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FORCES OF INFLATION AND DEFLATION

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Among the reasons that Dave Gregg asked me to discuss Forces of Inflation and Deflation with you are, first, that the balance of these forces is of enormous importance to all of us and particularly to life underwriters who deal in long-term money contracts; and, second, because there is a widespread view that the economy of the United States suffers from chronic long-term inflation. It is for this latter reason, incidentally, that I shall concentrate on inflation although the consequences of severe deflation are even more devastating. More specifically, I want to talk about what inflation is and what damage it can cause in an economy such as ours. Then I want to outline some of the causes of inflation. Finally, I should like to look at the problem of price stability in the context of our other economic goals and comment briefly on the recent behavior and outlook for prices.

What, then, is inflation and what sort of damage can it cause? Before discussing what inflation is, I should like to say what it is not. Inflation is not just a price rise in one or a few goods. On the contrary, price fluctuations play a vital role in a free enterprise economy. Price changes in individual

commodities may be no more than signals from the free market. Increases are green lights, as it were, indicating that consumer demand is rising more rapidly than supply. The green lights signal producers to expand plant and hire more workers, to increase output. And they signal new producers to come into the market. Correspondingly, decreases in prices are red lights which signal producers to reduce output. In other words, changes in individual prices serve to allocate scarce resources of land, labor and capital to the production of the goods consumers demand and which are most profitable to produce and away from the production of goods already in relative oversupply.

There are imperfections and frictions, of course. Things do not work so smoothly or so quickly as Adam Smith and some others believed. Nevertheless, as I see it, this is basically the way in which our economy operates: the consumer dictates, the quest for profit motivates, and the price system allocates.

Inflation, then, is something different from individual price fluctuations, such as the housewife sees in the supermarket from time to time: pork and butter a few cents more this week, coffee and potatoes a cent or two less. Inflation is a more insidious thing. Inflation is a general and persistent upward movement in the whole range of prices. During a severe inflation, the price of virtually everything rises and the purchasing power of money correspondingly declines.

What are the dangers and difficulties of inflation? The most obvious difficulty is simply that it costs more to live; more dollars must come out of your pocket and mine for the daily necessities of life. But inflation creates more far-reaching problems that may be classified under three broad headings: (1) it brings random and inequitable changes in the distribution of income and wealth; (2) it may contribute to severe economic instability -- the booms and

busts of the business cycle; and (3) it may undermine and inhibit economic growth. Let us look briefly at each of these problems.

Inflation redistributes wealth and income inequitably because it rewards not in terms of an individual's contribution to production but rather gives to those with strong bargaining positions and those who own physical assets (directly or indirectly) what it takes from those with relatively fixed incomes and those whose wealth is held in fixed money form.

I need not remind you, who have dedicated yourselves to life underwriting, that your customers are among the great losers from inflation. With rare exceptions, your policies and your annuities are written both for long terms and for fixed dollar amounts. Compound interest is so powerful that even a so-called moderate rate of inflation has devastating effects on financial planning over less than a single lifetime. Consider a school teacher, age 40, who enters a contract for an annuity for \$X for a year, beginning age 65, on the assumption that it will enable him to live comfortably in retirement. A 3 per cent annual increase in the cost of living would reduce the purchasing power of his annuity by more than half! And the earlier he starts, the greater the havoc to his retirement!

Inflation picks the pockets of the 120 million holders of life insurance policies, the 39 million shareholders in savings and loan associations, the 24 million employees with pension rights under private plans, the 66 million covered by social security, the holders of bonds, including savings and other Government bonds as well as private bonds. It harms those with relatively fixed incomes.

Those who gain from inflation include workers in highly unionized industries who are able to gain acceleration clauses, speculators who guessed right, and those generally who own physical property, including inventories, that appreciates in value.

Another broad category of problems I mentioned earlier is the adverse effects inflation can have on economic growth. These effects stem directly from the income and wealth distortions just discussed.

Let me explain in more detail what I mean. A growing industrial economy and a growing population must have -- if the standard of living is to be maintained or improved -- a proportionate growth in capital. Only with such a growth in capital can new plants be built to provide goods for a growing population. Only if new plants are built can the growing population find employment and hence income to maintain and increase its standard of living.

To illustrate how real and pressing this problem is, the President's Committee on Manpower included the estimate that 1.5 million new jobseekers will enter the labor force each year between now and 1975. To provide these people with goods and with jobs, industry must expand. Industry can expand only if savers and investors are willing to provide funds for this expansion.

Now suppose we should have a severe inflation in this country. It is quite possible that our citizens -- seeing their incomes and their past savings gnawed away -- would be reluctant to commit new funds to savings accounts, bonds, insurance policies and other forms of fixed dollar assets. The tendency would be to consume instead of save, or to put money into commodities, real estate, equity securities, and other forms of investment that would provide a hedge against rising prices. We could become a nation of speculators instead of savers and our growth rate and standard of living would suffer.

But inflation endangers not only the long-run process of saving and investment (and hence our long-run growth). It also can cause serious short-run trouble. It can aggravate the boom and bust phases of the business cycle, with all of the human misery and suffering which this entails. Let me describe in greater detail some of the ways this can happen.

Inflation at the outset tends to push business profits up. There are at least two reasons for this. First of all, the process of production is a lengthy one in which the businessman buys before he sells. He buys countless raw goods to be funneled into his factories and machines and he usually keeps some inventory of his finished products. If, month after month, prices are rising, then this stock appreciates on his hands. He is continually selling at a price better than he expected and hence securing a windfall profit.

These profits are inflated for another reason. It is clear that a manufacturer wears out his plant and equipment as he produces his output. Such wear and tear, or depreciation, is a cost of production. By the time the asset is completely worn out, enough depreciation should have been charged to replace it. If, however, depreciation is computed on the basis of original cost and prices have risen during the life of the asset, the depreciation allowance will be inadequate to replace it. The cost of depreciation will have been understated and profits correspondingly overstated. George Terborgh has estimated that the inflation in the decade 1947 to 1956 resulted in overstating corporate profits by \$43 billion. Reported profits were \$187 billion, whereas true profits were \$144 billion. It does not take much imagination to appreciate that business decisions may be irrational if they are based on the assumption that profits are 30 per cent higher than they really are.

Here, then, sits the businessman, his profits inflated by windfall inventory gains and by understated costs. The future looks rosy indeed. Expectations of future sales and profits lead him to expand his plant and equipment. Rosy expectations also lead him to accumulate greater inventories, both because his sales are rising and because he desires to lay in more stock before the prices of that stock rise. In short, we have a typical inventory and capital spending boom.

Things go on rising for a while but then the bubble bursts. The businessman realizes that additions to productive capacity have outrun consumer demand. He realizes that his inventories are high relative to any reasonable forecast of sales. He cuts back on inventory purchasing and capital spending. The firms which supply him with inventory and which build his plant and equipment are forced to cut back their production and lay off workers. Then, like a pebble dropped into a pond, the effects spread. Other firms selling to the second group of suppliers and builders find sales declining. More workers are laid off and hence consumer income falls. With income declining, business sales fall even further. In short, we have the familiar downward spiral of business into the depths of recession, a recession which will continue until top-heavy inventories and excess plant capacity are corrected. Once more inflation has helped breed the excesses which result in recession.

These, then, are some of the dangers of inflation: an inequitable and haphazard redistribution of income and wealth, a tendency to undermine the savings-investment process and to retard economic growth, and finally, an aggravation of the expansions and contractions of the business cycle.

If inflation has these undesirable effects, we might well select as a next point of discussion the reasons for inflation. Only if we understand why and how inflation develops can we hope to hold it in check.

Basically, inflation develops when the effective demand of consumers, business, and government is excessive relative to our ability to produce. At the risk of some oversimplification, the problem is one of "too much money pursuing too few goods." But why does a situation develop in which "too much money is seeking too few goods"? A glance back into history will throw some light on this question.

A chart of wholesale prices* since the beginning of the 19th century reveals four peaks of inflation sitting like majestic stalagmites in the stratosphere of the kingdom of prices. Each of these was associated with war: the War of 1812, the Civil War, the First World War, and the Second World War. Somehow, then, inflation seems to be associated with war.

A somewhat closer inspection of the chart of wholesale prices reveals four footmen to the royal stalagmites, four lesser but still significant periods of inflation. The first of these, from 1832 to 1837, was associated with the rapid expansion of state banks as a result of President Jackson's war on the Second Bank of the United States (and hence with a rapid increase in the ability to create money). The next three periods also had to do with changes in the monetary base: gold discoveries in California and Australia (1848 to 1857); more gold discoveries in the Klondike and Cripple Creek (1897 to 1909); and finally, a revaluation of gold in the Great Depression (1932 to 1937). Thus, inflation would also seem to be related to money creation.

To tie the two phenomena of war and money creation more closely together (and to show in more detail how they relate to inflation), let us move in history a bit closer to the present. Let us look at the experience of World War II.

It is estimated that total military expenditures of the combatant nations in World War II surpassed \$1 trillion, over six times those of World War I. Producing goods in such magnitude for war was inflationary. Civilian output, of course, was reduced to a minimum as productive facilities were turned to weapons. Yet, still the wartime production workers received wages for their work. Workers must be paid whether they produce munitions or automobiles. Since workers don't buy munitions, however, the wages which they might have spent on cars, appliances, and the like were socked away for a day when the enemy was vanquished. In other words, a huge volume of liquid purchasing power was built up -- the money supply of the equation implied in the phrase "too much money pursuing too few goods."

*It is, of course, hazardous to compare prices, especially over very long periods, because of such factors as changes in the commodities and weights which comprise the index. The index, however, is accurate enough to support the very general statements that I shall make.

Yet the war was inflationary in still another way, the way it was paid for. The funds not raised by taxes during the war were obtained by borrowing, by selling bonds. Bonds sold to individuals and savings institutions came out of savings and thus were not so inflationary. But the billions of dollars worth of bonds sold to commercial banks during the war were paid for with newly created money -- money right off the keyboard of the bookkeeping machine, as it were.

So long as price controls and rationing were enforced the inflationary potential of all this liquid purchasing power could be at least partially controlled. But then when the controls were removed the wartime dollars came home to roost. They descended on a market place hardly prepared to accommodate such massive demands, and prices rocketed. This was the environment in which savers watched as their savings dwindled away in purchasing power. This was the environment in which businessmen experienced windfall profits, in which inventories appreciated in price and profits were inflated because of inadequate depreciation charges. This environment and its aftermath also set the stage for what later was called "cost-push" inflation -- a euphoric environment in which workers could push up wages faster than productivity and business could pass these costs along to the consumer in the form of higher prices. This, in short, was the postwar inflation and the motive force which propelled it.

Let us now turn to the future. How are prices likely to behave as we advance further into the decade of the sixties?

There have been enough major surprises in the history of prices to suggest caution in looking forward. Who predicted that the gold discoveries would bring an end to the inadequacy of gold which had so much to do with the persistent downward trends of prices until the late 1840's and 1890's? The universal generalization that every major war is followed by falling prices was broken after the Second World War, despite the convictions of Sewell Avery.

Nevertheless, I think we can learn something from history. The most important lesson is that the future of prices is not inevitable; it lies in our own hands, a result of human policies and decisions.

How are the great historic forces of inflation and deflation likely to operate in the future and how may they be brought under control?

What about war, the great historic force of inflation? I have no better foresight than anyone else concerning the probability of an all-out holocaust. Should it occur, it seems to me that the magnitude of destruction: of people, material things, and records (including records of primary and derived ownership) would be so great that anticipatory attempts of individuals to protect themselves financially would be nullified. Survivors of the nominally victorious powers would have to begin life anew in terms of the material resources still available.

On the other hand, continuation or even significant intensification of the cold war could and in my judgment would be handled without serious inflationary consequences. My primary reason for reaching this conclusion is that we have reached a somewhat better understanding of the money illusion, of the difference between real costs and finance. I do not want to exaggerate. We still have a lot to learn and we shall probably, as in the past, not do so well as we could if we followed the most intelligent advice. Nevertheless, we have made progress and we have enormous and growing resources. Of course, we would face the prospect of rising tax rates and slower expansion in social services; but these hardships could be borne. For the immediate future, we also have the prospect of a rapidly expanding labor force as the postwar baby crop comes of working age. We could, if need be, devote much more to defense without creating inflation.

The other great cause of historic inflation has been the surprise discovery of large new gold deposits. What is the likelihood of similar surprises in the future? In considering this question we must distinguish between

form and substance: the form is gold; the substance is monetary policy. As to the form, it seems to me not beyond the realm of possibility that a nuclear physicist might one day discover a method of producing gold at a very cheap price. As to the substance, I have not the slightest doubt that such a discovery would not be permitted to produce a major inflation. The history of monetary policy has been one of gradually reducing the tyranny of gold. The link to gold has been made more and more tenuous. In the event of cheap nuclear gold, it probably would be broken altogether.

So much then for gold and war as possible causes of inflation in coming years. Are there other reasons to expect that the second half of the sixties might be characterized by upward pressure on prices? Some would say there are reasons to believe this, that an economy geared to the goals of maximum employment and rapid growth must by its very nature veer in the direction of chronic inflation, that inflation is inevitable, even desirable, as a stimulus to these other goals.

The view that maximum growth and inflation went together like a set of Siamese twins had its roots in the early postwar period. As much of the war effort was shifted to civilian purposes, we had rapid and widespread increases in the standard of living. As already noted, we also had inflation and some concluded that inflation and rapid rises in the standard of living go hand in hand. "If this is what inflation means, let us have more of it" was the conclusion. Many people, including some leading economists, were willing to accept rather cavalierly significant increases in the price level as a possibly necessary cost of maintaining full employment, and they were ready to predict a rising trend of prices in the future.

These were the ideas of the mid-fifties. Let us now examine these ideas against the "facts" of the case.

The inflation theorists based their argument on an appeal to history, citing as evidence of the linkage between growth and prices historical periods in which both rose together. Now I happen to have spent a considerable number of man-years trying to squeeze uniformities or principles from historical evidence in the specialized field of central banking. I have found such study rewarding, but I must confess that I also have found it slithery and full of pitfalls.

In the matter at hand, I find that at different times rapid economic growth has been associated not only with rising prices, but also with falling prices, as during the latter part of the 19th century, and with relatively stable prices, as during the 1920's. It seems to me difficult to demonstrate historically that rising prices are a necessary condition for rapid growth.

What has been the experience in more recent years? In the past few years we have maintained a rapid rate of growth, perhaps not so rapid as we would like (in view of the unemployment which has persisted) but still a rate high by historical standards and one which has helped gradually to push down the rate of unemployment. What has been the behavior of prices during these years? Have growth and inflation gone hand-in-hand?

The fact is we are now living in the most sustained period of stability in the official wholesale price index in the history of our own or any other highly industrialized society.

At first glance the notion of chronic inflation seems to be supported by the behavior of the official consumer price index published by the Bureau of Labor Statistics, which has risen at a rate of about $1\frac{1}{2}$ per cent a year for the last eight years.

But how accurate is this index? No one knows for sure. We do know that the Price Statistics Review Committee of the National Bureau of Economic

Research has this to say about both this and the Wholesale Price Index:

If a poll were taken of professional economists and statisticians, in all probability they would designate (and by a wide majority) the failure of the price indexes to take full account of quality changes as the most important defect in these indexes. And by almost as large a majority, they would believe that this failure introduces a systematic upward bias in the price indexes -- that quality changes have on average been quality improvements.

The evidence is less than convincing that on average consumer prices have risen since 1957. And it is not unlikely that wholesale prices have in fact declined.

In my view, then, inflation is not an unavoidable characteristic of a society aiming at rapid growth and maximum employment. Indeed, in my view relatively stable prices, not rising prices are a prerequisite to the realization of our other goals.

This view, of course, is not mine alone. There is now widespread agreement that stability of the price level is and should be a major objective of economic policy. This certainly is the major purpose of the so-called guidelines developed by the President's Council of Economic Advisers. The guidelines are based on the assumption that if wage rates increase more rapidly than efficiency or output per hour, the result will be either rising unemployment or rising prices. If, however, wage rates rise in proportion to increasing efficiency, prices can be held stable.

Rising wage rates over time are consistent with a stable price level over time because "real" costs undoubtedly will continue to decline as invention and improved management techniques increase efficiency or output per man-hour. Although there are always Cassandras who judge that material improvement must end some day, the burden of proof remains on them. Hitherto, they have been proved wrong, decade by decade, ever since the dawn of the industrial revolution. The human mind is too fertile to believe that it will not continue to have new ideas.

I had reached this optimistic note in my preparation when Herb Graebner reminded me, late in August, that I had agreed to submit a manuscript before September 1. That, you may recall, was before the settlement of bargaining in the steel industry.

I had no inside information on the steel negotiations. It must be obvious that I was more optimistic than many that a non-inflationary contract would be reached. Some of my friends accuse me of being an eternal optimist; but it seems to me that the actual contract justified the optimism -- and is encouraging in the longer run.

Everyone, of course, has his own precise interpretation of the contract. It seems to me that Gardner Ackley, Chairman of the President's Council of Economic Advisers, gave a reasonable interpretation before the American Statistical Association in Philadelphia on September 9.

Let me quote briefly from Mr. Ackley's statement:

The steel settlement last week was a victory for the course of moderation and responsibility that has marked our labor history over the past five years. There has been so much said that could confuse the casual observer that I want to be very clear about how we regard that settlement. Its elements have been priced out by the parties as adding up to between 47 and 51 or 52 cents an hour. Our pricing of it is closer to the lower end of that range--let's say about 48 cents. One Government expert prices it even below 47 cents. I would remind you that the interests of the parties to the settlement may, quite innocently, influence their pricing of the settlement. Judging only by the newspapers, for example, the union apparently held during the negotiations that some elements included in the final package cost appreciably less than they now agree they are worth.

But even 48 cents is interpreted by some observers as well in excess of 3.2%. They reach this conclusion by a process of reasoning for which I can find no shred of logical support. They argue that this is a 35-month settlement beginning September 1. On that basis, they conclude that this was a 3.5 to 3.7% settlement.

But the 48 cents, or whatever figure you take, includes the $11\frac{1}{2}$ cents granted as of last May 1. If you want to treat the settlement as running from September 1 you have no choice but to deduct this $11\frac{1}{2}$ cents. You then must calculate the remaining $36\frac{1}{2}$ cents increase against a base which includes the $11\frac{1}{2}$ cents. Total hourly compensation last April was a shade above \$4.41. Adding the $11\frac{1}{2}$ cents brings the base as of September 1 to about \$4.53. Based on this calculation, the percentage comes out well below 3%.

But this is not sensible either. The only reasonable approach is to treat the total cost as including the $11\frac{1}{2}$ cents downpayment, in a settlement running for 39 months beginning May 1, 1965, and calculated on the April base of \$4.41. On this basis, 48 cents per hour comes out to a nice, guidepost figure of 3.2%.

This digression so far has been concerned primarily with identifying, quantifying, and vilifying the process of inflation. The task given me, however, included also that of commenting a bit on deflation. Indeed, the word deflation appears in the title of this paper. So as to maintain the balance and integrity of my charge and my title (and also to give this most trying and humanly depriving economic problem its full due), I should like now to say just a few words about deflation.

The steepest of the great historic slides into deflation have been those that followed wars. As we look to the future, it is significant that we had no economic collapse after the last war. This was no mere accident. Fears of a postwar collapse produced public and private plans and programs that prevented its occurrence. It is true that the return to civilian life was so rapid that some called it military disintegration rather than demobilization. But we also had developments such as the C.E.D. and passage of the Employment Act of 1946. On the international front we had the creation of the International Monetary Fund and the International Bank for Reconstruction and Development.

The other great deflations of history have been associated with inadequate supplies of money. It is these depressions that have had the most devastating effects upon the whole social fabric.

In my own view, we have learned the lesson of clearly inadequate supplies of money. You will aggravate but cannot liquidate a depression by calling loans and destroying money.

In this connection, it is significant that responsible leaders of the western world are already developing plans to assure that prosperity will not be imperiled because of inadequate international liquidity.

Again, some might criticize me as overly optimistic in my assessment of the probability of future deflations. In my own defense, however, I must say again that I have faith in human ingenuity and in human intelligence. The lessons of the past are there. Though we must live history forward, we can read it backward. Herein lies my hope for the future.

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