

## Different Inflations Have Different Effects on Employment

I cannot help blaming some of my fellow economists for confusing themselves and their audience by speaking of the relation between inflation and unemployment as if there were only one kind of inflation. They probably think they are making things easier for their audience if they use the term "inflation" to mean "price increases." In actual fact, this supposed simplification obscures the relationships among economic quantities and hinders their understanding.

Many different things can be inflated, from a speaker's ego and his automobile tires to the money supply and the price level. With regard to the economically relevant variables, the lack of specification becomes mischievous when the speaker fails to make distinctions among the following inflations: 1) inflation of the money stock; 2) inflation of monetary reserves and central-bank money; 3) inflation of bank credit; 4) inflation of the government's budget; 5) inflation of the budget deficit; 6) inflation of total demand (spending); 7) inflation of wage rates; 8) inflation of product prices; 9) inflation of profits and profit rates.<sup>1</sup> I intend to discuss the roles which some of these inflations (or sustained expansions) may play in the processes that result in changes of employment and unemployment. Emphasis will have to be placed on the different *rates per time* and on the different *time lags* with which the different inflations proceed. To disregard differences in rates and lags can be as bad as the failure to differentiate among the variables that are being inflated.

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<sup>1</sup> I have said this several times before, beginning in the early 1920's, but must unashamedly repeat it since my colleagues continue their misleading use of the term. In the period 1920 to 1940 economists were more disciplined: in Germany they spoke of "money inflation" (for example, SPIETHOFF, *Geldblähe*), and most writers elsewhere stressed "demand inflation" (for example, BENT HANSEN, *A Study in the Theory of Inflation*, London 1951, distinguishes expansions of money stocks, prices, and incomes, but emphasizes "monetary excess demand"):

### Price Increases Not the Same as Price Inflation

Many people use price increases and price inflation as synonyms, although the two are not the same. A price increase may be a one-time occurrence. A price inflation implies a period of time, say, two or three years, during which prices of many goods and services go up and up and up.

I maintain that the phenomenon called price inflation cannot happen without money inflation. Some people will object to my assertion: Could not velocity of money circulation increase? Could not the demand for money decline and the consequent activation of hitherto idle money finance a succession of price increases, a continuing and interconnected sequence of price increases? The answer is No, because any reduction in the demand for money (in nominal terms) has narrow limits. It can go on only for a few months. Conceivably, under conditions that have never been observed anywhere, it might go on for a year or two. But under any conditions that have ever been observed it could not. There has never been a sustained inflation of prices that has not been financed by an increase in the quantity of money. To admit this, one does not have to be a monetarist or quantity theorist in every respect. One merely has to realize that the amount of inactive cash balances is limited; if everybody spends the money that he has held over and above the minimum needed to take care of all his necessary disbursements, he will soon have no inactive money balances left. Hence, an increase in the stock of money is a *necessary* condition for an extended sequence of price increases. It is not a *sufficient* condition, except if you take the presence of two or three other assumptions for granted. These other assumptions, however, have been present almost everywhere most of the time. Thus, although money inflation is logically not a sufficient condition for a price inflation to take place, in conjunction with a few additional assumptions it is both necessary and sufficient.

If money supply can be influenced, or perhaps even controlled, by the monetary authorities, one may seek the explanation of price inflation in the *willingness of the authorities to allow a money inflation*. Since the authorities are a group of a few people, as is usually the case, one has to ask what *motivates* these persons. Why do they allow an increase in the quantity of money? The reasons may be

1) fear of being fired (dismissed); 2) fear of being severely criticized; or 3) a conviction, or a strong belief, that expansion of the money stock is good for the country in the prevailing circumstances. They may believe, for example, that it would prevent unemployment from getting worse, or that it would lead to more investment, to larger effective demand, to more employment or production, to faster economic growth, and similar good things. All these beliefs or hopes are based on certain hypotheses in the minds of the people in charge of monetary policy.

This statement, reducing all sustained expansions of the money supply to a single cause — the willingness of the monetary authorities to promote or condone these expansions —, seems to be at variance with the contentions of almost all government economists, who point to many particular causes of price inflation. They put the blame on such things as an increase in the price of oil or other imports, in the price of steel, in farm prices, in the wages of coal miners, and so on. What they should say, to make good sense, is that there are many events and circumstances which the authorities regard as indicating the desirability or need for monetary expansion, that is, as arguments for allowing or promoting faster creation of money. These arguments may be right or wrong, but it is important to understand that *events* in the external world and *arguments* in the minds of persons in charge of policy are different things. I shall come back to the question of the cogency of the arguments, most of which nowadays relate to the question of possible job losses and possible job creation. But first I want to make a few distinctions, which include types of money inflation that are *not* related to arguments about high or low levels of employment.

### Historical " Causes " of Money Inflation

I shall present three types of inflations of money stocks and commodity prices that have no connection with the authorities' theories and objectives regarding the level of employment. It happens that these three types are the best-known cases in history: *a*) Artless Budget Inflation (usually in times of war or post-war public spending); *b*) Investment-Credit Inflation (usually cyclical); and *c*) Monetary-Reserve Creation (usually in times of purchases of reserve assets at fixed prices).

In the course of the last three centuries the worst money-and-price inflations have been artless budget inflations. Government expenditures ran far above tax revenues, and the deficit could be covered only by printing paper money or borrowing newly created bank money. The governments had no special ideas or designs regarding the consequences; they simply could not help spending but could not get enough money from taxing the people or from borrowing funds which the people had saved from their current incomes. These "artless" budget deficits have occurred in the past chiefly to finance defense and war expenditures when a government found it impossible, for political reasons, to raise enough taxes to meet expenses. They have also occurred in the more recent past when a government financed increased social services, and also when a government embarked on capital outlays considered of vital importance. All these budget inflations led to money inflations which caused price inflations. They usually worked through expansions of demand, that is, inflation of effective demand for goods and services.

The second historically important case is that of investment-credit inflation. These inflations took place every few years over perhaps 150 years. They were associated with the upswing in the business cycle. These investment-credit inflations were condoned by the monetary authorities in the belief that they would promote capital formation and productivity.

Monetary-reserve inflation, the third type of inflation not related to any ideas about employment, has occurred in three forms: *a*) increased acquisitions of silver; *b*) increased acquisitions of gold; and *c*) increased acquisitions of foreign exchange. Silver inflation, either in the form of silver coins or in the form of silver reserves, was usually the consequence of increased production of silver, when silver was still legal tender or used as monetary reserve under the silver standard or a bimetallic standard. If no silver was produced in the country, it would be imported in exchange for increased exports. Gold inflation would likewise result from increased gold production, leading to an increase in the money supply under the gold standard, the bimetallic standard, or any system involving purchases of gold by monetary authorities. If no gold is produced in the country, the gold is acquired in exchange for increased exports of commodities or securities. The process is quite similar under a system where neither gold nor silver is purchased by the monetary authorities, but foreign exchange is acquired instead. This is simply another case of imported

inflation. A large surplus on current or capital account, probably generated by money inflation and demand inflation *abroad*, may lead to increased inflows of foreign exchange, which is purchased by the monetary authorities under a system of fixed exchange rates or managed exchange rates. In buying foreign exchange, the monetary authorities create domestic money. This type of money inflation is not associated with any theories or objectives entertained by the monetary authorities regarding the state of employment.

### Central-Bank Policy

Having alluded to monetary mechanisms under various standards or practices of monetary authorities, I find it expedient to digress for a moment to a brief sketch of the essential relationships between monetary aggregates and central-bank policy.

Central-bank policy employs chiefly two instruments: 1) creation and destruction of central-bank money, and 2) relaxation or removal of restraints on commercial banks. My discussion at this point refers to the first instrument, in particular the creation of central-bank money. By this I mean both bank notes and deposit liabilities that are used as reserves of commercial banks.

A balance sheet of a central bank will feature on the asset side two categories of items: foreign assets and domestic assets. The foreign assets may include precious metals or foreign exchange in the form of foreign currency (deposit claims against foreign banks, commercial or central), or foreign securities (bills, notes, bonds, etc.). Domestic assets are loans to domestic debtors and securities issued by the national government, other public authorities, private financial institutions, etc.

The liability side of the balance sheet features chiefly bank notes and three kinds of deposits — of commercial banks, of the Treasury, and of foreign creditors. There may be another item, which is usually not included in the domestic money supply, namely, some liquid liabilities such as swap credits from foreign central banks.

Central-bank policy consists chiefly in acquiring or disposing of assets. It makes little difference whether the policy is oriented to price targets or to quantity targets. If the central bank wishes to increase "domestic liquidity" by open-market operations, it will pur-

chase domestic securities; its orientation is on the amount additionally acquired. More often, the orientation of the central bank will be towards the maintenance of some target price: the interest rate and/or the exchange rate. By attempting to stabilize domestic rates of interest, usually to keep them from rising when the demand for credit is high, the central bank invites applications for increased loans. By attempting to maintain fixed exchange rates, usually to keep prices of foreign currencies from falling when their supply is high, the central bank acquires foreign exchange and thereby affects both exchange rates and interest rates.

Some writers distinguish central-bank policies as "active" or "passive," probably meaning by "passive" such changes (purchases or sales) in holdings of foreign and domestic assets as come about in an attempt to maintain *given* exchange rates and *given* interest rates. "Active" would then mean a policy of altering exchange rates or interest rates, either explicitly or indirectly through purchases or sales in the open market.

This way of characterizing central-bank policy may sound quite reasonable, but actually is misleading. To call the policy active only when it is associated with an official *change* in the bank rate (discount rate) or in the foreign-exchange rate is to play down the bank's activity under the presumably passive policy of *maintaining* given interest rates or given exchange rates. Any purchase of foreign exchange offered at the given exchange rate is an intervention by the bank supporting the price of foreign currency in the foreign-exchange market; likewise, any sale of foreign exchange by the bank at the given exchange rate is an intervention designed to keep the price from rising. The same reasoning holds regarding domestic loans and securities. Any kind of intervention is active. To hold a price at a set level is no less active an intervention than to change a price to a targeted level.

### Creation of Money in the Service of a Goal

From our digression on central-bank policy, we can now return to further discussions of the purposes of money inflation. We have spoken of three types of money inflation where the state of employment or unemployment plays no role in the motivation of the manu-

facturers of central-bank money. Now we come to types of inflation where these motivations are strongly influenced by considerations of the state of employment or unemployment of labor. That these types of inflation were unknown before the 1930s may explain why ancient textbooks failed to provide appropriate explanations.

The use of monetary policy for the expressed purpose of creating jobs or avoiding the loss of jobs became widespread after the Second World War. Easy money and monetary expansion became a substitute for reductions in wage rates in the service of a full-employment policy. We shall see presently that, in a world in which money wage rates cannot be reduced, practically anything that happens in the economy is apt to lead to a loss of job opportunities unless an expansion of the quantity of money is engineered. This sounds like a sweeping generalization, but I believe it can be shown to be warranted.

Assume that some shifts in demand occur. If demand shifts from some commodities to others, which are not produced by workers of the same type and residing in the same region, the price of the commodity now favored by the consumers will increase, and the workers needed to produce these now favored commodities will be able to obtain higher wages. They would not even have to ask for wage increases, because the employers may offer higher wages to attract the workers needed for an increased output. Disregarding for a moment the role of money and thinking in real terms, we understand that the following change must take place in the economy: the terms of trade between commodities must change in favor of the commodity for which the demand has increased, and against the commodity for which the demand has diminished; likewise, the real wages of the workers employed in the expanding industry will rise, and the real wage rates of the workers in the declining industry must fall. In a money economy, these adjustments, if they are to take place smoothly, without a net loss of jobs and without price inflation, would require a reduction of money wage rates in the declining industry. If money wages cannot be reduced, unemployment must arise. The authorities, thinking that an expansion of the effective demand for goods and services may prevent the loss of jobs, feel justified in creating additional money. The resulting increase in the price level reduces *real* wages in the declining industry. Thus, price inflation is supposed to bring about the required adjustment, though probably with many side effects, since in the process real incomes will be changed not

only of the two groups of workers directly involved in the shift of demand, but also of many other people, some gaining, others losing in the course of subsequent adjustments of wage rates and prices.

### Other Examples

A switch of demand — something that occurs practically every day — is only one of many kinds of changes in the economy that call for adjustment through alterations in relative real wages. Think of an increase in productivity in some industry, so that the same output can be produced with fewer workers. In a competitive economy, workers in the industries concerned might have to take a cut in their real wages, except in the case of a fully compensatory increase in the demand for their product. If the workers released thanks to the increase in productivity do not accept a cut in their money wages, they could remain unemployed. The phrase “technological unemployment” is often used to describe this situation. If a reduction in their real wages could be engineered, they would find jobs in the same industry or in others, and the consumers of several types of goods would benefit. If money wages cannot be reduced, the unemployment of the now redundant workers can be avoided only by means of an increase in aggregate effective demand engineered with the help of an expansion in the stock of money. The price inflation associated with this policy would adjust relative real wages, though only at the expense of several side effects redistributing the incomes of many people not directly involved in the change that started the course of events.

Another example of a change requiring an adjustment of real wage rates would be an increase in the labor force. If the supply of labor in particular occupations or industries increases, it can be absorbed only if the real wage rate of the groups in question is reduced. If reductions in money wage rates are excluded, the new entrants into the labor force remain unemployed. Again, in the view of the authorities, an increase in total spending, financed by an expansion of the money supply, will have to bring about the readjustments in relative wages and relative commodity prices in real terms that are needed to create the jobs for the additional workers.

A reduction in the supply of a needed raw material can be

shown to be yet another example of a change that requires an adjustment through a reduction of real wage rates. The price of the scarce material will have to rise, and cuts in real wage rates will have to take place if unemployment is to be avoided. If money wages are not reducible, there will again be the presumed way of obviating the unemployment by engineering inflations of the money supply, of total effective demand, and of money prices.

It should now be clear how a policy of expanding aggregate spending, financed by newly created money and leading to higher price levels is supposed to work as a substitute for reductions in money wage rates either in particular occupations or industries or on a broader front.

### Still More Examples

It may be helpful if we add to our list of examples. Assume that there is an increase in some monopoly prices of widely used materials. Or, assume that there is an increase in the monopoly wage rate of coal miners. Or, assume that there is an increase in the prices of agricultural products. In all these cases, a particular group of people — the owners of the corporate stock in the monopolized industry, the coal miners, the farmers — claim a larger share of the national product. They can get the enlarged share only at the expense of other people, and this implies reductions in real wages in many industries. If money wage rates cannot be reduced, the necessary cuts in real incomes can be brought about only through an inflation of prices. Thus, again, a process of demand inflation, financed by money inflation and leading to price inflation, will be initiated to bring about the adjustment to the larger claims ceded to the monopolists, the coal miners, the farmers.

One final example: an increase in the prices of imports. Take the case of the quadrupling of oil prices. The only adjustment to it would be that most people in the country accept a cut in real income. If money wages cannot be reduced and unemployment is to be avoided, real wages have to be depressed through a process of money inflation, demand inflation, price inflation. It is always the same story.

I have given so many examples in order to justify my sweeping

generalization: Any event or change whatsoever, if it requires an adjustment of relative prices and relative wages, will produce, if money wages cannot be reduced, a potent argument for the authorities to initiate a series of chain reactions that lead ultimately to the inevitable adjustment. With rigid money wages, any change anywhere results first in unemployment; in order to avoid such unemployment, the authorities resort to the inflationary adjustment route.

To say that all these events or changes in the economy which I have mentioned — the demand switch, the productivity rise, the labor-force increase, the raw-material shortage, the monopoly-price boost, the miners' wage hike, the farm-price lift, the import-price increase — are *causes* of price inflation is, in a charitable judgment, a misleading short-cut expression, but in a harsher judgment, a fallacy. The various events are, in the absence of money inflation, causes of unemployment; and, in the presence of a determination to use creation of central-bank money in an attempt to prevent an increase in unemployment, they become steps in *arguments* for money creation. The creation of high-powered money is not a mechanical, automatic process, but the result of deliberate decisions and actions by the monetary authorities. Thus, I repeat, the cause of inflations of money supply and commodity-price levels lies in a conjunction of 1) *the realization that with a given money supply unemployment is liable to result from virtually any change that takes place in an economy in which money-wage rates can only rise but never fall, and* 2) *the belief that this unemployment can be prevented by an expansion of total spending financed by an expansion of the supply of money.*

### Price Inflation and Employment

The belief that an increase in total spending will always create jobs or prevent the loss of jobs is, for the majority of political economists, not just a tentative hypothesis but a firm conviction. That a demand inflation without price inflation will increase employment is, of course, very probable. But the trust in the capacity of an increase in spending to create more jobs goes much further: it includes the contention that even combined with price inflation demand expansion will lead to more employment. The theory of the trade-off

between inflation rate and unemployment rate — the theory depicted by the Phillips Curve — rests on that trust. It holds that less unemployment, or more employment, can be had if one accepts more price inflation. A policy of demand expansion is presumed to secure more jobs, no matter how fast price inflation proceeds; indeed, the implication of the Phillips Curve (not according to the late Mr. Phillips, but according to the believers in the trade-off theory) is that at the price of a higher rate of price inflation a larger reduction of unemployment can be achieved.

The experience of the last ten years has contradicted this presumption. In many countries both the rate of price inflation and the rate of unemployment have increased. Some economists have expressed their disappointment about the "strange" way in which the economy was behaving; they spoke of a "new type" of inflation, never observed before, and not yet understood by them or their colleagues. What seems strange to me is that these disappointed economists regard as new, unexpected, and unexplained a phenomenon which other economists had described, explained, and predicted.<sup>2</sup> Many things seem new to those who do not read.

The levels of employment and unemployment depend largely on the *profitability* of employing people in the labor force. Job opportunities increase if it becomes more profitable to employ more workers, that is, if the margin between the cost of employment (wages plus fringes and taxes) and the net revenue from selling the additional output increases. Attempts to create more jobs by creating and spending more money can succeed if product prices rise faster than wage rates. During most of the upswings of business cycles in the last 150 years, profit inflation prevailed as the rate of price inflation exceeded the rate of wage inflation (or at least the rate of unit-cost inflation); hence, employment increased. If wage costs, however, increase faster than product prices, the increase in spending will not

<sup>2</sup> FRITZ MACHLUP, "Programs to Maintain Employment: The Basis of Social Security," in *Social Security in America*, National Conference on Social Security (Washington: Chamber of Commerce of the United States, 1944), pp. 22-23; FRITZ MACHLUP, "Monopolistic Wage Determination as a Part of the General Problem of Monopoly," in *Wage Determination and the Economics of Liberalism* (Washington: Chamber of Commerce of the United States, 1947), p. 60; FRITZ MACHLUP, *The Political Economy of Monopoly* (Baltimore: The Johns Hopkins Press, 1952), pp. 420-434; FRITZ MACHLUP, "Another View of Cost-Push and Demand-Pull Inflation," *Review of Economics and Statistics*, Vol. XLII (1960), pp. 125-139. I could cite many other authors; I have referred to my own writings because this required the least effort in searching.

raise the number of available jobs, and may even reduce it. Depending on the relative speed of wage inflation and price inflation, unemployment may rise, fall, or remain unchanged. This does not mean, however, that a high-speed price inflation will be helpful to employment; for, obviously, any given rate of demand inflation — expansion of total spending — becomes less effective in real terms if prices rise fast. Thus, price inflation reduces employment if its speed exceeds that of demand inflation and/or if it falls short of that of wage inflation.

### Comparative Rates of Increase

If this sounds complicated for a layman, it should not for an economist. Assume the rate of price inflation is 10 per cent per year while the rate of wage inflation is only 8 per cent. Even if there were no increase in productivity, we would expect this to generate a profit inflation — but only if the rate of demand inflation is at least 10 per cent. If it is less, effective demand is reduced in real terms, profits are down rather than up, and employment will be less than it was before things began expanding. Now let us change the assumptions, have the rate of price inflation only 6 per cent, but the rate of wage inflation 12 per cent. Even if the rate of demand inflation is 8 per cent, so that effective demand in real terms is increasing, profits are reduced and employment will be less. None of these constellations, however, is stable. There will be interactions among the subsequent movements of the economic aggregates involved, and this is where matters become very complicated. Even if these relationships among spending, prices, wages, and profits can be understood, they cannot be predicted. Responses and reactions will be different as people have longer experiences and revise their expectations, projecting past developments into the future and trying to protect their positions as best they can.

The longer the price inflation continues, the greater the likelihood that it will be overtaken by wage inflation and that, as profit inflation turns into profit deflation and unemployment increases, the authorities will feel compelled, by their conscience and their failure to understand the balance of economic forces in the long run, to step up the rate of demand inflation.

### The Choice of Words and the Choice of Variables

The word "inflation" in all the phrases of this discussion, should have proved itself thoroughly superfluous. I have continued to use it (almost *ad nauseam*) chiefly to get the reader fed up with it and fully aware of its redundancy. However, as long as people use the word as the designation of a sustained sequence of interconnected price increases, the word should be attached to all other sustained increases and expansions, in order to make it clear that we need to see the whole constellation to make sense of it all.

The discussion offered in the preceding pages suffers from the same defect that inheres to almost all discussions of the inflationary process: in focusing attention on levels of prices, it has failed to look at the structure of prices. In some of the most enlightened theories of cumulative processes, *relative* prices of various types of goods play the crucial roles. To have only the prices of labor and of final output in the model is to leave out several strategic elements of a more adequate theory. I have only one excuse for perpetrating this sin of omission: I do not know how to reduce the more appropriate model to a size fitting into a brief paper. In confining the discussion to the four or five elementary variables, I have been able to sketch the beginning of an explanation of relationships which are usually entirely overlooked or disregarded.

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