# FEDERAL RESERVE BANK OF ST. LOUIS

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# REVIEW


CONTENTS



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# The Role of Monetary Policy in Dealing With Inflation and High Interest Rates

**Statement of DARRYL R. FRANCIS, President, Federal Reserve Bank of St. Louis, Before the Committee on Banking and Currency, House of Representatives, July 18, 1974**

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I am pleased to have this opportunity to present my views regarding our country's inflation and high interest rates and the role of monetary policy in dealing with these and other economic problems.

My position regarding the cause of inflation and high market interest rates is that they both stem from the same source — an excessive trend rate of expansion of the nation's money stock. Monetary policy, therefore, can contribute to solving both of these problems over a period of a few years by fostering a non-inflationary rate of growth of the money supply.

I believe that the historically rapid rate of money growth of the past few years has caused an excessive rate of expansion of total spending in the economy. Since rapid money growth has stimulated a growth in demand for goods and services at rates much faster than our ability to produce, inflation has resulted.

The relationship between expansion of the money stock and the rate of inflation is illustrated in Chart I. The money stock, defined as demand deposits and currency held by the nonbank public, increased slowly from early 1952 to late 1962. Since then, the average rate of money growth has persistently accelerated. As indicated in Chart I, the general price index, measured by the GNP deflator, has risen, with a few quarters lag, at rates similar to growth of the money stock (except during Phases I and II of the price and wage controls when reported prices were artificially held down).

High and rising market rates of interest go hand-in-hand with a high and accelerating rate of inflation. This is because lenders and borrowers of funds take into consideration their expectations with reference to the future rate of inflation. Lenders desire a market rate of interest which provides them a real rate of return plus a premium based on their expectations regarding the future rate of inflation. Also, during inflation borrowers are willing to pay a higher market rate of interest because they expect the prices of their products to rise, and they wish to avoid the higher construction and other costs associated with delaying new projects. Thus, the interaction of demand and supply in the market for funds during a period of inflation results in market interest rates which embody an inflation premium.

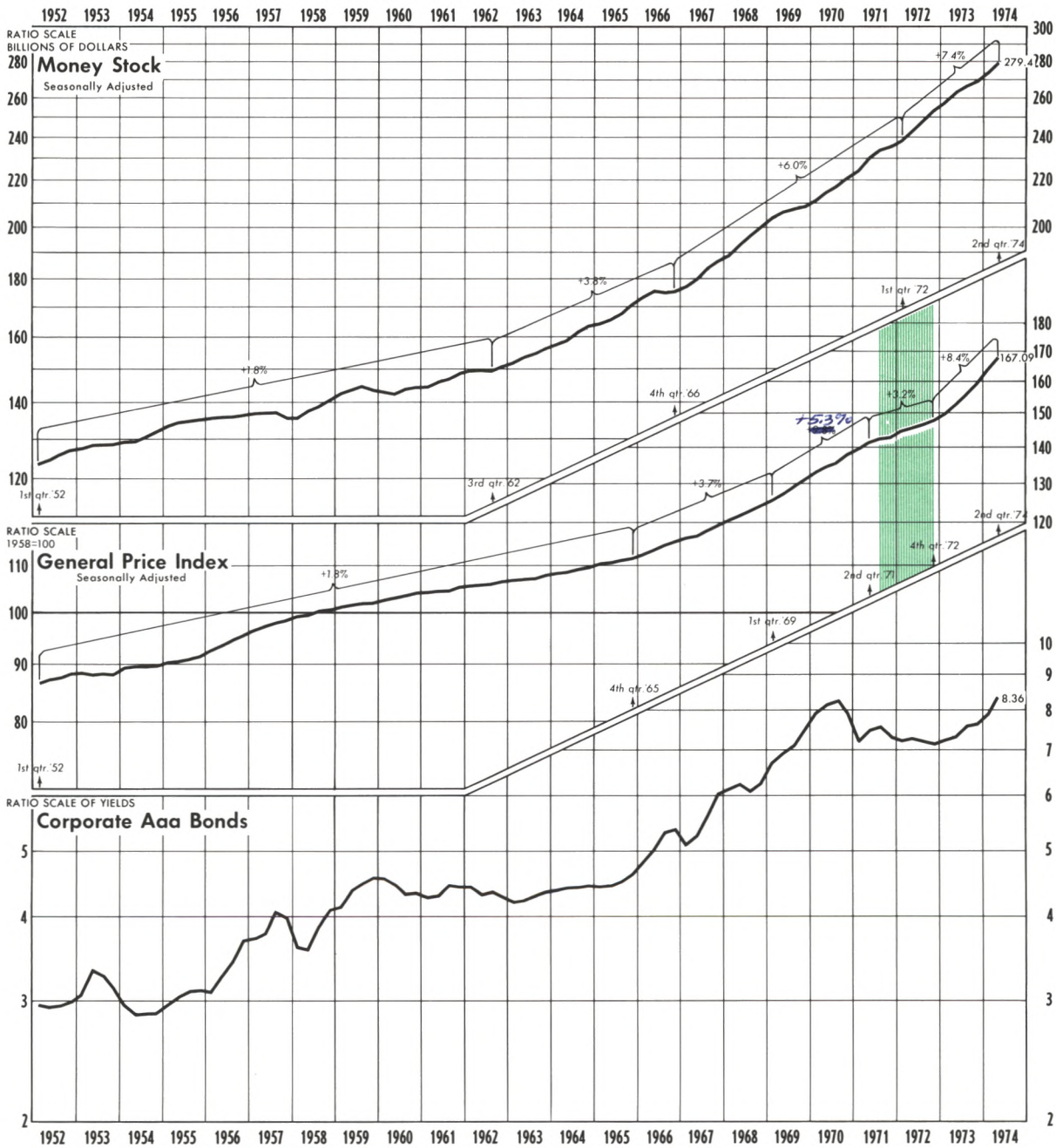
This response of interest rates to inflation is illustrated in Chart I. During the period of a slowly rising general price level in the 1950s and early 1960s, the seasoned corporate Aaa bond rate rose slowly until 1959 and subsequently remained little changed through 1965. Then, with accelerating inflation, this average of highest quality long-term market interest rates rose steadily for five years. It was relatively stable in 1971 and 1972, probably reflecting expectations of less rapid inflation as a result of Phases I and II of the price and wage control program. During that period the reported rate of inflation decreased to less than 3 percent. However, the renewed acceleration of inflation since early 1973 has been accompanied by a gradual, but marked, increase in the corporate Aaa bond rate.

According to my view of the relationships which run from an increase in the trend growth of money, to a higher rate of inflation, to higher market rates of interest, present high interest rates do not indicate restrictive monetary actions. On the contrary, they are the result of excessively expansionary monetary actions since the early 1960s.

A natural question to be asked at this point is, "What has caused the observed trend growth of money?" My view is that growth of the monetary base is the prime determinant of growth of the money

Chart I

## Money, Prices, and Interest Rates




stock. The major sources of growth in the base are changes in the volume of Federal Government debt purchased by the Federal Reserve System on the open market, and occasional changes in the quantity or price of gold held by the Treasury. A change in the monetary base changes the amount of reserves in the banking system, which changes the amount of deposits created by commercial banks.

Movements in the narrowly defined money stock over extended periods of time are closely associated with movements in the monetary base. Tiers 4 and 5 of Chart II illustrate this very close relationship, while the top three tiers show the relation between growth of the outstanding Federal Government debt and that portion held by the Federal Reserve System.

In my opinion, the actions that led to the acceleration in growth of the monetary base and money supply since the early 1960s occurred as a result of: (1) excessive preoccupation with the prevailing level of market interest rates; (2) the occurrence of large deficits in the Federal Government budget; and (3) shifting emphasis of policy actions because of an apparent short-run trade-off between inflation and unemployment.

Some people believe that the Federal Reserve System has a high degree of control over market interest rates. They argue that System open market purchases and sales of Government securities should be so conducted as to assure that unduly high market interest rates do not choke-off growth of output and employment. Throughout most of the 1960s, and to some extent in the 1970s, the published *Record of Policy Actions* of the Federal Open Market Committee indicates that the conduct of open market transactions was influenced, in considerable measure, by these two propositions. Once accelerating inflation started in the mid-1960s, and market interest rates began to rise reflecting an inflation premium, the System purchased Government securities in increasing quantities in an attempt to hold interest rates at the then prevailing levels. Such purchases resulted in rapid growth in both the monetary base and the money stock. In spite of the efforts to maintain a prevailing level, market interest rates continued to rise.

I accept neither the proposition that the Federal Reserve can control market interest rates nor that the high market interest rates have acted to choke-off economic expansion. Past experience, in my opinion, indicates quite conclusively that the Federal Reserve has little ability to control the level of market interest rates for any extended period of time. Experience also indicates, for both this and other countries, that growth of total spending has been retarded very little by high interest rates. On the other hand, attempts to resist upward movements in market interest rates have resulted in faster growth of money.

Another concern which has been expressed about market interest rates is that they should be controlled in order to prevent dislocations in the flows of funds to savings institutions, the housing industry, and state and local governments. In addition, there is a commonly-held view that small businesses, farmers, and the average consumer should not have to pay high interest rates when they borrow. The published policy *Record* indicates that the Federal Reserve responded to such concerns at various times over the past ten years, especially following the credit crunches of 1966 and 1969-70.

Good though the intentions may have been, I am convinced that monetary actions based on these views have been self-defeating. As explained earlier, such attempts to maintain nominal interest rates below their free market level in a period of inflationary upward pressure has resulted in accelerating money growth, an acceleration in inflation, and still higher interest rates. Thus, those presumed to be protected by such a course of monetary actions actually turn out to be worse off — they end up with both more inflation and higher interest rates.

Another concern regarding market interest rates relates to the Federal Reserve's role in the orderly marketing of U.S. Government debt. This refers to the so-called "even-keel" operations, which have had a long tradition in central banking. When new Government securities are issued, there is additional demand for credit and temporary upward pressure on market interest rates normally occurs. Since changes in interest rates traditionally have been viewed as interfering with the orderly process of marketing new issues, fluctuations of market rates during the financing period have been limited by purchases of securities on the open market which, in turn, add to the monetary base.

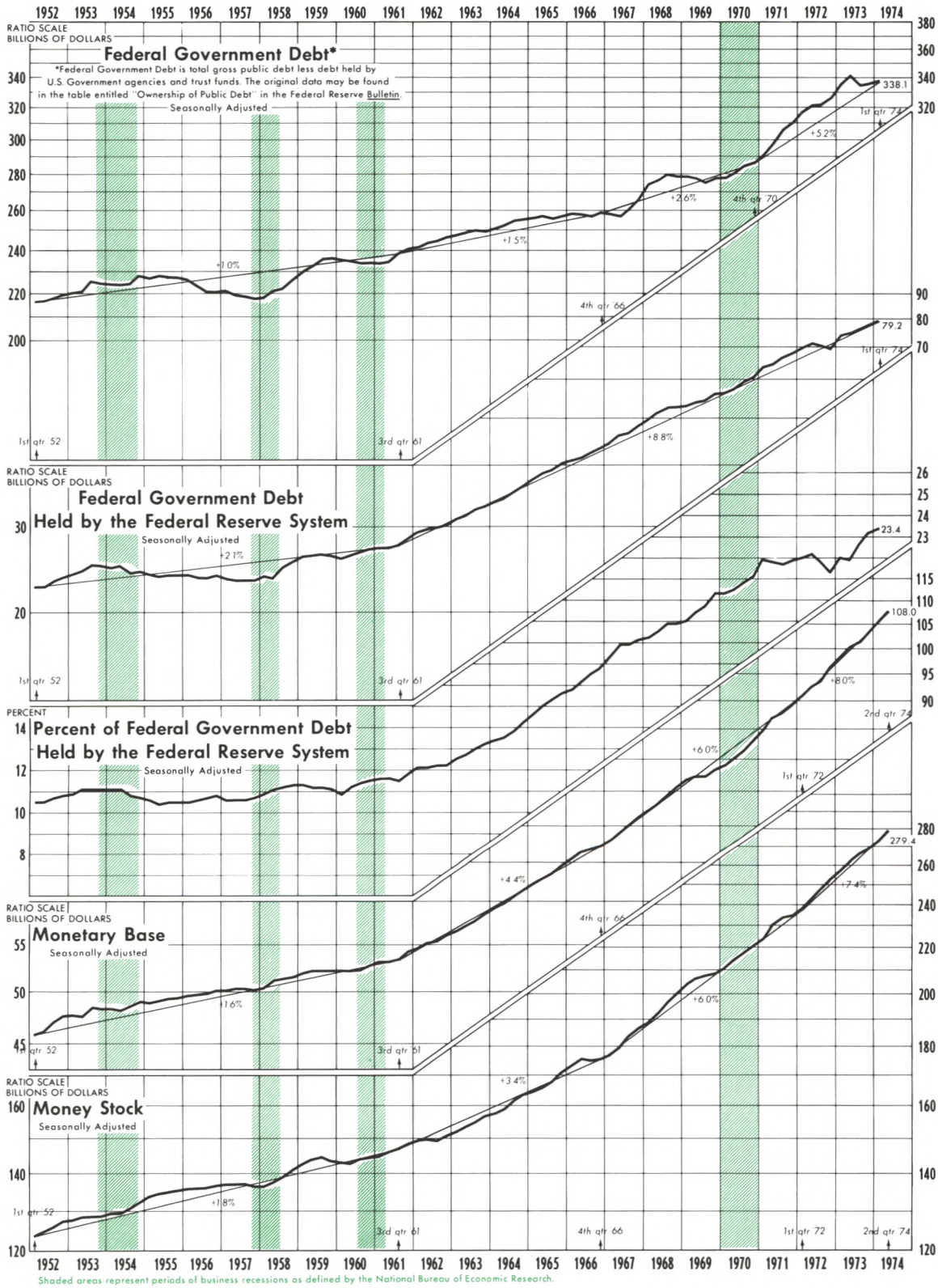
The published *Record* indicates that during much of the period of accelerating inflation System open market operations were constrained by "even-keel" considerations. Furthermore, System purchases of securities during even-keel periods were not *fully* offset by subsequent sales and, as a result, money growth accelerated.

This process, in effect, has resulted in at least partial financing of Government deficits through the creation of money rather than borrowing from the private sector. In many other countries the same result has occurred by the simple and direct expedient of the Government printing the money which is then spent on goods and services.

Since the direct method of printing money to finance Government expenditures is prohibited in the U.S., the monetization of Government deficits has oc-

Chart II

# Influence of Federal Government Debt on Monetary Expansion




Shaded areas represent periods of business recessions as defined by the National Bureau of Economic Research.

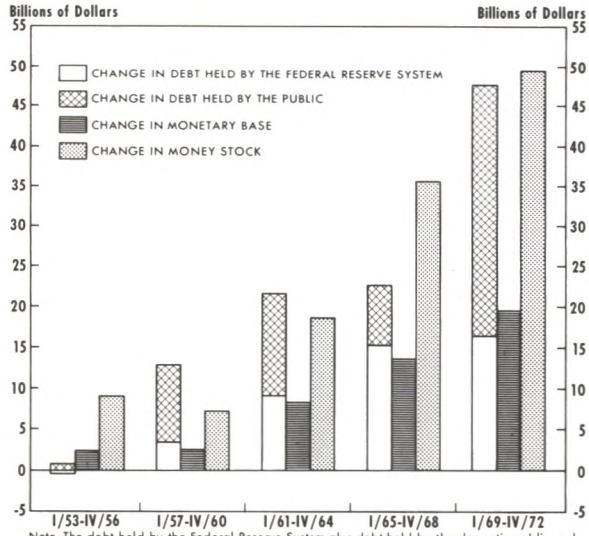
Latest data plotted: Monetary Base and Money Stock-2nd quarter; Others-1st quarter

curred indirectly. Our deficit spending is always financed, at least initially, through the sale of new Government securities to the public. But when the Federal Reserve System buys outstanding securities from the public, a part of the Government debt is ultimately being financed by the creation of new money. This is because the Federal Reserve System pays for the securities purchased on the open market by creating a credit to member bank reserve accounts, which increases the monetary base and money held by the public.

Charts II and III illustrate the results of the process described above. The increases in Government debt and the amounts of debt that have been purchased by the public and the Federal Reserve System are shown in the first column of Chart III. The proportion of debt bought by the Federal Reserve has been increasing except for the 1971-72 period when substantial amounts were acquired by foreigners. The second column for each time period indicates that changes in the monetary base have closely paralleled Federal Reserve purchases of Government securities. It is this closeness that illustrates monetization of the Government debt. The resulting increases in the monetary base, of course, lead to the expansion of the money stock, which is illustrated in the third column.

Chart III

**Growth of Government Debt and Money**




Note: The debt held by the Federal Reserve System plus debt held by the domestic public and foreigners is net government debt, which is equal to total gross public debt minus debt held by Government agencies and trusts. The monetary base is net monetary liabilities of the Government. The money stock (M1) is defined as demand deposits plus currency held by the public. Each of the five groups of bars depict level changes from the beginning to the end of the period indicated. All data are seasonally adjusted.

I doubt that monetization of debt has been a conscious act on the part of the Government or on the part of the Federal Reserve System. Rather, I believe the reason it has occurred lies in the relative visibility of the three methods of financing Government expenditures – taxes, borrowing from the public, and indirect debt monetization. Elements of our society have been continually demanding additional services from the Government, such as more defense, more social security, more medical security, and so forth. Since these services absorb resources which are limited, someone has to give up resources from other productive uses.

When these additional services are paid for with increased taxes, the real resource cost is clearly visible to all taxpayers since they find their disposable income reduced. When they are financed by borrowing from the public, the effect is immediately felt by those competing for funds in capital markets and is visible in the form of higher interest rates. But in the case of debt monetization, the immediate and even the short-run impact is neither an increase in taxes, nor an increase in interest rates. And yet, real resources still are being transferred from private to Government use. The ultimate effect of this method of financing Government expenditures is manifested in an increase in the price level – inflation – and this occurs only after a substantial lag. It is the lack of immediate visibility of the costs associated with this method of financing, I believe, that has contributed to the process of inflation. Once the inflation has been generated, a substantial period of time is required to reverse it, and unfortunately this can be accomplished only by incurring costs of lost output and higher unemployment.

Thus, over short periods of time it has appeared that debt monetization gives society something for nothing. And although this alternative may not have been chosen consciously and the actions which monetized the debt may not have been taken for that purpose, the excessive concern over market interest rates and the occurrence of large Government deficits led to this course of action.

I can find no benefits accruing to the whole of society from debt monetization, but the risks are very serious and can be expressed in one word – inflation. In the way that I have described above, to a considerable extent since the mid-1960s, deficit spending financed indirectly by Federal Reserve purchases of securities on the open market has meant an increase in money which has exceeded the growth in our output potential, and therefore has been inflationary.

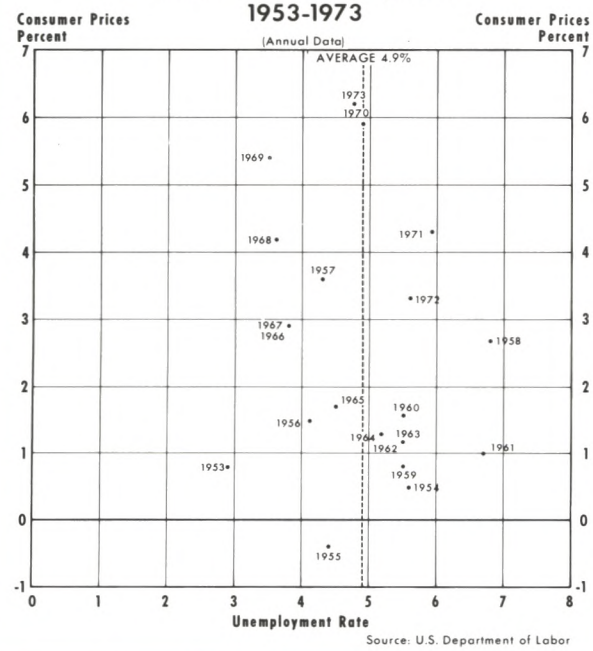
Turning to another issue, it is my belief that shifting emphasis of monetary actions because of a presumed trade-off between inflation and unemployment has contributed to the rapid monetary expansion. The

idea of a trade-off between unemployment and inflation typically assumes that high rates of unemployment are associated with low inflation, and low rates of unemployment are associated with high rates of inflation. This view has led some analysts to argue that policy actions can assist the economy in achieving an acceptable combination of unemployment and inflation.

However, experience indicates that the unemployment-inflation trade-off, if it exists at all, is purely a short-run phenomenon. Chart IV demonstrates that there exists no long-run relationship between the unemployment rate and the level of inflation. The only striking features I find are that since 1952 the yearly average unemployment rate has clustered around its average (4.9 percent) for the whole period, and the rate of inflation, regardless of the level of the unemployment rate, has moved progressively higher since the mid - 1960s.

Chart IV

**Prices and Unemployment**
**1953-1973**




Source: U.S. Department of Labor

In the past, emphasis of monetary policy actions has, at various times, shifted between reducing inflation and reducing the unemployment rate. For example, according to the published policy *Record*, since the early-1960s (except 1966 and 1969) a primary goal was lower unemployment, and expansionary monetary policies were adopted to achieve it. In 1966 and 1969 emphasis was on achieving lower rates of inflation, and restrictive monetary policies were accordingly adopted. However, on balance the actions taken in the past decade resulted in periods of rapid monetary growth which were longer than those of slower growth, and the result was a rising average growth rate of the money stock. More recently the emphasis of the adopted policies again has been to reduce inflation, but the actions taken thus far have not resulted in a reduction in the average growth rate of the money supply.

It is my view that there will always be some normal rate of unemployment as new workers enter the labor market, as relative demands and supplies for labor services change, and as workers simply leave present jobs to find more rewarding ones elsewhere. Such a level is not necessarily desirable, but rather it is a level determined by the normal functioning of our product and labor markets, given existing institutional and social conditions.

Monetary actions cannot influence this normal level of unemployment; other policies are necessary to attack that problem. As a matter of fact, monetary actions taken in an effort to reduce unemployment have contributed to increased inflationary pressures. Subsequent attempts to arrest inflation have temporarily fostered increased unemployment *in addition to* the normal amount consistent with existing labor market conditions.

My analysis of the unemployment-inflation trade-off leads me to conclude that it is non-existent, except possibly for very short intervals of time. Therefore, with relatively stable monetary growth over a long period, I believe it would be possible to have an essentially stable average level of prices, and this could be accomplished without accepting a permanently higher unemployment rate. The desire to reduce the average level of unemployment should be approached through programs which reduce or eliminate institutional rigidities and barriers to entry in labor markets, which provide job training, and which improve information regarding job availability.

In recent months a new proposal has been advanced which, if adopted, would most likely lead to further acceleration in the rate of monetary expansion, thereby adding to inflationary pressures. It has been suggested that it is appropriate for monetary and fiscal authorities to stimulate aggregate demand during periods when domestic production is curtailed by some special event, such as the oil boycott, or when foreign demand for a specific product, like wheat, increases suddenly. The argument is that the resulting price pressure from such non-recurring events is inevitable and that an expansionary aggregate demand program is required to protect employment in the case of a decrease in domestic production, and to

protect consumer buying power in the case of an increase in foreign demand. Unfortunately, the probability of achieving either of these goals with stimulative monetary actions is very small and the costs in terms of accelerated inflation are certain.

The main point to keep in mind is that the forces that cause prices to rise in a specific market are very different from those which cause inflation – a persistent rise in the average price of all items traded in the economy. The prices of individual items rise and fall continuously, and an increase in a particular price, even if it is the price of an important budget item like food, is not necessarily an indication of general inflationary pressures. In the absence of additional monetary stimulus to aggregate demand, price increases in specific markets are a signal that either the demand or supply conditions, or both, have changed; not that total demand for all goods and services has increased. Such price increases serve a very useful function of allocating scarce resources according to consumer preferences.

An increase in foreign demand for American products is not inflationary per se. It represents a shift in the *composition* of demand for our output, but not an inflationary increase in aggregate demand. Inflation would occur if monetary actions were taken in order to accommodate the price pressure in individual commodity markets. In the case of some unforeseen event, such as a domestic crop failure or an embargo on imports of raw materials, the productive capacity of the economy is reduced. Most of the time the effect is temporary, but, as in the case of the oil embargo, the effect can be long-lasting. There is little that an increase in aggregate demand can do to stimulate more production in such a situation.

In my opinion, a monetary policy which results in an increased growth of the money stock has no role to play in accommodating the relative price effects of autonomous changes in demand or supply in specific markets. Such monetary actions would only raise the overall rate of inflation. Temporary gains in output and employment might be achieved, but the ultimate effect would be only on the rate of change of prices in general.

I now turn to my final topic – the contribution that monetary policy can make to reducing the rate of inflation and lowering market interest rates. My views on this topic should by now be very obvious; monetary actions can, and must, make a positive contribution. The interests of the whole economy would be best served if the trend growth rate of the money stock were to be gradually, but persistently, reduced from the high rates experienced in the recent past. I believe that, once we achieved and maintained a 2 to 3 percent rate of money growth, both the rate of inflation and the level of interest rates would ultimately decline to their levels of the early 1960s.

I believe such a policy of gradual, rather than abrupt, reduction in the rate of monetary expansion from the high average rate so far in the 1970 s, would not have severely adverse effects on the growth of output and employment. Such a gradual policy would probably mean, however, that the period of combatting inflation and high interest rates would extend through the balance of the 1970s.

Some analysts believe that *if* the Federal Reserve sought to control the rate of growth of the money supply within a fairly narrow range, unacceptable short-run fluctuations in short-term interest rates would be generated. I do not believe that it is necessary for the Federal Reserve to intervene systematically in financial markets in order to maintain orderly conditions.

It seems to me that there are three basic parts to this argument regarding the desirability of actions to smooth short-run interest rate fluctuations. First, the argument assumes that Federal Reserve actions in the past have in fact reduced short-run fluctuations in short-term interest rates compared to what they otherwise would have been. As far as I am aware, there is no substantial body of empirical evidence supporting this claim. There is, however, a large and growing body of evidence suggesting that highly organized financial markets by themselves do not generate excessive and unwarranted short-run interest rate fluctuations.

Second, this argument assumes that by stabilizing short-term rates the System can, in the short-run, stabilize intermediate and long-term interest rates. Again, I am not aware of any empirical evidence in support of this proposition.

Third, this position assumes that short-run fluctuations in interest rates have a significant impact on the ultimate goals of stabilization policy – namely, price stability, a high level of employment, and economic growth. I know of no reason to believe that moderating short-run fluctuations in short-term interest rates has any significant stabilizing influence on prices, output, or employment. Even within the context of the well-known econometric forecasting models, stabilization of short-term interest rates has almost no stabilizing influence on prices, output, or employment.

Some would oppose my recommended course of monetary policy on the grounds that it would not allow the Federal Reserve to perform its responsibility of a lender of last resort; so I want to make my views clear on this point. I believe it is possible that the failure of a major bank or other corporation can, at times, disrupt the smooth functioning of our financial markets. In my opinion, the Federal Reserve has an obligation to prevent the temporary problems of a major institution from affecting financial markets and perhaps even affecting the economy.

At the same time, however, I do not think that the System should subsidize inefficient management by making funds available at interest rates well below market rates, or be concerned about the losses that stockholders of a basically unsound institution might suffer. In the long-run, such actions can only weaken, rather than strengthen, the financial system, as well as the business community at large.

Any temporary assistance to a basically sound institution should be unwound in a relatively short period of time. At the same time, the provision of funds through the Federal Reserve discount window should be matched by a sale of securities from the System's portfolio in order to prevent an expansion in the monetary base and the money stock.

Carrying out the monetary policy actions that I recommend could be greatly facilitated by complementary actions on the part of others. A balanced Government budget would eliminate much of the pressure on interest rates, thereby removing one cause of accelerating money growth in the past. Legislation removing impediments to the free functioning of our product, labor, and financial markets would allow these markets to adjust to monetary restraint more rapidly, and without the severe dislocations of the past.

It would also be helpful if all segments of our society would realize that rapid monetary growth, inflation, and high market interest rates go hand-in-hand; that, once initiated, inflation cannot be eliminated without some temporary costs in terms of slower growth of output and employment; and that considerable time will be required to reduce substantially both the rate of inflation and the level of interest rates. Such realizations would tend to mitigate the short-run pressures that in the past have resulted in postponements of efforts to curb inflation.

# The Futures Market for Farm Commodities – What It Can Mean to Farmers

NEIL A. STEVENS

THE VALUE of all crops and livestock sold by farmers in 1973 totaled $88.6 billion. Farm production expenses totaled $64.7 billion or about 75 percent of total cash receipts. A considerable part of these outlays are committed to the production process six to eight months prior to marketing. During the period between the initial expenditures and the marketing of the product, changing price relationships between farm products and farm inputs result in considerable risk to the farm operator. Since production plans are made on the basis of price relationships during the planning stages, changes in such relationships can result in either "windfall returns" or substantial losses. Farmers may find in the futures market a means of reducing such risks.

Price risks in agriculture are larger than in most other industries. Historically, agricultural prices have fluctuated more widely than nonagricultural prices. For instance, prices received by farmers changed, on average, almost 10 percent per year since 1920, more than double the average yearly fluctuation in wholesale industrial prices. In addition, prices paid by farmers and prices received by farmers have on occasion moved in opposite directions. On a yearly basis this has occurred ten times since 1920.

One source of price fluctuations in agriculture is the nature of the demand for farm products. The quantity of food demanded is generally price inelastic – that is, the amount that people consume is relatively unresponsive to changes in price. Thus, small changes in the supply of farm products, resulting from adverse weather conditions for example, can lead to considerable price movement. In addition, shifts in demand stemming from general business fluctuations or changing export demands can have substantial effects on price. Traditionally, producers have borne most of the risk resulting from price fluctuations. However, in recent years such risks have been reduced somewhat by Government price support and production control programs.

## GOVERNMENT NO LONGER A MAJOR RISK-BEARER

Farm legislation of the past forty years has been designed to reduce the variation in farm prices and incomes for producers of major crops such as wheat, cotton, tobacco, and corn. Among the most important of the Government agricultural stabilization activities were the Commodity Credit Corporation operations which, in effect, set minimum prices for several farm commodities through the use of non-recourse loans to farmers on stored crops. Government inventories of some crops became quite large in years when production exceeded the amount demanded at the given loan rate. In these years farmers did not pay off the loans, but let the Government keep the commodity. The Government inventories were subsequently reduced through subsidized export sales or through sales in the domestic market in years when production was less than average. Government controls on the acreages that could be planted to various crops and limitations on total crop plantings have

likewise tended to reduce the variation of farm output and prices. Even though Government programs can at times add to price instability via changes in farm legislation and changed administrative policies, the Government has nevertheless been a major price risk taker for a number of leading farm commodities.

Farm legislation passed in 1973 may result in less Government intervention in agricultural production and markets for farm products. Although price supports were retained, the support levels were set low enough relative to prevailing prices to allow sizable price fluctuations to occur. With the new legislation, farmers are now largely free to decide on the basis of economic forces the number of acres to plant, and farm product prices can generally seek the level at which the entire farm output clears the market. With the price mechanism free to respond to the various sources of fluctuations in farm output and changing demand for farm commodities, farmers are in the position of bearing greater risks than heretofore unless they take risk-reducing actions.

## USES OF FUTURES MARKET BY FARMERS

The farmer may find the futures market useful in reducing risks from changing relationships between the prices of farm inputs and prices on most major farm commodities.[1] This market provides a means for making contracts for the delivery of commodities at a specified price at some future date.[2] The use of the futures market by farmers generally involves selling a futures contract sometime during the crop or livestock production period, and purchasing a futures contract to offset the earlier futures sale when the product is marketed. For example, if at the time production is undertaken a certain return or profit is foreseen at current relative prices, that profit can be protected from risks of price changes by contracting to sell in the futures market the expected output at a specified price. Thus, the expected output may be sold at a specified price at the same time that resources are committed to the production process.[3] If, for a particular commodity, a profitable price is not available at the beginning of the production period, the farmer can alter his plans. Otherwise, he is speculating on a change in price relationships or is willing to accept a lower rate of return for his resources than available in other lines of activity.

The strategy selected by the farmer for futures market operations will likely depend on several factors including the size of operation, stability of production, financial backing, and aversion to risks. A prerequisite for hedging investments in the production of farm products is an expected level of production large enough so that trading can be made in quantities specified in a futures contract. Thus the number of units in a futures contract reduces the ability of small farmers to hedge successfully. For example, trading units for major farm commodities generally consist of 5,000 bushels for corn, oats, soybeans, and wheat; 40,000 lbs. for live cattle; 30,000 lbs. for live hogs; and 50,000 lbs. for cotton.[4] The trend toward larger and more specialized farms, however, has increased the number of farmers who can take advantage of the futures market. Also a farmers' cooperative could be used by small farmers to assemble futures trading units.

The farmer's confidence in his ability to produce a given output has an impact on his futures trading strategy. For instance, a farmer who has a high degree of confidence in his output level may hedge all of his produce, whereas a producer with less confidence can hedge only a portion of his crop.

The desire for income stability stemming from a farmer's financial position may also influence his futures trading strategy. One who is heavily in debt may, through futures sales, afford himself some protection on his equity from disastrous price declines. At the time that the debt is contracted for agricultural production, the prospective crop or livestock out-

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[1]Futures contracts discussed in this article refer to those traded on formally organized exchanges. On the other hand, forward contracts, such as in contract farming, are made on a negotiated basis with terms agreed upon between producer and processor. Forward contracts can also be used by farmers to sell their expected output and reduce risk.

[2]For further details see Armen A. Alchian and William R. Allen, *University Economics*, 3rd ed. (Belmont, California: Wadworth Publishing Company, Inc., 1972), pp. 163-67 and Thomas A. Hieronymus, *Economics of Futures Trading for Commercial and Personal Profit* (New York: Commodity Research Bureau, Inc., 1971).

[3]This procedure is analogous to hedging. In the purest sense, hedging can be defined as taking an opposite position in the futures market from an *actual* position in the cash market, that is, buy in one and sell in the other. This definition applies most aptly to the hedging activities of grain dealers and grain elevator operators. Hedging can be more broadly defined to include futures operations of farmers when taking a position in the futures market opposite to the *expected* position in the cash market. A *full* hedge implies taking an *equal* but *opposite* position in the two markets.

[4]The Mid America Commodity Exchange in Chicago, a relatively small exchange, trades corn, oats, soybean, and wheat in 1,000 bushel contracts and live hogs in 15,000 lb. contracts.

put can be sold in the futures market, and the risk of a price decline can be avoided.

Attitude toward risk is also a factor determining futures trading. Two farmers with identical operations and financial positions may have different risk preferences. One may be willing to forego a known price at the time of planting for the possibility of greater profits later, while the other may be unwilling to assume the risk.

## *Sell a Crop While Growing*

Before the futures market developed, the farmer had little choice but to market his crops at harvest time or store them for later marketing. Now, however, assuming a profitable price is available, the farmer may be assured of a given profit per unit by selling contracts for the delivery of his expected harvest at a future date.

Suppose, for example, a wheat producer can profitably produce at least 10,000 bushels of wheat if, at the time of planting, he is assured of a price of $4.50 per bushel. He expects to harvest his crop in late June, and notices that the present futures price of July wheat is $4.50 per bushel. To assure himself of this price he decides to *sell* 2 contracts of wheat of 5,000 bushels each (see Illustration I). Assume that in June when he harvests and markets his crop, the cash price of wheat has fallen to $4.25 per bushel. Since futures and cash prices converge near the contract expiration date, the futures price will also be near $4.25 per bushel. At the same time the producer sells his crop in the cash market for $4.25 per bushel, he executes a *buy* order in the futures market for the same price, thus cancelling his earlier July contract committing him to delivery in July.[5] He realizes a net gain of $0.25 per bushel on his futures transactions while the cash market value of wheat was $0.25 per bushel less than the price upon which he based his planting plans. Excluding the brokerage commissions,[6] the net result of the three transactions (the cash sale and the two futures contracts) is that the farmer received the $4.50 per bushel he anticipated (see Illustration I).

**Illustration I**

| Cash | | Futures | |
|---|---|---|---|
| October 1 — | | October 1 — | |
| Expected Harvest: | 10,000 bu. | Sells: | 10,000 bu. July futures |
| Expected Price: (at harvest) | $4.50/bu. | Price: | $4.50/bu. |
| July 1 — | | July 1 — | |
| Sells: | 10,000 bu. | Buys: | 10,000 bu. July futures |
| Price: | $4.25/bu. | Price: | $4.25/bu. |
| Loss: | $ .25/bu. | Gain: | $ .25/bu. |

Hedged position — No net gain or loss from expected price of $4.50/bu.
Unhedged position — $ .25/bu. loss from a hedged position.

A farmer does not necessarily gain from a *hedged* as compared to an *unhedged* position. If the cash price *increases* during the production season, as in Illustration II, the farmer is worse off than if he had not hedged. The important point is that the farmer has, within fairly narrow limits, protected himself from *downside* price risk by hedging at the time of planting his crop.

**Illustration II**

| Cash | | Futures | |
|---|---|---|---|
| October 1 — | | October 1 — | |
| Expected Harvest: | 10,000 bu. | Sells: | 10,000 bu. July futures |
| Expected Price: (at harvest) | $4.50/bu. | Price: | $4.50/bu. |
| July 1 — | | July 1 — | |
| Sells: | 10,000 bu. | Buys: | 10,000 bu. July futures |
| Price: | $4.75/bu. | Price: | $4.75/bu. |
| Gain: | $ .25/bu. | Loss: | $ .25/bu. |

Hedged position — No net gain or loss from expected price of $4.50/bu.
Unhedged position — $ .25/bu. gain from a hedged position.

The producer who is uncertain of his output, but values highly a given price for at least part of his crop, may use the proportion of production expenses to expected receipts in deciding the amount of his crop to cover from price declines by futures trading. For example, if current operating expenses are 50 percent of expected receipts, an arbitrary rule of selling 50 percent of the expected crop forward provides some assurance of, at least, covering such expenses. This strategy is especially applicable to crops financed on borrowed money.

Large producers who have considerable uncertainty about their output and who wish to stabilize income may execute futures transactions on a regular basis

[5]Contracts can be automatically cancelled by an equal and opposite transaction. All transactions are monitored by a clearing corporation associated with the exchanges which reconciles all buy and sell orders at the end of each day. Only a very small percentage of futures contracts are fulfilled by actual delivery of the commodity.

[6]Currently, the prevailing brokerage fee for a trading round of futures contracts (buy and sell) is $30 for corn, oats, soybeans, and wheat; $40 for live cattle; and $35 for live hogs. This fee is paid at the time the contract is cancelled.

over the growing season. For instance, if a large wheat producer expects an output of 40,000 bushels, and has a growing season of eight months, he can sell forward one-eighth of his expected crop each month. This strategy avoids locking-in any one price, say at the time of planting, and enables the farmer to receive an average price for his commodity. It also allows him to adjust expectations of crop yields by altering futures trading in the latter months of the production season, thereby reducing risk of over or under commitment in the futures market.

The futures market also can sometimes be used to gain storage income on existing storage facilities, without bearing price risks, by selling the stored commodity forward. A farmer may already have invested in storage facilities in order to take advantage of seasonal price movements or other speculative possibilities. If, for example, a farmer stores 10,000 bushels of wheat at harvest time, but anticipates adverse price changes, he can sell 2 contracts of May futures for say $4.50 a bushel. For illustration, suppose the cash price of wheat is $4.30 a bushel, the difference between the cash and futures prices being the implicit return for storage of the commodity until May. In May the cash price may have fallen to $4.00 a bushel, but since the cash and futures prices tend to converge in the expiration month, the futures prices will also be around $4.00 a bushel. In May the farmer cancels his futures contract by buying May futures and selling in the cash market the stored commodity. Illustration III summarizes the transactions in the two markets. The farmer gains $0.50 a bushel from the two futures transactions, but loses $0.30 a bushel in the cash market, achieving a net gain of $0.20 a bushel, the return for storage. In practice, using the procedure described above to lock-in a return to storage may be difficult to carry out, especially when commodity prices are fluctuating widely.

Illustration III

| Cash | | Futures | |
|---|---|---|---|
| July — | | July — | |
| Stored: | $10,000 bu. | Sells: | 10,000 bu. |
| Price at time storage: | $4.30/bu. | Price: | $4.50/bu. |
| May | | May — | |
| Sells: | 10,000 bu. | Buy: | 10,000 bu. May futures |
| Price: | $4.00/bu. | Price: | $4.00/bu. |
| Loss: | $ .30/bu. | Gain: | $ .50/bu. |

Net Gain — $0.20/bu. (Return to Storage)

## *Lock-in Return on Livestock While Feeding*

A livestock feeder has opportunities similar to those of the crop producer for assuring himself a given return. He commits substantial resources to his operation when calves are bought to finish for slaughter. The value of the feeder calves and the early feed purchases may total 50 percent or more of the final sales of fat cattle. Such operations are often run on a small equity and the risks of loss over the relatively long feeding period are quite large. Hence, it is often desirable to both the feeding operator and his creditors to protect his equity position from the possibility of substantial downside price risks. This can be done at the time cattle are purchased by selling live cattle futures in the expected month in which newly-purchased cattle will be marketed.

For example, assume that a cattle feeder purchases 200 feeder calves averaging 500 lb. per head for a price of $40 per hundredweight – an outlay of $40,000. On the basis of past experience, 500 lbs. of weight can be put on each animal in six months at a feed cost of $44 per hundredweight. The outlay for calves and feed will average $42 per hundredweight for the 1,000 lb. cattle, and will total $84,000 for the 200 animals. Suppose that at the time of purchase the price of live cattle futures for delivery six months hence were $45 per hundredweight, or $90,000 for the 200 head of 1,000 lb. cattle. If at the time of purchasing the cattle, he also sells 5 contracts in the futures markets to cover the expected production, then reversing his futures position when the finished cattle are sold in the cash market, the farmer can be assured of a $30 per head return to labor and capital, or $6,000, profit, on the 200 head.

As in the case of the crop farmer, numerous other variations on the use of futures markets are possible. The feeder may prefer to carry his own price risks at the time he buys the feeder animals. Subsequently, however, during the feeding process he may see a futures price that will assure a profit and decide to forego further risk. He could then sell live cattle forward and lock-in a given profit or a given loss level, assuming that his anticipated feeding efficiency level is realized.

Livestock feeders are not only subject to changing prices of live cattle, but also to changing prices of feed inputs during the production period, since changes in feed costs often do not immediately affect live beef prices. If storage facilities are limited, the feeder can still lock-in his feed cost at the beginning

of the operation by use of futures contracts for feed grains.

Suppose that in our previous example the cattle feeder requires 10,000 bushels of corn to finish the cattle for marketing, but has storage facilities for only 5,000 bushels. He can lock-in the price of corn at the time of buying the feeder calves by buying corn forward. If the cash corn price is $3.50 a bushel, he can buy a contract of corn (5,000 bushels) for, say, $3.70 a bushel (cash price plus storage cost). Suppose that as the corn is used for feeding purposes, the cash price has risen to $3.60 a bushel, and the futures price has risen only to $3.75 a bushel. The spread between cash and the future price has narrowed since storage costs are taken into account. The feeder now buys corn for $3.60 a bushel and sells his futures for $3.75. The net transaction saved him $0.05 a bushel for corn, and he in effect paid $0.05 a bushel for storage during the period. These types of futures transactions add to the options available to the feeder. They may be used to assure a certain cash price for fed animals, to take advantage of current feed prices, or to avoid investment in storage facilities.

### *Increase Financial Capabilities*

The futures market can also aid in increasing financial capabilities. For example, a cattle feeder whose operations are hedged through futures sales has the added insurance that the loan will be repaid. With this additional safety feature lenders are likely to provide larger loans and/or easier terms. With the larger loan, operations can be expanded and the farmer's equity can be more highly leveraged with a minimum of risk to both the lender and the borrower.

### *Hold a Commodity Past the Sell Date*

In order to give the full realm of uses of the futures market, it should be noted that farmers can also increase their speculative position through futures contracts. The futures market is often a more convenient way of speculating than holding the commodity itself. A farmer who wishes to speculate on a commodity, but who does not want to go to the inconvenience of storing the commodity or has no storage facilities available, can always take a "long" position on the commodity by buying a futures contract. By selling his crop at the time of harvest in the cash market and simultaneously buying back a like amount of the same commodity in the futures market, he will, in effect, gain from any price increases that may occur. In doing this, of course, the farmer is speculating that the price will rise in the near future.

## LIMITATIONS ON USE OF FUTURES

Using the futures market does not eliminate the necessity of the decision of when to buy or sell. Rather, it increases one's marketing options and allows equity to be more highly leveraged. The grain producer, for example, can effectively sell his crop at the time of planting, he can sell anytime during the growing process if he considers the price attractive, or he can delay a commitment to a price by speculating past the harvest date. In any case, he must make the decision as to when to sell. Futures trading simply gives him the option of selling at any time he desires, thus shifting the risk to others who wish to assume the risk of price decline with the expectation of profits.

Secondly, a risk of not carrying out a successful hedge – that is, not obtaining the targeted price – is also present. In theory, the spread between cash and futures prices is accounted for by the cost of storage, and as the contract date moves closer to expiration the spread between the cash and futures price narrows. Sometimes events can interfere with this usual working of the markets; transportation problems, like a shortage of box cars, strikes, and Government price controls, are such examples.

Prices vary, not only over time, but also over geographical area. Since the farmer usually plans to deliver his commodity at his local cash market, he must also be knowledgeable about the spread between the price in his local cash market and the futures market. Sometimes, prices in local markets do not move in concert with the larger markets, resulting in possible gains or losses to the hedger.

Third, hedging fixes only the sale price per unit, not total returns to production. In agriculture, production is subject to considerable output variation, and thus expected production is not always realized. If a farmer hedges all of an anticipated crop, but the expected level of production is not realized, he bears the price risk on the excess amount contracted. In this case futures contracts can be purchased or sold to cover the difference if large enough.

Fourth, a farmer who, over a period of several years, locks-in the available price by hedging during the production season is not likely to realize *major* gains or losses as compared to a farmer who is willing and able to carry such risks himself. Hedging during the production process helps to eliminate the big losses which could cause financial hardship or even bankruptcy. However, as we saw earlier in Illustration II, hedging may also eliminate big gains in years in

which unexpected price increases occur near the marketing dates.

A farmer who can readily adjust his operations so as to increase his output and lock-in a given price at profitable levels of production, could possibly increase his average return. A hog producer, for example, may be able to increase his return through futures trading by expanding his production when a greater-than-average return is expected. Crop farming may likewise lend itself to this type of adjustment through shifts from one crop to another or changes in inputs. Most of such adjustments, however, may be practical only on a moderate scale, as typical farming operations are generally run on a continuous basis.

Fifth, futures trading involves costs. These costs include the commissions on the futures contracts, the foregone interest on the margin, or interest charges if the margin is borrowed.[7] These costs, however, can often be offset by larger loans or more favorable terms that lending institutions will give when the commodities are protected from price risk via the futures market.

## CONCLUSION

Risk must be borne by all businessmen, but farmers are especially subject to considerable price risk. Farmers have tried to protect themselves from fluctuations in prices and income via the political process, and considerable public resources have been devoted to the stabilization of agricultural prices. Now, however, the Government may be less active in the stabilization of agricultural prices.

Futures trading can be used by farmers to help insulate themselves from changing relationships between input and output prices during the production process. In a free-market environment for agricultural products it may behoove farmers to investigate the futures market and see what use it can be in their overall marketing plans. This is especially true of farmers who are heavily leveraged and thereby not in a position to absorb heavy losses.

[7]The initial margin requirement (amount of cash required of the buyer or seller at the time a contract is initiated with a brokerage firm) may vary from 5 to 20 percent of the total market value of the contract. The maintenance margin (the minimum amount of equity the buyer or seller is required to hold with his brokerage firm) is usually 60 to 85 percent of the initial margin. If sufficient adverse price movements occur, brokerage firms will require further cash to maintain the minimum or they will automatically reverse the position. For more details, see Hieronymus, *Economics of Futures Trading*, pp. 62-65.

# Usury Laws: Harmful When Effective

NORMAN N. BOWSHER

MOST INTEREST rates have risen to historically high levels in recent months. This development, in view of present law, has caused serious problems to develop in the credit markets because in most jurisdictions usury restrictions on the payment of interest have generally remained at previously established lower levels. The consequence of this has been that borrowers who are willing to pay the competitive rate for funds often find that they are legally unable to obtain financing. As a result, they are faced with the choice of either circumventing the law to obtain the desired funds or losing out to other borrowers who may not be willing to bid as much, but who are legally able to contract because of the nonuniformity of usury laws.

Despite the credit market distortions caused by ceilings on interest rates, usury laws have been retained in most jurisdictions. It is the intent of this article to provide some insight and perspective on the value of such restrictions by reviewing briefly the history and justification of such laws, the role of interest rates, and some of the effects of interest rate restrictions.[1]

## *History of Usury Laws*

Usury laws have been traced back to the dawn of recorded history. Both legal and religious restrictions on interest charges were imposed in ancient times.[2] The early Babylonians permitted credit but limited the rate of interest. One of the earliest writings of the Bible (Deuteronomy 23:19-20) stated, "Thou shalt not lend upon usury to thy brother, . . . Unto a stranger thou mayest lend upon usury; but unto thy brother thou shalt not lend upon usury . . . ." In the New Testament (Luke 6:35) the admonition was broadened ". . . lend freely, hoping nothing thereby."

In Greece, Aristotle considered money to be sterile, and that the breeding of money from money was unnatural and justly hated. During the period of the Roman Republic, interest charges were forbidden, but they were permitted during the time of the Roman Empire.

During the early Middle Ages religious leaders treated the subject more thoroughly, and reached the same conclusion – that interest on loans was unjust. The exploitation of the poverty-stricken by rich and powerful creditors who lent money at interest was considered sinful to the Christians of that period, who stressed humility and charity as among the greatest virtues and played down the value of earthly goods. Secular legislation responded to the Church's influence and, in general, interest charges and usury were regarded as synonymous.[3]

The increase in economic activity and expansion of personal freedom that came with the Renaissance forced modifications in the prevailing views concerning interest rates. Recognizing that man was imperfect, Martin Luther and other 15th century reformers began to concede that creditors could not be prevented from charging interest. In the 16th century John Calvin rejected the scriptural basis for interest prohibition on grounds of conflicting interpretations and changed circumstances, but still advocated some

[1]Previous discussions of interest rate controls were given by Clifton B. Luttrell, "Interest Rate Controls — Perspective, Purpose, and Problems," this *Review* (September 1968), pp. 6-14, and Charlotte E. Ruebling, "The Administration of Regulation Q," this *Review* (February 1970), pp. 29-40.

[2]See Sidney Homer, *A History of Interest Rates* (New Brunswick, New Jersey: Rutgers University Press, 1963).

[3]Eugene von Böhm-Bawerk, *Capital and Interest,* trans. George Huncke and Hans Sennholz (South Holland, Illinois: Libertarian Press, 1959), pp. 13-24.

control. Turgot, an 18th century French economist, claimed that money was the equivalent of land, and hence the owner should not be inclined to loan his money unless he could expect a return as great as he would obtain through the purchase of land.[4]

Legal restrictions on the payment of interest were generally relaxed in the 18th century, but the belief continued that the people who needed to borrow funds should be protected against overly high charges. Consequently, most nations maintained legal maximum usury rates at "reasonable" levels.

Usury laws in the United States were inherited, in large part, from the British in colonial days. While these laws generally remain in force in the United States, Great Britain, after intense pressure in the early 19th century, repealed these and other restrictions on commerce and trade in 1854.[5]

One factor complicating attempts to maintain interest rate ceilings arose from the fact that risks and administrative expenses in making very small loans were often so great that legitimate dealers could not handle such advances with prevailing rate ceilings. This situation fostered illegitimate loan "sharks" with exorbitant interest charges. As a result, it was eventually recognized that higher rates should be permitted on small loans, and the small loan laws emerged.

## *Arguments for Usury Laws*

As noted, ethical and religious arguments have been relied on to a great extent to justify either the prohibition or limitation of interest payments. Another factor which has been instrumental in sustaining support for usury laws has been public opinion which generally viewed the small borrower as an underdog at the mercy of large well-financed institutions. As a consequence of this public attitude, legislators have been reluctant to raise or eliminate interest rate ceilings.

Several economic arguments also have been advanced to justify usury laws, and these considerations tend to bolster the moral and political reluctance to raise rate ceilings. The first of these arguments asserts that whereas most lenders are knowledgeable about conditions in the particular credit market in which they operate, it is readily observable that a sizable number of borrowers are unsophisticated and naive. It is contended that these borrowers are concerned only with obtaining credit and do not even know what rate of interest they are paying. Furthermore, relatively few make a serious effort to study conditions or to shop around for better terms or better timing. Finally it is argued that contracts made with such unknowing borrowers at rates above those existing in the market for similar types of loans represent a distortion of competitive forces and provide a windfall to lenders.

A similar argument for the regulation of interest rates is related to the comparative market power of borrowers and lenders. Since lenders are usually fewer in number and larger in resources than borrowers, it is contended that they have market power which can be used to command artificially high rates. Hence, usury laws provide competitive balance between the two groups.

Another argument for interest rate regulation is concerned with the impact of lower interest rates on the economy. It has been contended that low interest rates are desirable to encourage more investment and consumption and promote faster economic growth.

## *Arguments Against Usury Laws*

Those who oppose interest rate restrictions view credit markets as relatively efficient when left alone to operate freely. According to this position free competitive markets lead to an optimum allocation of resources and maximum individual satisfaction. Consequently, interferences with normal credit flows, by use of imposed ceilings on lending or deposit rates, can only create inefficiencies in financial markets which hamper production and exert an adverse influence on the distribution of goods and services.

It has been charged that maximum loan rates are necessary because credit applicants are gullible and would enter into oppressive contracts without such protection. But, are not individuals just as likely to be gullible in their dealings in other markets? Why then is the credit market singled out as an area to promulgate legal restrictions against such oppressive contracts? More importantly, has this special attention had its intended effects? That is, can and do these laws protect the uninformed from exploitation, and can the benefits of this protection be justified in view of the attendant social costs? Existing imperfections in credit markets could probably be reduced to a greater extent and with less cost by fostering greater competition among lenders. Also, education and counseling of borrowers may be a more efficient method to improve their performance than imposing rigid ceilings.

[4]Ibid, pp. 25-60.

[5]Homer, *A History of Interest Rates*, p. 187.

In most credit markets competiton is very keen. Major lenders include commercial banks, savings and loan associations, insurance companies, mutual savings banks, mortgage companies, sales finance companies, personal finance companies, credit unions, real estate investment trusts, farm credit agencies, retailers, and individuals. It is relatively easy to establish a business for lending funds, except for restrictions imposed by the Government. In most cases where competition is lacking in a given market, it has resulted from legal limitations on entry or activities. In practice, competitive forces have kept most market interest rates below usury ceilings for most of the past forty years.

For a brief period, artificially holding interest rates down probably does stimulate investment and contribute to economic expansion. However, maintaining arbitrarily low rates by imposing ceilings discourages saving at the same time that it stimulates investment demand, placing upward pressure on interest rates. As a result, rates can only be maintained at the lower level by some form of nonprice rationing (which tends to reduce efficiency and offset, in the longer run, the sought-after investment increases) or by the creation of money and credit at progressively faster rates (which contributes to accelerating inflation).

## *Functions of Interest Rates*

Interest rates play a strategic role in the economy. Interest rates are prices, and, as is true of all prices, they serve a rationing function. They are the prices that allocate available funds, and hence command over resources, among competing uses. Normally, the term "interest rate" is used in reference to the return on marketable securities or a loan of funds. However, the concept of "interest rate" can be applied to all goods. The rate of interest reflects the price of the convenience of earlier availability, the preference for more certain rather than less certain consumption rights, and the economy's ability to use resources to increase output.

To the borrower, interest rates represent a cost, and as such, influence investment and consumption decisions. To the saver, they represent a return and affect decisions regarding the amount to be saved. To wealth holders and managers of funds, interest rates or yields are a common denominator for evaluating alternative forms of holding wealth and alternative avenues for placing funds.

At any time, some individuals or businesses find that with their incomes, tastes, and investment prospects it is not desirable to pay the going rate for funds. They are "priced out of the market," just as there are those who find that at current prices it is not expedient to hire a servant, eat steak, or purchase a luxury automobile. Any movement in interest rates (as with other prices) will cause a reevaluation of projects which require the borrowing of funds.

## *General Impact of Usury Laws*

Throughout most of the period since the 1920s, usury laws have been ineffective because the interest ceilings were at levels above prevailing market rates. However, with the rise in inflation, and consequently interest rates, since the mid-1960s, usury laws have had a significant impact on many credit markets. Their effects have been quite arbitrary and have weighed heaviest on those credit seekers generally considered most risky.

Professor Roger Miller contends that usury legislation often adversely affects the ones it is designed to protect.[6] He illustrates this conclusion by citing the Washington state experience, where consumer loans from credit card companies were generally at an annual rate of 18 percent. Consumer advocates felt that this rate was much too high, and that poor people would be aided by a lower charge. In 1968, the maximum rate was lowered by referendum to 12 percent. However, at the lower rate the amount of credit demanded exceeded the amount supplied, and the people with the weakest credit worthiness were the ones denied credit at 12 percent. Welfare mothers, people with records of unstable employment, students, and the elderly fell into this category. Gainers from the reduced rates were the ones who had the most wealth, best jobs, and the highest probability of being able to repay the loan.

Sometimes those higher risk borrowers, who are refused credit from legitimate lenders because of usury laws, seek funds from loan sharks who ignore the legislated ceilings. Costs of operating outside the law are relatively high, and competition among such unscrupulous lenders is severely limited; hence, some interest rates may be several times the level that would have existed in the absence of ceilings.[7]

As market rates approach usury ceilings, venture or developmental credit, which of course contains a higher than average degree of risk, becomes limited.

[6]Roger L. Miller, *Economics Today* (San Francisco: Canfield Press, 1973), pp. 244-250.

[7]John M. Seidl, "Let's Compete with Loan Sharks," *Harvard Business Review* (May-June 1970), pp. 69-77.

Since such credit can only be extended by lenders at a higher rate of interest to compensate for the additional risk involved, these loans are among the first to be affected as market rates rise relative to usury ceilings. Without such venture capital, the entrepreneur is frustrated, and economic progress and growth is hampered.[8]

By contrast, the volume of credit flowing to wealthy individuals and sound established businesses may be as great or greater under severe usury restrictions as under free market conditions.[9] Since low usury maximums prevent other individuals and firms from effectively competing for funds, a greater share of the available funds tends to flow to lower risk applicants. The anticompetitive effects of these laws are thus spread from credit to product markets.

## *Usury Laws in the Eighth District*

In general, usury laws tend to be more restrictive in the central section of the country than in states on or near either coast. In several Eighth District states usury laws have been a major obstacle in credit markets. In Illinois and Missouri the current general usury ceiling is a very low 8 percent, and in Kentucky the ceiling is 8.5 percent. In each of these states, however, exemptions from the ceiling exist, such as for corporations. Despite the exemptions, many credit flows have been interrupted because of the ceilings, particularly away from potential individual borrowers.

Arkansas, Mississippi, and Tennessee have somewhat higher usury ceilings – 10 percent in each case. However, because of the lack of legal exemptions from the maximums in Arkansas and Tennessee, the ceilings have been causing substantial disruptions to borrowers, lenders, and the general economy of these states. This has been particularly noticeable since April when the prime rate on business loans nationally climbed above 10 percent. During May and June of this year, commercial and industrial loans declined 9.3 percent at weekly reporting banks in Memphis and Little Rock, while they were rising 2.8 percent at all weekly reporting banks in the nation. In the corresponding period last year, when market rates were below the ceilings, these loans changed little in Memphis and Little Rock and rose 2.9 percent nationally.

In an effort to alleviate hardship, the ceiling in Mississippi was raised to 10 percent from the extremely restrictive 8 percent level, effective July 1, 1974. In Illinois, the ceiling for residential loans was raised on July 12, 1974 from 8 percent to 9.5 percent for the period until July 1, 1975. Among Eighth District states, only Indiana has had credit markets relatively free from usury restrictions.

Quantitative measures of the volume of potential loans affected by the rate restrictions are not available, but comments from market participants indicate that it is sizable. The following sketchy, indirect evidence also indicates that the impact has been great.

In the first four months of this year, the average interest rate on FHA 30-year mortgages was 8.78 percent nationally; in the corresponding period last year the rate was 7.62 percent. Two District states had usury laws applicable to home mortgages that were between these rates – Mississippi and Missouri at 8 percent. In these two states residential construction contracts fell 34 percent from the first four months last year to the comparable period this year, according to F. W. Dodge data. In Arkansas, Indiana, and Tennessee, which had 10 percent or higher usury ceilings, and Kentucky and Illinois, which exempted certain residences from the ceilings, residential contracts declined 16 percent. The average decrease for the nation was 21 percent over the same period.

By contrast, contracts for nonresidential construction, which are frequently exempted from usury ceilings, rose 8 percent in Mississippi and Missouri from the first four months last year to the first four months this year. This was about the same as the 9 percent gain in Arkansas, Illinois, Indiana, Tennessee and Kentucky and greater than the 2 percent nationally in the same period.

Insured savings and loan associations in Missouri had a 74 percent smaller increase in savings "deposits" in April and May this year than they did in the corresponding months last year. Nevertheless, these associations purchased 10 percent more mortgages in the two months this year when the national market rate on mortgages was above the state's usury ceiling than in the like period last year when the market rate was below the ceiling. This seemingly contradictory development can be explained by noting that the bulk of these purchases were from states where the

[8]Studies show that in those states permitting higher rates, lenders tend to expand credit opportunities. Lenders appear more willing to accept higher risk of losses if the rate is sufficient to compensate for bad debt, investigation, and collection expenses. Maurice B. Goudzwaard, "Price Ceilings and Credit Rationing," *Journal of Finance* (March 1968), pp. 183-184.

[9]This may not always be the case, because the total volume of loanable funds is likely to be smaller under severe interest rate ceilings. Saving is discouraged relative to consumption and funds tend to flow out of the jurisdiction or directly from savers into venture capital.

## STATE USURY LAWS[1]

| State | Basic Rate | Some Major Exceptions |
|---|---|---|
| Alabama | 8% | For individuals, firms, partnerships, associations, and non-profit organizations the rate is 8% on loans to $100,000 and 15% on loans above that. These same groups may agree to pay more than 15% on loans greater than $100,000. For corporations the maximum rate is 8% on loans to $10,000, 15% on loans between $10,000 to $100,000 and no ceiling on loans above $100,000. |
| Alaska | 12%[2] | Twelve-and-one-half percent is the rate on real estate contracts. |
| Arizona | 10% | Eighteen percent is the ceiling for loans over $5000 to corporations. |
| Arkansas | 10% | |
| California | 10% | Savings and loan associations, industrial loan companies, banks, credit unions, and agricultural associations are exempt from the usury law. |
| Colorado | 12% | The maximum charge on non-supervised consumer loans is 12%. On supervised loans, except for revolving loans, the maximum rate is the greater of 18% on all unpaid balances; or a total of 36% on unpaid balances of $300 or less, 21% on unpaid balances over $300 and not over $1000; and 15% on unpaid balances over $1000. The maximum rate on consumer related loans is 18%, on revolving loans 12%, and all other loans 45%. |
| Connecticut | 12% | The ceiling rate on loans to corporations in excess of $10,000 is 18%. The 12% ceiling does not apply to any loan made by any national or state bank or savings & loan, to any mortgage on real property in excess of $5,000, or made pursuant to a revolving loan agreement on which the total principal amount owing is more than $10,000. |
| Delaware | 9% | There is no limit on collateral loans larger than $5000. Also the ceiling rate may be exceeded on loans secured by real estate only through written agreement. |
| District of Columbia | 8% | Loans guaranteed under the National Housing Act or by the VA are exempt. |
| Florida | 10% | The ceiling is 15% for corporate loans and all other loans above $500,000. |
| Georgia | 8% | No ceiling applies on loans above $2500 to corporations and on loans above $100,000 to individuals. Loans secured by realty may carry a rate of up to 9%. |
| Hawaii | 12% | |
| Idaho | 10% | The maximum rate on non-supervised consumer loans is 18% and on revolving loans 15%. Supervised loans carry a maximum rate of 18% on all unpaid balances, or a total of 36% on unpaid balances of $390 or less, 21% on unpaid balances between $390 and $1300, and 15% on unpaid balances over $1300. A ceiling of 12% applies to loans of over $10,000 to corporations. Firms engaged in agriculture may be required to pay a maximum of only 10% on loans. |
| Illinois | 8% | All corporate loans and business loans to non-profit organizations; as well as mortgage loans insured by the FHA or guaranteed by the VA may be contracted for at any rate. Also secured loans greater than $5000 may be at any rate. Effective July 12, 1974 the maximum interest rate that may be charged on loans secured by residential real estate and entered into before July 1, 1975 was raised to 9½%. |
| Indiana | 18% | A maximum rate of 18% applies to non-supervised consumer loans, consumer related loans and revolving loans. Supervised loans carry a maximum rate of the greater of 18% on all unpaid balances, or a total of 36% on unpaid balances of $300 or less, 21% on unpaid balances over $300 but under $1000, and 15% on unpaid balances over $1000. There is no maximum charge on other loans. |
| Iowa | 9% | There is no ceiling rate on either corporate loans or real estate investment trusts. |
| Kansas | 10% | Consumer loans other than supervised loans carry a maximum rate of 12%. The maximum charge on supervised loans is 18% on the first $1000 and 14.45% on any additional. There is no ceiling on any other type of loan. |
| Kentucky | 8½% | There is no ceiling on loans over $25,000 which are not on a single unit family residence. No special rate applies on loans to corporations. |
| Louisiana | 8% | Loans secured by real estate carry a maximum rate of 10%. However, loans guaranteed by Federal agencies are exempt from the usury laws. Corporate loans may be any rate. |
| Maine | 16% | No maximum rate applies if the loan is for non-personal or business purposes and the contract is in writing and involves more than $2000. |
| Maryland | 8% | No ceiling applies to business loans in excess of $5000. Residential mortgage loans may be at 10%. |
| Massachusetts | None | |
| Michigan | 7% | No ceiling rate applies to corporate loans, realty secured loans, or federally or state approved loans. |
| Minnesota | 8% | No ceiling rate is applied to loans in excess of $100,000. |
| Mississippi | 10% | Corporations organized for profit may pay to 15% on loans in excess of $2500. |
| Missouri | 8% | Corporate loans may be at any rate. |
| Montana | 10% | |
| Nebraska | 9% | Corporate loans may be at any rate. The maximum rate is waived on certain loans by building and loan associations, installment loans, industrial loans, and personal loans by bank and trust companies or credit unions. |

## STATE USURY LAWS[1] (Cont.)

| State | Basic Rate | Some Major Exceptions |
|---|---|---|
| Nevada | 12% | |
| New Hampshire | None | |
| New Jersey | 8% | The basic rate applies to loans under $50,000. Loans secured by realty carry a maximum of 8¾%. The rates are not applicable to loan contracts made by savings and loan companies, banks, or any department of Housing and Urban Affairs or FHA approved loans purchased by Federal government. |
| New Mexico | 10% | A 12% ceiling applies to unsecured loans. |
| New York | 8½% | Demand notes of $5000 or over with collateral security may carry a rate of up to 25%. |
| North Carolina | 8% | Ceiling rates on loans are graduated according to the size and purpose of the loans reaching 12% on loans of $100,000 and unlimited on loans of $300,000 and larger. First mortgages on single family dwellings may be contracted for in writing at any rate agreed upon by the parties. Corporations may pay any rate. |
| North Dakota | 9%[3] | Business loans in excess of $25,000 may carry any rate. Corporate loans regardless of size may carry any rate. |
| Ohio | 8% | Loans in excess of $100,000 may be at any rate. |
| Oklahoma | 10% | Oklahoma's Uniform Consumer Credit Code allows 18% to supervised lenders and 10% to others lending to consumers. There is no ceiling rate on other types of loans. |
| Oregon | 10% | Loans in excess of $50,000 may be made at any rate. The maximum rate on loans smaller than $50,000 is 12% for corporations and 10% for individuals and non-profit organizations. |
| Pennsylvania | 6% | The maximum rate does not apply to loans of more than $50,000; loans of $50,000 or less secured by a lien upon real property; loans to business corporations; unsecured, non-collateralized loans in excess of $35,000; and business loans in excess of $10,000. The interest rate on residential mortgages of an original principal of $50,000 or less is a fluctuating administered rate. For July 1974 this rate was set at 9.5%. |
| Rhode Island | 21% | |
| South Carolina | 8% | The maximum rate on loans of from $50,000 to $100,000 is 10% and on loans between $100,000 and $500,000, 12%. Loans larger than $500,000 may be at any rate. First mortgage real estate loans made by savings and loan companies, the Department of Housing & Urban Affairs or FHA approved mortgages are exempt. |
| South Dakota | 10% | Corporate loans may carry any rate. However, the maximum rate on all loans on real estate regardless of borrower is 10%. |
| Tennessee | 10% | The contract rate does not apply to loans extended under the Industrial Loan and Thrift Company Act or to installment loans of banks and trust companies and building and loan associations on which interest is deducted in advance and added to the principal. |
| Texas | 10% | Corporate loans above $5000 have an 18% ceiling. |
| Utah | 18% | Revolving loans and non-supervised consumer loans carry a maximum rate of 18%. Supervised loans carry a maximum rate of 18% on all unpaid balances, or a total of 36% on unpaid balances of $390 or less; 21% on unpaid balances over $390 and not over $1300. All other loans may be made at any rate. |
| Vermont | 8½% | No ceiling rate applies to loans for income producing business or activity. Loans to finance real estate which is to be used as a primary residence or for agriculture is subject to the contract rate. However, loans to finance real estate improvements or a second residence may be at any rate. |
| Virginia | 8% | Any rate may apply to non-agricultural loans secured by a first mortgage or realty. |
| Washington | 12% | |
| West Virginia | 8% | |
| Wisconsin | 12% | Corporate loans may be at any rate. |
| Wyoming | 10% | Revolving loans and consumer loans other than supervised loans may carry a maximum rate of 10%. Supervised loans may be at a rate of the greater of 18% on all unpaid balances of $300 or less, 21% on unpaid balances over $300 and not over $1000, and 15% on unpaid balances over $1000. All other loans may be at any rate. |

[1]This table presents a synopsis of the maze of laws concerning usury in effect in the various states and the District of Columbia as of mid-July 1974. Due to the complex nature of this area of the law, the table may not be completely accurate with respect to certain specific technical provisions. It should, however, allow the reader at least an opportunity to gain some conception of the wide range of opinion concerning interest rate regulation by virtue of the great discrepancy it reveals between the states as to both their basic interest rate ceilings and the nature of the exceptions to those rates.

It might also be noted that national banks are permitted to charge 1 percentage point more than their Federal Reserve Bank's discount rate. At present national banks may charge at least 9 percent on loans even in states with lower usury ceilings since the discount rate is 8 percent.

[2]The basic contract rate for loans in this state not involving real estate is 4 percentage points above the Federal Reserve discount rate at the 12th district Reserve Bank prevailing on the first day of the month preceding the commencement of the calendar quarter. The rate for real estate contracts or commitments is 4½% above the Federal Reserve rate. At the time of this writing that rate stands at 8%, consequently the basic ceiling rates are 12% and 12½% respectively.

[3]Where the parties agree in writing, interest may be charged and collected at a rate of up to 3% above the maximum bank deposit interest rate authorized by the state banking board. However, the sum of the 3% add-on charge and bank board established limit can never fall below 7%. The current bank deposit interest rate limit set by the board is 6%, thus the present 9% ceiling rate on written contracts.

ceiling was sufficiently high so as not to impinge on market rates. As a result, the amount of new mortgage loans made on *local* properties declined markedly.

A number of District commercial banks and savings and loan associations have found that it has been more expedient to lend a greater share of their available funds in the unrestricted Federal funds market than to lend locally under oppressive ceilings. For example, on the April 24, 1974 call report, member banks in the Eighth District (outside eight large money market institutions) lent a net of $368 million in Federal funds, at a time when the effective Federal funds rate was 10.3 percent. A year earlier, on the March 28, 1973 call date, when the Federal funds rate was 7.3 percent, these same banks advanced $283 million in this market.

Available data also indicate that those who are not covered by usury restrictions are able to attract a larger share of available funds when market interest rates rise relative to effective rate ceilings for others. Eight large banks in the District advance credit to a great extent in national money markets where lending rates are virtually unregulated. Also, during the second quarter of this year, total deposits of the eight large District banks, bolstered by large CD purchases, rose at a 36 percent annual rate, while deposits at other member banks in the District increased at a 11.4 percent rate.

## *Avoidance of Usury Law*

The impact of usury laws on credit markets has been made somewhat more tolerable by legal exceptions and other methods devised to soften the impact of the legislation. Without such exceptions it is conceivable that credit flows could virtually come to a halt in states like Missouri when the national rate on business loans with prime credit risk exceeds the 8 percent ceiling which prevails in this state.

In a number of jurisdictions small loan laws have been enacted which permit higher rates on certain small extensions of credit where operating costs are high and risk is frequently large. Many other legal exceptions have been granted for a variety of reasons. Retail credit charges, time-sales contracts, and loans to out-of-town residents are subject to higher ceilings in some states.

In Missouri, as in a number of other states, corporate businesses that are supposedly capable of protecting their interests in dealing with lenders are free to pay any rate that they desire. As might be expected, these corporations find that they have a tremendous advantage in attracting funds over unincorporated firms and individuals that are "protected" by the state.

In addition, many credit market arrangements have been devised for circumventing usury laws and permitting credit flows which otherwise would be halted. Some of these activities may be an outright violation of the law, such as simply ignoring the ceiling, or by calling the payment something other than interest. However, violation of usury laws frequently carries high financial penalties, such as loss of all interest or even principal; hence, lenders are generally reluctant to knowingly violate the statutes.

Other arrangements, which may or may not be technically legal, but which certainly conflict with the spirit of the law, have been adopted in order to effectively adjust a loan made at the legal rate to the market rate. One method is to lend to those who in some other way help you. Examples include the practice by lenders of favoring customers who maintain compensating deposit balances or whose firm does.

The effective rate on mortgages has traditionally been adjusted upward through the use of "points" charged either to the buyer, the seller, or both. At times, loans have been granted by third parties at the legal rate, after which the real lender then purchases the loan at a discount. Other loans have been "closed" in a more liberal location, such as across a state line. Such techniques, although permitting credit to flow, run risks of illegality, are inefficient, and probably cause effective rates to be slightly higher to the borrower and lower to the saver than they would be in a free market setting.

Lenders in states with low usury ceilings also have an option of moving funds into a state with more liberal laws. Comments from managers of funds indicate that the interstate movement of funds because of usury laws is sizable. Investment funds leave the state to finance mortgages in other states and to buy notes and bonds. Also, banks and savings and loan associations "sell" net sizable amounts of day-to-day Federal funds in the national money markets. This alternative of lending in another state protects large lenders to some extent and makes funds more readily available in states with liberal usury ceilings. However, such movements tend to be inefficient since credit is extended to less urgent projects and the cost of administering the loan is increased. Also, in the low ceiling state borrowers find credit still more difficult to obtain, lenders with small amounts are forced to accept lower yields, and economic activity suffers.

## *Conclusions*

Ceilings on interest rates are relics of ancient and medieval thought, and have survived to the present largely because of a lack of confidence in market forces or because of a presumed benefit to higher credit risks. Actually, supply and demand for funds, rather than rate controls, have been the chief forces holding interest rates at existing levels.

Ceilings on rates may, at times, be of some benefit to borrowers easily deceived by unscrupulous lenders. However, usury laws cause a loss of individual freedom, and in modern economies they are disruptive, especially during periods of inflation when interest rates, like other prices, rise. Usury laws are based on false premises, operate perversely, and are economically inefficient. The cheap money which cannot be obtained is of little usefulness.

Effective usury ceilings, which alter the flow of funds, retard economic growth. The low maximums tend to prevent credit from flowing to higher risk individuals and businesses. Funds available are channelled into well-established, low- risk functions. As a result, innovation is discouraged, economic progress is slowed, and competition is reduced. The recognition that usury laws are burdensome, inequitable, and cause funds to leave the jurisdiction has led some states to relax the law.

Controls also adversely affect the saver, since they deny him the right to a competitive return on his funds. This is especially true of smaller savers. Those with large amounts of savings can more easily by-pass the controlled market by investing in uncontrolled central money and capital markets. Not only is the saver of moderate means injured, but the economy also loses as he becomes discouraged and saves less.