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Recent Economic Developments in Perspective

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A SUPERFICIAL reading of economic data suggests that the first half of 1974 was apparently one of the worst periods of economic attainment in the post-World War II period, with indexes of real growth and the price level moving adversely at the same time. The reported decline in real product for the two quarters was exceeded only during the recessions of 1953-54 and 1957-58. At the same time the reported inflation rate was the highest for all successive two-quarter periods since 1947.

The purpose of this article is to review economic developments in the first half of 1974, with special emphasis on the interpretation of the GNP data. These data will be examined and compared with other time series to determine if any inconsistent signals are being emitted as to the course of the economy.[1] To place the recent experience in perspective, the course of the latest economic expansion – from late 1970 to present – will be compared with other expansion periods in the United States over the last twenty years. The two most recent quarters are included in this comparison to give the current position of the U.S. economy some perspective, without attempting to determine if the most recent experience will be classified as a recession.

Recent Developments

Total spending rebounded somewhat in the second quarter after slowing sharply in the first quarter. Consumer spending increased, with purchases of durable goods rising sharply from the depressed rate of spending last winter. Business investment also advanced rapidly in the second quarter.

Real product in the second quarter was below the first quarter, and since fourth quarter 1973 this measure of real activity has declined at a 4 percent annual rate. By comparison, real product had increased at a 2.1 percent annual rate in the previous three quarters and at a 6.7 percent average annual rate from fourth quarter 1970 – the trough of the previous recession – to first quarter 1973.

Industrial production, on the other hand, is up somewhat from the depressed levels of last winter. Though advances have been sluggish and irregular since February, industrial production was up at a 1.9 percent annual rate from February to July. Although this gain is not particularly impressive, it should be noted that industrial production growth has been dampened by work stoppages in various industries. For the first seven months of 1974, 29.5 million man-

[1]For an exercise with similar objectives, see Geoffrey Moore, "Recession?", *Economic Outlook USA*, a quarterly publication of the Survey Research Center at the University of Michigan (Summer 1974), pp. 4-5.

days were lost because of work stoppages, compared to 13.1 million man-days lost in the comparable period of 1973.

Despite irregular movements in industrial production thus far in 1974, employment conditions have been remarkably strong. Total employment, after holding steady from October 1973 to April 1974, has since increased at a 2.5 percent annual rate. Unemployment has changed little since January, averaging 5.2 percent of the labor force.

Table I

PRODUCTION AND EMPLOYMENT

	IV/73 to II/74		II/73 to II/74	
	Annual Rate of Change	Percentile Rank*	Annual Rate of Change	Percentile Rank*
Real Product (constant dollar GNP)	—4.0%	3	—1.0%	8
Industrial Production	—2.7	19	0.3	25
Total Employment	0.7	30	2.2	67
Payroll Employment	1.3	32	2.3	43

*Computed for all successive two- and four-quarter periods from I/47 to II/74 except for total employment, which is computed for the period I/48 to II/74.

Prices have continued to increase very rapidly. The general price level has risen at a 9 percent annual rate since early 1973, compared to about a 4 percent increase in the previous year. Consumer prices have advanced at a 10 percent average rate since early 1973, and prices for wholesale industrial commodities have increased at a 20 percent average rate.

Interpretation of GNP Data

A controversial aspect of the recent data is whether or not the first half figures indicate recession. It is well known that a shorthand method of determining whether or not a recession has occurred is to examine the movements of real product – in particular whether or not real product declines for two consecutive quarters. But the National Bureau of Economic Research (NBER) emphasizes that the label of recession is not determined in such a simple manner.[2] Rather, the NBER makes such a determination from a much broader data base and uses the criteria of duration, severity, and the degree of diffusion.

The question of whether or not a particular period of economic experience should be defined as a recession is of little consequence for economic policy. Such labeling is helpful in later years since identification of recession periods assists in the interpretation of past economic events. What is important for the policymaker is whether or not a slowdown is occurring, and if so, is some kind of countercyclical action necessary in light of the objectives of policymakers.

To assess the meaning and significance of the most recent GNP data, other relevent time series are ranked according to rates of change for the period from 1947 or 1948 to the present. In this way, what appear to be extremes for prices and real GNP can be checked against other series measuring prices and real economic activity to determine to what extent the GNP data are providing consistent signals. Industrial production and employment are considered as complementary indicators of real activity. For prices, alternatives to the GNP deflator are consumer prices and wholesale prices. Each of the alternative measures is designed for its own purpose, and none is meant to substitute for the GNP measures. Yet, in past periods of several months duration, alternative time series relating to, say, real activity have tended to move in concert with one another.

Tables I and II provide percentile rankings for various measures of real economic activity and prices. A percentile ranking is a shorthand method of summarizing the movement of a particular time series in a specified time period relative to the historical movement of that series. A ranking of a specified rate of change in the 50th percentile, for example, indicates there were as many observations above as below that rate of change. High percentile rankings (greater than 50 but not more than 100) indicate rates of change that are high relative to past experience. Low percentile rankings (less than 50 but not less than zero) indicate rates of change that are low relative to past experience.

Table I shows percentile rankings for alternative measures of real economic activity. It should be noted that real GNP is the only series in this table which is computed by deflating nominal magnitudes. The other series involve more direct measures of physical production and employment. The 4 percent annual rate of decline for real GNP from fourth quarter last year to second quarter 1974 ranked in the 3rd percentile. In other words, the last two quarter's decline in real GNP ranked very poorly relative to economic experi-

[2]See Geoffrey Moore, "Recession?", and as a general reference, Victor Zarnowitz, ed., *The Business Cycle Today*, Fiftieth Anniversary Colloquium I (New York: National Bureau of Economic Research, 1972).

Table II

PRICES

	IV/73 to II/74		II/73 to II/74	
	Annual Rate of Change	Percentile Rank*	Annual Rate of Change	Percentile Rank*
GNP Deflator	10.5%	100	9.5%	100
Consumer Prices	11.8	99	10.7	100
Wholesale Prices	19.4	97	15.9	96
Wholesale Industrials	33.0	100	20.0	100
Wholesale Farm & Foods	—4.6	20	7.0	79
Corporate Aaa Bond Yield	19.5	88	14.5	85
4-6 Month Commercial Paper Rate	35.6	75	40.0	82

*Computed for all successive two- and four-quarter periods from I/47 to II/74.

ence since 1947, exceeding only 3 percent of all other successive two-quarter periods.

The question being asked here is whether or not the severity of the real GNP decline is borne out by other measures of real activity. Industrial production growth for the last two quarters was in the 19th percentile. Total employment was in the 30th percentile, while payroll employment growth was greater than 32 percent of all other two-quarter periods since 1947. Examination of the record for the past four quarters shows a similar pattern.

Substantially higher percentile rankings for industrial production and employment than for real GNP indicate that real GNP may be providing misleading signals as to how severe the recent downturn really was. Though the source of the discrepancy cannot be readily identified, it should be pointed out that with severe inflation and/or substantial changes in relative prices, any figures denominated in dollars, or making use of calculations involving dollars, are suspect because of index number problems inherent in the measurement of price change.[3]

Though the chief question of interest is whether real activity declined as much as the GNP data indicate, there is a subsidiary question – is the rapid change in the GNP deflator confirmed by other price series? For purposes of comparison, consumer prices, wholesale prices, and the price of short- and long-term credit are ranked in Table II. The GNP deflator was in the 100th percentile; that is, the rate of change of the GNP deflator over the last two quarters was the highest for all successive two quarters since 1947. This extreme is confirmed by both consumer prices and wholesale prices, and to a lesser extent by short- and long-term interest rates.

In summary, there is reason to doubt whether the decline in real product was as severe as indicated by constant dollar GNP. Measures of industrial production and employment do not show a corresponding degree of severity. The price situation, on the other hand, appears without doubt to be one of the worst in the postwar period. Comparisons of this type do not yield definite conclusions, but it does appear that past patterns of consistency among alternative measures of real product can be altered when relative prices change suddenly or substantially.

Recent Economic Expansion in Perspective

To provide additional perspective, the economic events of 1974 are examined in a business cycle context. The current expansion – from late 1970 to the

Table III

INDUSTRIAL PRODUCTION

Quarters After Trough	Trough Quarter = 100				
	III/54	II/58	I/61	I/67	IV/70
0	100.0	100.0	100.0	100.0	100.0
1	102.8	105.2	104.0	100.0	102.0
2	108.4	109.9	107.2	101.1	103.2
3	113.1	114.8	111.0	102.9	102.6
4	114.8	120.3	112.8	104.8	103.5
5	117.6	115.5	113.8	106.5	106.1
6	117.9	116.0	115.1	107.5	109.6
7	117.5	123.0	116.0	108.6	112.1
8	116.8	120.3*	117.8	110.8	115.8
9	121.2	118.3	120.9	111.8	118.6
10	122.2	115.5	121.8	113.0	120.3
11	120.7*	113.7	123.9	112.0*	122.0
12	121.1	118.3	125.6	109.4	122.4
13	116.0	121.9	128.7	109.1	120.4
14	109.5	126.2	130.7	108.5	120.8
Average annual rate of change from trough to:					
Peak	7.1%	9.7%	8.3%	4.2%	—
14 quarters after trough	2.6	6.9	8.0	2.4	5.6%

*Represents business cycle peak. Peak for period beginning in I/61 is 23 quarters after trough (not shown in table).

[3]This point has also been made in Moore, "Recession?". For a recent discussion of price indexes, see Denis S. Karnosky, "A Primer on the Consumer Price Index," this *Review* (July 1974), pp. 2-7.

Table IV

PAYROLL EMPLOYMENT

Quarters After Trough	Trough Quarter = 100				
	III/54	II/58	I/61	I/67	IV/70
0	100.0	100.0	100.0	100.0	100.0
1	100.7	100.6	100.4	100.4	100.3
2	101.7	101.8	101.3	101.0	100.6
3	103.5	103.5	102.1	101.9	100.8
4	104.6	105.1	102.8	102.6	101.4
5	105.7	105.1	103.8	103.5	102.4
6	106.8	105.4	104.3	104.4	103.4
7	107.5	106.9	104.6	105.4	104.1
8	107.2	107.1*	104.8	106.4	105.3
9	108.3	106.6	105.7	107.3	106.5
10	108.7	105.9	106.3	108.0	107.5
11	108.8*	105.2	107.0	108.5*	108.0
12	108.6	105.7	107.6	108.7	109.2
13	107.7	106.6	108.5	108.4	109.4
14	105.8	107.4	109.5	108.0	109.9
Average annual rate of change from trough to:					
Peak	3.1%	3.5%	3.4%	3.0%	—
14 quarters after trough	1.6	2.1	2.6	2.2	2.7%

*Represents business cycle peak. Peak for period beginning in I/61 is 23 quarters after trough (not shown in table).

present — is compared with other periods of expansion. Even though there is still some question as to whether or not the first half of 1974 will be classified as a recession, it is useful to compare the position of the economy relative to the recession trough with similar periods in the past. This most recent expansion of three and one-half years is compared with previous expansions from 1967 to 1969, 1961 to 1966, 1958 to 1960, and 1954 to 1957.[4]

Measures of Real Activity — An examination of the movement of industrial production (Table III, p. 4) in postwar economic expansions indicates that the most recent expansion has not been substantially different from other postwar cyclical expansions. Of course, each expansion is unique, and the most recent expansion is characterized by a slow start which picked up steam after about four quarters. Though the decline from fourth quarter 1973 to second quarter 1974 places industrial production well below the comparable position in the long 1961-66 expansion, the current level of industrial production (second quarter 1974) is about average for comparable periods measured from trough reference points.

The table for payroll employment (Table IV) shows greater similarity during expansions than for industrial production. Though, initially, payroll employment in the most recent expansion lagged other expansions, it has since caught up. In fact, looking at all periods 14 quarters after the trough, the current expansion shows the best performance for payroll employment in the post-war period.

The position of the economy in 1974 is about average when viewed relative to progress in other postwar periods of economic expansion. The current expansion was characterized by a slow start, but once the momentum started, it carried through 1973; and 1974 continues strong relative to its trough reference point.

Table V

CONSUMER PRICES

Quarters After Trough	Trough Quarter = 100				
	III/54	II/58	I/61	I/67	IV/70
0	100.0	100.0	100.0	100.0	100.0
1	99.6	100.0	100.0	100.6	100.9
2	99.8	100.0	100.4	101.6	101.9
3	99.7	100.2	100.5	102.5	102.8
4	99.7	100.4	100.9	103.7	103.5
5	100.0	100.9	101.3	104.7	104.4
6	100.1	101.5	101.6	105.9	105.1
7	100.7	101.6	101.8	107.3	106.0
8	101.7	102.2*	102.1	108.6	107.1
9	102.6	102.3	102.3	110.4	108.7
10	103.5	103.0	102.9	111.9	110.9
11	104.4*	103.2	103.2	113.5*	113.3
12	105.3	103.1	103.6	115.4	116.0
13	105.8	103.5	103.8	117.0	119.4
14	107.1	103.7	104.0	118.3	122.7
Average annual rate of change from trough to:					
Peak	1.6%	1.1%	1.7%	4.7%	—
14 quarters after trough	2.0	1.0	1.1	4.9	6.0%

*Represents business cycle peak. Peak for period beginning in I/61 is 23 quarters after trough (not shown in table).

[4]The NBER expansion of 1961-1969 has been divided into two subperiods of expansion — from I/1961 to IV/1966 and from I/1967 to IV/1969. This division does not dispute the judgment of the NBER, but helps to provide additional perspective on the relationship between money and measures of economic activity. For general discussion of NBER procedures and methods, see Zarnowitz, *The Business Cycle Today*.

Table VI

FEDERAL EXPENDITURES

Quarters After Trough	Trough Quarter = 100				
	III/54	II/58	I/61	I/67	IV/70
0	100.0	100.0	100.0	100.0	100.0
1	98.5	102.3	102.3	101.2	101.7
2	99.0	105.2	103.6	103.6	105.6
3	97.8	103.9	105.0	106.0	106.4
4	99.6	102.4	109.2	109.5	108.8
5	100.6	102.9	111.0	113.6	113.0
6	101.0	103.1	111.0	115.4	116.8
7	104.7	102.4	113.2	117.2	114.2
8	105.4	104.2*	115.2	116.8	125.2
9	108.0	106.7	112.9	117.8	124.7
10	113.8	108.4	114.6	119.2	125.8
11	116.2*	112.5	115.9	121.3*	126.3
12	116.2	115.1	118.6	122.7	129.7
13	117.9	116.5	119.3	129.8	134.7
14	122.6	118.1	118.9	128.8	139.8
Average annual rate of change from trough to:					
Peak	5.6%	2.1%	7.6%	7.3%	—
14 quarters after trough	6.0	4.9	5.1	7.5	10.0%

*Represents business cycle peak. Peak for period beginning in I/61 is 23 quarters after trough (not shown in table).

Prices — Examination of prices relative to other periods of cyclical expansion indicates that the price experience for the most recent expansion stands out quite dramatically, along with the experience of the previous expansion — 1967-69 (Table V, p. 5). The advance of prices in the current expansion started out almost identical to the 1967-69 expansion. Prices then slowed, but accelerated again more recently. This pattern of price movement, a slow rise followed by a sharp acceleration, was influenced in considerable measure by price and wage controls. Nevertheless, of the five postwar expansions, the last two stand out relative to the others in terms of price performance.

Policy Variables — It is of analytical interest to examine the movement of policy variables in the current expansion. Comparison of Federal expenditures in the current expansion with other postwar expansions indicates that the most recent advance has paralleled that of the 1967-69 expansion (Table VI). All other postwar expansions showed less Federal activity, as measured by Federal expenditures, than does the current expansion. In fact, the advance of Government spending in the latest expansion has kept pace with the 1967-69 period — a period when Viet Nam hostilities were still in effect. Even though the composition of expenditures has shifted away from wartime production, the increase of total Federal spending in the current expansion is just as rapid as from 1967 to 1969.

The other chief policy indicator summarized here is the money stock (Table VII). The advance of money since late 1970 has been rapid and has paralleled almost exactly the early stages of the 1967 - 69 expansion. It is also of interest to note that the other paths of money expansion (with the possible exception of the 1957-59 expansion) show a downturn just prior to the peak of economic activity; that is, the end of all economic expansions in the past has been preceded by a marked slowing in money growth. No such marked slowing is evident for the path of money in the current expansion, although latest data indicate signs of slight slowing in the rate of monetary expansion beginning in third quarter 1973 (11th quarter after the IV/1970 trough).

Table VII

MONEY STOCK

Quarters After Trough	Trough Quarter = 100				
	III/54	II/58	I/61	I/67	IV/70
0	100.0	100.0	100.0	100.0	100.0
1	101.0	101.0	100.8	101.5	101.6
2	102.2	102.2	101.4	103.7	104.3
3	102.8	103.6	102.4	105.3	106.0
4	103.2	104.5	103.0	106.6	106.5
5	103.4	105.0	103.5	108.6	108.0
6	103.8	104.4	103.2	110.9	110.2
7	104.1	103.9	103.9	113.1	112.5
8	104.1	103.7*	104.8	115.2	114.8
9	104.6	104.6	105.9	116.5	116.8
10	104.8	104.8	106.9	117.2	119.0
11	104.8*	105.2	108.0	117.8*	120.6
12	104.8	106.1	108.6	119.1	122.0
13	104.3	106.7	109.7	121.1	123.8
14	104.2	107.8	111.5	122.9	126.1
Average annual rate of change from trough to:					
Peak	1.7%	1.8%	3.4%	6.1%	—
14 quarters after trough	1.2	2.2	3.1	6.1	6.8%

*Represents business cycle peak. Peak for period beginning in I/61 is 23 quarters after trough (not shown in table).

Another aspect of the tables that is of interest is that when viewed together, the latest expansion is different in two respects – in terms of the policy variables and in terms of prices; the two latest expansions are characterized by extremes. The real variables do not demonstrate the same pattern. During periods of economic expansion, industrial production and payroll employment do not seem to be systematically related to the movements of the policy variables. For the last seven years – covering the two most recent expansions – monetary and fiscal policy have been much more stimulative than in previous expansions, with the chief effect being that prices have increased more rapidly than otherwise with little noticeable effect on production and employment.

Summary

The first half of 1974 for the U.S. economy was a failure from the standpoint of the degree of achievement of goals relating to economic growth and price stability. Yet, upon closer examination of the data, whether or not the economy experienced recession is still an open question. Only the time series of real GNP definitely supports the notion that a recession did occur; other measures of real economic activity – though they have slowed – have not demonstrated such weakness when viewed in perspective. It seems that rapid inflation and/or substantial changes in relative prices cause considerable difficulty in the measurement of overall price levels which, in turn, creates problems in the conversion of nominal magnitudes to "real" magnitudes.

Examination of the current expansion from a longer-term perspective indicates that the advance of production and employment is quite similar to previous expansions. Where the current expansion stands out relative to most other expansions is in the movement of the price level and in the policy variables. During the expansion period from late 1970 to the present, substantial monetary and fiscal stimulus has caused a rapid rise in the price level without commensurate gains in production and employment.

Economic Forces Facing the Bank Holding Company Movement

An Address by DARRYL R. FRANCIS, President, Federal Reserve Bank of St. Louis, at the BAI Conference on Bank Holding Company Administration, Chicago, Illinois, August 16, 1974

IT IS good to have this opportunity to discuss with you some thoughts on the economic forces facing bank holding companies. The bank holding company movement is of increasing interest to both the economic and the political sectors of our society. Bank holding companies own about one-fourth of the nation's banks which, in turn, hold about two-thirds of the banking assets. In addition, they have made substantial inroads in a number of bank-related activities.

Most of the bank holding company growth occurred during the past decade. From 1963 to 1973, the number of multiple bank holding companies rose five-fold, and the number of one-bank holding companies doubled from 1968 to 1973.

The rapid increase in bank holding companies can be traced to the restrictions on commercial banking. In a competitive market, the type of firm or structure which evolves is that which tends to maximize both profits and consumer well-being. The incentive for profit provides the motivation for banks to fill any voids in their markets. When they observe opportunities to increase services and profits by a change in structure, they will attempt to make such a change.

THE EVOLUTION OF REGULATION

The formation of a bank holding company can be looked upon as a way whereby many restrictions on commercial banks can be overcome and services to the public expanded. In recent years branching restrictions have become increasingly onerous to banks located in declining central cities of unit banking states. Regulation Q has also been more burdensome to banks in the more competitive banking markets with the rising interest rates. Bank holding companies permit banks to expand their operations into new geographic markets through the organization of new firms or through the purchase of existing firms where branches of the parent firm are prohibited. As evidence that holding companies are used to bypass restrictions on individual banks, the multi-bank holding company movement is much more pronounced in unit banking states. For example, in 1972 there was less than 2 multi-bank holding companies per state in the 18 state-wide branching states which permitted multi-bank holding companies. In contrast, there was 12 per state in the 8 unit banking states which permitted multi-bank holding companies.

Banks

Regulation of banks has proceeded without a clear recognition of what was to be regulated. Most of the restrictions have come about since the early 1930s as a result of confusion as to the cause of economic instability.

In the early years of the nation, commercial bank regulation was largely concerned with the chartering provisions for state banks, their bank note (paper

money) issuing function, and the impact of such issues on the economy. There was little interest in the maintenance of sound banks as long as they could redeem their paper money with specie.

That sage of American politics, Thomas Jefferson, and a number of political leaders who followed, recognized that the restrictions on banking should be directed at the quantity and quality of money rather than other functions of financial firms. Albert Gallatin, Jefferson's Secretary of the Treasury, contended that the creation of bank money should be restrained; but with that single exception, banks should be left free as any other firm. President Jackson in his farewell address in 1837 said that corporations which create paper money cannot be relied on to maintain a uniform amount.

The National Banking Act (1863) focused largely on the quantity and quality of money. A maximum was placed on national bank note issues, and the stock of money (deposits plus notes) was restricted by legal reserve requirements.

While its general focus was on the protection and control of money, the Act contained some provisions for protecting banking firms. It prohibited some banking practices which were considered risky, such as real estate lending. It also provided for a surplus in capital accounts and the examination of all national banks.

The chief objective of examination following the Act was to make sure that the condition of banks would enable them to redeem their notes. In the late 1800s, however, the Comptroller of the Currency adopted the view that the correction of basic managerial difficulties was also a function of bank supervision.

The original Federal Reserve Act (1913), while not specifically requiring that individual banks be maintained in a sound and viable condition, indicated that this was an important supervisory objective. For example, in acting upon membership applications, the Act required that the financial condition and the general character of the applying bank's management be considered.

Following the great depression and the rash of bank failures in the early 1930s the Government began to take greater responsibility for the maintenance of strong, viable banks. Bank failure was associated with economic instability and the view developed that banks cannot be allowed to fail for so-called public interest reasons. This view led to the onerous bank regulations in the banking acts of 1933 and 1935 which sustain modern bank supervision. Thereafter, banking activities, rather than the quantity and quality of money, consistently received the major focus of bank regulation.

The control of bank assets and the maintenance of sound banks has become a paramount supervisory objective. For example, before admitting banks to the Federal Deposit Insurance Corporation (FDIC), their future earnings prospects, adequacy of capital, and character of management, as well as the convenience and needs of the community, must be considered. The Comptroller considers the same factors before granting charters, thus, in effect, giving the Federal Government power to limit the number of banking firms.

The Acts require that each Federal Reserve Bank ascertain whether bank credit is being used for purposes inconsistent with "sound credit conditions". If such unacceptable use is made of bank credit, the Federal Reserve Board may suspend a member bank from the use of the credit facilities of the System.

These Acts placed increased restrictions on the establishment and operation of branches. The payment of interest on demand deposits was prohibited and maximum rates were set on time and savings deposits by the supervisory agencies. The Acts set limits to the bank's investments in its premises, divorced banking from security dealing, and set restrictions on loans to banking affiliates, dividends payable, and bank capital. The Federal Reserve Board and the Comptroller of the Currency were authorized to remove bank officials for illegal or unsound bank practices. This legislation, in effect, limited the bank managerial function to those actions consistent with the regulators' view that banks should always remain in condition to withstand another great depression. Furthermore, bank legislation and regulation by individual states during this period was often more restrictive than at the Federal level.

Bank Holding Companies

Until recently bank holding companies were subject to relatively few restrictions. State banking officials have generally found it difficult to gain much control over such companies.

The first Federal regulation of bank holding companies occurred with the Banking Act of 1933. This Act provided the Federal Reserve Board with some control over the voting of member bank stock owned

by corporations. It required such corporations to establish certain reserves, to publish financial statements, and to withdraw from the securities business.

Following the rapid growth of bank holding companies after World War II, Congress enacted the Bank Holding Company Act of 1956. This law restricted multiple bank holding company activities to banking and closely related services, and, with minor exceptions, forced them to divest themselves of ownership or control of any other kind of business. It limited most acquisitions of bank stock by such companies to the state in which their operations were principally conducted, thereby effectively curbing new interstate bank acquisitions. The Act was amended in 1966 so as to require prior approval of the Federal Reserve Board for future acquisitions by bank holding companies.

One-bank holding companies, however, were subject to less Federal control, and their number almost doubled from 1968 to 1970. As a consequence of this rapid growth, some bankers, the regulators, and others who were fearful of these new competitors - called for their regulation. The Bank Holding Company Amendments of 1970 were passed, ending the exemption of one-bank holding companies from Federal control. The Amendments did, however, liberalize the activities in which bank holding companies could participate. They were permitted to acquire nonbank firms across state lines.

REGULATION AND COMPETITION

As a consequence of the onerous restrictions on banking and bank holding companies, the quality and efficiency of financial services have declined, and the competitiveness of the banking system has been reduced. As pointed out by the Hunt Commission, the interest rate regulations during the period of "tight" money in 1970 made it increasingly difficult for bank supervisors to accomplish their objectives of maintaining strong, viable firms, and at the same time decreased the role and effectiveness of the institutions they aimed to preserve. The regulations which prohibited banks from paying a market rate of interest to savers actually weakened the banks as savings were withdrawn and placed in higher-yielding investments. More importantly, however, savers, borrowers, and consumers were bearing unnecessary risks and costs.

In contrast to the controls on banks and bank holding companies, nonbanking firms enjoy rights of entry and flexibility in the introduction of new financial products and services not enjoyed by either banks or bank holding companies. Furthermore, as pointed out in a recent study by the First National City Bank, New York, some of these nonbank firms are relatively large credit suppliers. Three nonbank installment lenders have receivables outstanding equal to 11 percent of the total held by all commercial banks, and one has more receivables than the combined total for all commercial banks in New York and Chicago. It is not my intention to criticize these firms, but only to suggest that they saw business opportunities and entered the financial services market to the advantage of both the firm and the consumer.

In my view the public is entitled to the best and lowest cost financial service that the market can provide. Competition in providing such service is the best means of achieving this objective, but not all bankers are eager to participate in a freely competitive market. Some, probably reflecting their overly protected status, have not always been awake to their opportunities and challenges. They are not unanimous in their support of the Administration's efforts to remove some of the regulatory shackles to vigorous competitive operations. They are often blind to a competitor when it is called by some name other than a bank. But the very fact that nonbank competitors, such as the Farm Credit Banks, sales finance companies, savings and loan associations, and the credit departments of retail stores, have entered the finance business and achieved vigorous growth indicates that commercial banks have left voids in the financial services market. The assets of these nonbank financial firms increased more than ten-fold from 1946 to 1972, and their share of the total financial services market rose from 43 to 62 percent.

The Hunt Commission recognized the excessive regulation of banks, and proposed changes that would free them from many controls. Its proposals included: the relaxation of interest rate restrictions, the removal of most usury ceilings on loans, the removal of limitations on branch banking, and the relaxation of chartering and investment restrictions. The Commission recognized that the public would be better served by the increased competition resulting from the implementation of the proposals. I am not here to promote any specific plan for restructuring the financial system, but rather to point out the economic forces facing the bank holding company movement. With this background, I believe those forces are now obvious.

REGULATION AND THE ALLOCATION OF CREDIT

The demand for financial services is growing, and bank holding companies have the organization and the technical know-how to supply them. Competitive challenges abound which they are inhibited from meeting. However, if history is a reliable teacher they will have to fight for the opportunity to participate in such markets as an equal. Their opponents in the struggle for an equal opportunity to participate can be classified into two groups. First are those politically powerful sectors of the economy that demand preferred treatment in the credit allocation process. Second are the regulators of financial firms and their supporters, who include those current participants in the markets who fear competition. And third is a large segment of the population which believes that strong, viable financial firms can be maintained only by restricting their natural incentive to compete.

Much of the impetus for preferential treatment in the allocation of credit has occurred during periods of economic depressions or high nominal interest rates. When market rates exceed limits established by usury laws and Regulation Q, credit flows are diverted from normal patterns. These market barriers have tended to starve some sectors.

Numerous Government credit subsidy programs have been established to "correct" these assumed defects in the credit market and the number of such programs continues to grow. A staff study by the Joint Economic Committee of the Congress in 1972 listed 42 major Federal credit subsidy programs (those with outstanding credit of more than $10 million). These programs, designed to finance agriculture, education, housing, commerce, economic development, natural resources, and medical care, cost the taxpayers of the nation $4.2 billion in 1970. At the close of 1972 direct government loans outstanding through these programs were estimated to be $56 billion and the guaranteed loans $167 billion. In addition to these 42 major programs, there are numerous subsidized credit programs with less than $10 million credit outstanding.

These programs provide preferred treatment for some activities at the expense of others since the total volume of credit available is not increased much, if any. They divert credit flows from more productive uses to those uses selected through the political process. They neither add to national well-being nor the well-being of most of those sectors that they purport to help. To the extent that they are successful in increasing credit flows into one sector, they cause excesses of resources in that sector relative to other sectors. If welfare of the individual is their objective, such welfare can be purchased at a much lower cost through cash grants. Furthermore, such programs are extremely biased against those individuals who have already obtained their credit or other resources at market prices.

Of greater concern to bankers, however, should be the encroachment of such activities in the financial markets. These programs are based on the false premise that our financial system is doing a poor job of allocating credit. Yet, instead of pointing out the efficiency of the free market system, and demanding equal opportunities to markets, bankers have often stood idly by or even assisted in the proliferation of credit markets by these privileged agencies. Indeed, the American Bankers Association actually joined other groups this summer in urging Congress to enact legislation for a new program of guaranteed loans to livestock producers. By acceding to requests for subsidized credit, or assisting in furthering such activities, bankers may have contributed to the public view that something is wrong with our private credit allocation system.

SUMMARY AND CONCLUSIONS

In summation bankers should not remain silent on such important subjects as political credit allocation and bank regulation. Most bankers know that the alleged problems are usually not credit problems at all, but only the voice of a social idealist. The alleged credit problem in the cattle feeding industry which led to the recent government credit program was actually a profit problem that the market system will solve. Once price relationships move to profitable levels, sufficient credit will be available to finance the feeders. The problem is simply made worse if additional credit is made available to inefficient producers during periods of unfavorable price relationships. Bankers should speak out and resist useless government encroachment in this, as well as in other areas, including the various alleged consumer protection plans. Bankers have sat silent too long and let other less qualified people run their business, reduce their markets, and subsidize competitors with their profits.

In the regulatory area confusion still prevails as to which banking functions should be controlled. Hence, the urge to protect your firms from so-called "cutthroat" competiton is great. It arises from both current participants in the markets who fear your competition, from the desire of regulators to regulate, and from a large sector of the population which be-

lieves that strong, "viable" financial firms necessary for economic stability can only be maintained by restricting their natural incentive to compete. They associate failure of banks with economic depression. In my view it is the money-creating function of banks that has led to economic instability. We can protect the money holders through deposit insurance and if we provide for a stable rate of monetary growth, the economy will function satisfactorily.

I do not view an occasional bank failure as being disastrous. An occasional failure eliminates the inefficient and is a signal to other firms to exercise caution. Relatively free entry and exit are indicators that an industry is competitive. Regulation that is sufficient to prevent new firms from entering and prevent failure is sufficient to inhibit growth and vitality in a competitive economy. The proposals for limiting the rates payable on bank holding company credit instruments are examples of a regulation that will inhibit your growth. Your success in avoiding such controls will thus likely determine your long-run growth and profitability.

The Current Inflation: The United States Experience

ALBERT E. BURGER

The following paper was presented at the "International Conference on The 'New Inflation' and Monetary Policy" held June 24-26, 1974 in Milan, Italy. The Conference was sponsored jointly by Banca Commerciale Italiana and the Department of Economics, Universita Bocconi. Professors Gaetano Stammati and Innocenzo Gasparini were joint chairmen of the Conference. Papers on inflation and the problems it implies for monetary analysis were presented by Professors John Hicks, Karl Brunner, Franco Modigliani, and Robert A. Mundell. Papers discussing the inflationary experience in specific countries were presented for Brazil, the European Economic Community, France, the Federal Republic of Germany, Italy, Japan, the United Kingdom, and the United States.

The authors of individual country papers were asked to direct their comments to specific questions about the inflationary experience in their countries. The organization and headings of the following paper reflect this procedure. The organizers of the Conference are arranging to have the complete proceedings published in the near future.

LET ME begin by setting forth a position on the features of the "new inflation." First, the current widespread inflation across industrial countries is a "new" inflation only in the sense that it is a phenomenon of the last ten years. The current inflation has *not* been largely determined by the supply behavior of non-industrial countries. The basic cause of the current inflation is the same as the cause of all previous inflations – too much money chasing too few goods.

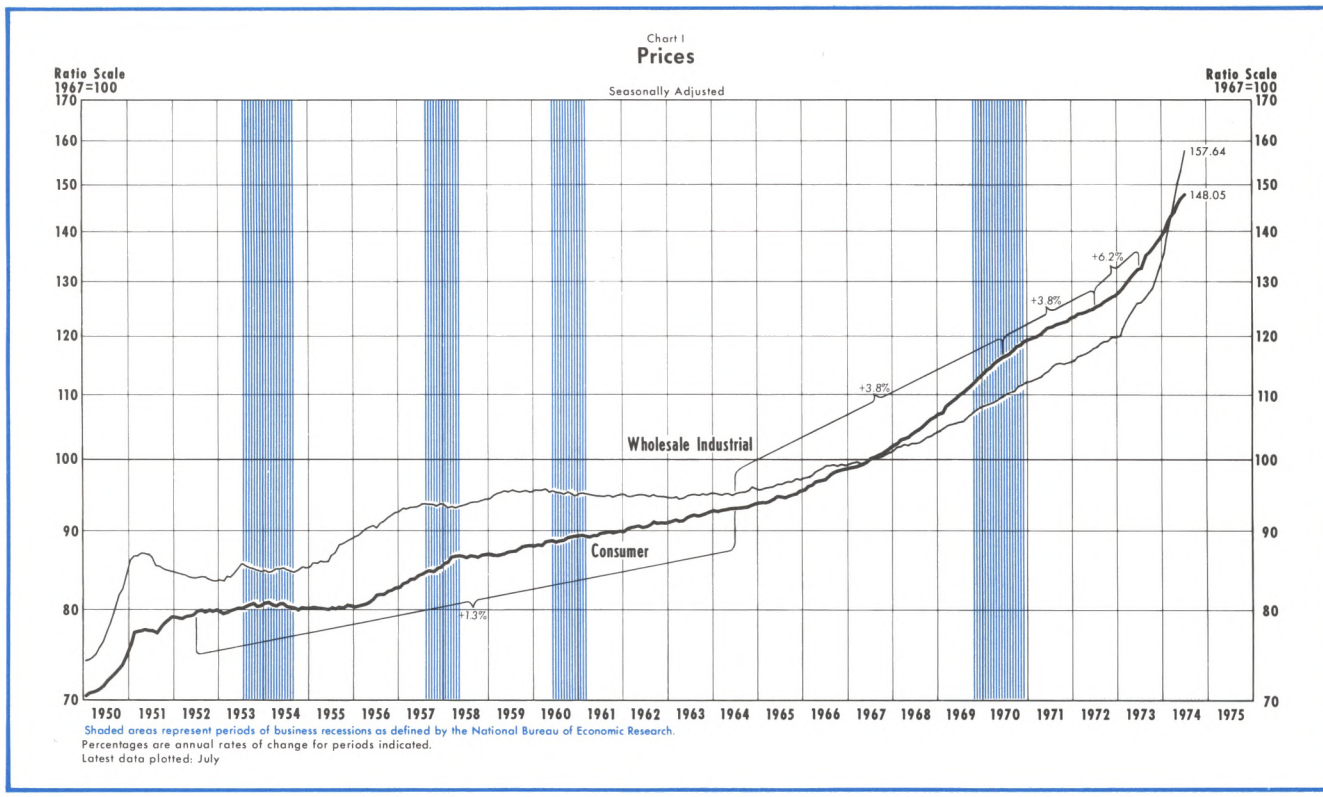
The most disturbing aspect of the current inflation is not that there has been a movement from one rate of price increase to a new maintained higher level of price increase, but that there has been a periodic upward movement in the *rate* of inflation. There is no reason that this process has to continue. Policymakers have the power to prevent a permanently accelerating rate of price increase. It is true that more attention is being devoted to "how to live with inflation" rather than "how to fight inflation," but this is a very dangerous approach. A little inflation leads to a little more inflation which leads to a little more inflation until inflation has become a major disruptive force in the economic as well as the social fabric of a country.

Note: The views expressed in this article are the responsibility of the author and do not necessarily reflect the views of the Federal Reserve System.

IS INFLATION LARGELY DETERMINED BY SUPPLY FACTORS?

An exogenous decrease in the supply of one good will tend to (1) raise the price of that good, (2) raise the demand for and price of substitute goods, (3) lower the demand for complementary goods and hence put downward pressures on the prices of these goods.[1] The way a market economy adjusts to a change in supply conditions is through changes in *relative* prices and re-allocation of resources from one type of production to another. Assuming no Government controls

[1]Economists refer to two goods as substitutes if both goods have many properties that satisfy the same preferences of consumers; for example, gas heat and electric heat, public transportation and automobiles, a vacation in Europe and a vacation in the United States. Goods that are used together are called complementary goods; for example, gasoline and automobiles, tires and automobiles, European vacations and airline travel.



on prices, resources will be bid away from those industries producing complementary goods and will move into industries producing substitute goods. Initially, the average price level will rise, assuming prices of complementary goods are not immediately flexible downward, and unemployment will temporarily rise since resources do not immediately move fully from producing complementary goods to producing substitute goods.

For a decrease in the supply of one good to cause a permanent increase in inflation, holding growth of total expenditures constant, would appear to require that the item was so vital to production that no substitute existed or could be developed. In that case, reducing the supply of that good means that the potential growth of real output is reduced. This seems a highly unlikely case, except in the short-run. Man seems capable of finding a substitute good for almost any item. However, even if this were the case, the increase in inflation is not ultimately due to the reduction in supply, but results from the fact that growth of total expenditures is not reduced along with the reduced growth of real output. If the growth of total expenditures is maintained, but the growth of real output is reduced, then prices will rise more rapidly. The monetary authorities cannot affect the supply situation, but they can follow policies that reduce the growth of total expenditures.

Inflation began to develop in the United States long before any so-called supply-induced effects developed. For example, over the 1963-69 period real output rose at an average annual rate of 4.7 percent, compared to an average rate of about 3 percent over the previous ten years. However, from 1963 to 1969 the rate of inflation increased to a 3 percent annual rate, about double the rate of the previous ten years.[2]

We must look somewhere other than at supply factors for the underlying cause of inflation. The basic underlying cause of the inflation currently being experienced in the United States is simply that the trend growth of money has been accelerating over the last ten years, approaching a 7 percent rate on average over the last three years. This has resulted in a growth of demand for goods and services that is much greater than the long-term average growth of real output.

INTENT OF MONETARY POLICY

The current intent of monetary policy in the United States is to reduce inflation and avoid causing a substantial medium-term rise in unemployment. In fact this is the same "intent" that has characterized mone-

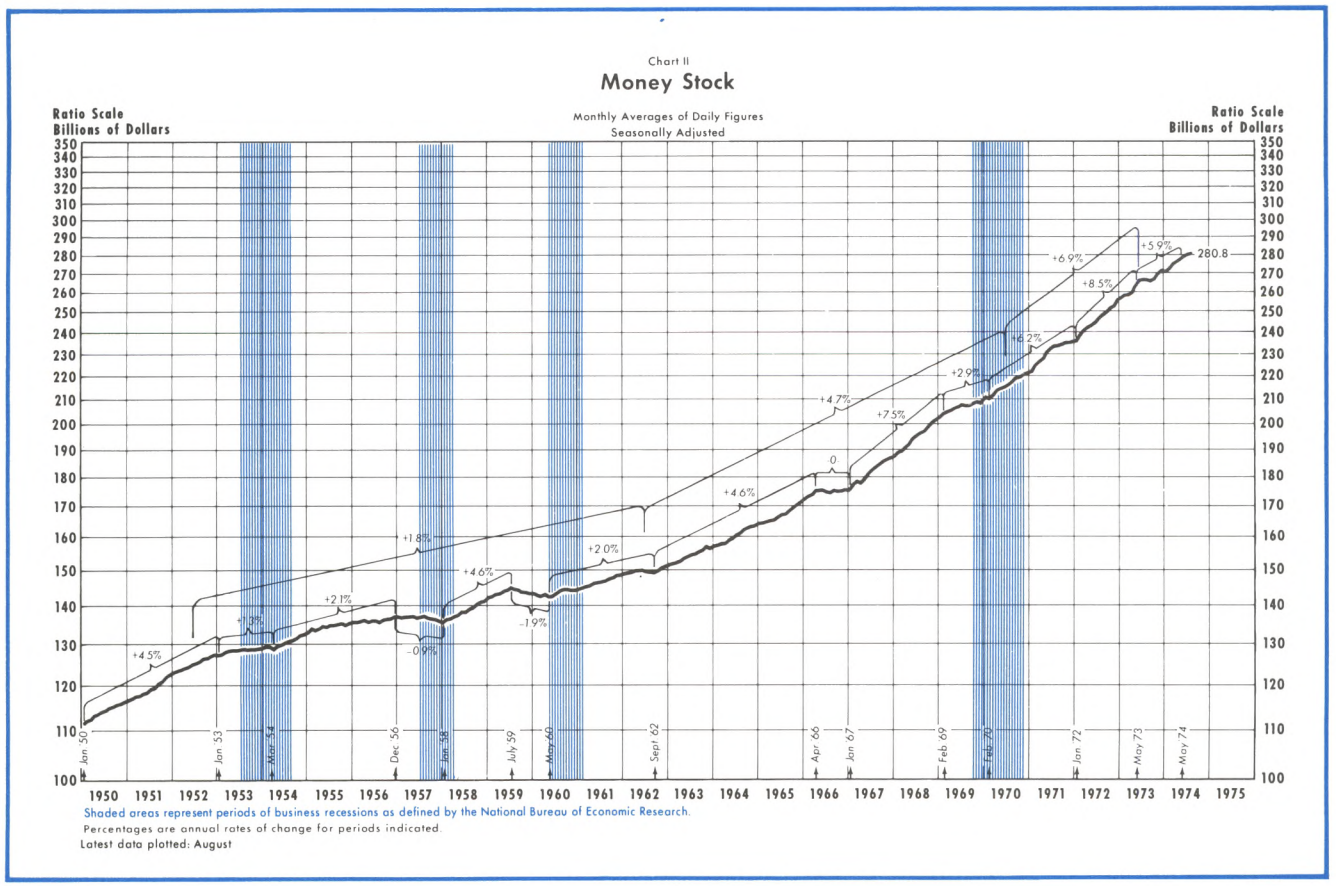
[2]Unless otherwise noted, all growth rates are computed on an average-of-year basis.

tary policy since the middle 1960s. No member of the Federal Open Market Committee desired to have the rate of inflation, as measured by the consumer price index, rise from an average annual rate of about 1.5 percent over the period 1952-64 to an average annual rate of about 4 percent from 1964 through 1972, or to see price increases accelerate to an average annual rate of over 6 percent during 1973, as shown in Chart I.

The basic force underlying the accelerating inflation in the United States has been the accelerating average annual growth of the money stock. As shown in Chart II, the growth of the money stock accelerated from about a 2 percent average annual rate over the period 1952-62 to about a 5 percent annual rate over the period from 1962 through 1970. Over the period 1962-70 the growth of the money stock followed a pattern of sharp accelerations followed by periods of sharp reductions in the growth rate (for example, in 1966 and from early 1969 to early 1970). Since 1970 the growth of money has reaccelerated to about a 7 percent annual rate. At the same time, real output has grown at an average rate of about 4 percent since 1962, somewhat faster than its average annual rate of about 3 percent recorded over the previous ten years. With progressive accelerations in the rate of growth of money leading to a markedly faster growth of total expenditures, and with real output growing at only a slightly more rapid rate, prices rose at accelerated rates.

Again, I do not believe that any member of the Federal Open Market Committee desired the progressive upward movements in the growth of money. From 1964 to 1973 the Federal Open Market Committee (FOMC) met 141 times and voted for a policy of restraint at seventy percent of these meetings. Only in 1967 and 1970 did the FOMC adopt a policy of ease at virtually every meeting.

Given that the intent of policy has not changed, why has there been a progressive rise in the average growth of the money stock and, hence, a progressive rise in inflation? Three related factors appear to account for this situation. First, in the United States since the mid-1960s, there has been a sharp rise in the growth of Government spending. Since 1965, Federal Government expenditures have risen at an average annual rate of 10 percent, compared to about a 6 percent rate over the previous ten years. In 1966 and 1967 the major rise was due to defense spending



which rose 20 percent per year. However, since 1967 the growth of defense spending has been much slower, and actually declined from 1969 through 1973. The rise in Federal Government expenditures since 1965 has primarily reflected the public's growing demands that the Government sector do more in the way of social welfare programs. Since 1965, Federal nondefense expenditures have risen at a 12.6 percent annual rate, compared to a 9.5 rate over the previous ten years.

Essentially, the public has demanded that the Government sector provide a larger flow of goods and services. However, while Government spending was rising, taxes were not raised enough to finance the increased expenditures. This brings us to the second factor. As a result of a rising spread between tax revenues and Government expenditures, the growth of the outstanding stock of Government securities accelerated as the Government was forced to borrow to finance its expenditures. Over the period of fiscal year 1966 through fiscal 1973, Federal Government expenditures exceeded tax receipts by almost $98 billion. The net result of deficit financing was upward pressures on market interest rates.

This brings us to the third factor. The Federal Reserve System traditionally has been concerned with the stability of interest rates and with the "viability" of financial markets. Consequently, the Federal Reserve has tended to resist demand-determined movements in interest rates and has always stood ready to offer substantial aid to the financial markets in times of stress. The substantial rise in Government financing requirements was bound to put upward pressures on market interest rates and put stress on financial markets. Essentially, the Government was attempting to acquire more funds than before through the credit markets, and, assuming no change in the growth of total credit, other demanders of credit would have had to be rationed out of the market.

Among the other demanders of credit was the housing industry. As market yields on Government debt rose, funds were drawn out of savings and loan associations, the supply of funds to finance housing fell, and mortgage interest rates rose. Questions arose about the solvency of the major financers of mortgage credit. These results, along with pressures on the financing of state and local governments, developed quite early in the inflationary process, and in 1966 culminated in what has come to be called "the credit crunch of 1966."

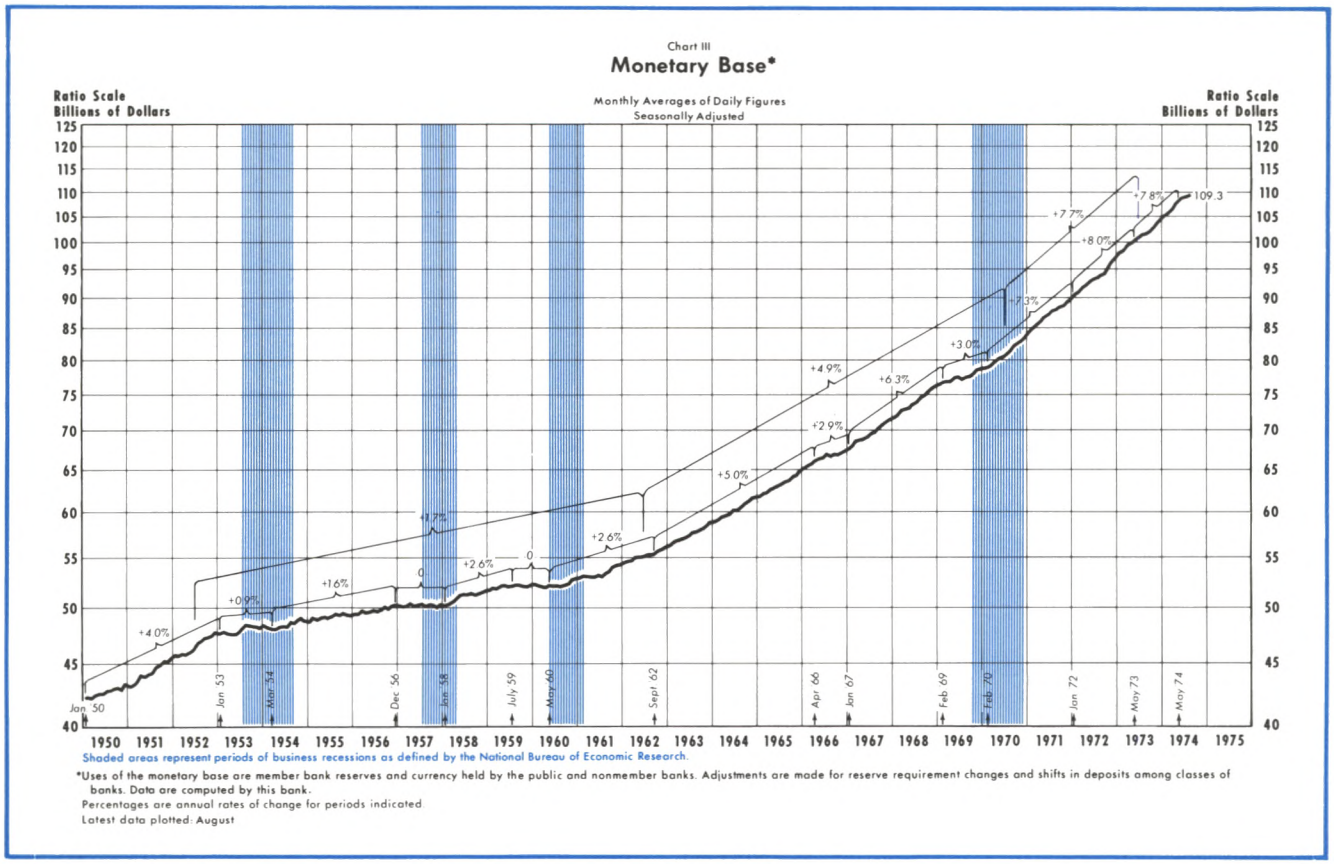
The Federal Reserve came under considerable criticism for permitting the development of the "crunch" in 1966. However, although certain Federal Reserve policies probably added to the strain on financial markets at that time, the situation in 1966 reflected the attempt of financial markets to adjust to the added financing pressures from the Federal Government. The 1966 Federal Reserve policy of resisting a substantial expansion in money and credit was an attempt to force the adjustment through financial markets. If the Government was going to get a larger share of real output, then some other sector had to receive a smaller share.

The Federal Reserve tried to halt the upward march of inflation again in 1969. From February 1969 to February 1970 monetary policy actions slowed the growth of the money stock to about a 3 percent rate. This led to the slowdown in economic activity in 1970, and from about mid-1970 there was evidence of a slowing in inflation. By the end of 1970, the market yield on Treasury bills had fallen below 5 percent, compared to about 8 percent at the end of 1969. In the first quarter of 1971, yields on long-term corporate bonds had eased to about 7.25 percent, compared to about 8 percent in late 1969.

However, after early 1970, Federal Reserve actions resulted in a reacceleration in the growth of the money stock. From 1970 through 1973, Federal Reserve credit grew at an average annual rate of 9.5 percent and the monetary base grew at a 7.7 percent rate. On balance, since early 1970, money has grown at about a 7 percent rate. Although inflation continued at a slower rate through late 1972, how much of this was due to the lagged effect of the previous slowing of money on prices extending into late 1972 is open to question. In August 1971 a fairly comprehensive set of price and wage controls was instituted in the United States. The lag in the response of prices to the reacceleration of money probably reflected the effect of these price controls. Sooner or later the upward pressure on prices had to surface, and price controls appear to have only delayed the upward thrust of prices. The main result of the various phases of price controls was the distortion in supply conditions that the United States is still experiencing.

EFFECT OF INFLATION ON CURRENT POLICY

Inflation affects current monetary policy because inflation affects interest rates and financial markets. Also, accelerating inflation, when joined with price controls, tends to raise questions about the predictive performance of econometric models that are used to forecast



the response of the economy to policy actions. A further effect has been the suggestion by some observers that "real" instead of nominal quantities should be used as indicators of the effects of policy actions.

Recently the United States has been experiencing levels of interest rates that are "high" by historical standards. However, it would be hard to ascribe these high interest rates to "tight" monetary policy. As shown in Chart III, over the last three years the monetary base has grown at a 7.7 percent rate, compared to about a 5 percent rate from 1962 through 1970 and less than a 2 percent rate over the 1952-62 period. Bank credit has grown at about a 13 percent rate since 1970, compared to a 7.6 percent rate over the previous five years, and about a 6 percent rate from 1955-65. These growth rates indicate that Federal Reserve actions have resulted in a large enough growth of the monetary base to support a substantially more rapid expansion of bank credit than in previous periods.

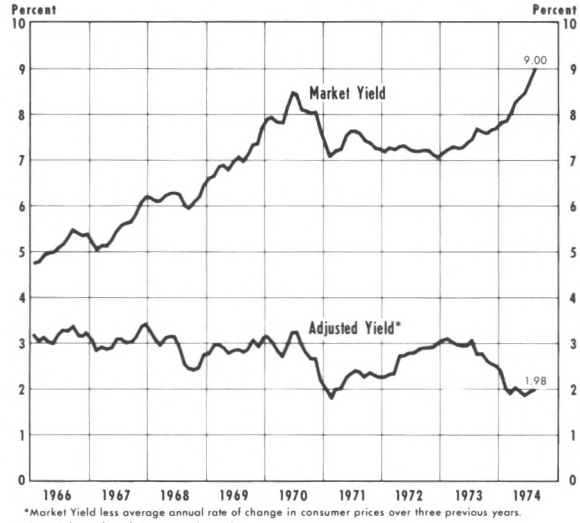
The increase in the monetary base predominantly reflected the fact that the Federal Reserve System purchased a large volume of Government securities and the Treasury monetized the proceeds of the May 1972 and October 1973 changes in the official price at which the U.S. gold stock is valued. The monetary base averaged $20 billion higher in 1973 than in 1970, the Federal Reserve's holdings of Government securities averaged $17.8 billion more in 1973 than in 1970, and the Treasury's actions subsequent to the two official revaluations of the U.S. gold stock added $2 billion to the monetary base.

A central bank policy of buying Government debt and providing the monetary base for a rapid expansion of credit has the initial effect of holding interest rates below what they would be in the absence of such a policy. However, the growth of the monetary base determines the growth of the money stock. The close relationship between accelerations and decelerations in the growth of base and money can be seen by comparing Charts II and III. Therefore, a policy of attempting to resist movements in market interest rates also leads to a rapid expansion of the amount of money balances which individuals must absorb into their wealth portfolios. From 1970 to 1973, the money stock grew on the average at about a 7 percent annual rate. This is more than three times as fast as over the 1952-62 period of slowly rising prices. As discussed earlier, the rapid growth of money led to a progressive upward movement in the rate of change of prices and this led to a growth in the demand for credit.

Today's high levels of interest rates largely reflect the accelerating rate of inflation in the United States. When the current rate of inflation is taken into consideration, interest rates are not unusually "high." As shown in Chart IV, relative to the rate of inflation, adjusted yields on Corporate AAA bonds are currently lower than any time within the last eight years, with the exception of early 1971. Although long-term market interest rates have been rising sharply since early 1973, the adjusted yield has been falling since about mid-1973.

Chart IV

Yields on Highest-Grade Seasoned Corporate Bonds



*Market Yield less average annual rate of change in consumer prices over three previous years.
Latest data plotted: August estimated

Through the middle of 1974 the Federal funds rate, the key interest rate used in short-run operating strategy, has risen sharply. However, there is some question as to whether the Federal funds rate has risen because the Federal Reserve pushed the rate up, or in spite of Federal Reserve actions. In times of rapid increases in the demand for credit, it becomes almost impossible for the Federal Reserve to hold interest rates constant. The more vigorously the Federal Reserve tries to hold interest rates down, the more rapidly the monetary base grows and, consequently, the more rapid the growth in the money stock.

An increased rate of growth of the money stock appears to have two effects on expectations of financial market participants. First, they have learned by experience over the last 8-10 years that a maintained faster growth of money means a higher rate of inflation, and that means higher interest rates. Also, financial market observers have some idea about the Federal Reserve's desired growth path for the money stock. When they observe the money stock growing faster than what they think is the Federal Reserve's intent, then they expect that the Federal Reserve will have to tighten policy, and hence expect higher interest rates, at least in the immediate future.

To restrict the growth of the money stock in periods of rising demands for credit, the Federal Reserve must raise its target range for the Federal funds rate *ahead of* the market determined level. If increases in the target range for the Federal funds rate *lag* the market-determined rate, then the money stock will accelerate, even though the Federal funds rate moves upward quite rapidly.

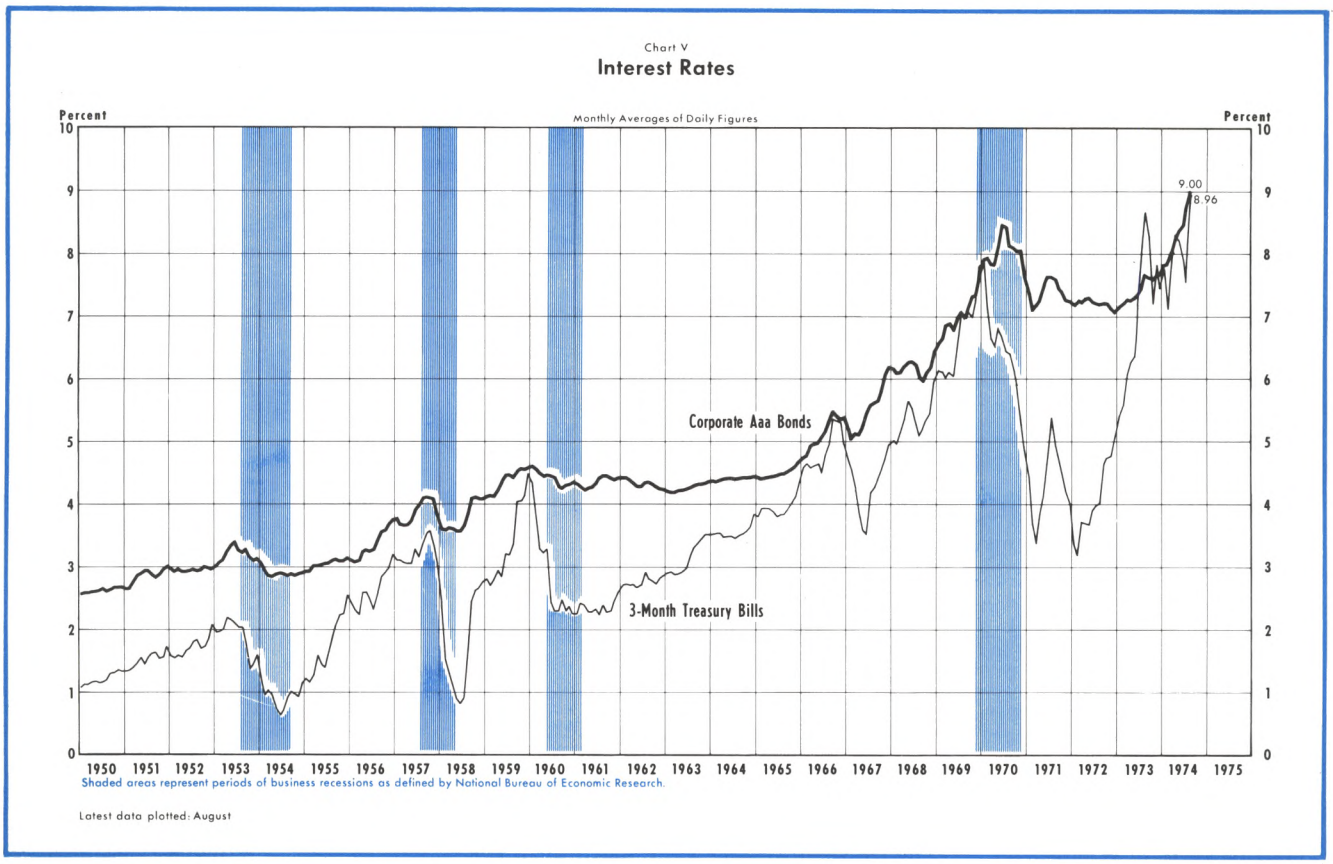
Central bankers must be extremely wary of statements that, because interest rates are high, money is tight or monetary policy actions are restrictive. Such statements exhibit a fundamental confusion between money and credit that can be fatal for attempts to slow inflation. Interest rates are the price of *credit,* not the price of *money.* The reason the price of credit is high is not because money is tight, but because it has been too easy. The previous rapid growth of money has generated an expected rise in demand and rising prices and, hence, growing demands for credit. Comparing Chart V and Chart II, it can be seen that, empirically, it is the case that low interest rates, not high interest rates, follow a period of tight money.

Effect of Inflation on Financial Markets

An important part of the financial sector of the United States is composed of financial intermediaries which borrow short-term and lend long-term. These institutions are primarily engaged in financing mortgage credit demands, and consist of institutions such as savings and loan associations, mutual savings banks, life insurance companies, and real estate investment trusts. For these financial intermediaries it is not the level of the term structure of interest rates that is of primary importance, but variations in the level.

In an accelerating inflation, market interest rates on assets competitive with savings deposits are rising, and savings institutions must raise the interest rates they pay to borrow short-term or face an outflow of deposits. Under such circumstances, the savings institutions come under considerable pressure. The cost of borrowing short-term rises rapidly, but the bulk of their portfolio of assets is locked into nonliquid long-term mortgages that have a fixed interest rate.

The smooth operation of financial markets is also adversely affected in other ways by inflation. For



example, bond dealers are reluctant to take positions in long-term securities, because with rapidly rising interest rates, there is an increasing risk of capital loss.

A potentially serious situation can develop if a few large financial institutions misread the future path of interest rates. Suppose a lender expects that interest rates will fall in the next six months. In late 1973 and early 1974 several respected financial advisory services were forecasting falling interest rates. The lender will then try to borrow short-term in order to extend his long-term assets. For example, a bank would try to increase its borrowings in the Federal funds market and sell short-term large certificates of deposit, while extending longer-term business loans and purchasing longer-term Government securities. If, however, short-term rates rise very rapidly, instead of falling as predicted, then our hypothetical bank will incur losses.

From early December 1973 through late February 1974 short-term interest rates in the United States fell while longer-term interest rates continued to rise. From late November to late February, large commercial banks increased their term business loans by about $1.3 billion and their holdings of Government securities with over 5 years to maturity by about $600 million. Over the same period, the volume of large certificates of deposit outstanding increased by about $2 billion and the average net purchase of Federal funds rose by $2.6 billion. In early March, short-term interest rates began to increase and over the following months rose very sharply. The market rate on 90 day certificates of deposit rose over 300 basis points from late February to mid-May, and the rate on Federal funds rose over 250 basis points. Therefore, the cost to an individual bank of obtaining short-term funds to finance term loans made during late 1973 and early 1974 and to carry securities purchased during that time rose substantially in the following three months.

This discussion is not an attempt to picture the financial system as "inherently unstable." It is intended to show that attempts by the monetary authorities to resist demand-determined upward pressures on interest rates, except in the very short run, do not result in easing financial market pressures. As the monetary authorities expand the monetary base, money expands and ultimately there are greater upward pressures on interest rates as the demand for credit increases. Ultimately, such a policy results in greater, not less, strain in the financial markets, and makes the problems encountered by the central bank when it attempts to slow inflation that much greater. This is

especially true because some financial operators still appear to believe that the monetary authorities can hold market interest rates below the level determined by fundamental market factors. The only way to eventually achieve lower interest rates is to slow the growth of money and credit. However, this implies additional temporary upward pressures on interest rates, and further raises the spector of another "credit crunch". These factors further illustrate that, the longer inflation is permitted to develop, the more difficult it is to stop.

Effect of Price Controls on the Predictive Performance of Econometric Models

It is very difficult to judge the effect of inflation on the predictive performance of the Federal Reserve Bank of St. Louis model, as well as any other model. During most of the period since August 1971 the U.S. economy has been subject to various types of price controls. These controls probably distorted the behavior of prices relative to what they would have been without controls. Under these conditions, econometric models are only a guide to the upward pressures that are building on prices.

For example, the St. Louis model overestimated the reported rise in prices during the period of price controls, but since the lifting of most price controls, it has underestimated the increases in prices. On balance, the model has fairly accurately projected the long-run behavior of prices. As shown in Table I, fitting the model through the second quarter of 1971, the last full quarter before price controls, and projecting through 1973 shows that the model estimated about a 5 percent growth of the price deflator from II/71 through IV/73. Actual reported prices rose at a much slower rate during the price control period, then accelerated as price controls were lifted.

Table I

Ex Ante Projections of the GNP Price Deflator Using the St. Louis Model*

Rates of change from II/71 to:	Actual	Ex Ante
III/71	2.6%	5.0%
IV/71	2.2	5.0
I/72	3.3	5.0
II/72	3.0	4.9
III/72	3.0	4.8
IV/72	3.2	4.8
I/73	3.5	4.7
II/73	4.0	4.6
III/73	4.5	4.6
IV/73	4.9	4.5

*Equation fitted through II/71.

Real vs. Nominal Quantities

The use of real instead of nominal quantities as guides to monetary policy can be extremely dangerous.[3] First, all that policymakers, as well as other economic agents, observe is nominal interest rates and money balances. They never observe real interest rates or real money balances, and economists cannot agree on how to accurately measure these real quantities. This is not to say that the rate of inflation does not enter into the public's decision to borrow, nor their decision as to the amount of money balances they desire to hold. However, the crucial distinction for central bankers is that, while individuals adjust their money holdings to prices, for the economy as a whole, prices adjust to the amount of money. Secondly, the ratio of money to some price index is a faulty indicator of tightness or ease of monetary policy because this ratio is determined by the public and is ultimately beyond the control of the monetary authorities. Monetary actions have only a temporary effect on real money balances.

There are five periods from 1955 to 1973 when the ratio of money to commodity prices declined for two quarters or more: 1955-57, 1959-60, 1966, 1969, and 1973. Prior to 1973, each period in which "real balances" declined for two quarters or more was followed by a significant slowdown in economic activity, ranging from the 1966-67 mini-recession to full-scale recessions in the other periods.

In 1955-57, 1959-60, 1966, and 1969 a large portion of the decline in real balances reflected a sharp drop in the rate of growth of the money stock below its trend. The deceleration in money growth in 1973 was not as abrupt. Instead, the indicated decline in "real balances" in 1973 reflected, in large part, the reported acceleration of inflation.

Since the adjustment of prices to a change in the trend rate of money growth is estimated to take from four to six years to complete, it is probable that the economy is still adjusting to the accelerated rate of money growth over the last three and one-half years. Supporting evidence for this contention can be found in the movement of interest rates in 1973.

[3]This section draws heavily on the article by Denis S. Karnosky "Real Money Balances: A Misleading Indicator of Monetary Actions," this *Review* (February 1974) pp. 2-10.

The inflation of last year, instead of threatening to restrict aggregate demand by eroding real money balances below desired levels, reflects instead the efforts of the public to dispose of excess money balances. On the basis of past experience, if the money stock continued to grow at an average rate of close to 6.5 percent, such as since early 1970, this adjustment would continue at least through 1974.

The arguments which contend that monetary policy is restrictive, on the basis of the recent decline in "real money balances," imply to some analysts a recommendation to policymakers to increase the rate of money growth above the rate of inflation in order to restore the growth of real balances. Both theoretical analysis and the experience of other countries indicate that there are few more dangerous courses of action that any monetary authority could undertake.

A further increase in the rate of money growth, above its current trend rate of about 6.5 percent would only generate pressure for further inflation. It is not possible to avoid the adjustment of real money balances to the level desired by the public by increasing the rate of money growth.

One extreme example of the futility of a policy of trying to make money grow fast enough to prevent desired real balances from falling is given by the German experience in the early 1920s. By late 1923 tax receipts of the German government were covering less than one percent of its expenditures. To finance its expenditures, the government borrowed from the Reichsbank, which simply turned on the printing presses. The majority of trained economists in Germany refused to believe in a chain of causation running from the growth of the money stock to the growth of prices. Rudolf Havenstein, President of the Reichsbank, tended to believe that the rise in prices created a need for money on the part of businessmen and the government which was the Reichsbank's duty to meet, and which would have almost no harmful effects on the economy. When complaints of "shortages" of money arose, despite the issue of denominations as large as 100 trillion marks, Havenstein seriously expressed hope that new high-speed currency printing presses soon to be installed would overcome the shortage.[4]

[4]The material in this section draws upon Leland B. Yeager, *International Monetary Relations* (New York: Harper and Row Publishers, 1966), pp. 269-72), and quotes from the League of Nations Study, *The Course and Control of Inflation*. See also, Frank D. Graham, *Exchange, Prices and Production in Hyper-Inflation: Germany 1920-23* (New York: Russell and Russell, 1930).

PROPOSALS TO OFFSET INFLATION

Recently, proposals for tying future payments in contracts to some price index (so-called indexing) and explicit payment of interest on demand deposits have been suggested as ways of removing some of the losses associated with unexpected future price movements.

Indexing

The use of indexing has increased in the U.S. economy as inflation has accelerated. Recently, the U.S. Congress decided to tie social security payments to the consumer price index, and more wage contracts are being written with cost of living escalator clauses, not only for wages, but also for pensions.[5] However, these actions represent only partial indexing. At present, it does not appear that the U.S. is likely to adopt a full economy-wide pattern of indexing. Especially difficult problems would arise when indexing such items as interest rates. For example, attempts to develop variable interest rate mortgages have met with less than enthusiastic support.

Partial indexing probably creates more problems than it solves. Groups whose flow of payments are linked to some price index will be far less willing to support efforts to halt inflation. This is especially true because policies taken to slow inflation also involve some short-run rise in unemployment. It is one thing to explain the reason for tighter fiscal and monetary policy to an individual by pointing out that increased Government spending financed by money creation results in a fall in his real income; it is much more difficult, however, to convince him of the merits of tighter fiscal and monetary policy when his income is tied to a price index.

The actual implementation of generalized indexing presents considerable practical difficulties. What price index will be chosen? Who will decide the way to index prices? What about outstanding contracts? How do you index profits? For example, there has been considerable furor raised over recent attempts to broaden the coverage of the consumer price index. Also, some aspects of indexing would require substantial changes in tax laws, for example, tying the personal exemption to inflation and taking the effect of inflation into account in computing depreciation

[5]For about 5 million workers, changes in their incomes are tied to changes in the consumer price index. Receipts of an additional 3 million food stamp recipients and all social security recipients are also affected by changes in the CPI.

and capital gains. Also, all state usury laws would have to be abolished and regulations on payment of interest on time and savings deposits would have to be removed or modified. The effect of many indexing proposals would be to hold the Government's tax revenues constant as inflation increased. In inflation the cost of existing Government operations would rise, and if there was no cut in Government operations, deficit financing would increase. These decisions move us from the field of economic theory into the area of politics and bureaucracy. Having observed the fiasco of wage and price controls, the author is none too confident that the Government can resist the temptation to selectively intervene in the development of an indexing system, and hence is doubtful that a viable system of indexing can be developed.

Interest Payments on Demand Deposits

Generally, the arguments that have been advanced for prohibition of interest payments on demand deposits in the United States are not supported by empirical evidence. Currently, commercial banks pay an implicit rate of interest on demand deposits: the cost of servicing demand deposits is greater than service charges by banks. This probably leads to some inefficiency in allocation of resources that could be avoided if banks paid a market-determined interest rate on demand deposits and charged depositors the full cost of bank services.

However, as a practical matter, a widespread movement in support of payment of interest on demand deposits does not appear likely in the near future. Changes in legislation would be required to permit commercial banks to make explicit interest payments on demand deposits, and there does not appear to be wide enough support for these changes from any well-organized political group.

CONCLUSIONS

The way to reduce inflationary pressures in the United States economy is to slow the growth of the money stock. On an average-of-year to average-of-year basis, the money stock grew at about a 7 percent rate from 1970 to 1973. It seems to be a generally accepted proposition in economics that the growth of prices adjusts to the growth of money over an extended period of time. Therefore, if the 7 percent rate of money growth experienced over the last three years in the United States is maintained, this implies our economy will adjust toward a long-run 6-7 percent rate of inflation. The recent surge in prices reflects partly an adjustment to the removal of price controls, and partly the continued upward adjustment to the average growth of the money stock.

The only way to halt the upward movement of interest rates is to slow money growth. If our economy is being forced to adjust to a 6-7 percent annual rate of inflation, then nominal interest rates on long-term bonds will not remain at around 8 percent but probable will rise to 9-10 percent.

In the United States the central bank can halt the growth of the money stock. The Federal Reserve, through its open market operations, can control the growth of the monetary base, and hence control the growth of the money stock. The Federal Reserve is on record as having the intent to slow the growth of the money stock. The intent of policy is not to cause a dramatic halt to money growth, because of the short-run effects on employment, but to gradually reduce the trend growth of money.

Whether or not this "intent" is realized will crucially depend upon (1) the Government's willingness to exercise restraint in its spending, and (2) a willingness on the part of the Federal Reserve to allow market interest rates to rise temporarily to high levels. As discussed earlier, nominal interest rates that seem extremely high by historical standards are not high when the current rate of inflation is taken into account.

It is useful to refer again to the German experience of 1920-23 to see how excessive government spending and central bank creation of money become bound together, and how difficult it is for any central bank to pursue a monetary policy that runs counter to the government's fiscal policy.

> This fundamental cause, insofar as it does not rest on the balance of payments, is . . . the boundless growth of the floating debt and its transformation into the means of payment . . . through the discounting of the Reich Treasury bills and the Reichsbank.
>
> Here too the Reichsbank is alleged to be guilty, because it has not opposed the Reich government and fiscal administration by refusing to continue the discounting of Treasury bills. This reproach is also unjustified and completely misjudges the actual situation. The Reichsbank has done all it could do with any chance of success. For years . . . it has continually called attention to these conditions and demanded a remedy in the most serious and urgent way, but it was not in a position to stop the discounting of Treasury bills as long as the Reich had no other available means to cover its deficit, and as long as all groups in the legislature were not fully convinced that such means absolutely have to be found. For the Reich must live, and real renunciation of discounting in the face of the tasks set by the budget . . . would have led to chaos. The threat of a general refusal to discount Treasury bills would have been

nothing but a futile gesture. Only very recently, under pressure of dire necessity, have all groups in the legislature been convinced . . . that fiscal policy absolutely must be based upon adequate sources of income.[6]

[6]Rudolf Havenstein, "Defending the Policy of the Reichsbank" (Address to the Executive Committee of the Reichsbank, August 25, 1923) in Fritz K. Ringer, *The German Inflation of 1923* (New York, Oxford University Press, 1969), pp. 93-96.

Somehow the public must be convinced that once inflation has gained a firm foothold there is no painless way to halt it. Also, the public must realize that goods provided by the government are not free goods. If the government sector absorbs and redistributes a larger segment of real output, then the private sector must be satisfied with a smaller share. Unless these fundamental facts are understood, then the good "intent" of policy will probably not be realized.

Author's Note

Since this paper was prepared in May 1974, there has been a revision of money stock data for the first half of 1974. The revised data suggest that monetary actions in the United States have been directed at reducing inflation with a minimum impact on employment. For example, on a quarterly-average basis, from second quarter 1973 to second quarter 1974, the money stock grew about 6 percent. This represents a moderate reduction in the average growth of 7 percent recorded from first quarter 1970 to second quarter 1973. It also represents a move away from the pattern of accelerating money growth experienced over the period since early 1970.[1]

Since May, however, inflation has continued to accelerate at an alarming rate, and interest rates have continued to rise. For example, from December 1973 to July 1974, consumer prices rose at about a 12 percent rate, and most forecasters see little reduction in the rate of inflation through the remainder of 1974. Yields on corporate bonds are up about 70 basis points over their May levels, mortgage rates have risen, the prime commercial bank loan rate is up 50 basis points from the end of May, and commercial paper rates and Treasury bill rates are up over 100 basis points.

While prices and interest rates have continued upward, real output has declined. Over the first two quarters of 1974, GNP in constant dollars decreased at a 4 percent annual rate. This continues the slowing in real output growth that began in early 1973. For example, from the first to the fourth quarter of 1973, real output grew at about a 2 percent rate, compared to a growth rate of 6.7 percent from fourth quarter 1970 to first quarter 1973.

In the author's opinion the recent sharp acceleration in inflation and the slower growth of real output must be viewed in the long-run context of the whole period since late 1970 when the most recent expansion began. On balance, since the fourth quarter of 1970, the general price index has risen at a 5.7 percent annual rate, about in line with what would be expected from a 6.5-7.0 percent average growth rate of money. Real output has risen at about a 4 percent average rate, about in line with the longer-run growth of the productive capacity of the economy. By looking only at the performance of the economy in the last one and one-half years, one gets a distorted view of the performance of prices and output. Over the period prior to early 1973, real output grew at a rate far in excess of its long-run potential growth, and prices were artificially held down by wage and price controls. The recent sharp surge in prices reflects the adjustment to the trend growth of money, following relaxation of wage and price controls, and special situations in some domestic and foreign markets. These adjustments may well continue through 1974.

The recent performance of the economy has led some people to suggest that fiscal and monetary policy be directed at stimulating economic activity. Such a policy response might well frustrate the intent of slowing inflation without substantially affecting the rate of growth of employment. The criterion of patience must be added to the other criteria for successful achievement of an intent to slow inflation.

[1]From I/70 to I/72 money grew at a 6.3 percent rate, then from I/72 to II/73 money grew at an 8.1 percent rate.