Economic Policies for the 1980's

Mordechai E. Kreinin
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by Mordechai E. Kreinin*

I  INTRODUCTION

Most international economic problems are deeply rooted in domestic economic conditions. Directly or indirectly, the internal climate exerts pressures on international economic relations, and affects the activities of institutions concerned with international trade and finance, such as the General Agreement on Tariffs and Trade (GATT) and the International Monetary Fund (IMF). Because the domestic inflation and unemployment rates in most industrial countries have increased in recent years, the strains in the international economic system have intensified as well. This explains the preoccupation of the IMF with the domestic problems of member countries, for these tend to spill over into the international arena. In the September 1979 annual meeting of the IMF Board of Governors,

[discussion of the policies and role of the Fund was in the context of the widespread concern among Governors regarding the world economic outlook, in light of the forecasts of continued higher inflation, a slowing of growth in industrial countries, and severe payments problems among the developing countries that import oil.]

Dr. Arthur Burns, the former Chairman of the Federal Reserve Board, stated at the same meeting: "The current instability in international finance is largely a consequence of the chronic inflation of our times and . . . stability will not return to the international monetary system until reasonably good control over inflationary forces has been achieved."

By the same token, GATT usually begins its annual report on international trade with a survey of developments on the inflation, employment, and growth fronts. Indeed it is impossible to appreciate the intricacies of international economic relations without comprehension of the domestic problems confronting the major trading nations. The increased concern over these problems deserves an explanation.

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2 Id. at 334.

Accordingly, this paper is devoted to issues of macroeconomic stabilization, highlighting the twin problems of unemployment and inflation. While the policy objective is to attain both full employment and price stability, these two targets are not jointly attainable. Price stability can be achieved, but only at the expense of high unemployment. Indeed, this is the reason why inflation has not been wrung out of the economy. Conversely, full employment can be achieved, but only at the cost of a rapid rise in prices. Consequently, unemployment has not been eliminated.

The trade-off between inflation and unemployment induces periodic policy switches. Thus in 1976, immediately after his election, President Carter declared unemployment to be "public enemy number one," and geared the government apparatus to promote increased output and therefore increased employment. Unemployment declined from 8.5 percent of the labor force in 1975 to 5.8 percent in 1979. However, the price paid for this economic expansion was an increase in the annual rate of inflation from 5.6 percent in 1975-76 to 11.3 percent in 1979, a level considered unacceptable in the United States. As a result, the President moved to declare inflation the "public enemy number one." And the government policy apparatus switched gears to fight inflation, with the full expectation that unemployment would rise in the process. Practically all the "policy-induced" economic fluctuations in industrial countries are derived from such changes in objectives.

This article explores the nature, meaning, and social cost of cyclical fluctuations in the level of economic activity, and shows why the trade-off between unemployment and inflation became less favorable in the 1970's and the 1980's. It then explores the international economic implications of these developments, showing that they place new and added strains on the international economic system.

II SOME LONG-RUN TRENDS

While cyclical economic fluctuations are the main focus of this article, it is important to realize that cyclical fluctuations are superimposed upon certain troublesome long-run phenomena that may plague the global economy in the next decade and beyond. Two such worldwide phenomena are energy and the environment. Although public attention was not drawn to the possible depletion of conventional forms of energy until the 1973-74 crisis, energy experts had been forecasting the tightening of

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8 Id. at 259.
supplies for a long time. Considering the worldwide demand and supply relationships, the price of crude petroleum is likely to double again within a few years. Apart from the severe damage inflicted upon the oil-importing Less Developed Countries (LDC's) by the huge increases in their oil import bills, and the pressures exerted on the international currency system, the "energy crisis" has two major effects on the industrial countries: inflation and stationary or declining real personal disposable income.

As oil prices continue to rise, users will be induced to economize on petroleum products. For instance, the substitution of labor for energy is already taking place in manufacturing while gasoline consumption is declining. Energy producers will be motivated to develop new energy resources, including substitutes to oil and natural gas. The final solution to the problem is likely to lie in diversification of energy sources, including coal, solar, wind, nuclear, oil shale, and tar sand, to name a few. But switching the economy to an alternative energy base may take one or two generations. The process can be motivated only by a substantial increase in the price of conventional fuels. Price controls on energy merely inhibit the conversion, and invite a severe crisis a decade or so later when the energy resources approach depletion. Instead of keeping prices artificially low and thereby promoting imports, the United States should allow prices to become artificially high by decontrol and by a subsequent imposition of taxes on the decontrolled prices. The choice facing this country is not between low and high prices of energy. Rather, the choice is one of two avenues: (a) increased dependence on Organization of Petroleum Exporting Countries (OPEC) sources, with the annual cost of imported oil reaching perhaps $100 million in a few years, followed by a severe crisis when these sources are depleted; and (b) stimulating the transition to alternate fuels and encouraging conservation by raising energy prices and inducing large scale investments in energy development. The adjustment process must not be truncated to a few short years. In either case, considerable domestic resources will be devoted to energy. Domestic goods and services will either be paid to foreigners or to ourselves. The first avenue involving oil importation requires an ever-increasing amount of productive resources to pay for oil through the export of goods and services. Under the second avenue which requires transition to alternate fuels, vast amounts of domestic resources will be invested in energy production. Since in each case the magnitude of resource use is similar and unavoidable, and since the transition approach both avoids a future crisis and diminishes our dependence on the often unreliable foreign resources, it is the preferred route.

Massive investments in energy, coupled with the large investments

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* There remains the possibility of temporary mini-gluts occasioned, for example, by a decline in demand during a worldwide recession.
required for environmental clean-up, are inflationary. Both investments require vast expenditures to produce what had been previously available at very low cost. To make an effective transition to alternate energy sources, the entire economy would have to be transformed to an alternative energy base, and much of the capital stock may have to be replaced or adapted to new higher-priced energy. New goods and services would not become available as a result of these investments, and the same amount of goods would cost considerably more. That would place a new and higher floor on the rate of inflation. Whereas in the 1950's and 1960's the annual rate of inflation fluctuated between 1 and 6 percent, the future rate may fluctuate between 6 and 18 percent.\(^8\)

A second impact of these expenditures is on real personal disposable income and therefore on our standard of living. In past decades, the percentage increase in real per capita Gross National Product (GNP) was roughly equivalent to the rise in the standard of living. Americans have come to expect a 3 to 5 percent annual improvement in their living standards. This has not been the case in the 1970's, nor will it be in the future. While the aforementioned investments in energy and the environment are counted as part of GNP, they do not contribute to the standard of living as commonly perceived. A wedge is driven between the rise in real GNP and an increase in the standard of living. Some illustrative figures can be offered to clarify the point. If a $2.3 trillion economy grows at an annual rate of 3 percent in real terms, output rises by nearly $70 billion. But with energy-environmental investments in the $60 to $80 billion range, nothing is left to increase personal income. It remains stationary. The only way to raise real personal income is by substantially increasing the growth rate of real GNP. However, for various reasons such an increase is unlikely. Indeed, the rise in energy prices induces substitution of labor for capital, and is therefore one of the factors responsible for impeding the growth of labor productivity.\(^9\) Families protect themselves against declining real incomes by increasing the number of family members in the labor force.

A stationary standard of living creates social stress, which is exacerbated by the need to redistribute income in favor of the poor — a redistribution that normally takes place through the government budget. It is easier to redistribute out of a growing “pie” than out of a stationary or even a shrinking “pie.” This may explain the recent rash of legislative initiatives favoring the upper middle class.

Because unions and other powerful groups refuse to accept the inevitable reduction in living standard, they compete with each other for a

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\(^7\) Environmental clean-up investments pay for past, present, and future “sins” in polluting air and water.

\(^8\) See, 1980 Economic Report of the President, supra note 4, at 259.

\(^9\) Substitution of labor for capital increases labor input, and reduces the output per worker.
greater share of total income or output. The outcome cannot be anything but inflationary. This component of inflationary pressure is not likely to abate. Consequently, the developments outlined here are manifested in inflation. These conditions in turn exacerbate the cyclical fluctuations in unemployment and inflation, to which we turn next.

III. Inflation and Unemployment

A. Definition.

Inflation is defined as a process of rising price level. The emphasis is on rising, not high, prices. Once prices stabilize, at whatever level, inflation is said to have stopped. Also, a rise of prices in one sector of the economy does not constitute inflation if it is offset by price declines in other sectors. Rather, the weighted average of all prices must be rising. Such a weighted average, calculated relative to a base year, is known as a price index. The most widely used index is the Consumer Price Index (C.P.I.). It represents a weighted average change in the retail prices of all goods and services purchased by final consumers, where the weight of each good represents its importance in the consumer basket. That index rose at an annual rate of 11.3 percent in 1979.

Unemployment refers to the proportion of the labor force that is involuntarily out of work. Unlike inflation, it describes a stationary proportion of the labor force. Since employment varies positively with the level of real output in the economy (real GNP), unemployment varies inversely with aggregate output. But zero unemployment is not the objective of economic policy. In a dynamic economy a certain amount of unemployment is unavoidable. At any given point in time, a portion of the labor force is in transition: switching jobs and changing locations, for example. Known as frictional unemployment, the transitional process involves 1 to 2 percent of the labor force. Another 3 to 4 percent of all workers are struc-

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10 Output always equals income in the economy.
11 There exists a popular belief that the ratio of energy supply to real GNP is somehow constant. Thus a 20 percent reduction in energy supply would lower aggregate output in the same proportion and produce a major depression. However, neither economic theory nor empirical observations support this view. As the price of energy rises relative to that of other inputs, there is a substitution of labor for energy, and of energy efficient machines for inefficient ones. The energy to GNP ratio declines, and real GNP need not plunge in anything near the same proportion.
turally unemployed, in the sense that they do not possess the necessary skills for an increasingly sophisticated economy. Because frictional and structural unemployment total around 5 percent of the labor force, full employment is said to exist when about 95 percent of the labor force is employed. By the same token, some manufacturing plans and equipment are expected to be idle at any given time for a variety of reasons. Consequently, capacity is said to be fully utilized when plant utilization throughout the economy averages somewhat less than 90 percent.

At times of excessively high aggregate demand such as during a war, unemployment may fall below the 5 percent mark and capacity utilization may rise above 90 percent. This is a condition of over full employment, and usually involves high inflation.

B. Social Cost.

The economic cost of unemployment is easy to conceptualize and to measure. It is the output of goods and services foregone by society. If potential real output — namely output produced at full employment — were $2.4 trillion, while actual aggregate output is only $2.3 trillion due to unemployment of workers and machines, then lost output amounts to $100 billion. To that cost one might add the emotional, psychological, and sociological burdens often associated with unemployment such as the possibility of increased crime.

By contrast, the economic cost of inflation is more difficult to pin down, despite the strong aversion to inflation on the part of most people. That aversion is rooted in the widespread belief that price increases undermine the real value of earnings and therefore the standard of living. But that notion is largely a myth. Real income is reflected in the relation between the rate of increase in money earnings and the rate of inflation. A 14 percent rise in money income accompanied by 13 percent inflation yields a 1 percent increase in real income. A stationary real income can result from zero inflation and zero rise in money earnings, or from any percentage increase in earnings matched by an equal rate of inflation. Real income in the economy is determined only by output of goods and services, which in turn depends on the productivity of factors such as labor. The rate of inflation by itself does not directly affect real income. If the energy-environment situation dictates a stationary real personal income, society collectively decides on the rate of increase in money income, and a matching rate of inflation will follow. Since a rise in money income makes us “feel better,” through a variety of social mechanisms we collectively opt for the inflationary route rather than for a zero rise in earnings. Inflation is a symptom; it does not in and of itself directly undermine real income as commonly perceived.

What then are the costs of inflation? Its most pervasive cost is income redistribution among various groups in society — redistribution which can be capricious and arbitrary. Debtors gain and creditors lose as
debts are repaid in dollars that are worth less in real terms, namely in terms of purchasing power. People such as retirees who live on fixed money income lose. Small savers lose as long as there exist statutory limitations on interest rates paid on passbook savings accounts. At 11 percent annual inflation, a 5.5 percent interest rate means a 5.5 percent negative interest earning when viewed in terms of real purchasing power. While wealthy individuals have access to sophisticated financial instruments, such as certificates of deposit, not subject to official interest rate ceilings, small depositors must rely on passbook savings accounts which yield interest rates at a level far below the rate of inflation. They have no effective way to protect the real value of their savings. In turn businessmen who maintain stocks of inventories may gain as the value of their inventories rises.

Finally, the government gains at the expense of the private sector because the bite taken by taxes increases: the rise in money income which accompanies inflation pushes people into higher marginal tax brackets, even though their real income is unchanged. \(^{16}\) Thus real after-tax income declines. This is illustrated by the following example: In 1964 the median income of a family of four was $8,132.\(^{17}\) In 1979 it was $18,815.\(^{18}\) This is a gain of 131 percent over a 15 year period, slightly less than the rise in prices. Despite the tax cuts of 1964 and 1965, the marginal tax rate to which this average family is subject rose from 18 to 21 percent.\(^{19}\) Its real after-tax income declined by $1,056 over this period.\(^{20}\) If the inflation is anticipated, it can be guarded against by linking contracts to the cost of living. Unanticipated inflation is more difficult to deal with.

These effects can be compounded because the rate of inflation is unlikely to remain at a standstill. Inflation tends to feed upon itself, as people expect it to continue and perhaps accelerate, and consequently begin to build it into their economic calculations and wage demands. The rate of inflation tends to rise if left unchecked. And high inflation may have a negative effect on the saving behavior of individuals, thereby curtailing the growth rate in the economy. Why save if the real value of accumulated savings is eroded away by inflation? At some point inflation may accelerate to a "galloping" pace, as experienced in the past by some Latin

\(^{15}\) The 5.5 percent figure is 11 percent less 5.5 percent.

\(^{16}\) Canada guards against this eventuality by linking the income tax to the cost of living index. This is done every year by pushing up the income brackets to which tax rates apply by a proportion equal to the rise in the cost of living index. Malabre, *As Salaries Climb With Prices, People Pay More of Income in Taxes Despite Rate Cuts*, Wall St. J., Nov. 28, 1979, at 40, col. 2.

\(^{17}\) *Id.*, col. 1.

\(^{18}\) *Id.*

\(^{19}\) *Id.*

\(^{20}\) *Id.*
American countries and today by Israel. At that rate people lose confidence in money as a medium of exchange. To the extent that segments of society are then forced to resort to barter transactions, efficiency of production and therefore real income would suffer.

IV CAUSES OF INFLATION AND UNEMPLOYMENT

A. Market for a Single Product.

It is useful to diagnose the problems of inflation and unemployment within an analytical framework similar to the traditional supply and demand analysis. The market for an individual product is described in a two-dimensional space, where the quantity bought or sold is shown on the horizontal axis, while the price is depicted on the vertical axis. The demand curve, or schedule, is downward sloping, showing that the lower the price the greater the quantity purchased.\(^{21}\) A price reduction induces consumers to switch from substitute products to the product in question, thereby increasing the quantity demanded. The supply curve, or schedule, is upward sloping showing that the higher the price the greater the quantity supplied.\(^{22}\) The intersection of the two curves yields equilibrium market price and quantity exchanged.\(^{23}\) Total revenue of the sellers, which equals the total expenditures by the buyers, amounts to price multiplied by quantity. It is shown geometrically by the rectangle under equilibrium point e. A shift in either the demand or the supply curve will generate a change in the price and quantity in a known direction.

Chart 1: Market for an Individual Product

A variant of the analysis can be applied to the aggregate economy. In this case the vertical axis represents a weighted average of all prices in the economy, or the price index, instead of the price of an individual com-

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\(^{21}\) Note the direction of the arrows in Chart 1 (a) infra.

\(^{22}\) The supply curve is depicted in Chart 1 (b) infra.

\(^{23}\) Equilibrium price and quantity are indicated by \(P_e\) and \(Q_e\) respectively in Chart 1 (c) infra.
ECONOMIC POLICIES—THE 1980s

modity. The horizontal axis measures the quantity of all goods and services produced in the economy or real GNP. 24

B. Aggregate Demand.

The demand curve D in Chart 2, is now aggregate demand. It describes the relationship between the quantity of all final goods and services demanded in the economy, and the average price level of these goods and services. Its slope shows that as the average price level declines, the quantity of all goods and services demanded increases. To see the reason for this relation, assume that the price level of all goods and services declines from $P_1$ to $P_2$ as indicated by the arrow along the vertical axis in Chart 2. The decline in price makes people feel wealthier, because the real value of their financial assets rises. As a consequence they spend more on all goods and services, as indicated by the arrow along the horizontal axis, and the quantity purchased rises from $Q_1$ to $Q_2$.

There are four main components of aggregate demand. First, consumer expenditures on non-durable goods, durable goods, and services constitute about two-thirds of the total aggregate demand in the United States. 25 Consumer expenditures are labeled C in Chart 2. Second, private domestic investments are labeled I, and include business expenditures on plants and equipment, residential construction, and changes in invento-

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24 Nominal or money GNP is the total money value of all goods and services produced in a given year. Real GNP is that value divided, or "deflated," by an appropriate price index.

ries. The third component is government expenditures on goods and services. Labelled G on Chart 2, government expenditures include expenditures by the federal government, as well as state and local governments. Finally, net exports of goods and services is a relatively small item, labelled $X_n$. Thus, aggregate demand $= C + I + G + X_n$.

C. Aggregate Supply.

Shown on the same two dimensional space, aggregate supply describes the relation between the supply of all goods and services and the price index of these goods and services. The dashed vertical lines in Chart 3 divide the space into three regions. At low levels of output, indicated as Region I, the economy is functioning well below full capacity. There is considerable unemployment in the labor force, and unused or “excess” capacity in manufacturing plants. Starting from output level (a) which may represent $1.5$ trillion in real GNP, the supply of output can expand without an increase in prices, for a simple, logical reason: with so much slack or unused resources in the economy, firms can expand production by hiring workers and machines at a constant price. They need not offer higher wages to attract workers from competing firms because much unemployment exists among workers of practically all skills and occupations. They can hire workers from the pool of the unemployed.

Moving in the direction of the arrow, as output rises to the area labelled Region II, unemployment of workers and machines declines. In this re-

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20 Net exports are exports minus imports of goods and services.
region, expansion of aggregate output can come about only if accompanied by an increase in the general price level. This occurs for several reasons. First, bottlenecks\(^{27}\) begin to appear in certain industries, even when average output for the economy as a whole is below full capacity. Certain plants and perhaps industries already function at near full capacity, and certain labor skills are in short supply. Also certain labor unions experience high employment among their members, and may become more militant in wage demands. Specific firms with market power approach full capacity operations, and consequently begin to push up prices. A general increase in aggregate output in this region requires firms to bid away workers from other firms by offering higher wages, and these are passed on to consumers in the form of higher prices. Certain raw materials may also be in short supply, commanding higher prices. Consequently the aggregate supply curve slopes upward at first gently, but as output rises and unemployment declines, the slope becomes steeper. Bottlenecks and shortages become more widespread, and unions as well as firms find it easier to exercise market power and push up wages and prices. In Region II expansion of output can be induced only if the price level rises.

As full employment output is approached at perhaps 6 percent unemployment, which denotes the beginning of Region III, the aggregate supply curve becomes very steep. In the vicinity of full employment, expansion of output can be achieved only at the cost of a rapid rise in the price level. Beyond the full employment level of output\(^{28}\), further economic expansion is possible only on a small scale, and only at the cost of high inflation.

During the last two decades the economy functioned mainly in Region II. Consequently subsequent graphs highlight that region. The economic expansion of 1975-79 pushed the economy towards the upper reaches of that region, with unemployment declining to 5.7 percent, that is, rather close to the full employment level\(^{29}\). Prices rose precipitously.\(^{30}\) In 1980, the economy appears to be receding from that level, and moving into a recession.

D. Aggregate Demand and Supply Combined.

Chart 4 combines the aggregate demand (AD) and aggregate supply (AS) schedules in the same two dimensional space. Their intersection at point \(e\) yields the equilibrium real GNP, \(Q_E\) on the horizontal axis, and the equilibrium price level, \(P_E\) on the vertical axis. The cause of unemployment is immediately apparent. It would be a sheer and unlikely coincidence for the AD and AS curves to intersect at a point which corre-

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\(^{27}\) "Bottleneck" describes a situation where no unused capacity exists in firms in one stage of a multi-stage production process of a certain product.

\(^{28}\) The full employment level of output is defined in section (C)(1) supra.

\(^{29}\) This level was reached in February, March, June, and July of 1979. See 1980 Economic Report of the President, supra note 4, at 237.

\(^{30}\) See id. at 239.
sponds to full employment output. The distance along the horizontal axis between equilibrium output \((Q_E)\) and the unique full employment output is the GNP gap. Its size determines the level of unemployment in the economy.

An upward shift in aggregate demand from \(AD\) to \(AD'\), moves the equilibrium position from \(e\) to \(e'\). Output expands to \(Q'_E\), toward the full employment level moving to the right along the horizontal axis, but prices also rise to \(P'_E\) moving upward along the vertical axis. While it lasts, this process of rising prices is inflation. As \(AD\) moves further to the right, the rise in the price level becomes more precipitous, meaning a higher rate of inflation. Because this inflation is caused by successive increases in aggregate demand it is known as demand inflation. Demand inflation becomes high only in the vicinity of full employment. This explains why inflation tends to increase during the peak of a business cycle, and subside during the trough.

Such shifts in aggregate demand, in either direction, can occur in the private sector, as consumers (C), investors (I) or foreigners \((X_n)\) change the level of their spending. Expansion of output can be attained only at the cost of a rising price level: inflation. Conversely, a reduction in the rate of inflation can be attained by shifting aggregate demand downward. The \(AD\) shifts to the left, but does so at the cost of shrinking real output.

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On a more technical level, the chart can be reinterpreted by showing inflation, or the rate of price change, on the vertical axis. Thus a rightward shift in AD stimulates inflation. A leftward shift in AD lowers the rate of inflation; it does not actually reduce prices.
and hence unemployment. This underscores the trade-off between inflation and unemployment.

Shifts in aggregate demand can also be brought about by government measures, known as demand management policies. These are the policies traditionally employed by the government to stabilize the economy. But because they operate within Region II of the aggregate supply curve, they are also subject to the trade-off between inflation and unemployment. The main reason for not reaching and maintaining full employment is its cost in terms of inflation. Conversely, the main reason for not attaining price stability is its cost in terms of unemployment.

IV Demand Management Policies

Two types of policy are available to the government to influence aggregate demand: fiscal policy and monetary policy. Fiscal policy relies on changes in government expenditures hereinafter labelled G, or taxes hereinafter labelled T, or both. Monetary policy relies on changes in the money supply.

A. Fiscal Policy.

Suppose the government wishes to increase output and employment albeit at the cost of rising prices. First, it can increase government expenditures while holding taxes constant. G is one of the four channels of expenditures, but the level of G is subject to the discretion of policy makers. A rise in G has the same effect as an increase in private expenditures; it pushes the AD schedule to the right. In the process, an increase in G moves the federal budget toward a deficit, and increases the share of government spending in the economy.

Second, the government can lower taxes. Although such a step has no direct impact on the economy, it leaves more purchasing power in the hands of the private sector. If the cut occurs in the personal income tax, consumers have more money to spend; consumption rises, and the AD schedule is shifted to the right. If the cut occurs in profit taxes, business firms have more money to invest; investments rise, and the AD schedule similarly moves to the right. In both cases, the economy expands. As in the case of increasing G, the lowering of taxes pushes the federal budget toward a deficit. But when taxes are lowered, the share of government spending in the economy declines. More importantly, the two fiscal policies are not mutually exclusive. The government can increase G and lower T at the same time.

Many problems are associated with altering the rates of taxation and governmental expenditures, not the least of which is knowing the correct dose that needs to be applied, and the proper mix if both G and T are altered. Additionally, there is a six to nine month lag between the time

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32 We ignore the more technical details arising from differential lags in the response of
the policy button is pressed, and the time when its effect on the economy is fully felt. Thus, ideally fiscal policy should aim at conditions prevailing six months after the policy is promulgated, but those are not known with any degree of certainty.

The desirable mix of changes in G and T depends on many factors. Because G has a direct impact on aggregate spending and T only an indirect impact, a change in G has a greater dollar per dollar effect on the economy. But the time lag in planning and executing new expenditures is also longer. It is more difficult to reverse course when economic conditions change and dictate such a reversal. The choice between G and T also depends on whether the body politic wishes to increase or reduce the share of government spending in the economy. Finally, if the tax route is chosen, in whole or in part, the type of taxes to be reduced must be determined.

Nonetheless, it is clear that a move toward a budgetary deficit — by raising G, lowering T, or both — stimulates economic activity at the cost of raising prices. Conversely, should the government wish to combat inflation, it would lower government expenditures or raise taxes, or both, and thereby move the federal budget toward a surplus. This policy shifts the AD curve to the left; inflation is curtailed, but only at the cost of reduced output and higher unemployment. In 1979, the budget deficit was reduced to $28 billion, from $49 billion in the previous fiscal year, in an attempt to reduce inflation.

B. Monetary Policy.

Monetary policy in the United States is in the hands of an agency politically independent from the Administration, the Federal Reserve System. Many consumption and investment expenditures in the economy depend upon borrowed funds, the cost of which is the rate of interest. These include purchases of homes and cars, or plants and equipment. If the Federal Reserve wishes to expand economic activity, that is expand real GNP, it can make funds readily available and reduce their cost: the rate of interest. This stimulates consumption and investment spending, and pushes the AD curve to the right.

Because most of our money stock is created by commercial banks in the form of demand deposits (or checking accounts), the Federal Reserve has three ways of increasing money supply. First, by a technique known as "open market operations," it can pump more reserves into the banking

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33 In fact, even current conditions are not known, for it takes one or two months to compile the statistics. This lag in statistics, as well as the policy lag underscore the importance of economic forecasting.

system by buying government bonds in the open market, thus infusing funds into the system and enabling banks to create more money. Second, it can lower the legal reserve requirements of the banks, thus leaving them free to create more money through the expansion of loans. Finally it can directly lower the interest rate it charges banks on borrowed funds, known as the *discount rate*, and thereby signal to the banks its desire to see interest rates lowered throughout the economy. These actions stimulate private expenditures and shift the AD curve to the right. Though the impact of monetary policy is also subject to a six to nine month lag, output, employment, and unfortunately prices would eventually rise. The above policies should be reversed if the objective is to dampen the rate of inflation. A contractionary policy would make funds more scarce and more costly, and thereby reduce private expenditures that depend on borrowed funds. The AD curve shifts to the left. Inflation abates, but real output declines and unemployment rises. These measures were introduced by the Federal Reserve in October 1979 and intensified in March, 1980, with the objective of lowering the rate of inflation. In the process, the employment of measures which increase the cost and scarcity of funds caused a recession in 1980.

C. **Summary.**

Monetary policy does not require prior approval by the Congress. It is therefore a more flexible tool than fiscal policy, and can be employed with greater dispatch. However, both types of policy operate by affecting aggregate demand, and consequently are subject to a trade-off between inflation and unemployment. This trade-off has been averted only when the economy operated in Region I of the AS curve. Attempts to alleviate the trade-off problem by imposing price and wage controls, while at the same time stimulating the economy, have generally backfired. While in force, the controls tend to distort the pattern of economic activity and promote inefficiency. Although prices and wages are held in check during the control period, a delayed reaction occurs when they are lifted. Prices tend to rise sharply, compensating for the months of control.

VI **LEFTWARD SHIFT IN AGGREGATE SUPPLY — STAGFLATION**

Most observers recognize that the inflation-unemployment problem became more serious in the 1970's. Indeed, from 1972 to 1975 both unemployment and inflation increased in the United States. The existence of

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inflation and unemployment at the same time is known as stagflation. How can it be explained?

In the previous analysis the aggregate demand schedule was shown to shift up or down, holding the aggregate supply schedule constant. Suppose we reverse the process. Holding aggregate demand constant, we shift the aggregate supply schedule to the left: In Chart 5, the AS curve is moved from $AS_1$ to $AS_2$. The two leftward pointing arrows indicate that this is a reduction in supply, because at any given price level, a smaller quantity of goods and services is supplied. Since AD remains unchanged, the equilibrium point of intersection shifts from $e_1$ to $e_2$. Real GNP declines from $Q_1$ to $Q_2$ while the price level rises from $P_1$ to $P_2$. The result is stagflation.

Any economy-wide increase in production costs causes such a shift in aggregate supply. Thus, the worldwide boom of 1972-73 generated a large increase in the prices of raw materials. This increase happened to coincide with the sharp rise in food prices caused by drought conditions in certain areas of the world. The quadrupling of oil prices closely followed the increase in food prices. Oil prices doubled again since 1975, so that

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37 For a more detailed explanation of the meaning of stagflation, see Kreinin, supra note 12.
38 Id.
during 1974-1979 they increased eight-fold.\textsuperscript{39} Since energy costs affect the production of all goods, production costs will invariably rise: Producers will offer any given quantity of goods and services only at higher prices. That has the same effect as offering a reduced quantity at each price, as is demonstrated in Chart 6. The upward pointing arrows indicates that each given volume of output will be supplied only at higher prices. As a result, aggregate supply shifts from $AS_1$ to $AS_2$. But this is equivalent to saying that less is supplied at each given price, as shown by the leftward pointing arrow. Thus, the all-pervasive rise in energy prices has the effect of moving aggregate supply to the left and causing stagflation.

\begin{tikzpicture}[scale=0.8]
  \draw[->] (0,0) -- (0,5) node[above] {$P$};
  \draw[->] (0,0) -- (6,0) node[right] {Real GNP};
  \draw (0,4) -- (6,4) node[above] {$AS_2$};
  \draw (0,3) -- (6,3) node[above] {$AS_1$};
  \draw[->] (0,3) -- (0,2.5) node[below] {\textbullet};
  \draw[->] (2,0) -- (2,0.5) node[below] {\textbullet};
  \draw[->] (4,0) -- (4,0.5) node[below] {\textbullet};
  \draw[->] (6,0) -- (6,0.5) node[below] {\textbullet};
\end{tikzpicture}

\textbf{Chart 6: Shift in the AS Curve}

Environmental and safety regulations promulgated by the federal government require massive new investment expenditures which similarly move aggregate supply to the left, as does the strengthening of workplace health and safety standards. These expenditures, coupled with a rapid rise in wage rates and a minimal yearly increase in labor productivity raise production costs, and cause a leftward shift in aggregate supply.

Chart 5 clearly depicts the grave effects of the leftward shift in AS. Prices rise from $P_1$ to $P_2$, and continue to rise as long as AS keeps shifting to the left in response to rising production costs. While the process continues, this is inflation. Because it is caused by a shift in aggregate supply, which in turn is a result of rising costs, it is known as supply or cost inflation.

Next, note what happens to output. While demand inflation is ac-

\textsuperscript{39} Id.
accompanied by an expansion in real GNP, cost inflation is accompanied by a contraction in real GNP from $Q_1$ to $Q_2$, and causes a rise in unemployment. If continued for two quarters or longer, the reduction in real GNP is termed a recession. This combination of inflation and unemployment is stagflation. Thus, the classic cause of stagflation is a reduction in aggregate supply. Its frequent occurrence in the 1970's and beyond can be traced to continuous increase in worldwide energy prices, the gradual tightening of environmental standards, and the rise in labor production costs due in part to sluggish productivity growth.

Finally, the leftward shift in AS aggravates the trade-off between inflation and unemployment. Thus, Chart 7 concentrates on Region II and simplifies Chart 5 by introducing a straight line aggregate supply. Aggregate supply is shown to decline from $AS_1$ to $AS_2$ and equilibrium shifts from $e_1$ to $e_2$. To attain full employment on $AS_1$, AD must be shifted upward, so that it intersects $AS_1$ at point R. But on $AS_2$, such intersection can occur only at point S: Attainment of full employment now requires more inflation than before. Conversely, to lower inflation to a desired price level, P, aggregate demand must be shifted downward. On $AS_1$ the intersection would occur at point M. But on $AS_2$, AD must be lowered all the way to point N, involving a much greater loss of output and therefore more unemployment. Thus, the cost of controlling inflation rises in terms of unemployment.

![Chart 7: The Inflation-Unemployment Trade-off](image-url)
VII Recent Historical Experience

In the 1950's and early 1960's, the U.S. economy was in Region I of the aggregate supply schedule, experiencing high unemployment and virtually no inflation. The 1964 and 1965 tax cuts shifted AD to the right and moved the country towards full employment, without a significant increase in prices. But in 1967 came the escalation of the Vietnam war. President Johnson refused to increase taxes to match the $30 billion rise in defense spending, even though the economy was already approaching full employment. The large deficit so created, when superimposed upon a fully employed economy, could not fail to generate the inflation of 1968-69. Thus, the origin of the last decade of inflation was a rise in aggregate demand. There followed attempts to deal with the inflation by demand management policies. In the first half of the 1970's, however, a constellation of circumstances combined to shift aggregate supply to the left. The circumstances included a worldwide drought, and a rise in raw material as well as in energy prices. To offset the resulting stagflation, President Nixon attempted to stimulate the economy by demand management, and to deal with the inflation by price-wage controls. But when the controls were lifted, a catch-up increase in prices fueled the inflation. Under President Ford, fiscal and monetary policies were used to dampen aggregate demand. The rate of inflation declined to the 4-5 percent range, but unemployment rose to 8.5 percent. Upon assuming office, President Carter reversed the priorities and moved to stimulate the economy. Unemployment declined gradually to 5.7 percent in 1979 but inflation rose to over 11 percent. In the first quarter of 1980, inflation accelerated. The economy appeared to be experiencing a leftward shift in AS coupled with a rightward shift in AD, shown in Chart 8. In 1979-80 the direction of policy was again reversed. Contractionary monetary policy was relied upon to dampen the inflation, but in the process it produced the 1980 recession.

For the exact figures, see 1980 Economic Report of the President, supra note 4, at 237, 259.

See id.

See Kreinin, supra note 12 at 5, 13-14.

Id. at 12-13.


Id. Meanwhile, Europe's sluggish post recession growth prevented it from experiencing a similar reduction in unemployment. See International Monetary Fund, 8 IMF Survey 285, 286 (Sept. 17, 1979).
VII The Policy Challenges for the 1980's

Tight energy supplies will make conditions worse in the 1980's, as the AS schedule shifts further to the left. What remedial actions are available? Inspection of Chart 5 shows that the most salutary results can be obtained from a shift of the AS schedule to the right: Inflation would subside, and output would expand. The equilibrium point would move from $e_2$ to $e_1$ and onward down the AD schedule. Measures designed to shift aggregate supply are termed supply management policies, otherwise known as "supply-side economics." They have seldom been used since World War II.

What might such measures be? A reduction in social security business payroll taxes would lower production costs and thereby shift the AS schedule to the right. Reduction in sales and excise taxes would have a similar effect. Beyond this, fiscal and monetary policies will have to be targeted so as to increase productivity and to stimulate investments and therefore subsequent output. Possible steps include a reduction in certain...
business taxes, an increase in the investments tax credit, and an increase in the deduction allowed for accelerated depreciation.

IX  INTERNATIONAL IMPLICATIONS

The above analysis can also be employed to explain the augmented concern about domestic economic conditions on the part of the IMF board of governors. The trade-off between inflation and unemployment affects all industrial countries. Each nation must choose from among the possible inflation-unemployment mixes — unpalatable as those mixes might be. However, different countries have different preferences. Germany appears less tolerant of inflation, and is likely to choose a mix involving a very low inflation rate even at the cost of high unemployment. By contrast, Italy, the United Kingdom and the United States may be less tolerant of unemployment, and are likely to choose mixes involving lower unemployment even at the cost of high inflation. In the words of Mr. Koehler, President of Germany’s Central Bank: “In the U.S. the main memories and fears are of the unemployment caused by the Great Depression. In Germany the fear is of the inflationary catastrophe of the 1920s. As soon as prices go up even a little we see this fear.”

The leftward shift in aggregate supply and the consequent worsening of the trade-off problem creates greater divergences between nations in: (a) the rates of inflation and (b) the growth rates of real GNP. Indeed, a recent IMF study shows a sharp increase in the absolute dispersion of national inflation rates since the mid-1970’s. Certain evidence also suggests a similar increase in the dispersion between the real growth rates of different countries.

Why is this important? The relative rates of inflation and of real growth rates are the two main determinants of a country’s imports and exports of goods and services. A high rate of inflation relative to the rest of the world erodes a country’s competitive position at home and abroad, and tends to reduce exports and increase imports. A high growth rate in real GNP relative to the rest of the world implies rapidly rising real incomes. In turn, this causes an increase in imports of both consumer and investments goods. Common sense and empirically verified economic theory suggest that imports rise with real income.

Differential interest rates between countries are one determinant of international capital flows, as short term funds are attracted to the high interest countries. Because an increase in interest rates is one tool used to combat inflation, large differences in inflation rates tend to result in large inter-country differentials in interest rates, which in turn generate inter-

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47 See INTERNATIONAL MONETARY FUND, 8 IMF Survey 350 (Nov. 12, 1979).
national capital flows. The countries experiencing outflow of capital are subject to balance of payments pressure, and a downward movement in the exchange value of their currency.

Compare, for example, a country which regards inflation as a nightmare (country A) with one which dreads unemployment (country B). Country A would sacrifice growth to keep inflation under control. Consequently, it would tend to have low inflation and slow growth in real GNP relative to its competitors. Its external balance on goods and services would be in surplus, thus exerting an upward pressure on the exchange value of its currency. By contrast, country B would tend to accept a high rate of inflation in order to attain faster growth relative to its trading partners. A downward pressure on the exchange value of its currency would result from its sustaining recurring deficits in its external balance on goods and services. Thus, the internal choice of an inflation-unemployment mix that society considers desirable, and the attendant domestic policies designed to attain this mix, spill over into the international economy. The worsening of the trade-off options caused by the leftward shift in aggregate supply in the industrial countries, means that such differentials and the accompanying external imbalances will grow more severe in the future. This, in turn, implies a greater range of fluctuations of floating exchange rates and more intense pressures on the fixed exchange rates. These developments happen to coincide with an increasing reluctance of most countries to accept: (a) what they regard as "excessive" fluctuations in exchange rates, and (b) recurring external deficits on goods and services. The two points will be considered in turn.

The breakdown of the Bretton Woods system of fixed exchange rates in March 1973, and the introduction of floating exchange rates, was not a result of careful and deliberate action by central bankers. Rather, it was brought about by the onslaught of market forces. Only fluctuating rates can accommodate highly divergent inflation and growth rates between countries. In the mid-1970's, a constellation of events affecting the international economy combined to generate rather large swings in exchange rates. Overlooking the fact that fluctuating exchange rates are supposed to fluctuate, many central bankers grew increasingly displeased with the system. The dissatisfaction was especially intense in Europe, where the proximity of borders often forces people to deal in foreign currencies on a daily basis. Such fluctuations introduce uncertainty into ordinary transactions. As a result, seven European currencies were pegged to each other

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80 The seven currencies included those of all of the European Economic Community countries except the United Kingdom.
within the European Monetary System (EMS) to provide a "zone of monetary stability."51 Exchange rate pressures within the EMS are likely to grow in the future necessitating more frequent exchange rate adjustments. Furthermore the range of exchange fluctuations of other currencies is likely to grow as well.

Aversion to recurring trade deficits results in part from the effect of import competition in displacing domestic production and causing unemployment. Both unions and management in certain import-competing industries have been led to seek tariff, quota, and other forms of protection in recent years. Indeed, this is one main reason for the emergence of the so called "New Protectionism" in several industrial countries, including the United States.52 As these pressures intensify, there is a danger that the post war trend toward trade liberalization among the industrial countries will be reversed, to the detriment of all concerned. Despite the success of the Tokyo round of trade negotiations, new forms of non-tariff barriers to trade appear at every turn. These trends require increased vigilance on the part of GATT in trade matters and on the part of the IMF in financial matters.

The unsettling effects of the recurring Japanese surpluses on the foreign currency markets in 1977-78 suggest that it may be desirable for the international trading community to consider the introduction of rules that prohibit a country from running persistent surpluses or deficits on the trade and service account, unless offset by long term capital flows. Monitored by GATT, the rules could specify the maximum size of the imbalance — in proportion to a country's exports or imports — and the maximum number of consecutive years in which the imbalance would be permitted to recur. Responsibility for rectifying the imbalance, either by domestic measures or by exchange rate changes, must not rest only with the deficit countries. Rather, the burden must be shared, and if anything, it should be borne to a large extent by the countries which exhibit a surplus. The methods for remedying the imbalance must be left to the countries themselves, but must not include new trade restrictions. Finally, a need may exist for strengthening the international institutions themselves.53

52 See id. at 7-10.