first place, has this policy outlived its usefulness?

SEASONAL MOVEMENTS IN INTEREST RATES ARE COSTLY

Even though seasonal changes in interest rates probably would not cause financial panics today, a seasonally varying short-term interest rate results in a loss of economic efficiency. This loss of efficiency, while not as dramatic and severe as that imposed by a banking panic, could nevertheless provide a rationale for continuing a seasonal smoothing of short-term interest rates. To understand how this efficiency loss occurs, we need to understand how changes in short-term interest rates affect individuals' and corporations' demand for money.

Consider the case of Sadie Wherebucks, who must decide how much money to hold, on average, in her wallet or checking account and how much to put in a time deposit or a short-term security such as T-bills. When short-term interest rates are low, the convenience provided by holding money is more important to Sadie than the small amount of income that she gives up by holding money instead of interest-bearing assets, so Sadie will hold more money. When short-term interest rates are high, Sadie will reduce the amount of money she holds so that she can hold greater time deposits or invest in T-bills.

If Sadie holds more financial wealth in a savings account or in the form of T-bills, she will have to use her bank or broker more often to convert her assets into money to meet her daily expenses. This will impose additional costs on Sadie either because she has to make frequent trips to her bank or because she has to pay her broker's commission fees more often. Therefore, one effect of an increase in short-term interest rates will be to increase Sadie's transaction costs as she attempts to make do with smaller average holdings of money.

What is true of Sadie as an individual is even more true of corporations. Because firms deal with large flows of funds, higher short-term interest rates present them with even greater inducement to tighten up on their cash management. They spend considerably more time and resources on making sure that they reduce their holdings of currency or checking account balances.

At the other end, because of the increased flow of customers, banks would probably be forced to incur additional expenses. For instance, a bank might have to hire an extra teller or put up an extra ATM. Similarly, as individuals and corporations use the services of their brokers more frequently, brokerage firms would have to spend more resources to deal in a timely fashion with the additional business.

This means that if the Fed were to stop accommodating the seasonal variation in money demand and thereby let short-term interest rates rise during Christmas and summer and decline other times of the year, it would increase the level of transaction costs during Christmas and summer and lower it at other times of the year.

However, the net effect of this move would be to *increase* the level of transaction costs over the course of a whole year. The reason for this is intuitive and quite simple. By letting short-term interest rates rise at a time when the economy is in greater need of money, the Fed would force individuals and corporations to conserve on money holdings at a time when the cost of doing so is high. In contrast, by letting interest rates fall when the demand for money is low, the Fed would encourage individuals and corporations to relax their conservation efforts at a time when conserving money balances is relatively less costly. In other words, the Fed would be withdrawing money from circulation when the economy has more need for it and would be putting it back in circulation when it has less need for it. Clearly, such a policy would impose an additional cost on the economy.

How big might this cost be? How much more time, effort, and resources would be used to conserve on money holdings if the Federal Reserve did not accommodate the seasonal increase in demand for money? The answer depends on how much short-term interest rates would rise during the period of seasonally high money demand: if interest rates need to rise a lot to induce people to hold interest-bearing assets such as bonds instead of money, it indicates that the value of resources used up in reducing money balances (the cost of trips to the bank, brokers' fees) is large. Empirical studies typically find that people adjust their money holding very little in response to changes in short-term interest rates.[7] This result suggests that the gains from following a seasonal monetary policy (or the cost of following a nonseasonal policy) may be worth worrying about.

But that is not the whole story. A nonseasonal monetary policy would cause not just seasonal changes in short-term interest rates, but also seasonal adjustments in the price level. Those price adjustments would reduce the size of seasonal changes in interest rates and also reduce the extra transaction costs generated by following a nonseasonal monetary policy. For this reason, and because there is skepticism about the reliability of estimates of how sensitive the demand for money is to changes in interest rates, it is difficult to draw firm conclusions about how big the costs imposed on the economy by a nonseasonal monetary policy would be.

In any event, regardless of the size of the benefit from a seasonal monetary policy, we now have an answer to the question we posed in the introduction: what is the difference between seasonal variability in the rental price of shore property and seasonal variability in the rental price of money? In the former case, the seasonal rise in rents reflects a real scarcity of rental space during times of high demand, and the increase in rents is an efficient way of allocating the limited amount of available space to families that value it most. In contrast, the scarcity of money is artificial in that the Federal Reserve can change the quantity of money available at very little cost. Therefore, since families and corporations gain *more* from a lower rental price of money during Christmas and summer than they lose from a higher rental price of money at other times of the year, it makes sense for the Fed to smooth the rental price of money over the seasons.

ARE SEASONAL MOVEMENTS IN INTEREST RATES COSTLY IN OTHER WAYS?

Macroeconomists agree that a nonseasonal monetary policy will increase the overall level of transaction costs, but they do not agree on whether there are *other* costs of following a nonseasonal policy.

To see where these disagreements come from, let's take a closer look at the statement that a nonseasonal monetary policy would raise short-term interest rates during Christmas and summer and lower it at other times of the year.

So far we have talked about interest rates without being specific about what type of interest rates we mean. In reality, there are two distinct types of interest rates, and it is important that we keep them separate. The type that people are most familiar with is the *money*, or nominal, interest rate reported in the financial columns of newspapers. For instance, if the interest rate on a one-year Treasury bill is listed as 3.4 percent, then each $1 invested in a T-bill today will fetch $1.034 in a year. The nominal interest rate does not adjust for change in the purchasing power of the dollar; that is, it does not take into account that the purchasing power of a dollar available a year from now may be

[7]For a review of the empirical literature on the sensitivity of money demand to interest rates and other variables, see Judd and Scadding's 1982 article.

less than that of a dollar given up today because the general level of prices in the economy may be higher a year from now. In contrast, the real interest rate does take changes in the purchasing power of the dollar into account. The real interest rate is calculated by subtracting the inflation rate expected over the maturity period of the asset from its nominal interest rate. For instance, if the annual inflation rate is expected to be 3.0 percent, the real interest rate on the one-year T-bill is only 0.4 percent.

This distinction between nominal and real interest rates raises two questions about our previous discussion. First, when we asserted that people's demand for money depends on short-term interest rates, which interest-rate concept did we mean? Second, would a nonseasonal monetary policy lead to seasonally varying short-term *real* interest rates or seasonally varying short-term nominal interest rates or both?

The first question is easy to answer. People's demand for money depends on nominal interest rates. Consider, again, the case of Sadie Wherebucks, who must decide how much money to hold in her wallet or checking account and how much to invest in T-bills. As an investor, Sadie is concerned with the real interest rate she expects to receive on her T-bill investments. By holding money instead of T-bills, she forgoes this real interest rate, and, in addition, her money loses value over time because of inflation. Consequently, the total cost to her of holding a dollar is the real interest rate she could have received on the T-bill plus the inflation rate she expects. But this sum of the real interest rate and expected inflation rate is simply the nominal interest rate. Therefore, in deciding how much money to hold it is the nominal interest rate that counts.

Unfortunately, answering the second question is not as easy and opinions differ. The classical view is that a change in monetary policy affects only price levels and inflation rates. Real variables, such as real interest rates, real output, and real investment, are unaffected by such changes. Therefore, a classical economist would argue that the increase in the short-term nominal interest rates at Christmas that would accompany a nonseasonal monetary policy would result from lower prices during the Christmas season but higher prices in winter—after Christmas—and in spring. In his view, it is the faster rate of price increase expected between Christmas and spring that leads to the rise in the short-term nominal interest rate during the Christmas season. Similarly, a classical economist also would expect a nonseasonal monetary policy to cause prices to drop in summer, then rise in autumn, resulting in an increase in the short-term nominal interest rate in the summer. He would argue, however, that real variables such as output and employment would be unaffected by these seasonal price changes (see *Seasonal Monetary Policy: The Classical View*). Since real variables are not affected, no additional costs or benefits result from pursuing nonseasonal monetary policy. Hence, from the classical perspective, seasonal smoothing of interest rates is desirable because it saves on transaction costs without disrupting real economic activity.

This conclusion is not shared by monetarists. Since monetarists adhere closely to classical views in regard to their perception of how money supply changes affect the economy, the rejection of seasonal monetary policy by economists such as Milton Friedman and Robert Lucas, Jr., is at first surprising.[8] However, their reasons for jettisoning a seasonal monetary policy has to do with their views on how the Federal Reserve should conduct its business-cycle policy. Monetarists believe that a sound monetary policy involves implementing steady growth in the supply of money, with a view to

[8]For a more recent and more emphatic denial by Friedman of the usefulness of seasonal monetary policy, see his 1982 article. For Robert Lucas's view, see his 1980 article.

Seasonal Monetary Policy: The Classical View

Does the Fed's choice of seasonal monetary policy affect the real interest rate? Classical economists, who see the real interest rate as being determined primarily by real factors, such as the population growth rate, the rate of technical progress, and people's propensity to save, argue that changes in the money supply, after agents have adjusted to it, do not have any effect on the real interest rate. In other words, they argue that while an unexpected increase in the money supply can reduce the real interest rate for a considerable length of time, the rate returns to its original level as the extra money diffuses through the economy. Once the economy adjusts to the new level of money supply, the only effect of a higher money stock is a higher price level.

Applied to the choice of seasonal monetary policy, this argument suggests that in the immediate aftermath of a shift to a nonseasonal policy, there will be a period when the real interest rate will be affected. However, as the economy gets used to the new policy, the real interest rate will return to its original level, and the only change will be in the seasonal path of prices.

To see how this works, consider the following numerical example. For simplicity, imagine that there are only two seasons: Christmas and spring. Suppose that when the Fed follows a seasonal monetary policy, the consumer price index is 100 and the real interest rate is 3 percent in both seasons. Since there is no change in the price level from one season to the next, the expected rate of price increase is zero for both seasons. Therefore, the real interest rate is 3 percent in both seasons as well.

Now suppose that the Fed switches to a nonseasonal monetary policy and refrains from increasing the money supply during the Christmas season. Since the money supply during the Christmas season is now lower than before, the level of Christmas prices will be lower. Suppose that Christmas prices fall by 2 percent, to a level of 98. Because this nonseasonal policy lowers the average stock of money over the year, it will exert downward pressure on prices in the spring as well and those prices will fall, although not by as much as the Christmas price level.[a] Suppose then that the spring price level falls by one-half percent, to a level of 99.5. With these new price levels, the expected rate of price increase from Christmas to spring will be 100 x (99.5 - 98)/98 = 1.53 percent, and the expected rate of price increase going from spring into Christmas will be 100 x (98-99.5)/99.5 = -1.50 percent. Since real interest rates do not change, the nominal interest rate will rise to 4.53 percent during the Christmas season and fall to 1.50 percent in spring.

[a]Suppose that the seasonal monetary policy involved a money supply of 100 in spring and 105 during the Christmas season. With the move to a nonseasonal policy, the money stock will be 100 in all seasons, which would make the average money stock over a year 100 as opposed to 102.5 with the seasonal monetary policy. If the monetary authorities moved to a nonseasonal policy but raised the constant stock of money to 102.5, then relative to the prices that prevailed in the presence of seasonal monetary policy, prices during the Christmas season would fall and those in spring would rise.

keeping the inflation rate steady and predictable. They view seasonal adjustments to the growth rate of money supply as a nuisance that distracts attention from the more important task of keeping the money supply growing smoothly over time. Thus, monetarists argue that the benefits of a seasonal monetary policy are small compared with the costs of potentially erratic movements in the money supply occasioned by attempts to "fine-tune" the growth of money stock to match the seasonal movements in money demand.

Keynesian economists also differ with the classical view of a seasonal monetary policy, but for entirely different reasons. A Keynesian economist would disagree with both classical economists and monetarists concerning the likely consequences of a move to a nonseasonal

monetary policy. In the Keynesian view, changes in interest rates that result from an imbalance between the demand for and supply of money show up in both nominal and real interest rates because prices are not perfectly flexible in the short run. The resulting changes in real interest rates affect the aggregate output of the economy by changing aggregate demand. Therefore, by following a nonseasonal monetary policy, the Fed would drive up real interest rates and thus *reduce* the real output of the economy to below current levels during the Christmas season and in summer.

Therefore, in the Keynesian view, a move to a nonseasonal policy would result in greater seasonal variability in short-term real interest rates and a lesser seasonal variability of output and employment. Would these changes impose additional costs on the economy? Keynesian economists would argue that a nonseasonal policy almost certainly imposes costs on the economy that go beyond the transaction costs discussed earlier, but whether it imposes more costs than existing seasonal monetary policy is more difficult to know.

To appreciate the Keynesian point of view, it is important to recognize that Keynesian economists regard the classical view on the functioning of a market economy as the ideal toward which actual market economies tend, but which they seldom attain. Because of various frictions in the operation of markets, Keynesian economists believe that the outcome of an unregulated market economy is typically quite different from the outcome depicted by classical economists. Consequently, Keynesian economists perceive a need for government policies designed to steer market outcomes toward the classical ideal.

In the present context, as already noted earlier, Keynesian economists would challenge the classical assumption that prices are fully flexible over the seasons. They would argue that if the Fed were to stop accommodating the seasonal demand for money, the price level would tend to fall during the Christmas season and tend to rise in the spring, but not by as much as in the classical argument. Therefore, short-term real interest rates will rise above the classical ideal during the Christmas season and will fall below it in spring; correspondingly, real output and employment will be below the classical ideal during the Christmas season and above it in spring. Consequently, Keynesian economists would feel the need for a monetary policy that works to reduce seasonal fluctuations in short-term real interest rates. In other words, they would perceive the need for a seasonal monetary policy.[9]

That having been said, it does not follow that Keynesian economists would necessarily endorse the Fed's existing seasonal policy. The Keynesian objective is to get to the classical ideal, but the Fed's current policy may result in too much seasonal variability in output and employment and too little seasonal variability in short-term real interest rates relative to it. In the absence of quantitative information on what the ideal seasonal pattern of short-term real interest rates and output really is, it is not possible for a Keynesian to know whether the Fed's existing seasonal monetary policy is the best one.

CONCLUSION

The Federal Reserve's policy of accommodating seasonal movements in money demand originated in an attempt to eliminate recurrent financial panics. At the time the Federal Reserve System was established, it was widely felt that the seasonal outflow of bank reserves that occurred in the fall and spring jeopardized the liquidity of the banking system and raised fears on the part of depositors that banks would be unable to honor their deposit liabilities. A key

[9]See Gregory Mankiw and Jeffrey Miron's 1991 article for a detailed discussion of the Keynesian view on the usefulness of seasonal monetary policy.

objective of the Federal Reserve System was to allow banks to borrow additional reserves during these months of heavy currency demand so that the natural pace of commercial activity would cease to be a threat to the banking system.

This practice of increasing bank reserves and the supply of currency during a time of seasonally high demand continues to the present. However, given the institutional changes that have occurred in the banking environment since 1914, most notably the introduction of federal deposit insurance, it is doubtful whether a seasonal monetary policy is needed to protect the banking system from panics. Therefore, a different justification of seasonal monetary policy is needed.

This article has suggested that a justification for seasonal monetary policy may be found in the argument that such a policy, by smoothing the path of short-term nominal interest rates, serves to reduce transaction costs.

The article also pointed out that a classical economist would view the reduction in transaction costs as the only significant impact of a seasonal monetary policy and would therefore argue in favor of such a policy. In contrast, monetarists would argue in favor of eliminating seasonal monetary policy on the grounds that it interferes with what they see as the more important task of keeping the money stock growing smoothly and predictably over time. Keynesian economists would concede that existing policy may be too seasonal but would argue that some degree of seasonality in money supply is desirable; therefore, they would caution against abandoning such a policy.

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