Statement by
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Chairman, Board of Governors of the Federal Reserve System
before the
Committee on Banking, Housing, and Urban Affairs
United States Senate
February 16, 1983
I am pleased to be meeting again with this Committee to discuss the Federal Reserve's objectives for monetary policy and their relationship to the prospects for the economy. You already have received the official Monetary Policy Report to Congress that is required under the Humphrey-Hawkins Act. My comments today will expand upon some of the points raised in that report, focusing in particular on our objectives with respect to monetary policy and the obstacles that, unless dealt with effectively, could deflect the economy from the path of sustained expansion we would all like to see.

Our economy has been going through wrenching adjustments during the past year and a half. With production falling into sharp recession, the unemployment rate rose to a postwar high. A large share of our industrial capacity is idle. Profits are depressed, and there have been exceptionally large numbers of business failures.

Conditions in most other industrialized countries, in greater or lesser degree, have paralleled those in our own economy, and large sectors of the developing world have faced the need for forceful measures to deal with internal and external imbalances. All of this has been reflected in, and accompanied by, pressures on domestic and international banking markets.

At the same time, out of this turmoil and stress we can see elements of change and returning strength that bode well for the future. In particular, striking progress has been made in reducing inflationary pressures. The measured rate of inflation
in 1982 was the lowest in a decade, and forces are at work that, carefully nurtured, can continue that progress during recovery. Interest rates have fallen substantially from the high levels of the past couple of years; as confidence builds that inflation can be held in check, further declines should be sustainable. Business and labor have responded to the market forces by taking measures to cut costs and improve efficiency, and those measures should have a healthy effect long after the recession has passed.

At the turn of the year, signs appeared that the decline in economic activity was ending and that recovery might soon develop. Housing construction, auto sales, and factory orders have all improved in recent months. The sharp downturn in unemployment reported in January should be interpreted cautiously in the light of the month-to-month volatility of those estimates, but indications of some firming in labor demand are heartening.

In sum, this has been a time of disappointment and strain -- but also a period of great potential promise. That promise lies in the prospect that, under the pressure of events, we -- in government, in business and labor, and in finance -- are facing up to what is needed to sustain recovery into long years of healthy growth.

I know that this has also been for many a time of frustration and doubt. Unemployment of a willing worker is always a threat to personal and family stability; on a wide scale it is an affront to our sense of social justice. To a
generation grown accustomed to accelerating inflation, a year or two of progress toward price stability simply isn't enough to quell fears that the earlier trend will resume as the economy picks up speed. We have been disappointed before when early signs of recovery faded away. Federal deficits persisting at levels beyond any past experience are unsettling to more than financial markets. We have been jarred to the realization that a serious international financial disturbance is not just something we read about in books of economic history but could recur unless we are alert to the dangers and deal aggressively with them.

Uncertainty and confusion are perhaps inevitable in a period of change -- even constructive change. But they can easily be destructive without a clear conception of where we want to go and how to get there. My conviction is that much of the stage has been set for long-lasting, non-inflationary expansion. But we also have to be realistic and clear-sighted about the threats and obstacles that remain, confident that being known, they can be cleared away.

The Prospects for Stable Growth

The unchanging goal of economic policy, embodied in the Employment and Humphrey-Hawkins Acts, has long been growth in employment, output and productivity at relatively stable prices. That goal for a decade and more increasingly eluded us, not least because of an illusion for a time that the stability side
of the equation could be subsidiary. Once inflation gained strong momentum, it was doubly hard to contain without transitional pain. But after several years in which the effort against inflation has had high priority, there are today solid grounds for believing the signs of incipient recovery can be the harbinger of performance much more in line with our goals.

We approach our discussion on monetary policy with the intent of fostering that result. But, of course, monetary policy alone cannot do the job; other instruments of policy and the attitudes of business and labor will be crucial as well.

The latest price statistics confirm the progress against inflation. But the fact that all the major inflation indices increased by 5 percent or less during the course of last year -- or that the producer price index actually dropped in January -- does not mean that the battle is won.

Those gains have been achieved in the midst of recession, with strong downward pressures on prices and costs from weak markets. We cannot build a successful policy against inflation on continued recession. The question remains as to how prices will behave as the economy recovers -- after six months or a year of rising orders, employment, and production.

In recent weeks, increases in some highly sensitive commodity prices have been cited as a danger sign. Those commodities are subject to speculative influences, but, surely, an increase in some prices that have been severely depressed during recession is not itself a signal of change in more basic price trends.
One widely used index of sensitive industrial commodity prices — excluding oil — declined by about 35 percent from the end of 1980 through late 1982, carrying many of those prices to levels that could not justify new investment or even maintenance of existing output. Within limits recovery in those prices would be a natural, and probably necessary, part of any expansion and will not dominate more general price statistics.

In fact, the single commodity of major importance to the general price level — oil — is in surplus supply, and the price in real terms has been declining. I cannot prophesy the degree to which the nominal price of oil might decline in coming weeks or months, if at all. But barring a major political upset, prospects appear exceptionally good that stable or falling real prices for finished petroleum products — which account for 8-9 percent of the GNP — can reinforce progress against inflation for some time ahead. We also have large stocks of basic food commodities, providing some assurance against a sharp run-up of prices in that area.

It is labor costs that account for the bulk of the value of what we produce, and our success against inflation in the longer-run will need to be reflected in the interaction of wages, productivity, and prices. It is also in this area that recent signs of progress can prove most lasting.

The upward trend of nominal wages and salaries slowed noticeably last year, with average wages rising by about 6 percent from the fourth quarter of 1981 to the fourth quarter of
1982; total compensation (including fringes) rose just over 6-1/2 percent. The trend during the year seemed to be declining, and in the midst of pressures on profits, markets, and employment, could well show further declines. The sharply lower inflation figures -- below the rate of wage increase -- moderate one source of upward pressures on new wage agreements. Longer-term union agreements negotiated in earlier more inflationary years are expiring, tending to further moderate the wage trend.

The slower increases in nominal wages have been fully consistent with higher real wages for the average worker precisely because the inflation rate has been declining. Continuation of that benign interaction among lower inflation, lower nominal wages, and higher real wages -- combined with recovery in profits -- must be a central part of a non-inflationary recovery -- and thus to sustaining expansion.

Those prospects will be greatly enhanced by improved productivity performance; over time, only an increase in productivity can assure higher real wages and profits. Happily, after dwindling away to practically nothing during the 1970's, the signs are that productivity is rising once again. Tentative evidence can be found in preliminary data suggesting productivity rose by almost 2 percent last year in the midst of recession, an unusual development when production is declining. Those statistics are consistent with reports from business that significant progress has been made in improving efficiency and in reducing "break-even" points.
During the early part of recovery, productivity usually grows more rapidly. Consequently, a combination of rising cyclical and "trend" productivity with more moderate nominal wage gains should reduce the increase in unit labor costs further as a recovery takes hold. For example, a rise in hourly compensation of less than 6 percent this year would appear consistent with recent trends. Should productivity increase by 2-2½ percent — an expectation that would appear modest in the light of recent experience — unit labor costs would rise by significantly less than 4 percent, low enough to maintain and reinforce progress on the price front.

As confidence grows that the gains against inflation are sustainable, an expectation of further declines in interest rates should be reinforced. Today, short and particularly longer-term, interest rates, despite the large declines last year, remain historically high in nominal terms and measured against the current rate of inflation. A number of factors contribute to that, including the present and prospective pressures from heavy Treasury borrowing. But concerns that recent gains against inflation may prove temporary are checking the decline in interest rates.

We will certainly need higher levels of investment and housing as time passes to maintain productivity, to support real income gains, and to keep supply in balance with demand. Lower interest rates are certainly important to that outlook, but what is essential is that those lower levels can be sustained over time. That is one reason why policies need to remain strongly sensitive to the need to maintain the progress against inflation — uncertainty on that point will ultimately be self-defeating in terms of the interest rate environment we want.
An improved climate for work, for saving, and for investment -- the objective of the tax changes introduced in 1981 -- should also materialize in an economic climate of recovery and disinflation, helping to keep the process going. Rising real incomes will also be reflected in consumer demand -- an area of the economy already supported by the large deficits. As living standards rise and fears of inflation fade, pressures for excessive and "catch-up" wage demands should subside.

In sum, there are strong analytic reasons to believe that the incipient recovery can develop into a long self-reinforcing process of growth and stability. The challenge is to turn that vision into reality.

Obstacles and Threats to Progress

Of course, there are obstacles to that vision; some need to be dealt with promptly, and some will need to be guarded against as we move ahead. The more firmly we move to deal with those threats -- by action now and by setting ourselves clear guidelines for the future -- the faster we can end the doubts and restore the confidence necessary to success.

The Federal Deficit

The most obvious obstacle that looms ahead is the prospect of huge Federal deficits even as the economy expands. I have spoken to the point on a number of occasions, and will soon be testifying before the Budget Committee. Today, I will only summarize the problem in a few sentences.
The bulk -- but far from all -- of our present $200 billion deficit reflects high unemployment and reduced income. At a time of recession and relatively low private credit demands, the adverse implications of the current deficit for interest rates and financial markets may be muted. But the hard fact is that the deficit, as things now stand, will remain in the same range, or rise further, as recovery proceeds and private credit demands rise. In other words, the underlying imbalance between our spending programs and the revenue-generating capacity of the tax system at satisfactory levels of employment ("the structural deficit") promises to increase as fast as the "cyclical" deficit declines.

That prospect, essentially without precedent in the past, threatens a clash in the financial marketplace as huge deficits collide with the needs of business, homebuyers and builders, farmers, and others for credit. The implication is higher real interest rates than necessary or consistent with our investment needs in the future and expectations of that future "clash" feeds back on markets today. The adverse consequences are reinforced and aggravated by the widespread instinct in financial markets and among the public at large that such large
deficits will feed inflation by creating pressures for excessive money creation or otherwise, leading to doubts about the success of the disinflationary effort.

That outlook and analysis is essentially agreed by the Administration, the Congressional Budget Office, by citizen groups that have expressed alarm about the budgetary situation, and by independent budget analysts. It is that broad consensus on the nature of the problem that provides a base for the necessary action. What remains to be done is to take those actions — fully realize the sensitivity and difficulties of the choices to be made. But I am also aware, as I am sure you are, that a great deal depends on a successful resolution of those efforts.

The International Economic and Financial Situation

The risks and uncertainties in the present situation are compounded by the fact that so much of the world is in recession, and adverse trends in one country feed back on another. For instance, falling exports have accounted directly for some 35 percent of the decline in our GNP during the recession; in past recessions, in contrast, our exports have typically grown, cushioning other factors depressing production and employment. After earlier periods of exaggerated weakness, the great strength of the dollar in the exchange markets over the past
two years contributed to the progress against inflation -- but it also depressed our exports. We cannot build the stability of our economy on extreme exchange rate fluctuations.

Another dimension of the risk is the danger that nations will try to retreat within themselves, insulating their economies by protectionist measures. But, as we learned in the 1930's, such policies only aggravate the mutual difficulties. Another aspect is instability in foreign exchange markets.

But today, we face another more immediate threat in the international financial area. I will reserve detailed comment for my appearance before you tomorrow. Suffice it to say now that the potential for an international financial disturbance impairing the functioning of our domestic financial markets at a critical point in our recovery is real. I firmly believe the major borrowers and lenders, with the understanding and support of Governments, central banks, and international institutions, can face up to and deal with those problems constructively. But the cooperative pattern we have seen emerge in managing these problems is absolutely dependent on the capacity of the International Monetary Fund to continue to play a key role at the center of the international financial system. Early Congressional approval of the enlargement of IMF resources, agreed by the Interim Committee of the Fund last week, will be essential to that effort.
Attitudes Toward Pricing and Wage Behavior

I have already described the pricing restraint and the trend toward more moderate increases in wages that have developed in the midst of recession. As best as I can assess it, the mood today is consistent with maintaining that momentum. There is realization that competitors at home and abroad have large potential capacity, and after all the efforts to cut "break-even" points, expanding volume will itself produce satisfactory profits as well as larger employment opportunities. The "smoke-stack" industries, hit so hard in the period of recession while already faced with the need for structural change and with particularly high wages by domestic or international standards, have particularly strong incentives for caution.

But there is, of course, another possibility. Business and labor -- habituated to inflation in the 1970's, highly sensitive to the failure to sustain past efforts to restore stability, and eager to restore past price or wage "concessions" -- may be tempted to test their bargaining and pricing powers much more aggressively as orders and production expand. If they were to do so, sensitivities of consumers and financial markets to the possibility of reinflation would only be aggravated, tending to keep interest rates higher and greatly increasing the difficulty of maintaining the economy on a non-inflationary path of growth.
This is an area where government policy can greatly contribute, by resisting protectionist pressures externally, and by removing or relaxing obstacles to competition in product or labor markets. Areas of the economy that have seemed almost impervious to the disinflationary trend and market pressures -- such as health care and higher education -- seem to me to deserve special attention.

Through all those particulars, however, restraint in price and wage setting can reasonably be expected only if government financial policy remains plainly oriented toward containing inflation. Without a sense of conviction on that score, the temptation to jump ahead of the pack -- to anticipate the worst -- as employment and orders are restored may become irresistible. The fact is both labor and business have much to gain from stability, and moderation in pricing and wages within a framework of financial discipline will be consistent with higher real wages, profits, and employment.

The skepticism that had been built up over many years about the resolve to deal with inflation has been reduced but not eliminated. There is little or no leeway at this stage for "mistakes" on the side of inflation. Policies designed with the best will in the world to "stimulate," but perceived as inflationary, may, unfortunately, produce more inflation than stimulus.
Monetary Policy in 1982

It is in that broad framework and context that monetary policy has been implemented in 1982 and that we in the Federal Reserve look ahead to 1983 and beyond. Our objective is easy to state in principle -- to maintain progress toward price stability while providing the money and liquidity necessary to support economic growth. In practice, achieving the appropriate balance is difficult -- and a full measure of success cannot be achieved by the tools of monetary policy alone. The year 1982 amply demonstrated some of the problems facing monetary policy during a period of economic and financial turbulence, and the need for judgment and a degree of flexibility in pursuing the objectives we set for ourselves.

As you know, policy with respect to the growth of money and credit has been rooted in the fundamental proposition that, over time, the inflationary process can only continue with excessive growth of money. Conversely, success in dealing with inflation requires appropriate restraint on growth of money and liquidity.

Those broad propositions must, of course, be reduced to specific policy prescriptions, and for some years the Federal Reserve has followed the practice, now required by the Humphrey-Hawkins Act, of quantifying its objectives in terms of growth ranges for certain measures of money and credit for the year ahead. In doing so, we have known that for significant periods of time the relationships between money and spending may be loose, that
there are recurring cyclical patterns, and that the mix of real growth and inflation can and will be affected by factors beyond the control of monetary policy. But we also count on a certain predictability and stability in the relationships over time between the monetary and credit aggregates and the variables we really care about -- output, employment and prices.

In 1982, however, those relationships deviated substantially from the patterns characteristic of the earlier postwar period. The simplest reflection has been in movements of "velocity" -- the relationship between measures of money and credit and the GNP. As shown on Table I attached, the velocity of M1, which had been trending higher throughout the postwar period, dropped at a rate of almost 4 percent over the past five quarters. The broader monetary aggregates (and broad credit aggregates as well) also behaved atypically in relation to the economy; their "velocity" dropped during the recession by larger amounts than usual. More sophisticated statistical techniques, taking account of lags, interest rates, and other variables, confirm the fact that "normal" relationships did not hold in 1982.

In establishing its various target ranges at the start of 1982, the Federal Open Market Committee specifically noted that a number of factors, institutional and economic, would affect the relationship of monetary and credit growth to the GNP, and contemplated that M1 in particular could deviate from expected patterns for a time in the event economic and financial
uncertainties fostered unusual desires for liquidity. In reporting to you in July of last year, I emphasized the Committee was prepared to accept higher periods of M1 growth for a time "in circumstances in which it appeared precautionary or liquidity motivations, during a period of economic uncertainty and imbalance, were leading to stronger-than-anticipated demands for money."

In the event, M1, after moving close to and within the target range around mid-year, grew much more rapidly later, ending the year with growth of about 8-1/2 percent, substantially higher than in 1981 and above the target range. (See Table II.) Both M2 and M3 tended to rise through the year somewhat more rapidly than the targets contemplated, averaging in the final quarter about 3/4 percent above the upper end of the target range. (Revised "benchmark" data and some partially offsetting definitional changes since the end of the year have reduced the "overshoot" to about 1/4 to 1/2 percent.)

In the light of the clear indications that velocity was declining more rapidly than in earlier recession periods, the absence of recovery during 1982, and recurrent strains in financial markets, "above target" growth was accommodated in the conviction that policy, in practical effect, would otherwise have been appreciably more restrictive than intended in setting the targets. The rapid declines in interest rates during the second half of the year -- encouraged in part by some actions to restrain the deficit and more broadly by growing realization of the degree of progress against inflation -- were clearly
welcome. Credit-sensitive sectors of the economy, as noted earlier, tended to strengthen. But after levelling off in the second and third quarters, economic activity dropped again in the final quarter in the face of heavy inventory liquidation. In all these circumstances, strong efforts to confine M1 growth to the target range seemed clearly inappropriate, particularly with the broader aggregates running quite close to their ranges.

An important further consideration during the final quarter was that some of the monetary aggregates were greatly influenced by purely institutional factors. The maturity of a large volume of "All Savers" certificates in October temporarily led to large flows into transaction balances counted in M1. Subsequently, highly aggressive marketing of new "money market deposit accounts" by banks and thrift institutions led to enormous inflows into the highly liquid instrument, which is classified within the M2 aggregate.

In the first seven weeks after the introduction of that account, which combines some characteristics of a transaction account with savings, more than $230 billion of money has flowed into the new instrument. The shift of financial resources is without precedent in amount and speed. While the great bulk of those funds simply reflected movements from lower interest accounts already included in M2, a sizable fraction -- estimates range to about 20 percent -- was derived from large certificates of deposit or market instruments not included in
that aggregate. The result has been a gross distortion of the growth of M2 in December and, more importantly in January.

No statistical or survey technique available to us can identify with precision the impact on M2 of these shifts of funds. The available data do suggest, however, that (taking December and January together) the underlying growth in M2 (that is, excluding shifts of funds formerly placed in non-M2 sources) was not markedly different from the general range established earlier. In other words, the exceptionally strong growth of M2 in January could most reasonably be treated as having no policy significance.

**Monetary Policy in 1983**

In setting out our monetary and credit objectives for 1983, the Federal Reserve has had no choice but to take into account the fact that "normal" past relationships between money and the economy did not hold in 1982, and may be in the process of continuing change. Part of the problem lies in the ongoing process of deregulation and financial innovation that has resulted in a new array of deposit and financial instruments, some of which lie at the very border of "transactions" and "savings" accounts, defying clear statistical categories.

Perhaps more significant over longer periods of time, both economic and regulatory change may affect trend relationships. Both declining rates of inflation and the growing availability of interest on transaction accounts at levels competitive to market rates could induce more holdings of cash
relative to other assets over time. The payment of interest
rates on transaction accounts could also affect the cyclical
pattern of M1. The broader aggregates, by their nature, should
be less sensitive over time to innovation since they encompass
a much broader range of assets, but the phased elimination of
rigid ceiling interest rates has changed cyclical characteristics.

All of this has greatly complicated the job of setting
targets for 1983. In setting the ranges, the Committee believed
that monetary growth during the year would need to be judged in
the light of developments with respect to economic activity
and prices, taking account of conditions in domestic credit
markets and internationally.

At the same time, the FOMC is well aware that past
cyclical expansions have typically been accompanied by sharp
increases in "velocity," particularly for the narrower aggregates.
We assume that, to some degree, that pattern will emerge again.
There is a strong presumption that the target ranges will not
be exceeded or changed without persuasive evidence, as in 1982,
that institutions or economic circumstances require such change
to meet our more basic objectives.

As set out in the formal Humphrey-Hawkins Report, members
of the Federal Open Market Committee and other Reserve Bank
Presidents participating in our discussions generally look
toward moderate recovery in 1983 in a context of declining or
stabilized inflationary pressures. While the individual forecasts
vary over a considerable range, the majority anticipates real
growth in the 3.5 to 4.0 percent area over the four quarters of 1983, fractionally higher than the Administration forecast. Nearly all expect the GNP deflator to rise less rapidly than the 5.6 percent projected by the Administration. Projections of nominal growth are mostly in the 8 to 9 percent area. In approaching its policy judgments, I believe the Committee recognized the desirability of achieving and maintaining a lower level of interest rates to encourage growth, but felt that this could only be realistic in a context of building on the progress already made against inflation. Efforts to force interest rates down at the expense of excessive liquidity creation could not be successful for long.

Against all this background, the Committee decided that, for the time being, it would place substantial weight on the broader aggregates, M2 and M3, in the belief that their performance relative to economic activity may be more predictable in the period ahead. (See Table III.)

The target range for M3, which is least affected by institutional change, was left at 6½ to 9½ percent, measured from the fourth quarter of 1982 to the fourth quarter of 1983.

The target for M2 was set at 7 to 10 percent and the base was shifted to the February-March average of this year to minimize the institutional distortions. Our assumption is the flow of funds into M2 from other savings media will have sharply subsided in coming weeks. However, the M2 target range does take account of staff estimates that residual shifting will probably raise M2 growth by 1 percent or a little more over the
remainder of the year; abstracting from such anticipated shifts, the M2 target, in practical effect, is the same or slightly lower than the target for 1982. Consistent with these targets, effective growth (that is, abstracting from the influence of shifts into new accounts) in both M2 and M3 is expected to be somewhat lower in 1983 than in 1982.

The M1 target was widened and set at 4-8 percent. Less emphasis has been placed on the M1 target in recent months because of institutional distortions and the apparent shift in the behavior of velocity. The degree of emphasis placed on M1 as the year progresses will be dependent upon assessment of, and the predictability of, its behavior relative to other economic measures, and the range may subsequently be narrowed. Over the year, growth in the lower part of the range would be appropriate if velocity rises strongly, as has usually been the case during recoveries. An outcome near the upper end would be appropriate only if velocity does not rebound sharply from the declines last year, and tends to stabilize close to current levels. Only modest allowance has been made for the new "Super NOW" accounts drawing funds into M1 from other sources, and the target would clearly have to be reassessed should the Depository Institutions Deregulation Committee permit depository institutions to pay market rates of interest on business accounts.

In addition, the Committee set forth for the first time its expectations with respect to growth of total domestic non-financial debt, and felt that a range of 8½ to 11½ percent would
be appropriate. Data for such a broad credit aggregate are not yet available monthly, nor are the tools available to influence closely total flows of credit. While the credit range during this experimental period does not have the status of a "target," the Committee does intend to monitor developments with respect to credit closely for what assistance it can provide in judging appropriate responses to developments in the other aggregates. The range would encompass growth of credit roughly in line with nominal GNP in accordance with past trends; the upper part of the range would allow for growth a bit faster than nominal GNP in recognition of some analysis suggesting a moderate increase in the ratio of debt to GNP may develop.

I appreciate the complexity -- for the Federal Reserve and for those observing our operations -- of weighing performance with respect to a number of monetary and credit targets, of taking account of institutional change, and of assessing the possibility of shifts in relationships established earlier in the postwar period -- a possibility that can only be known with certainty long after the event. But we also can sense something of the dangers of proceeding as if the world in those respects had not changed.

I neither bewail nor applaud the circumstances that have put a greater premium on judgment and less "automaticity" in our operations; it is simply a fact of life. In making such judgments, the basic point remains that, over time, the growth of money and credit will need to be reduced to encourage a return to reasonable price stability. The targets set out are consistent with that intent.
I understand -- indeed to a degree, I share -- the longing of some to encompass the objectives for monetary policy in a simple fixed operating rule. The trouble is, right now, in the world in which we live, I know of no such simple rule that will also reliably bring the results we want.

The basic rule we must observe is that the sustained forward progress of the economy is dependent on a sense of price and financial stability -- and without it, we will undercut the growth we all want. That objective, as I have emphasized, will require that we avoid excessive growth of money and credit because, sooner or later, that growth will be the enemy of the lower interest rates and stability we need.

I have given you our best judgment on the appropriate role for monetary policy in 1983. But, success in achieving our objectives is not in the hands of monetary policy alone--and we look forward to all elements of policy moving ahead in pursuit of those common goals.

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### Table I

Velocity of the Monetary Aggregates

<table>
<thead>
<tr>
<th>Year</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950 to 1982</td>
<td>3.2</td>
<td>0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>1950's</td>
<td>4.2</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>1960's</td>
<td>3.0</td>
<td>-0.2</td>
<td>-0.5</td>
</tr>
<tr>
<td>1970's</td>
<td>3.3</td>
<td>0.3</td>
<td>-0.9</td>
</tr>
</tbody>
</table>

**Annual rate of change in velocity**

<table>
<thead>
<tr>
<th>Year</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>2.1</td>
<td>0.4</td>
<td>-0.3</td>
</tr>
<tr>
<td>1981</td>
<td>4.3(7.0)</td>
<td>0.2</td>
<td>-1.9</td>
</tr>
<tr>
<td>1982</td>
<td>-4.8</td>
<td>-5.4</td>
<td>-6.2</td>
</tr>
</tbody>
</table>

Note: Annual changes based on years measured from QIV to QIV.

1/ Represents growth rates for the velocity of a money series measured as the sum of currency, M1 deposits, and all savings and time deposits at banks and thrift institutions. Data are not available to break time deposits by size before 1959, so that there is not a basis for distinguishing between M2 and M3 in the early period.

2/ Figure in parentheses represents velocity after abstracting from shifts into newly authorized NOW accounts in that year.

3/ For the five quarters ended with QIV '82, the velocity of M1 declined by almost 4 percent at an annual rate. One has to go back nearly 30 years, to 1954, to find a year with a significant 5-quarter decline; the five quarters ending in mid-1954 showed a 2 percent annual rate of decrease in M1 velocity. Other 5-quarter M1 velocity declines in the period since 1950 were extremely small—only .3 of a percent in the five quarters ending in the QII '58 and just .1 of a percent in the period ending with QIV '70.
Table II

Money and Credit Ranges and Actual Growth, 1982
(QIV '82 over QIV '81, except as noted)

<table>
<thead>
<tr>
<th>Range</th>
<th>Actual Growth After revision for benchmark and definitional changes</th>
<th>Before revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>2$\frac{1}{2}$ to 5$\frac{1}{2}$</td>
<td>8.5</td>
</tr>
<tr>
<td>M2</td>
<td>6 to 9</td>
<td>9.2$^{2/}$</td>
</tr>
<tr>
<td>M3</td>
<td>6$\frac{1}{2}$ to 9$\frac{1}{2}$</td>
<td>10.1$^{2/}$</td>
</tr>
<tr>
<td>Bank Credit$^{1/}$</td>
<td>6 to 9</td>
<td>7.1</td>
</tr>
</tbody>
</table>

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1/ Base for range was the average for Dec. '81 and Jan. '82 to abstract from the distorting effects on bank credit of shifts of banks' loans and investments to the new International Banking Facilities, which had been authorized beginning in early December.

2/ The definitional changes were to exclude IRA-Keogh accounts from M2 and M3 and to include in those aggregates tax-exempt money market funds. These changes were made to maintain consistency in the treatment of similar financial assets—with IRA-Keogh accounts held in depository institutions, like other IRA-Keogh's and regular pension funds, now excluded from monetary aggregates and with all money market funds, tax-exempt or not, now included in the aggregates. The exclusion of IRA-Keogh accounts lowered growth of M2 and M3 by about 1 percentage point. Inclusion of tax-exempt money market funds raised growth of these two aggregates by about $\frac{1}{2}$ percentage point.
Table III

Monetary and Credit Growth Ranges for 1983
(QIV over QIV basis, except as noted)

<table>
<thead>
<tr>
<th>M1</th>
<th>4 to 8½</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2</td>
<td>7 to 10²/</td>
</tr>
<tr>
<td>M3</td>
<td>6½ to 9½</td>
</tr>
<tr>
<td>Total Credit³/</td>
<td>8½ to 11½</td>
</tr>
</tbody>
</table>

1/ This range allows for a modest amount of shifts from sources outside M1 into super-NOW accounts. Thus far, growth in those accounts has been relatively small. The range also assumes that authority to pay interest on transactions accounts is not extended beyond presently eligible accounts.

2/ Represents annual rate of growth from the average level of M2 outstanding in February-March 1983 to QIV '83. The February-March '83 base was chosen, rather than QIV of '82, so that growth of M2 would be measured after the period of highly aggressive marketing of money market deposit accounts (MMDAs) has subsided. These accounts, introduced in mid-December, rose to over $230 billion by early February, with a substantial amount of funds transferred into them from sources outside M2, such as market instruments and large CDs. The 7 to 10 percent range for M2 allows for some residual shifting from market instruments and large CDs into MMDAs over the balance of the year.

3/ Represents domestic nonfinancial debt.