

in current dollar terms). At 1981 levels of expenditure, a 1 percent change in the CPI or related indexes causes federal spending to increase by about \$2 billion.

An alternative to indexing would have been for the Congress to continue legislating changes from time to time on an ad hoc basis. Indexing was felt by some to be preferable because ad hoc adjustments risk repeated reopening of debate on other aspects of the programs involved, arouse uncertainty on the part of beneficiaries as to future benefits, and create a temptation to raise real benefits during election years.

With time and continued high rates of price increase, however, it has become apparent that a significant portion of the budget is, in effect, on automatic pilot. In fiscal year 1980 nearly one-third of federal outlays were for indexed entitlement programs. These automatic increases of expenditure make it increasingly difficult to reduce the size of the federal budget. Moreover, when inflation is combined with a stagnating economy, these programs consume an increasing share of national output.

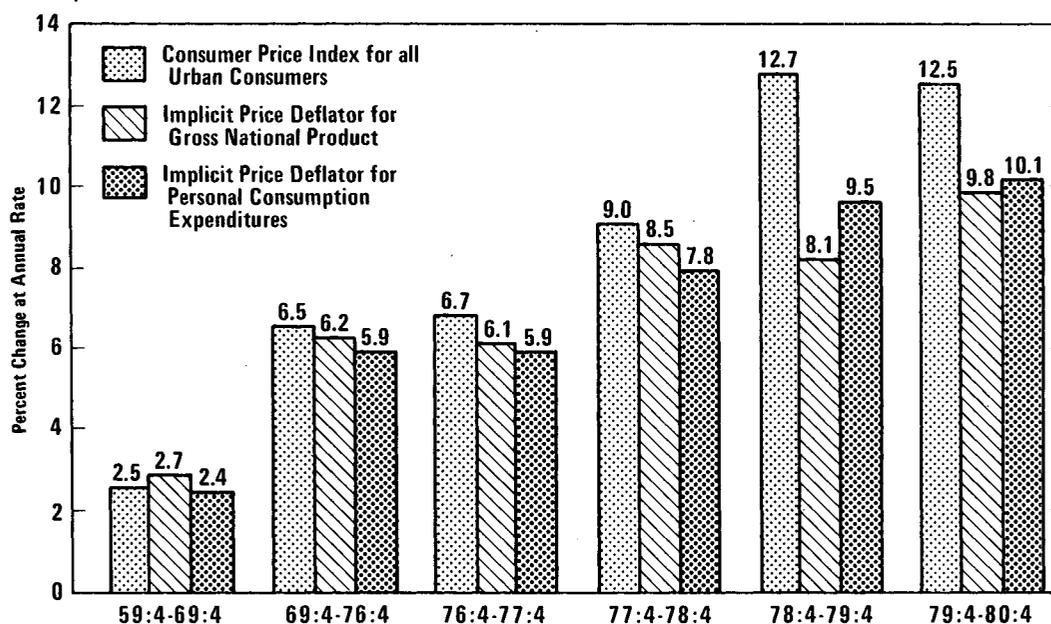
Accuracy of the CPI

Perhaps the most critical development in the growing unease over indexed spending has been the criticism that the CPI--the most widely used measure for indexation--exaggerates the rise in the cost of living. If estimates of the distortion in the CPI are correct, many billions of dollars have been unnecessarily spent over the last several years.

Concern as to the behavior of the CPI gained the most attention over the last year or two, when its rate of increase significantly exceeded those of alternative price measures. Figure 1 compares the performance of the CPI with that of a broad measure of prices in the economy--the gross national product (GNP) deflator--and with that of a close substitute for measuring consumer prices--the personal consumption expenditure (PCE) deflator. ^{1/} The three measures show very little divergence until the mid-1970s, but in the years after that the CPI departs radically from the other two.

^{1/} The GNP and PCE deflators are not without shortcomings as measures of the cost of living. These are discussed in Chapter V.

Figure 1.
Comparison of Alternative Inflation Measures



Representativeness of the CPI

In addition to the criticism that the CPI has been distorting the aggregate measure of consumer price change, there have also been complaints that it is an inaccurate measure of prices paid by certain demographic groups. The consumption habits of the poor and the elderly differ from the market baskets used in the CPI-U or CPI-W--the two consumer price measures currently produced by the Bureau of Labor Statistics. The budgets of the poor are dominated by expenditures on necessities, while the elderly spend relatively more on medical expenses. If the prices of such items rise faster than other prices measured by the CPI, then current indexation practices may not adequately compensate these groups for changes in their cost of living.

Fairness

An additional concern about current indexation practices is that of fairness. In the struggle to keep up with rising prices, some groups have been more successful than others. The less successful groups have seen their real wages and purchasing power fall. Meanwhile, federal beneficiaries on the whole appear to have been fully compensated for rising prices. This disparity in the treatment of wage earners and federal beneficiaries has been aggravated by the recent increases in Social Security payroll taxes.

Organization of the Study

Chapter II outlines some of the primary, but not always explicit, objectives of indexation, explaining how they affect the actual practice of indexing. Chapter III describes the environment of price changes in which indexing is done, and the implications of indexing to different kinds of price change. Chapter IV briefly surveys the scope of indexation provisions in federal programs. (Appendix A lists federal programs that employ explicit indexation features.) Chapter V examines in detail the shortcomings of the CPI and presents some alternative measures that overcome certain of the CPI's deficiencies. The indexed provisions of the Food Stamp Program and possible improvements to existing practices are discussed in Chapter VI. Finally, the alternatives for a general consumption index and their budgetary implications are treated in Chapter VII.

Indexation is a response to a persistent rise in the level of prices, or--put another way--a persistent fall in the purchasing power of the dollar. The fall in the value of the dollar erodes the value of payments called for by contracts or by federal laws. Indexation is an effort to protect real benefits over time through escalators, cost-of-living adjustments, and similar provisions. The task is complicated, however, by the fact that other things are changing at the same time, such as the pattern of employment, the composition of consumption, asset values, and demographic patterns.

Alternatives to Indexation

Indexation is not the only solution to the problem of maintaining the real level of benefits in the face of rising prices. In the private sector, contracts can be made of shorter duration. In government programs, benefit levels can be readjusted more frequently.

Several objections may be made to such alternatives. The necessity of readjusting benefit levels at more frequent intervals requires time and effort; moreover, it may reopen debate on other provisions of a program. There is, also, a cost to recipients in the form of uncertainty about whether benefit levels will be maintained in the future. Finally, under a regime of repetitive one-time adjustments pressure may develop, particularly during election years, to overcompensate for price increases. This was one of the reasons cited for the adoption of indexation in the Social Security program.

Given the difficulties of frequent decisions about benefit levels, indexation has a certain appeal. Yet indexation may create other problems. First, it makes changes in expenditure levels automatic, and the larger the proportion of expenditures that are indexed the more difficult it becomes to control the federal budget. Second, indexing is not a straightforward matter--a point that is developed at some length in this report.

Provisions That May Be Indexed

Indexation is applied to many provisions of federal programs. Benefit levels are usually specified in dollars, and must be readjusted if their real value is to be preserved when prices increase. Many federal programs are targeted at certain demographic groups--for example, welfare programs for the poor--and employ indexed eligibility provisions to ensure continued service to those targeted groups. Other programs are designed to operate only under certain circumstances--such as farm support programs when agricultural prices are low--and employ indexation to ensure that trigger mechanisms will continue to operate correctly. Still other programs contain provisions that limit the amount of benefits paid--such as on Medicare claims--and employ indexation as a way to maintain benefit ceilings at a constant real level. Without indexation, eligibility requirements would become increasingly restrictive, trigger mechanisms would cease to operate, and ceilings would begin to reduce real benefit levels.

Complications

In a dynamic economy indexing is complicated by the fact that many things are changing besides the level of prices. Changes in employment, output, value of assets, and demographic patterns affect the welfare of various groups in the economy. Some of the nonprice changes are triggered by price movements, while others may occur independently. This means that the statistical measures used for indexation may reflect more than simply inflation. For example, the CPI will be affected by an increase in sales taxes or by a rise in values of durable assets like houses, or by changes in the quality of goods not fully adjusted for in the CPI. Straightforward indexation in these cases may not reflect actual changes in the cost of living.

Because both price and nonprice changes affect the standard of living, and because of the limitations of available statistical measures in providing the desired information, it becomes necessary to examine the purpose of indexation more carefully in order to evaluate the performance of existing indexation measures.

Purposes of Indexation

A number of different possible objectives for indexing have been either stated or implied in the public discussion of this topic.

- o Holding constant the ability of beneficiaries to purchase a fixed basket of goods

This is the approach that underlies current indexation practices. Its advantage is that of being easy to understand and relatively straightforward to measure--for example, with the CPI. It would be most suitable if the only changes taking place were those of prices. In an environment of more complex changes, some shortcomings become clear. The index will reflect increases in sales, excise, or--to some extent--payroll taxes. If the same revenue is raised through income taxes it will not appear directly in the CPI and may not register to any significant extent, even indirectly. This raises the question whether indexation ought to protect against tax changes as well as price changes.

Another difficulty with this approach is that over time consumers will not stick to a fixed basket of goods; they will substitute new products for old ones, and cheaper items for those that become more expensive. An index based on a fixed basket of goods will tend to rise faster than one based on a consumption mix that preserves a fixed level of satisfaction or well-being.

A third difficulty with the fixed-basket approach is that it ignores other conditions in the economy bearing on the equity of such indexation, and on the ability of the economy to pay its costs. For example, if wages are rising less rapidly than prices, beneficiaries of indexed federal programs will improve their living standard relative to that of the working population. Under these conditions, the burden of financing the benefits will tend to grow as a share of total economic output.

- o Holding constant a standard of living obtainable with the program's benefits

This approach would recognize changes in consumption habits. It thus requires that the market basket be updated frequently.

When treated rigorously, it also requires that factors other than market consumption be taken into account. Changes in the provision of public goods--such as better safety and health, cleaner air and water, more secure national defense--will raise the standard of living. Moreover, since the provision of such items is usually reflected in either higher prices or higher taxes, counting their costs without considering their benefits would lead to overindexation. In addition, overindexation will occur if one ignores the fact that the rising real values of durable goods such as houses or silverware represent increases in wealth for their owners. Whereas the CPI would register this as a loss in purchasing power, in reality it means the possibility of an improved standard of living for the owners if they alter their savings habits or liquidate some of their increase in wealth.

The drawbacks to this approach are that it is more abstract and harder to understand; requires much more information; and in many instances is difficult to quantify. Nevertheless, it is useful as a concept to which other approaches can be compared.

- o Holding constant a relative standard of living that is gauged to the income levels of the working population

This approach abandons the attempt to preserve the value of benefits in real or absolute terms. Instead, it ties benefit levels to the performance of the economy. In place of the goal of an absolute level of benefits it substitutes a relative notion--something closer to a constant share of an economic pie whose size may be changing. ^{1/} One way of approximating such a standard is by indexing to wage changes instead of to price changes. This puts beneficiaries in the position of sharing with wage earners the burden of economic setbacks. Moreover, it tends to keep the costs of indexation more in line with the ability of the economy to bear those costs. The other side of this coin is that beneficiaries would share with wage earners the dividends of productivity growth. This is because productivity growth enables wages to rise faster than prices in the long run.

^{1/} Qualification must be made when demographic changes cause a shift in the ratio of the beneficiary population to the working population, thus changing the relative burden of indexation in the economy.

- o Holding constant the benefits' purchasing power over a basket of goods excluding certain goods that may be subject to wide and uncontrollable price swings

This approach is suggested by the current difficulty of adjusting to relatively large changes in certain prices--notably the price of imported oil. These changes have had a large effect on the CPI, and thus on the costs of indexation, at a time when net income growth is slow. The unavoidable consequences of the oil price increases are that the nation must either reduce its level of oil consumption or else cut back on other consumption. Indexation has the effect of insulating beneficiaries from these consequences. By raising their benefits in line with all price increases, it gives them enough purchasing power to continue consuming the same basket of goods. Thus a larger share of the burden must be borne by those whose incomes are not indexed. While operationally it is possible, at the cost of redistributing income shares, to carry out such indexation for a portion of the population, it should be apparent that it is impossible to do so for everyone.

Excluding imports from the indexed basket of goods would mean that everyone, including the beneficiaries of federal programs, would share in the burden of adapting to the new economic circumstances resulting from the rise in oil prices.

Other Considerations

It may be that a single standard or approach to indexing will not suffice for all federal programs. The goals of a particular program may determine its indexing requirements. Programs that seek to provide some minimum standard of living may require indexing to a market basket; the Congress may desire to exempt persons covered by these programs from the burdens borne by active wage earners. On the other hand, some federal benefits may be amenable to other indexing approaches.

Another consideration in designing an indexing formula is the burden it will impose on the economy, particularly in times of slow growth. Certain of the approaches mentioned above accommodate themselves to changing conditions--but even the most flexible may sometimes be more than a nation can afford. Accordingly, proposals have been made to discount the index measure by an arbitrary amount, say by limiting increases to only 85 percent of the increase in the CPI. If this were continued over a period of years, however, it would mean a cumulative decline in real benefits.

Another proposal is to switch back and forth between a price index and a wage index, using whichever rises the least. This proposal would reduce the real value of federal benefits whenever real wages fell, in line with the lower capacity of the economy to finance such benefits. The difficulty with this proposal is that benefits once reduced would never regain their initial position even if economic stagnation was replaced with rapid economic growth. The implications of the proposal, and some alternative formulations, are discussed further in the next chapter.

Other considerations in setting the goals of indexation include the types of price behavior that are likely to be encountered. It may make a difference if all prices are rising or if only some prices are rising; and if only some prices are rising, it may make a difference if they are the prices of necessities such as food, of luxuries such as gold and silver, of investments such as houses, of imports such as oil, or of taxes that are included in retail prices (even if those tax increases are offset by cuts in other kinds of taxes). Because price changes occur as a result of a variety of forces, it will be useful to examine the implications of indexing to different kinds of price changes.

CHAPTER III. TYPES OF PRICE CHANGE AND THEIR IMPLICATIONS FOR INDEXATION

Indexation is an effort to adjust benefit levels so as to neutralize the effects of price change. Can indexation succeed in preserving living standards from change stemming from price movements? The answer depends on the types of price change encountered, and on whose standard is to be protected. This can be most usefully illustrated by defining two special cases of price behavior.

TYPES OF PRICE CHANGE

A distinction may be made between two types of price movement. One is an upward movement of all prices at about the same rate, or generalized inflation, and the other is an increase in the price of one or several goods relative to all others.

Generalized Inflation

Generalized inflation is characterized by a persistent and widespread rise in prices. It is synonymous with a fall in the value or purchasing power of money. Although economists differ as to the details of causality, the fall in the value of the dollar is generally associated with a rise in the money supply in excess of the growth in real activity. The most important feature of this kind of price behavior is that all prices are rising at about the same rate, including the price of labor--wages. ^{1/} If wages keep up with prices, then both the level and composition of consumption will likely be little affected.

At first glance it would appear that generalized inflation is merely a change in the numbers used to carry out economic activity. In actuality, even the most general movement of prices would not

^{1/} For the sake of simplicity, productivity growth--which tends to cause wages to increase faster than prices--is not discussed.

have an equal impact on everyone. In the short run, unexpected inflation, or unexpected changes in the rate of inflation, can redistribute income between borrowers and lenders. Second, some wage earners in the economy may have less market power than others, and not be able to get increases that keep up with the full change in prices. Third, persons receiving fixed non-wage income such as pensions, transfer payments, or interest on bonds will see the real value of these payments fall, and, in addition, those holding cash will be penalized. Finally, if the income tax system is progressive, generalized inflation will lead to an increasing tax burden as people move into higher tax brackets.

Relative Price Change

The other special case is that of relative price change. This is a change in the price of one or several goods relative to the prices of all other goods--as would occur if the price of butter were to go up 50 percent while that for margarine rose only 10 percent, or if electricity doubled in cost while natural gas stayed the same. The most important feature of a relative price change is that it disturbs the relationship among prices of different goods. It is a signal that supply or demand conditions for a particular good have changed, and that there must be changes in consumption as well as in production. This is the sort of adjustment that takes place if a frost reduces Brazil's output of coffee, or if an oil embargo reduces the available supply of oil. Where possible, consumers substitute cheaper goods for those that have become more expensive; if substitution is difficult, consumption has to be cut back--either that of the more expensive good or that of other goods. It should be added that these consequences of a relative price change apply in the aggregate and not necessarily for each individual. To the extent they apply in the aggregate, however, they are real changes rather than nominal changes. Indexation cannot undo aggregate real effects but only redistribute them.

Relative price changes play an important role in the economic system. They are responsible for the reallocation of consumption patterns and the redirection of productive activity in response to changes in economic circumstances. To suppress the signals being sent by relative price changes is to risk increasing resource misallocation, leading to a standard of living far below the nation's potential.

Actual Price Behavior

Actual price change has been a mixture of both kinds: The relationship among prices has been changing, while at the same time the aggregate level of prices has risen. There are a number of reasons why this is so. One reason is that the forces that produce each special type of price behavior can be present at the same time. Another reason is that, through the working of economic institutions, relative price changes have tended to cause increases in the aggregate price level. The conventional description of this latter process is that prices in the economy move upward more readily than downward. If one or several prices rise, and other prices fail to decline, the result will be a rise in aggregate expenditure and an increase in the demand for money. If the money supply does not expand, demand will be constrained by the relatively tighter money supply and economic activity will slacken until prices adjust. Unfortunately, postwar experience suggests that this adjustment has tended to be somewhat slow and that it imposes a cost in the form of unemployment and lost output. Attempts to restore the trend rate of economic growth through accommodative increases in the money supply lead to a new, higher absolute level of prices. The process can be a gradual one, with the initial relative price change diminished by the partial catching up of the prices of other goods in the economy, followed by a reestablishment of the relative price change. For example, the real price increase of OPEC oil in 1974 was diminished by inflation in the ensuing four years, and was not fully reestablished until the oil price increases of 1979.

Thus government policy can be a partner in the transformation of a relative price change into a rise in the aggregate price level. In the past the government affected the process chiefly through its commitment to high levels of employment and output. Its attempts to stimulate economic growth led to increases in the money supply. But government policy can create relative price changes as well. This is done in two ways. The first of these is associated with the provision of social goods. Social goods are goods and services that everyone consumes in some sense but that are not bought and sold in the marketplace. The clearest examples are cleaner air, cleaner water, safer working and living conditions, and better levels of support for the poor and unemployed. The provision of these goods through antipollution and safety regulations ultimately leads to higher prices for chemicals, steel, electric power, paper, and other final products. Similarly, increased levels of unemployment compensation impose costs on

producers that show up in higher prices. It is through these higher prices that society pays the cost of the social goods. The question as far as indexation is concerned is whether recipients of government benefits should be protected from or excused from paying these costs.

Another way in which government policy has created relative price changes is through efforts to regulate the working of private markets for the benefit of particular groups. A change in the rules that affects the economic circumstances of a particular group can bring substantial economic benefits to that group. Unless the change in the rules itself increases economic output or wealth, however, the economic benefits will be achieved at the expense of other groups in the economy. When the government guarantees milk support prices to dairy farmers, when it protects the steel industry from the competition of cheaper imports, when it regulates competition in transportation, and when it requires that teenagers be paid the minimum wage, the benefits provided to the target groups are funded by higher prices paid by consumers.

Actual price behavior, then, has been a composite of inflation and relative price changes. To some extent the large relative price increases of recent years for commodities such as oil have contributed to successive increases in the overall level of prices. In addition, relative price increases have originated not only from shocks to the economic system but also from the efforts of government policymakers to redistribute income through intervention in the marketplace.

Meaning of "Cost of Living"

Rising prices and inflation are associated with changes in the cost of living, and frequently the terms are used interchangeably. But the cost of living is a broader concept than the others. Because it is often mentioned as a basis for indexation, the cost of living concept requires closer examination. An effort is made below to provide a general understanding of the notion and how it is applied. 2/

2/ For a fuller discussion, see Jack E. Triplett "Cost of Living Questions and Cost of Living Indexes," U.S. Department of Labor, Bureau of Labor Statistics (processed), and its bibliography.

The concept of a measure of the cost of living (COL) is usually expressed as an answer to a question such as, "What is the change in cost of maintaining a given level of living (satisfaction) between two periods with different prices?" The question can be phrased in a number of ways in order to give it specific content. The key to understanding the various ways of phrasing the question is that it is an attempt to measure a constant or fixed level of living in the sense of well-being or satisfaction. Depending on the kinds of economic forces bearing on this level of living, the question may have to be more probing or comprehensive in order to measure the cost of a constant or fixed level of satisfaction. For example, the CPI, which is an attempt to approximate the COL, is based on the question, "What is the expenditure necessary at today's prices to maintain the living standard of the base period?" An alternative but related concept is embodied in the question, "What would have been the cost in the base period of consuming a basket of goods representing today's standard of living?" This concept underlies the construction of the implicit price deflators employed in the GNP accounts. Both concepts compare prices of two different periods, but they use different baskets of goods for that purpose. While they can yield very similar results, they tend to diverge the further apart in time are the two periods and the larger have been changes in relative prices.

A different approach to the COL concept is to ask "What is the income required at today's prices to maintain the standard of living of the base period?" This measure will yield the same result as the expenditure approach unless there has been a change in income taxes. The expenditure approach is insensitive to such a change while the income approach is not. On the other hand, even if such a measure were available, it is not clear that it should be substituted for the CPI in all uses. For example, a change in income taxes would cause the income-based COL to rise even if all prices in the economy remained unchanged. In other words, such a measure might be misleading when used for some analytical purposes.

If the objective of indexation is to maintain a given standard of living, then still more comprehensive COL questions need to be devised, questions in which the standard of living is affected by changes in wealth--as with the rise in value of a portfolio of stocks or an increase in the value of a house--or questions in which changes in the level of nonmarket consumption occur. For example, in the latter case, a statistical measure like the CPI will register higher product prices resulting from pollution and

safety requirements but will not reflect the benefits received, and is thus a distorted measure of the cost of living.

The more sophisticated COL approaches are not practical to use because they require too much information and are difficult to construct. But they throw light on the limitations of presently available measures. And periods may actually occur in which the only essential changes are price changes, so that an expenditure COL such as the CPI may be quite adequate for indexation purposes.

THE CONSEQUENCES OF INDEXATION

The consequences of indexation vary according to the kinds of price change taking place and the kinds of statistical measures used. The major consequences can be described with a few examples.

Indexation to Generalized Inflation

When prices are rising across the board, indexation has the fewest complications. Its application to those in the economy whose incomes are fixed in nominal terms merely restores their initial condition and keeps them at relative parity with everyone else. Living standards are preserved in both an absolute and a relative sense. Indexation thus corrects or neutralizes one of the few real consequences of generalized inflation. It does not, of itself, cause government expenditures to rise as a share of GNP. Moreover, the choice of a statistical measure for indexation is greatly simplified under these conditions. As a result of the more or less uniform rate of price increase throughout the economy, any statistical measure should yield the same results. Different demographic groups, even if they have different consumption patterns, will experience the same nominal changes in consumption costs.

Indexation to Relative Price Changes

The consequences of indexing to a relative price change are quite different. A rise in the price of a single good will have two effects: people will consume less of it by substituting more of other goods; and because of the drop in their purchasing power, they will tend to consume a little less of all goods. Indexation

restores the lost purchasing power so that they are capable of continuing to consume the same basket of goods. ^{3/} If the cause of the relative price change was a drop in supply, it should be clear that indexation cannot restore that supply. If everyone's income is indexed, then attempts to purchase the original amount of the scarce good will only drive the price higher, until the burden of reduced consumption is somehow allocated. And if only part of the population has indexed incomes, the burden of reducing consumption falls on the rest of the population. Thus, while indexing to generalized inflation tends to preserve the initial income distribution, indexing to relative price changes redistributes income. The reason, of course, is that one of the most common causes of relative price changes is a drop in real output--as with the increase in food prices in the second half of 1980.

The signal that is given by a relative price change of the need to modify consumption patterns and resource allocation can be muted by indexation if indexation is very widespread. Indexation is already well established--and growing. It affects one-third of the federal budget formally and as much as one-half of it if indirect or quasi-indexation is counted. In the private sector, the number of wage earners with formal cost-of-living escalators has been estimated to be as high as 9 million, with many others receiving wages that are implicitly indexed. In such a setting, when the CPI rises in response to a relative price change, a significant portion of the population will be compensated for that price change. This means that the remainder of the population must bear the burden of reducing consumption. If they resist this burden and attempt--through the use of market or political power--to bargain for higher nominal incomes, then the general price level will begin to rise. The demand for the particular good will not have been reduced to match the supply, and relative prices must

^{3/} In fact, consumers will be better off than before by consuming less of the higher priced good even if they have an adequately compensated income. The reason is that a unit of the more expensive good can now be traded off for more of other goods than before. This is why a fixed-weight index that uses the original market basket and ignores substitution tends to overestimate the cost of restoring consumers to the same level of satisfaction.

again readjust. This process will continue until it has allocated the reduced consumption among the population. Given the lags that occur between the various steps in the process, a considerable time may be required for large relative price changes to work through the system. Thus, the amount of generalized inflation that accompanies a relative price change, and the length of time required to reach a new stable level of prices, may be directly affected by the scope or extent of indexation.

Indexation to Wage Changes

The consequences of using a wage measure for indexation would depend on the behavior of prices. In the case of generalized inflation, the consequences would be the same as with the CPI or some other price measure assuming that wages rise at the same rate as other prices. If the level of wages is rising more rapidly than prices (as happens when there are gains in productivity), then wage indexation leads to a rise in real benefits. Indexed benefits will tend to be a constant share of total economic output, however, unless the ratio of beneficiaries to the labor force changes.

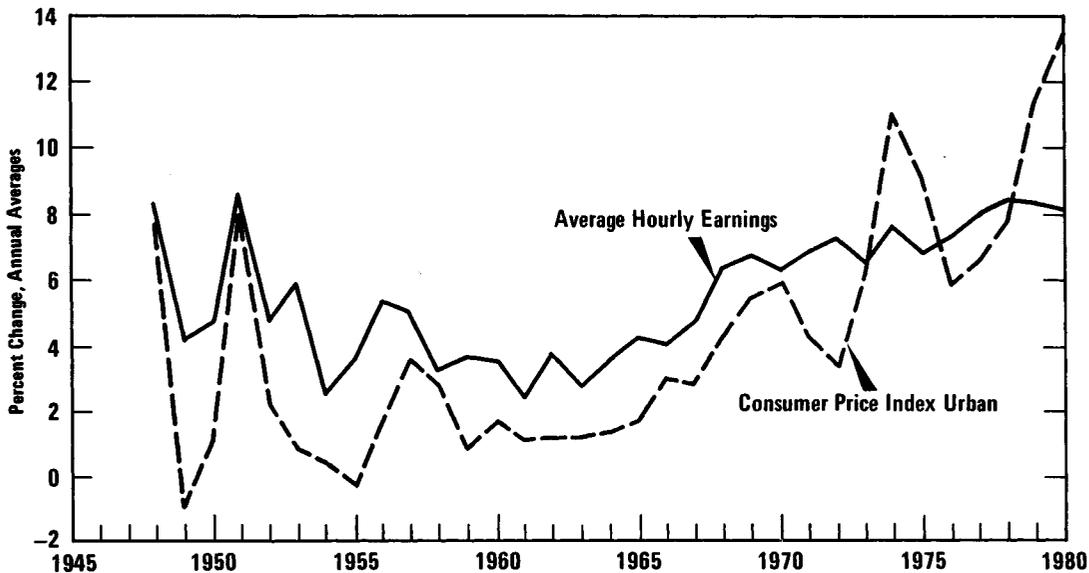
In the case of a relative price increase, wage indexation should lead to a somewhat slower rate of benefit increase than with price indexation. The extent of the difference will depend upon how wages respond to a relative price increase. Wages for workers covered by cost-of-living escalators will rise, of course, to compensate for at least part of the increase. Many other wage earners, both unionized and nonunionized, will have enough market power to obtain similar compensation. But others will not. Thus, the aggregate wage may rise in response to a relative price change, but by less than the increase in aggregate prices. The increase in wages will, however, trigger another round of price increases, and these will be much more widespread than the initial relative price increase. There will then likely be a readjustment of the initial relative price change in order to restore its relationship to other prices. This process will repeat itself until it finally damps out. The more widespread is indexation in the economy, and the greater the extent of full versus partial indexation, the longer the process will persist.

The Switching Proposal

A proposal that has received considerable attention in recent months is to index to either wage change or price change, whichever

Figure 2.

Comparison of Changes in the Consumer Price Index and in Average Hourly Earnings



is lower over a given period. The advantage of doing so would be to lower the cost of indexation when price increases exceed wage increases--that is, when real wages fall. The lower cost may be a significant consideration by itself, but it is of particular importance when falling real wages make it more difficult to finance the indexed benefits through tax revenues. Advocates of the proposal also argue its fairness. Unlike the present system, which in a period of falling real wages offers more purchasing power to federal beneficiaries than those in the labor force can provide for themselves, the switching proposal would require the beneficiaries to share in the burden felt by wage earners.

The appeal of this proposal is offset by three additional considerations. First, as shown in Figure 2, there have been relatively few instances in the postwar period when wages have risen less rapidly than prices. For most of the period the switching proposal would have given the same results as current procedures. Second, there were two rather pronounced episodes of falling real wages in the 1970s. Such episodes could, if they occurred repeatedly, lead to progressive reductions in real benefit

levels through the switching proposal. Not only can a relative price shock cause a drop in real wages, but temporary episodes of falling real wages could occur merely because wage changes tend to lag changes in prices. With low levels of productivity growth, even cyclical movements in prices could temporarily outrun wage increases. If repeated episodes of falling real wages were to occur, the principal implication of indexation with this technique would be progressive reductions in real benefit levels of government programs. This would happen because the switching proposal is, in effect, a ratchet mechanism. When real wages fall benefits will also fall, but when wages catch up benefits will not. The third consideration concerns the fairness criterion. Some may question whether beneficiaries should share in the economic losses but never in the economic gains. Moreover, depending on the actual goals of indexation, the switching mechanism, if it were applied to programs that attempt to insure some minimum welfare level, might one day render them incapable of doing so.

The switching proposal could, of course, be modified to include a catch-up mechanism that would delay the switch back to a price index until real benefits had been restored to their former level. Alternatively, benefits could be adjusted by changes in whichever index was lower relative to a base period. This would mean that real benefit levels would be reduced only when the level of real wages fell below the level of a given base period. Under both of these modifications, in a growing economy temporary economic setbacks would at most lead only to a temporary reduction in real benefits.

CHAPTER IV. WHAT FEDERAL PROGRAMS ARE INDEXED, HOW, AND AT WHAT COST

A Brief History

Precedents for indexing federal programs go back more than a century to 1870, when increases in military retirement benefits were first adjusted to reflect increases in active-duty pay in a procedure known as "recomputation." This discretionary procedure was made into an automatic one by the Joint Service Pay Act of 1922. This form of indexation to wages was replaced temporarily in 1958 by an annual 6 percent cost-of-living payment adjustment for military retirees.

In 1962 the Congress undertook to index the Civil Service Retirement System. Initially it favored institution of a wage-linked index. The Civil Service Commission, while agreeing on the need for a long-term alternative to the time-consuming and difficult task of repeated one-time adjustments, argued for an index linked to prices. Wage changes, they contended, were needed to attract and retain active employees and had no necessary bearing on the needs of retirees. As a result, CPI indexation was adopted for civil service retirement benefits in 1962 and for military retirement benefits the following year. Price indexation had been applied to several smaller programs during the 1940s and 1950s--including construction programs, agricultural support programs, and compensation for overseas employees--but civil service retirement represented the first major federal program to be formally linked to a price index, setting a powerful precedent for indexation activity in the future.

During the 1960s several other workers' compensation and retirement programs were formally indexed but it was not until the 1970s that more widespread indexing of federal programs took place. An upsurge in indexation came after 1972 when Social Security benefits--the largest of all indexed federal programs--were linked to changes in the CPI. Along with the ensuing indexation of other major retirement and workers' compensation programs, the expansion of indexation to include transfer programs began to take place. The Food Stamp Program had already been indexed in 1971--the only major income transfer program to be indexed before the indexation of Social Security in 1972.

FEDERAL PROGRAMS THAT ARE INDEXED

Indexed programs may be divided into indexed entitlement programs, indexed programs other than entitlements, and quasi-indexed programs.

Entitlement Programs

The programs listed in Table 1 have in common the fact that their benefit levels are indexed. This, together with their status as entitlement programs, means that under current law a change in the appropriate index will automatically trigger a predictable rise in the level of per capita nominal benefits. 1/ For the programs in Table 1, the estimated level of total expenditures in fiscal year 1981 is \$195 billion. A 1 percent change in the appropriate price index would, at this level of expenditure, trigger approximately \$1.9 billion of additional federal outlays. 2/ This estimate assumes that everything else, particularly participation rates, remains the same. In fact, however, if indexed benefits increase faster than the other income of the group participating in a program, it is likely that the rate of participation among those eligible will also increase, raising total outlays still further.

Other Indexed Programs

Another group of indexed programs is made up of programs that are not entitlements, and/or of what might be called quasi-indexed programs. They differ from the group of indexed entitlement programs in Table 1 in that either:

1/ Entitlements are benefits prescribed by law for all persons meeting a program's eligibility requirements. The total outlays are not determined by an annual appropriations decision of the Congress.

2/ The sensitivity is slightly less than proportional because of instances where indexation is not applied uniformly to the total benefit payment, such as in the Railroad Retirement Program.