

FEDERAL RESERVE BANK OF ST. LOUIS

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REVIEW



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Pitfalls to the Current Expansion

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THE economic expansion following the 1973-75 recession has entered into its fourth year.¹ Of the five previous economic expansions dated by the National Bureau of Economic Research, all but one lasted at least three years, but only one of these expansions was sustained beyond the four-year mark. The longer-run experience of U.S. business fluctuations since the end of the Civil War indicates that only three of the previous 25 business expansions lasted 16 quarters or longer, and each of these was associated with unusual circumstances such as war. As the current recovery completes its thirteenth quarter of expansion, this historical perspective brings into question whether forces are now developing which may soon end the current business expansion.

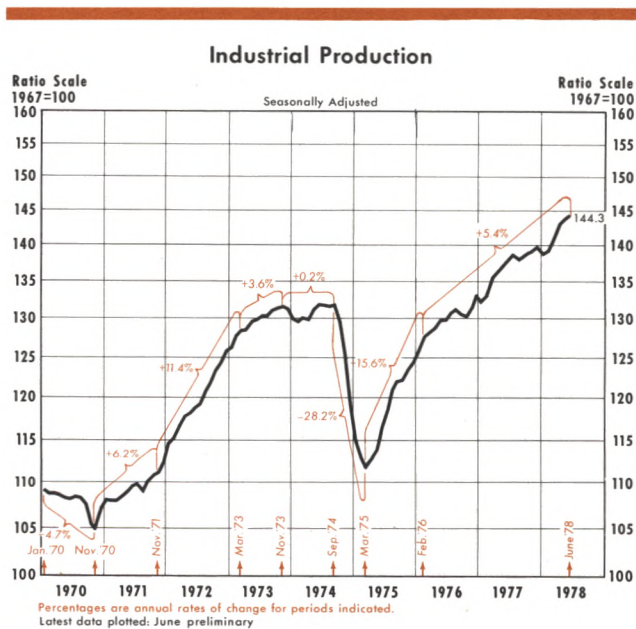
INTERPRETING RECENT ECONOMIC INDICATORS

Economy Shows Strength . . .

Indicators of business activity show the economy has continued to expand in recent months. From February to June, industrial production grew at an 11 percent annual rate, personal income increased at a 14 percent rate, and total employment rose at a 6 percent rate.

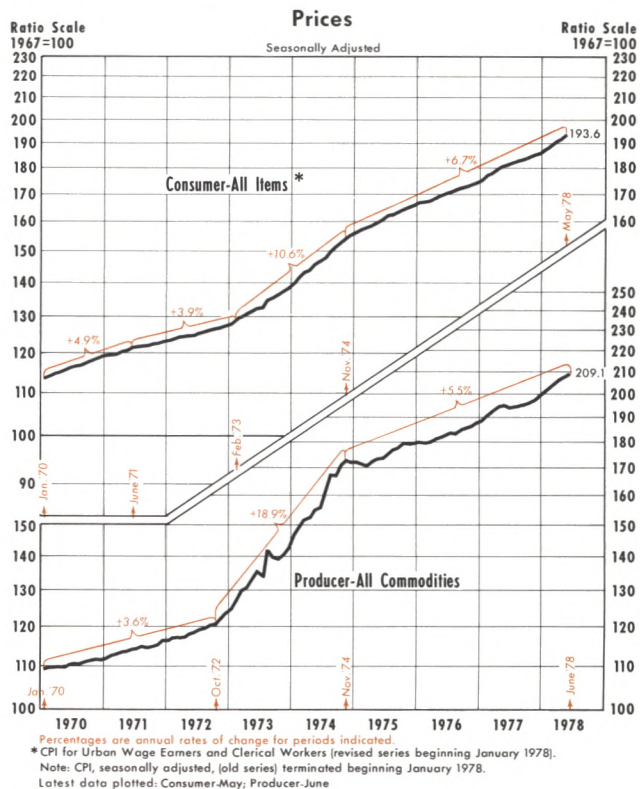
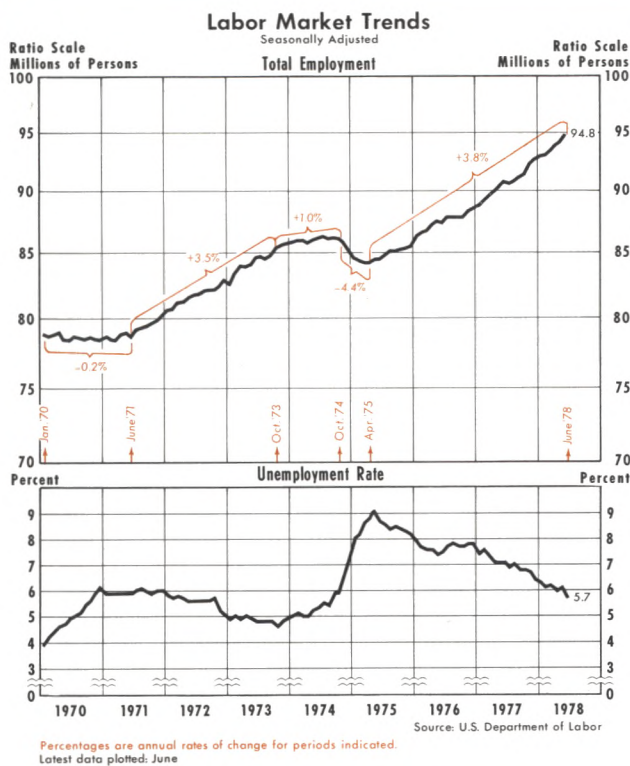
These rapid gains, however, followed temporary losses in economic activity in early 1978, which largely reflected the effects of the abnormally severe winter weather and lengthy coal miners' strike. The strength of recent economic activity, therefore, is

¹For a comparison of the first three years of the current expansion with other postwar expansions, see Jean Lovati, "A Perspective on the Economy: Three Years of Expansion," this Review (May 1978), pp. 2-7.



overstated in recent data since part of the increase represents a catch-up from the winter months. Most of this catch-up appears to have been registered in March and April, while in May and June most economic indicators continued to advance, but at substantially reduced rates from those in the preceding two months. For example, industrial production registered a 5.6 percent rate of increase in May and June, down from an unsustainable 17 percent rate of increase in March and April.

The growth of the economy over the winter slump and subsequent rebound period has been, on balance, similar to that registered in the preceding year. In the six-month period ending in June, industrial produc-



tion grew at a 6.7 percent annual rate, total employment advanced at a 4.8 percent rate, and personal income rose at an 11 percent rate, all of which are quite similar to, or somewhat above, the gains registered by the respective measures in the previous year.

... But Prices Accelerate

The most unfavorable economic development in recent months has been the sharp increases in prices. For example, producer prices for all commodities (formerly wholesale prices) rose at over an 11 percent annual rate in the first six months of 1978, much faster than the 5.9 percent increase recorded in 1977. But these recent increases also overstate the underlying inflation rate. Both agricultural and industrial commodity prices have increased sharply so far this year, although the acceleration has been most pronounced for agricultural prices. In some respects, these sharp increases are not unlike those registered in the early months of last year. For example, in the first six months of 1977, prices of farm products and processed foods and feeds rose at almost a 22 percent annual rate, but then registered a decline in the summer months and ended the year only 3 percent above a year earlier. Industrial commodity prices also increased sharply in the first six months

of 1977, registering a 7.6 percent rate of increase, similar to this year's experience; over the second half of 1977, however, these prices advanced at the more moderate rate of 5.9 percent.

Like last year, unusually bad weather hampered the production of some fruits and vegetables early this year. Some moderation in the rate of advance in food commodity prices can be expected as these supplies are normalized, but changes in the supply of and demand for agricultural products have occurred which are not likely to be quickly reversed. In contrast to last year, prospects for the production of some major crops this season are down, partly based on Government actions to restrict acreages planted. In addition, demand for U.S. agricultural products is stronger this year, based in part on unexpected strength in foreign demand. In addition, some of the sharpest food price increases have been among meats, where the supply response is limited by the biological nature of the production process. Thus, sharp declines in agricultural commodity prices, such as occurred last summer, are not as likely this summer.

At the retail level, consumer prices have increased at about a 10 percent annual rate in the first five months of 1978, compared with an increase of 6.8

percent in all of 1977. Food prices have been one of the biggest gainers this year, registering an 18.5 percent rate of increase in the first five months of the year, while consumer items less food rose at about an 8 percent rate. Increases in food prices are expected to moderate in the second half of the year as the U.S. Department of Agriculture expects a rise of 8 to 10 percent in food prices for all of 1978. Such an increase in food prices, however, does suggest that consumer expenditures for food will accelerate from the rate of increase last year. Thus, to some extent, expenditures in other sectors may be slowed somewhat, lessening demand and price pressures in those sectors of the economy.

SHOCKS AND BUSINESS FLUCTUATIONS

Fluctuations in economic activity have been a persistent feature of our economic system. Theories abound as to causes and explanations for such fluctuations. Presumably the economy could achieve a fairly stable growth pattern if it were not buffeted by shocks which move the economy off its long-run path. These shocks include such events as unusual weather patterns, wars, changes in technology, the exercise of monopoly power, and overall government policies, including monetary and fiscal. If such shocks lead to fluctuations in economic activity, then an investigation of some of these forces will provide some basis for deciding how endangered the expansion is at this time.

Monetary Policy Actions

Monetary actions, as shown by numerous studies, can have substantial effects on economic activity.² One method of gauging the effects of monetary actions on the economy is to examine movements in monetary aggregates, such as the money stock, while another method is examining interest rate movements.

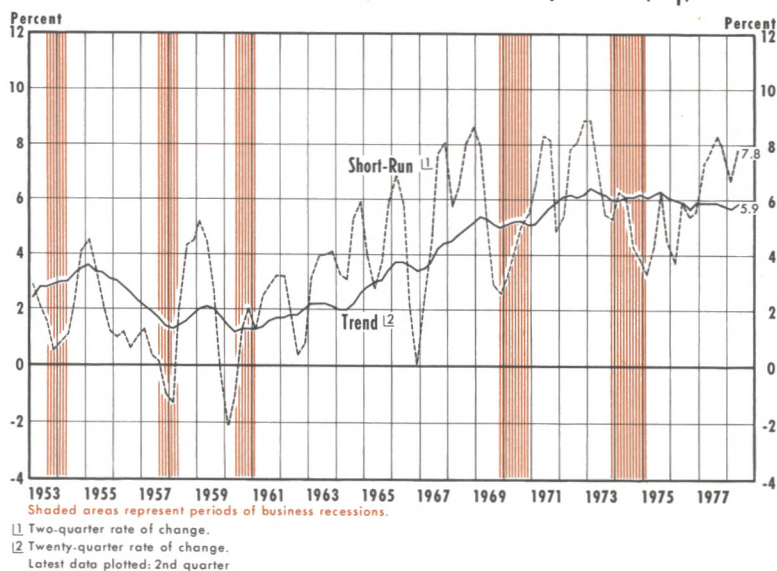
Monetary Aggregates—Movements in the rate of inflation have been associ-

ated with movements in the trend growth of the money stock. In addition, recessions have usually been preceded by a period of marked decline in the rate of money growth below the prevailing trend rate (see accompanying chart).

Money stock (M1) growth from early 1973 through the third quarter of 1976 was generally below its prevailing trend rate. This extended period of below-trend growth caused the long-run growth of money, which had been generally advancing for about a decade, to level off and to show a slight decline. This downturn in long-run money growth indicated some downward pressure was being applied to the rate of inflation.

Subsequently, growth of the money stock accelerated, and from the third quarter of 1976 to the second quarter of 1978, monetary expansion proceeded at a 7.8 percent rate. More recently, some slowing in the growth of the money stock occurred in the first quarter of this year, but a sharp resurgence of monetary growth in the second quarter offset the first quarter's slowdown. On balance, growth of M1 from the fourth quarter of 1977 to the second quarter of 1978 was recorded at a 7.8 percent annual rate, about the same as in the previous two quarters. Over the past four

Annual Rates of Change of the Money Stock (M1)



quarters, M1 grew 7.9 percent, faster than the 6.6 percent rate of increase in the previous four quarters. These recent rates of increase are above the long-run growth of money of the previous five years

²For example, see Leonall C. Andersen and Jerry L. Jordan, "Monetary and Fiscal Actions: A Test of Their Relative Importance in Economic Stabilization," this *Review* (November 1968), pp. 11-24, and Milton Friedman and Anna Schwartz, "Money and Business Cycles," *Review of Economics and Statistics, Supplement* (February 1963), pp. 32-64.

and, if sustained, will again cause the trend growth of M1 to rise.

Interest Rates — Some analysts judge the stance of monetary policy by examining movements in market interest rates rather than monetary aggregates. Rising interest rates, for example, are interpreted as restricting economic growth, whereas falling or stable interest rates are said to promote faster economic growth by encouraging investment and consumption expenditures.

Interest rates among all maturities have risen substantially in recent months. For example, the Federal funds rate stood at about 7.6 percent in June, up from 6.75 percent in March. The four- to six-month prime commercial paper rate rose from about 6.8 percent in March to approximately 7.63 percent in June, and the rate charged to prime business customers by commercial banks rose from the 8 percent rate prevailing in the first four months of the year to 9 percent in late June. Long-term interest rates have also moved up since last fall. Yields on the highest-grade corporate bonds remained relatively stable at around 8 percent from May through September last year, but they have trended upward since then, reaching 8.77 percent in June.

Market interest rates are the price which equates the demand for and supply of credit. Interpreting move-

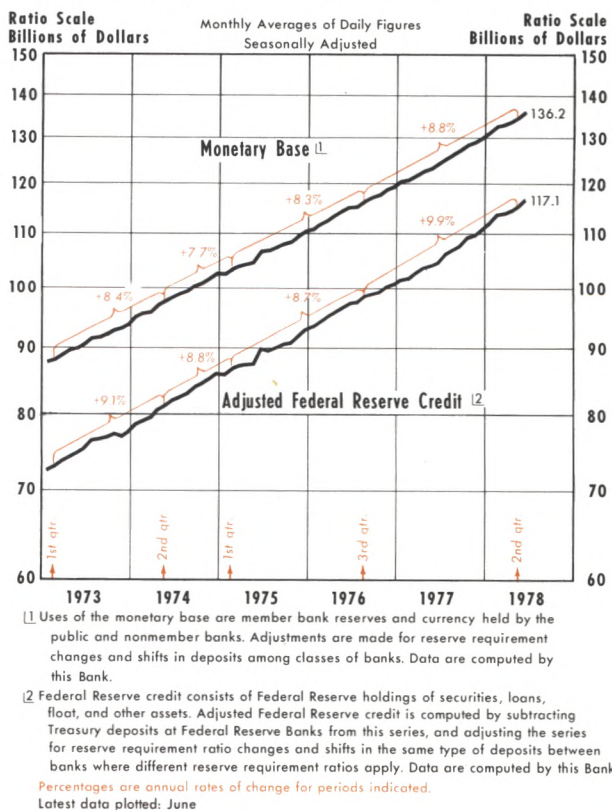
ments in interest rates with respect to the stance of monetary policy is complicated by the fact that interest rate movements can reflect the effects of changes in current monetary actions on the supply of credit or the lagged effects of past monetary actions on the demand for credit.

The recent surge in interest rates appears consistent with the view that the rising interest rates reflect increasing credit demand rather than a constriction of the supply of credit. The fact that loan volume has expanded more rapidly in recent months tends to indicate that the demand for credit has been shifting outward, raising both the price of credit and the volume outstanding. For example, from March to June, business loans increased at a 24 percent annual rate and total bank loans advanced at an 18 percent rate, compared with increases of about 15 percent in the previous year.

Further evidence that monetary actions have not acted to restrict the supply of credit is given by the continued rapid advances in the underlying aggregates such as Federal Reserve credit and the mone-



Monetary Base and Adjusted Federal Reserve Credit



tary base. These aggregates provide the base on which expansion of money and bank credit occurs. The monetary base has expanded at about a 9 percent annual rate in the past two quarters, the same as in the previous year.

Disintermediation

Given Governmental restrictions on the rates which financial intermediaries are allowed to pay on deposits, rising interest rates have presented another potential shock to the economy. When market interest rates rise above Government regulated interest rate ceilings on deposits at financial intermediaries, such as commercial banks and savings and loan associations, funds are withdrawn from these financial institutions and placed in other market instruments which offer a more attractive yield. This rechanneling of funds, called disintermediation, may favor some borrowers over others.

The rising interest rates over the past year, particularly the increases in recent months, have brought market rates into serious competition for funds at financial intermediaries. The rate of growth of deposits at nonbank thrift institutions, for example, has slowed markedly in recent months, registering an 8 percent rate of increase in the three months ending in June, compared with almost a 13 percent rate of increase in the previous twelve months. In addition, net time deposits at all commercial banks have increased at an 8 percent rate in the past three months, somewhat below the 9.3 percent rate of increase in the previous year.

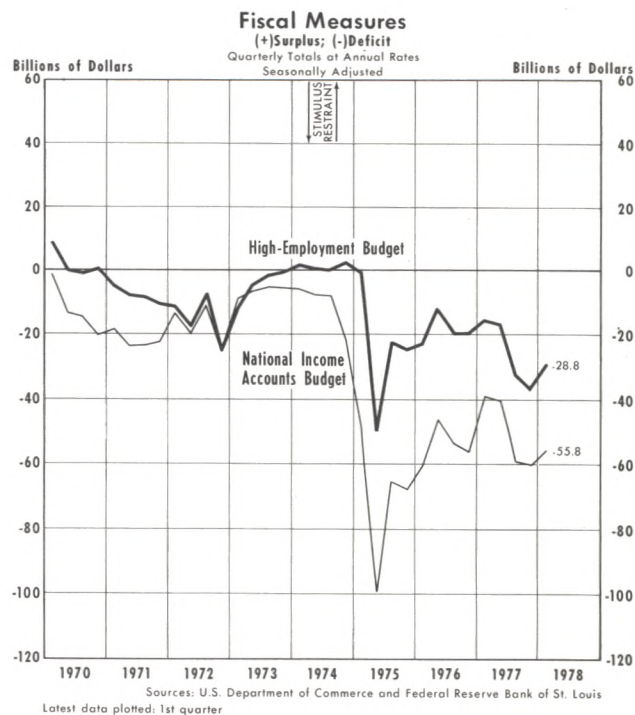
Thus, while evidence exists that financial intermediaries are beginning to lose funds to higher-yielding investment alternatives, there are reasons to believe that the disruptive effects on the economy may be minor. Even on previous occasions when disintermediation occurred, there was little evidence that total credit flows were affected; rather, the distribution of credit among sectors was changed. The housing industry has generally been the most affected sector of the economy since it is heavily dependent on credit from the affected financial intermediaries.

Largely because of the previous periods of disintermediation, a number of institutional arrangements have been made to circumvent problems posed by disintermediation. A number of Federal or Federally-sponsored agencies, including the Federal National Mortgage Association and Government National Mortgage Association, help transfer funds from the open market into the home mortgage market. In

addition, new credit instruments, such as the mortgage-backed security, allow savings and loan associations to tap credit markets for long-term funds. Also, savings and loan associations can borrow from Federal Home Loan Banks which, in turn, draw funds from the open market by selling bonds. Commercial banks can obtain funds in the open market by selling CDs. Recently, thrift institutions, such as commercial banks and savings and loan associations, have been allowed to offer time deposits of six-month maturity with yields pegged to Treasury bill rates, and an eight-year certificate with a yield of 7.75 percent at commercial banks and 8 percent at savings and loan associations.

Fiscal Policy Actions

Fiscal actions can have short-run effects on total spending and output. Over longer periods of time, however, Government spending financed by borrowing tends to displace private spending for goods and services, and thus has little lasting effect on economic activity. During this expansion, Government deficits have been at unprecedented levels for a peacetime period. The severity of the 1973-75 recession plus continued rapid Government spending pushed the national income accounts budget deficit to \$70 billion for calendar year 1975. With increasing tax revenues and lessened expenditures for unemployment



insurance and other recession-induced expenditures, the budget deficit declined to about \$50 billion in 1977, still at a very high level for this stage of the expansion.

The high-employment budget, a budget measure adjusted to remove some of the effects on revenues and expenditures of variations in economic activity, was in deficit about \$25 billion in 1977. The rate of Government spending accelerated sharply in the second half of 1977, however, so that the high-employment deficit of about \$16 billion in the first half of 1977 increased to \$34 billion in the second half of 1977. Based on the President's original tax cut proposal and the March expenditure revisions, the high-employment budget was estimated to remain in deficit at around \$27 billion in both 1978 and 1979. These estimated deficits, however, have been revised downward somewhat, reflecting the July expenditure revisions and the reduction in the President's tax cut proposal from \$25 to \$20 billion. Nevertheless, the prospect remains for relatively large budget deficits in 1978 and 1979, making it difficult to interpret the stance of fiscal policy as highly restrictive.

Other Shocks

Numerous shocks other than those introduced by monetary and fiscal policies affect economic activity. For example, as we saw earlier, the unfavorable weather and prolonged coal miners' strike last winter had visible effects on economic activity in the first quarter as economic output was reduced to a standstill and prices accelerated. Perhaps the greatest long-run danger from such events is the uncertainty created about the future course of the economy. Such uncertainty can serve to generate perverse expectations, which could result, for example, in significant inventory adjustments. Recent legislative acts, such as increased minimum wages, social security taxes, and farm subsidies, will have adverse effects on economic activity, but such effects are unlikely to be large enough to threaten the current expansion.

Capacity Constraints — A major shock was introduced into the economy in 1973 and 1974 as a result of the sharp rise in oil prices which caused a reduction in potential output of the economy.³ While *engineering* capacity presumably remained intact, *economic* capacity was reduced. This decline, it is argued, was

³Robert H. Rasche and John A. Tatom, "The Effects of the New Energy Regime on Economic Capacity, Production, and Prices," this *Review* (May 1977), pp. 2-12; and "Energy Resources and Potential GNP," this *Review* (June 1977), pp. 10-24.

permanent, lowering potential output 4 to 5 percent. As of the first quarter of this year, actual output was only about two percent below this measure of economic capacity.

Knowledge about the degree of excess resources in the economy is an important ingredient for the active pursuit of stabilization policies. As full employment of resources is reached, the growth of output becomes dependent on fundamental growth factors such as changes in technology and growth in the labor force. Attempts via stabilization policies to stimulate demand and production to levels which cannot be sustained over the long run will exacerbate inflation and, eventually, may lead to corrective actions and a recession.

POLICY CHOICES AND THE OUTLOOK

Even though the expansion is beginning to reach "old age" by historical standards, the stimulative monetary and fiscal policies in recent quarters, such as the nearly 8 percent rate of increase of M1 in the past year, indicate a continued rapid increase of total spending through the remainder of this year. As a result, further increases in output and employment are likely in the second half of 1978, although output growth probably will be below that registered over the past three years. Since some excess capacity still exists, however, output growth can advance in the second half at or somewhat above the long-run growth rate.

The course of the economy in 1979 and beyond depends heavily on policy actions and other shocks which may occur in the future. An end to the current expansion and the development of another recession could develop in a number of ways. Barring unforeseen shocks, such as the sharp rise in oil prices which occurred in 1973 and 1974, historical experience indicates that sharp changes in monetary and fiscal policies, such as a marked slowing in the rate of monetary growth below the prevailing trend, often result in shocks to economic activity.

Rapid monetary growth over recent quarters has apparently led to some upward revisions in inflation expectations, as noted in revisions of inflation in most economic forecasts and as implicitly observed in rising long-term interest rates. Should monetary growth be reduced substantially in the second half of 1978 in order to reverse these inflation expectations, the immediate effect of this monetary slowing is likely to be a slowdown in output growth and, depending on the length and severity of the monetary slowdown, a recession could develop. Reducing inflation expecta-

tions is a longer-term process, however, entailing an extended period of slower monetary growth.

Alternatively, monetary growth at the upper end of current M1 targets of 4 to 6.5 percent would appear consistent with stabilizing inflation expectations without incurring sizable short-run costs of reduced output and higher unemployment. On the other hand, growth of the money stock at rates similar to or even above the 8 percent increase which has occurred in the past year would work to boost output and employment somewhat further. While output growth could continue strong for a time, a worsening of inflation is a notable danger to such a course of action.

In summation, for the near term continued economic expansion is likely, but the policy choices which avoid temporary losses in output and/or accelerating inflation are few. The acceleration of monetary growth in the past several quarters has reduced the prospects for simultaneously achieving reduced inflation and continuing output growth. For the near term stabilization of inflation expectations appears to be the only alternative for avoiding a sizable reduction in output growth without putting further upward pressures on prices. Eventually, however, if the rate of inflation is to be reduced, progress toward lowering the trend growth of the money stock must be achieved.



Does the Federal Reserve Invest Member Bank Reserves?

ALBERT E. BURGER

THE Federal Reserve Banks earned \$6.9 billion in 1977. How are the Federal Reserve Banks able to "earn" this amount of income? One popular misconception is that the Federal Reserve Banks earn income by investing member bank reserves. In fact, earnings of the Federal Reserve Banks are not the result of the volume of member bank reserves, but that bank reserves and earnings of the Federal Reserve Banks are both by-products of the way a central bank operates.

Commercial banks that are members of the Federal Reserve System are required to hold a specified amount of reserves for each dollar of deposit liabilities.¹ They hold the bulk of these reserves in the form of deposits at their district Federal Reserve Bank. Looked at from the viewpoint of a commercial banker, it appears that this \$28 billion of member bank deposits at the Federal Reserve Banks forms the basis for Federal Reserve acquisition of earning assets, primarily Government securities. After all, when a commercial bank experiences an inflow of deposits, that bank can expand its holdings of earning assets, so why shouldn't the analogy hold for Federal Reserve Banks?

Also, frequently when reserve requirement ratios are raised, thereby requiring member banks to hold more deposits at Federal Reserve Banks, Federal Reserve Bank holdings of Government securities (earning assets) rise. Likewise, when reserve requirement ratios are lowered, thereby reducing required reserves, there is usually a decrease in Federal Reserve holdings of Government securities.

These observations have prompted assertions that the Federal Reserve receives substantial earnings

¹Member bank reserve requirements are computed as a percent of (1) net demand deposits, (2) total time and savings deposits, and (3) selected other liabilities. Net demand deposits are gross demand deposits minus cash items in process of collection and demand balances due from domestic banks.

from the reserves that are required of member banks. A question that logically follows from such assertions, then, is why doesn't the Federal Reserve share these reserve-induced earnings with its member banks? After all, wouldn't the Federal Reserve's earnings be slashed if all member banks chose to leave the System?

These conclusions are the result of a faulty analysis of the operations of a central bank. Fundamentally, they result from confusing the way a commercial bank operates with the way a central bank operates. To sort out this confusion one should first answer some questions: how are reserves created, and what causes them to increase or decrease?

Open Market Operations

Any one commercial bank can increase its reserves by such actions as buying Federal funds or attracting deposits by some means such as raising interest rates on certificates of deposit. In such situations, what one bank gains another bank loses. Therefore, *total* bank reserves cannot be changed by commercial banks themselves; the Federal Reserve must become involved in the process. In the U.S. banking system total bank reserves originate primarily from purchases of Government securities by the Federal Reserve (open market operations). *The chain of causality runs from the purchase of Government securities (earning assets of the Federal Reserve) to member bank deposits at Federal Reserve Banks, not the other way around.*

To see how this process works, consider the case in which the Federal Reserve System purchases Government securities. Assume that the System's Trading Desk at the New York Federal Reserve Bank decides to purchase \$100 million in Government securities. The Trading Desk would contact the dealers in Government securities, receive their offers, and then arrange the purchase with the dealers offering the lowest price for the securities. The transactions would

be completed by the Federal Reserve Bank of New York "paying" for the securities by crediting the reserve account of the dealers' banks which, in turn, would credit the dealers' checking accounts.

The results of these transactions are (1) the Federal Reserve System's holdings of Government securities have risen, (2) bank deposits at the Federal Reserve Bank of New York (bank reserves) have increased, and (3) demand deposits of the public have risen. The Federal Reserve has acquired the Government securities by "creating" a liability on itself, the demand deposits owed to the member banks (bank reserves). As a by-product of the process, Federal Reserve earnings will be increased as a result of the interest the Federal Reserve will collect from the increased holdings of Government securities.²

Reserve Requirements

To clarify further these points, consider the case in which the Board of Governors of the Federal Reserve System raises required reserve ratios for member banks. *This action does not change the total reserves of the banking system.* Just because *required* reserves are larger than before does not mean that *total* reserves are larger. In this case, the initial effect of the Federal Reserve action is to make required reserves *larger* than total reserves. Member banks can only continue to maintain their existing structure of deposit liabilities if they increase their reserves, that is, deposits at Federal Reserve Banks.

Two alternative results could follow. Following one course of action, the Federal Reserve might decide not to offset the effect of the higher reserve requirement ratios on deposits. In this case something must "give," since required reserves are larger than total reserves. What gives is total deposits; they contract through the process by which each bank attempts to build up its reserves by selling securities and reducing loans. This process continues until the existing amount of total reserves equals required reserves on the new *lower* volume of bank deposits. Total member bank deposits at the Federal Reserve Banks are unchanged and

²For a detailed discussion of open market operations and their effects on bank reserves, see Paul Meek, *Open Market Operations*, Federal Reserve Bank of New York (May 1973), and Dorothy M. Nichols, *Modern Money Mechanics: A Workbook on Deposits, Currency, and Bank Reserves*, Federal Reserve Bank of Chicago (June 1975).

earning assets of the Federal Reserve are unchanged, but bank credit and the monetary aggregates M1 and M2 are lower. This is a case where an increase in reserve requirements does not increase the earnings of the Federal Reserve System.

Alternatively, the Federal Reserve might decide to offset the short-run impact on bank deposits of the increase in reserve requirement ratios. In such a case the Federal Reserve would buy Government securities and, as a result of this action, member bank deposits at Federal Reserve Banks would rise. Earning assets held by the Federal Reserve would be higher than before, not because of a rise in reserve requirements and member bank deposits, but simply because the central bank chose to offset the impact of the change in reserve requirement ratios on total member bank deposits. These examples indicate that increases in member bank reserves are in no way the causal factor in increases of the Fed's earning assets. Member bank reserves and the Fed's earning assets change simultaneously as a result of policy decisions.

As a final example, consider a case where there were no member banks. Assume even further that there were no legal restrictions that required banks to hold deposits at Federal Reserve Banks. Would the ability of the Federal Reserve Banks to generate their own earnings be affected? The answer is no. To implement its monetary policy objectives, the Federal Reserve would still buy and sell Government securities. Its holdings of Government securities would still represent the primary source of the "base" under bank deposits.³ The Federal Reserve would pay for the securities just as it does now, with a check written on itself. Commercial banks would be "paid" when they presented the check for collection, either by receiving a deposit at a Federal Reserve Bank or currency (Federal Reserve notes). This is exactly the same way they are "paid" today. In this case, however, it would be crystal clear that the connection between bank reserves and the volume of Federal Reserve earning assets is not causal, but only a simultaneous balance sheet necessity. Thus, whatever the merits of arguments for payment of interest on member bank reserves, the contention that reserves are the source of Federal Reserve earnings is not one of them.

³See Anatol B. Balbach and Albert E. Burger, "Derivation of the Monetary Base," this *Review* (November 1976), pp. 2-8.

Coordinated International Economic Expansion: Are Convoys or Locomotives the Answer?

GEOFFREY E. WOOD and NANCY AMMON JIANAKOPLIS

American diplomats have been pressuring the other “locomotive” countries — West Germany and Japan — to take steps to reflate their economies. This would have the effect of creating more consumer demand and therefore more world trade. Such an “export” of the American recovery would also, incidentally, serve to bring down unemployment in the United States.¹

The “locomotive” approach to current international economic policy recommends that the three major industrial trading countries of the world boost demand within their countries so that demand for the output of other nations would also expand. It is believed that this expansion would trigger an exported expansion in the “non-locomotive” countries.² A modification of the locomotive approach, the “convoy” approach, has recently become a popular alternative proposal.³ This policy prescription calls for coordinated expansion by most countries, not just the “locomotives.”

THE SETTING

Movements in output in the major Western economies were more closely correlated in the 1970s than

¹Robert D. Hershey, Jr., “The Marked-Down Dollar,” *New York Times*, March 19, 1978.

²This recommendation has been advanced by, among others, the Organization for Economic Cooperation and Development, *Economic Outlook* (July 1976, December 1976, July 1977); the Council of Economic Advisers, *Economic Report of the President* (Washington, D.C.: United States Government Printing Office, 1978); and Paul McCracken et al., *Towards Full Employment and Price Stability* (Paris: Organization for Economic Cooperation and Development, 1977).

³See *Economic Outlook* (December 1977) and Philip Revzin, “OECD Economic Growth Seen Trailing Prior Estimates if Measures Aren’t Taken,” *The Wall Street Journal*, May 30, 1978.

in the 1960s (Chart I).⁴ Following a mild recession in 1970, growth of real gross domestic product (GDP) from 1971 to 1973 expanded at an average annual rate of 5.2 percent in the seven largest economies, with the lowest average growth rate, in the United Kingdom, not differing by more than 5 percentage points from that of the fastest growing country, Japan (Table I).⁵ By comparison, over the period

⁴A more detailed description of the situation during part of this period is provided in Donald S. Kemp, “Economic Activity in Ten Major Industrial Countries: Late 1973 through Mid-1976,” this *Review* (October 1976), pp. 8-15.

⁵The seven largest economies of the Western industrialized nations are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. GDP equals GNP minus net investment income from abroad.

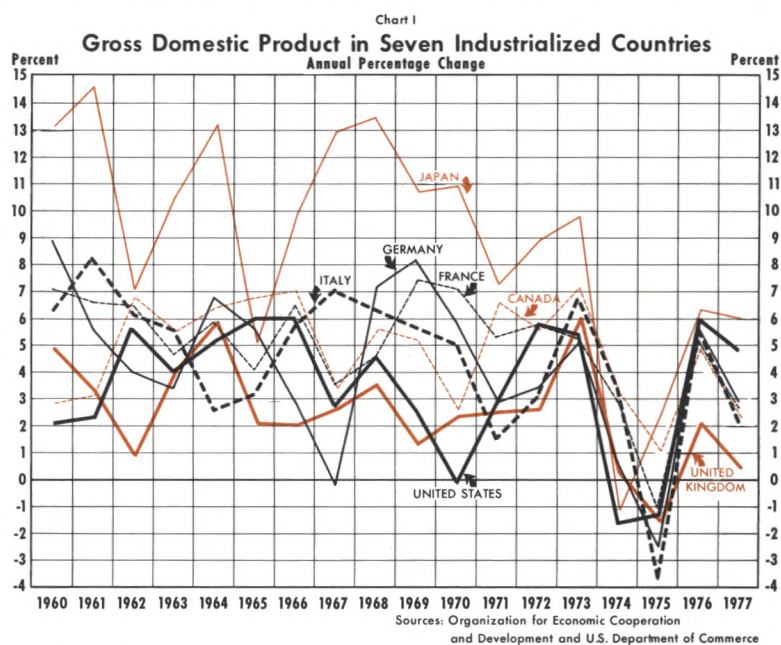


Table I

SELECTED INDICATORS OF DOMESTIC ECONOMIC ACTIVITY IN SEVEN INDUSTRIAL COUNTRIES

Gross Domestic Product	Average Annual Rate of Growth			
	1960-70	1971-73	1974-75	1976-77
Canada	5.0%	6.5%	2.2%	3.6%
France	5.8	5.5	1.0	4.0
Germany	5.3	3.8	-0.9	4.3
Italy	5.6	3.8	-0.2	3.9
Japan	11.0	8.7	0.7	6.2
United Kingdom	3.0	3.7	-0.7	1.3
United States	3.7	4.7	-1.5	5.4
Average of Seven	5.6%	5.2%	0.1%	4.1%

Consumer Price Index	Average Annual Rate of Change			
	1960-70	1971-73	1974-75	1976-77
Canada	2.6%	5.0%	10.8%	7.8%
France	4.0	6.4	12.7	9.4
Germany	2.5	5.9	6.5	4.2
Italy	3.8	7.2	18.1	16.9
Japan	5.6	7.5	18.1	8.7
United Kingdom	3.7	8.6	20.1	16.2
United States	2.7	4.6	10.1	6.2
Average of Seven	3.6%	6.5%	13.8%	9.9%

Unemployment Rate	Average Annual Rate			
	1960-70	1971-73	1974-75	1976-77
Canada	5.1%	6.0%	6.2%	7.6%
France	1.9	2.8	3.6	4.9
Germany	0.7	0.8	2.7	3.6
Italy	3.2	3.4	3.0	3.5
Japan	1.3	1.3	1.7	2.0
United Kingdom	2.7	3.8	3.8	6.7
United States	4.8	5.5	7.1	7.4
Average of Seven	2.8%	3.4%	4.0%	5.1%

Source: International Monetary Fund, Organization for Economic Cooperation and Development, U.S. Department of Commerce, and U.S. Department of Labor.

from 1960 to 1970 the spread between average annual growth rates was 8 percentage points.⁶

During the 1974-75 period, following the quadrupling of oil prices by the OPEC countries, other supply shocks, such as a poor world grain harvest, and a tightening of monetary and fiscal policies, the major countries experienced severe recessions. Over this period, average real GDP growth for these seven countries came to a virtual standstill, with a spread of only 3.7 percentage points between the fastest and slowest growth rates. Since then, expansion has resumed in each economy, with the increase in real GDP averaging 4.1 percent per year in the seven countries during 1976-77.

⁶A statistical test confirmed that the standard deviation in the growth rates of the seven countries was significantly less in the period 1971-77 than during 1960-70.

Although synchronization of output growth increased in the 1970s, rates of inflation experienced across these countries have become more diverse (Chart II). From 1960 to 1970, the average annual inflation rate differed by only 3 percentage points between the country with the highest average inflation rate and that with the lowest. However, during the 1976-77 period, these inflation rates differed by 13 percentage points.⁷ In addition, the inflation rate in each of the seven countries in the 1970s has been well above the average of the 1960s.

The large differences in inflation rates have contributed substantially to wide fluctuations in exchange rates. There are also wide disparities in the current account balances of the countries (Table II).⁸ It is feared that these factors, if they persist, will lead to increased restrictions on international trade, as countries seek to adjust their current account balances through the imposition of tariffs, quotas, and other protectionist measures.⁹ Also, some analysts believe that such widely fluctuating exchange rates inhibit international trade and reduce the benefits of economic specialization across the world.¹⁰

In addition to high inflation rates, most countries have also experienced unemployment rates significantly above those recorded during the 1960s. In the view of some forecasters, this situation would be exacerbated by the sluggish growth rates of output

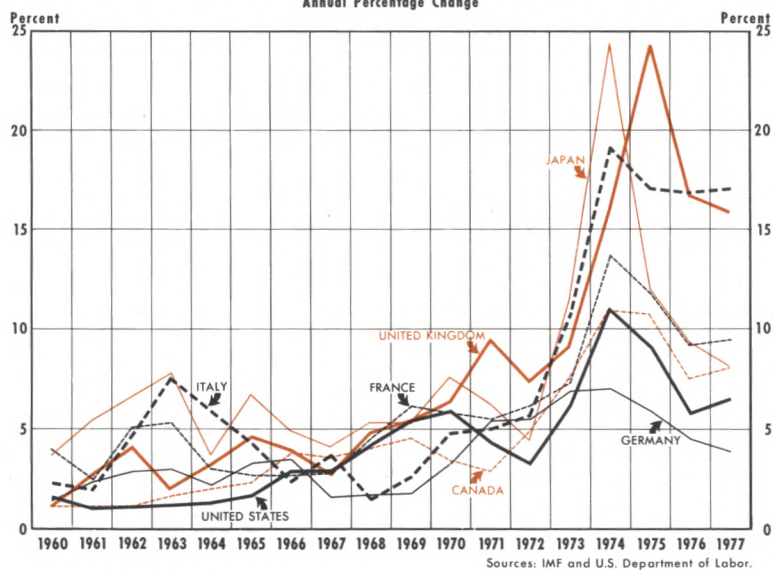
⁷A statistical test confirmed that the standard deviation in inflation rates of the seven countries was significantly greater in the period 1971-77 than during 1960-70.

⁸The current account balance is the net export of goods and services including unilateral transfers. Unilateral transfers include private gifts to foreigners and government foreign assistance grants, but exclude military grants. See John Pippenger, "Balance-of-Payments Deficits: Measurement and Interpretation," this *Review* (November 1973), pp. 6-14.

⁹McCracken, *Towards Full Employment and Price Stability*, p. 31.

¹⁰For a description of how trade leads to mutually beneficial specialization, see Geoffrey E. Wood and Douglas R. Mudd, "The Recent U.S. Trade Deficit—No Cause For Panic," this *Review* (April 1978), pp. 2-7. Discussion and additional references on fixed versus floating exchange rates are found in Donald S. Kemp, "The U.S. Dollar in International Markets: Mid-1970 to Mid-1976," this *Review* (August 1976), pp. 7-14.

Chart II
Consumer Prices in Seven Industrialized Countries
Annual Percentage Change



projected for these countries.¹¹ It has been asserted that unless growth is accelerated, further reductions in unemployment will not be achieved. At an extreme, some observers fear the world will sink into another recession.

When the locomotive approach was first proposed in 1976, Germany, Japan, and the United States were considered strong economies with current accounts in surplus or near balance and relatively low inflation rates. Countries such as Canada, France, Italy, and the United Kingdom were experiencing current account deficits and higher inflation rates.

By 1977, however, the situation had changed. Inflation in the United States, although remaining relatively low, had accelerated and the current account registered a large deficit. On the other hand, the current accounts of two "weak" countries, Italy and the United Kingdom, moved nearer to balance and inflation decelerated in the United Kingdom and France. Growth of output, however, in all the countries except Japan and the United States fell to much more sluggish rates.

POLICY PRESCRIPTIONS FOR INDUSTRIALIZED COUNTRIES

Against this background of somewhat hesitant output growth, high and disparate inflation rates, and divergent current account balances, policies for co-

¹¹See, for example, *Economic Report of the President*, 1978, pp. 112-13.

ordinated, but varying, expansion were propounded by, among others, U.S. officials and the Secretariat of the Organization for Economic Cooperation and Development (OECD).¹²

The Locomotive Approach

The OECD Secretariat espoused the locomotive approach in its December 1976 *Economic Outlook*:

In a number of countries demand will have to continue to be kept on a tight rein until the economy is in better balance. But the handful of countries where price behavior is being brought into line with acceptable norms and where the balance of payments is strong can afford domestic demand trends which keep their economies well up to the sort of medium-term recovery path which OECD governments jointly agreed last June. And international considerations make it highly desirable

that these countries, which include the three biggest economies, should ensure this. Because, unless home demand is growing faster than output in the stronger countries, world trade will not be sufficiently buoyant to enable the other economies to move into an orbit of export-led growth.¹³

The locomotive approach calls for expansionary policies in the United States, Germany, and Japan, with the aim of achieving sustained growth and price stability in all the countries of the OECD. Expansionary policies are intended to encourage investment in the locomotive countries so as to sustain their expansions into the future. Policy stimulus would also provide increased demand for imports from the rest of the world, which would draw the other countries into an export-led growth. At the same time the "weaker" countries are advised to restrain domestic demand in order to bring down their inflation rates and move their current accounts towards surplus. Hence, the term "locomotive" refers to the "strong" countries pulling the "weaker" countries.

The Convoy Approach

In its December 1977 *Economic Outlook*, the OECD Secretariat altered its policy approach, sug-

¹²The OECD was established in 1960. The members of the OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

¹³*Economic Outlook* (December 1976), p. 5.

Table II

SELECTED INDICATORS OF INTERNATIONAL ECONOMIC
ACTIVITY IN SEVEN INDUSTRIAL COUNTRIES

Current Account Balances	Billions of U.S. Dollars							
	1960- 1970	1971	1972	1973	1974	1975	1976	1977
Canada	\$-0.6	\$ 0.3	\$-0.7	\$ 0.0	\$-1.5	\$-4.7	\$-4.2	\$- 4.3
France	-0.3	0.5	0.3	-0.7	-6.0	-0.1	-6.1	- 3.0
Germany	0.8	0.9	0.8	4.3	9.7	3.8	3.4	2.3
Italy	1.2	1.9	2.0	-2.7	-8.0	-0.6	-2.8	1.0
Japan	0.4	5.8	6.6	-0.1	-4.7	-0.7	3.7	10.0
United Kingdom	0.0	2.6	0.3	-2.2	-8.1	-3.7	-2.5	0.8
United States	1.8	-4.0	-9.9	-0.4	-2.3	11.7	-1.4	-17.5

Exchange Rate Foreign Currency Per U.S. Dollar	Percent Change from Previous Year							
	1960- 1970	1971	1972	1973	1974	1975	1976	1977
Canada	0.7%	-2.9%	- 1.0%	0.0%	- 2.0%	4.1%	- 2.9%	- 7.1%
France	1.1	-0.4	- 8.5	-11.7	8.1	-10.8	11.4	2.7
Germany	-1.2	-4.7	- 8.3	-16.3	- 3.0	- 5.0	2.4	- 7.9
Italy	0.1	-1.4	- 5.7	- 0.2	11.7	0.5	27.4	6.0
Japan	0.0	-2.5	-11.7	-12.0	4.1	5.3	0.0	- 9.4
United Kingdom	1.5	-2.4	2.4	2.5	4.9	4.7	22.2	3.6

Source: Organization for Economic Cooperation and Development and International Monetary Fund.

gesting stimulative policies, but to a lesser degree and with a timing differential, for weak as well as strong countries:

It will be essential that the countries facing no — or relatively small — balance-of-payments constraints should take up slack in their economies faster and somewhat earlier than most of the rest. This is not to say that these countries, simply by expanding their own domestic demand, could be expected to pull the other countries up with them, as has sometimes been suggested. But if countries with strong payments positions ensure that their domestic demand rises faster than their GNP, others will subsequently be able to afford to impart some stimulus to their own growth rates, because their payments balances will be moving in the right direction.¹⁴

This proposal for coordinated expansionary policy is termed the “convoy” approach — there are leaders, but every unit propels its own activity. The convoy approach was proposed to take account of the impact of exchange rate changes on the expansionary policies of individual countries,¹⁵ and has gained favor recently. As one supporter of the convoy approach

has stated, “Locomotives may well pull a train but they cannot carry goods or passengers, the convoy theory seems more apt to cure the economic ills of the world.”¹⁶

SOME NEGLECTED CONSIDERATIONS

Is There Spare Capacity?

Both the locomotive and convoy approaches are expansionary policies based on the assumption that there is a large measure of unused capacity in most OECD economies.¹⁷ Faster growth is assumed to be both feasible and attainable without aggravation of inflation. The OECD Secretariat estimated that the gap between potential and actual production in 1975 was 10 percent for the OECD countries as a group.¹⁸ Since the OECD expects potential output to increase by 4 percent per annum, it advised that actual growth of output should be expanded to 5.5 percent per

¹⁶Nicolas J. Baer, “Don’t Quarrel with the Price,” *Euromoney* (May 1978), p. 55.

¹⁷See *Economic Report of the President*, 1978, p. 111; *Economic Outlook* (December 1976), pp. 19-20, and (December 1977), p. 13.

¹⁸See *Economic Outlook* (June 1976), p. 132.

¹⁴*Economic Outlook* (December 1977), p. 8.

¹⁵*Ibid.*, p. 9.

annum to close the gap between actual and potential output by 1980.¹⁹

Recent evidence suggests, however, that shocks such as the quadrupling of oil prices since 1973 caused a *permanent* reduction in the level of potential output.²⁰ The increase in the relative price of energy increased the costs of production and thereby permanently reduced the capacity of producers to supply goods and services.

While this analysis applies to all of the OECD countries, statistical tests of the validity of these conclusions and the magnitude of the reduction in potential output have been undertaken principally for the United States. These tests indicate that potential output is now more than 4 percent below the trend existing before the oil price increases.²¹ While the size of the reduction may not be the same for all the OECD countries, it is reasonable to assume that there has been a significant reduction in potential output in all of these countries.²²

However, the OECD Secretariat and other proponents of these expansionary policies have not taken the loss in the productivity of existing resources into account in their formulation of stabilization policy recommendations. The expansionary locomotive and convoy approaches ignore the reduction of potential output.

Why Wait for the Locomotives?

Granting that there may be a case for expanding demand (and we grant this only for the sake of pursuing the analysis further), what grounds are there for suggesting that stimulus only come from the locomotive economies?

¹⁹Ibid., p. 126.

²⁰See Robert H. Rasche and John A. Tatom, "The Effects of the New Energy Regime on Economic Capacity, Production, and Prices," this *Review* (May 1977), pp. 2-12; and Peter K. Clark, "A New Estimate of Potential GNP," U.S. Congress, Joint Economic Committee, *The 1977 Economic Report of the President*, 95th Cong., 1st sess., January 19, February 2 and 3, 1977, pp. 39-55.

²¹Rasche and Tatom, "The Effects of the New Energy Regime," p. 11.

²²This view has also been taken by Peter Korteweg, for example, in "Overhauling the OECD Strategy for Stabilizing the International Economy" (preliminary position paper prepared for the second meeting of the Shadow European Economic Policy Committee, Brussels, Belgium, May 29-31, 1978), and Jacques R. Artus, "Measures of Potential Output in Manufacturing for Eight Industrial Countries, 1955-78," *International Monetary Fund Staff Papers* (March 1977), pp. 1-35.

There may well have been times *in the past* when countries in surplus on their current account could reasonably have been pressed to expand demand in order to help other countries. Such a period was the Bretton Woods era of pegged exchange rates — from the late 1940s to the final breakdown of the system in the early 1970s.

Most countries were then reluctant to change their exchange rates, an attitude which could exert a severe constraint on domestic economic policies. Expansion of demand at home would worsen the trade balance and put the exchange rate under pressure unless the capital account improved to offset the trade deficit.²³ Hence, asking countries in trade surplus to expand demand at home could be seen as a natural consequence of the commitment not to change exchange rates. Their demand expansion would stimulate demand in other countries also.

But countries have moved to a system of floating exchange rates. It is now widely accepted that domestic economic policies will not be subordinated to keeping exchange rates firmly in place. Under present circumstances, if a country wishes to expand domestic demand, there is absolutely no international economic commitment to stop it.

There is, however, another reason for asking that demand stimulus come only from abroad. *In the short run*, internally-generated demand is not necessarily a perfect substitute for externally-generated demand. The reason is that resources — machinery and workers — cannot switch instantaneously and without cost from one activity to another, producing goods for export rather than for domestic use, for example. If a country is experiencing unemployment in industries which are export-oriented, stimulating demand at home may lead to considerable excess demand in some industries, but have little immediate effect on the unemployment in the export industry. That unemployment could be eliminated quickly without excess demand pressures if the demand stimulus came from abroad.

It is not clear, however, that the countries which are supposed to be waiting for the locomotives to pull them out of recession are suffering from unemployment concentrated in their export industries. Furthermore, the consequences of demand expansion for the surplus countries themselves should be con-

²³See Wood and Mudd, "The Recent U.S. Trade Deficit," p. 2.

sidered. It is reasonable to assume that resources in surplus countries do not move any more freely than they do in the deficit countries. As in the deficit countries, these surplus countries do not seem to have spare capacity concentrated in any particular industries.²⁴ What will happen when the surplus countries expand demand? They will experience excess demand in the sectors which produce goods for domestic use, and these pressures will be only partly ameliorated by increased imports. Hence, while stickiness of resource movement can be a valid reason for asking the locomotive economies to expand, it can also be a reason for the locomotive economies choosing not to expand!²⁵

Summarizing this discussion, one reason for desiring expansion to come from abroad is no longer justifiable given the move to flexible exchange rates. Another, as well as resting on a questionable assumption about the distribution of spare capacity, also provides a reason why the locomotives may very reasonably be unwilling to "get up steam".

Would the Locomotives Pull?

What will happen to exports and output in the non-locomotive economies of the OECD if the locomotives expand their demand?²⁶ Consider the example of a 1 percent rise in GNP in Germany, an appropriate degree of stimulus in the view of the OECD Secretariat.²⁷ On the basis of past experience, this will lead to an increase of about 2 percent (or DM5 billion at 1977 prices) in German imports. Who will benefit from this growth?

The origin of German imports does not vary greatly from year to year. In terms of Germany's immediate European neighbors, one sees that Germany purchases almost 4 percent of its total imports from the United Kingdom, 12 percent from France, and just over 9 percent from Italy. Assuming that these shares

do not change, this means that of the DM5 billion increase in Germany's imports, the United Kingdom would receive DM0.2 billion, France DM0.6 billion, and Italy DM0.5 billion. Converting these amounts by the exchange rates prevailing at the end of 1977, these are increases in GNP of 0.05 percent for the United Kingdom, 0.07 percent for France, and 0.15 percent for Italy. These are not tremendously large stimuli.

These OECD countries would benefit even less if Japan expanded demand. Japan is very poor in natural resources; some 80 percent of its imports are primary products. Very little of a Japanese expansion would spill over to the other OECD countries. (Of the OECD economies, the United States would probably feel the greatest impact of a Japanese expansion, and that would not be large; Japan spends only a little over 1.5 percent of its GNP on U.S. goods.)

If They Don't Pull, Are They Causing Unemployment?

Urging the locomotive countries to expand demand may be based on the idea that they are now "exporting their unemployment," as foreigners buy goods and create employment in the locomotive economies rather than in the weaker countries. If that belief underlies the locomotive approach, then essentially it is being asserted that these surplus countries have resorted to what Joan Robinson called "beggar-my-neighbor remedies for unemployment."²⁸ That accusation was made against some countries in the early 1930s. But is it a correct diagnosis of the present situation?

This question can be addressed by considering the methods of "exporting unemployment" which were used in the 1930s. Sometimes tariffs on imported goods were raised with the aim of shifting demand to substitute goods produced domestically. Another method intended to produce a rise in domestic employment at the expense of foreign employment was devaluation, a reduction in the foreign currency price at which a particular government would maintain its currency. A currency devaluation large enough to make domestic goods significantly cheaper than their competitors on world markets would, it was believed, divert both foreign and domestic de-

²⁴Several countries appear to have excess capacity in the production of certain types of steel, but this excess capacity cannot be utilized without excess capacity at higher stages of production.

²⁵Slow factor mobility may have prompted some countries to intervene in foreign exchange markets to moderate the appreciation of their currencies. This will retard the rate at which their export industries experience diminished demand and, in turn, allow resources to leave gradually the industries.

²⁶A more extensive discussion of this point is found in, "Why Prosperity Won't Travel," Citibank *Monthly Economic Letter* (March 1977), pp. 1-4.

²⁷Robert Mauthner, "OECD Nations in Disarray Over Economic Growth," *Financial Times*, May 31, 1978, p. 1.

²⁸Joan Robinson, "Beggars-My-Neighbor Remedies for Unemployment," *Readings in the Theory of International Trade*, ed. The American Economic Association (Philadelphia: The Blakiston Company, 1950), pp. 393-407.

mand to home produced goods and thus increase domestic employment.²⁹

The body of analysis which justified these remedies for unemployment has been criticized as fundamentally incomplete, in that it neglects the monetary consequences of the measures discussed and regards the exchange rate as a policy tool independent of monetary policy.³⁰ It is not necessary, however, even to consider that criticism when rejecting the claim that today the surplus countries are engaged in "beggar-my-neighbor" tactics.

That claim can be rejected very straightforwardly by observing that the surplus countries have not resorted to any means to increase their exports further. Neither Germany nor Japan has increased tariffs and their currencies certainly have not depreciated.³¹

Rather than being the result of "beggar-my-neighbor" policies, the surpluses on current account reflect the fact that these economies — government and private sectors combined — are net savers out of income. That is, the financial deficit of the government is smaller than the financial surplus of the private sector. Were the surplus countries unable to invest abroad, their interest rates would be driven down and all their savings would be invested domestically. But other countries are willing to borrow these funds and pay rates of interest higher than could be earned on them in the surplus countries. Hence, it is desired by both lenders and borrowers that these funds flow from one group of countries to another, and to effect that transfer of funds the lending countries must run current account surpluses and the borrowing countries current account deficits.³²

The deficit countries have certainly not been harmed by being able to borrow abroad. Consider the plight of Italy and the United Kingdom, not to mention the less developed countries (LDCs), had these surpluses not been available for borrowing.

²⁹Ibid., p. 396.

³⁰Examples of such criticism are Harry G. Johnson, "The Monetary Approach to Balance-of-Payments Theory," pp. 147-67, and Michael Mussa, "Tariffs and the Balance of Payments: A Monetary Approach," pp. 187-221, both in *The Monetary Approach to the Balance of Payments*, eds. Jacob A. Frenkel and Harry G. Johnson (London: George Allen & Unwin Ltd., 1976).

³¹German and Japanese intervention in exchange markets to slow the appreciation of their currencies may have impeded a fall in their exports.

³²See Wood and Mudd, "The Recent U.S. Trade Deficit," pp. 2-3.

These countries would have had to make dramatic cuts in expenditures and employment or else experience reductions in their exchange rates which would have produced enormous, and in the case of the LDCs perhaps insupportable, declines in living standards. The surplus countries have allowed others to be *more* expansionary than they could have been without the surpluses. They have not forced unemployment on the rest of the world.³³

What About Inflation?

Direct Effects of Expansion — If the OECD countries desire to successfully expand output, either by the locomotive or convoy approach, empirical evidence suggests that effective actions must include expansionary monetary policy.³⁴ Empirical evidence also suggests that the rate of monetary expansion determines, after some lag, the rate of increase of the general price level.³⁵ Therefore, attempts to achieve faster rates of output growth, even if they have some success in the short run, will lead to faster rates of inflation in the long run. Thus, expansionary policies appear inconsistent with the currently widely accepted objective of reducing inflation rates.

Indirect Effects of Expansion — The convoy approach, rather than being beneficial, would actually produce additional inflationary dangers. A concerted expansion among OECD countries would trigger a boom in worldwide commodity prices, as demand for these primary products increased in the wake of output growth in the industrial countries. This occurred in 1972-73. As growth rates picked up in most of

³³The above argument is simplified in that it does not stress the simultaneous determination of exchange rates and the pattern of international borrowing and lending. It should not be taken as implying that some countries have exogenously given trade surpluses which they have to match by lending abroad, but rather as saying that the pattern of trade surpluses and deficits which has emerged at current exchange rates allows funds to flow internationally as both lenders and borrowers desire.

³⁴Using data for eight industrial countries, Michael W. Keran shows in "Monetary and Fiscal Influences on Economic Activity: The Foreign Experience," this *Review* (February 1970), pp. 16-28, that if short-run expansionary policies are to be successful, monetary expansion would be more likely to obtain the desired results than fiscal stimulus. Furthermore, the latest version of the MIT-Penn model of the U.S. economy shows that unless a fiscal stimulus is supported by monetary expansion, its effect on income is short-lived.

³⁵A portion of the empirical work relying on the experience of various countries suggesting that monetary expansion leads to inflation has been collected by Karl Brunner and Allan H. Meltzer, eds., *The Problem of Inflation*, Carnegie-Rochester Conference Series on Public Policy, Vol. 8 (Amsterdam: North-Holland Publishing Company, 1978), and David Meiselman, ed., *Varieties of Monetary Experience* (Chicago: The University of Chicago Press, 1970).

Table III

TERMS OF TRADE¹
1970 = 100

Regions ²	1960	1965	1966	1967	1968	1969	1971	1972	1973	1974	1975
Developing Market Economies	103	99	100	99	100	101	104	102	112	156	139
Africa	104	96	100	100	102	106	101	101	113	154	131
Asia	109	99	100	99	102	101	107	104	110	171	154
Asian Middle East	117	108	107	107	109	104	117	114	124	312	275
Other Asia	105	95	96	95	96	99	98	96	100	94	86
Latin America	94	100	100	96	96	97	100	100	113	125	115

¹Unit value index of exports divided by the unit value index of imports. An increase in the index indicates that the unit prices of that country's exports are increasing faster than the unit prices of that country's imports, that is, a movement towards a more favorable terms of trade.

²The geographical regions used in this table are in accordance with the *United Nations Standard Country Code, Annex 11, Country Classification for International Trade Statistics (Statistical Papers, Series M, No. 49)*.

Source: United Nations, *Statistical Yearbook 1976*.

the industrial world, the terms of trade moved sharply in favor of the primary producers (Table III).³⁶ Such a change in *relative* prices can be the result of primary producer prices rising, while OECD prices remain unchanged; primary product prices remaining constant, while OECD prices fall; or primary producer prices rising faster than OECD prices. In 1972-73, the latter situation occurred. Since prices rise more easily than they decline, this would be the most probable pattern in the future. Such a rise in prices is not compatible with the objective of restraining price increases.

In addition, as a consequence of the rise in prices, there would be a fall in the purchasing power of the money held by residents of the OECD countries. Expenditures would be squeezed and lead to a reduction in demand in the OECD, thus reversing the initial expansion. The convoy approach would, therefore, increase fluctuations in employment and output.

Further inflationary pressures are another possible consequence of the convoy approach. As prices of primary products rise relative to the prices of goods

produced by the OECD countries, OECD residents would find themselves becoming worse off. They would try to compensate for this by raising the prices of the goods they sell, but at higher prices, less of their product would be demanded. This would be a second force producing an increase in unemployment. OECD governments would feel pressure to resist the higher unemployment, which could be offset by monetary expansion. Increasing the money stock would generate inflation. In summary, there is a great danger that the convoy approach would both amplify fluctuations in employment and prompt further inflationary pressures.

SUMMARY AND CONCLUSIONS

The international economy in the 1970s has been characterized by a greater similarity in rates of growth of output among the major industrialized countries and wider disparities in inflation rates than were experienced in the 1960s. Accompanying these developments have been sharp fluctuations in exchange rates and large differences in the current account balances among nations. Some analysts contend that these factors will eventually lead to a disruption of international trade and to losses in economic well being throughout the world. Recent proposals to deal with the international economic situation have recommended that the countries of the OECD area coordinate their economic policies and either have an expansion pulled by the strong locomotive economies or all expand together, moving along in a convoy.

In fact, evidence indicates that spare capacity is not as large as many of the proponents of these policies

³⁶The terms of trade are the prices of the goods a country sells on world markets relative to the prices of the goods it buys. A worsening in the terms of trade is a fall in the price of its exports relative to that of its imports. A series of the terms of trade for the United Kingdom, a particularly open industrial economy, has been published in the *National Institute Economic Review* (in the Statistical Appendix) for a substantial number of years. That series shows that every worldwide expansion has worsened the United Kingdom's terms of trade; 1972-74 is far from unique. It should be noted that the terms-of-trade movement (for all the oil importing countries) in 1974 was substantially due to the rise in oil prices at the end of 1973 and was not all directly induced by increased economic activity in the West. The terms-of-trade movement in 1973, however, was clearly demand-induced.

seem to believe. Therefore, expansionary policies, either as locomotives or convoys, do not appear to be appropriate in current circumstances.

Proposals calling for an expansion pulled by the locomotive economies appear to be misconceived for other reasons as well. Given the current regime of floating exchange rates, there is no advantage to be gained by waiting for expansion to be led by the locomotives. Furthermore, an acceleration of economic growth in Germany and Japan would provide little additional stimulus to the economies of their OECD trading partners. By not undertaking expan-

sionary policies, the proposed locomotive countries can be viewed as supporting the weaker countries, rather than contributing to unemployment in the non-locomotives as alleged by some analysts.

Finally, and most important, economic expansion, either powered by the locomotive economies or coordinated among the countries in the form of a convoy, could not be achieved without worsening inflation. Thus, rather than improving the international economic situation, policies for coordinated international economic expansion would aggravate the problems they were intended to correct.

